

**STATE EX REL. STATE ENGINEER v. A & R PRODUCTIONS, ET AL.**  
**Case No. CIV 07-00681 BDB/WDS, Subproceeding 1**

Climate Data Assessment and Calculation of Crop ET and Reference ETo,  
Zuni Pueblo

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This report summarizes the methods used to evaluate the climate data from weather stations near the Zuni Pueblo. The data were used in calculation of crop irrigation requirement (CIR) with both the original and modified Blaney-Criddle Methods, and reference evapotranspiration (ETo) with the Hargreaves-Samani Method and the ASCE Standardized Penman-Monteith Method. Figure 1 shows the general location of the Zuni Pueblo.

The original and modified Blaney-Criddle Methods require average monthly temperature and precipitation data, and frost dates. The Hargreaves-Samani Method requires daily maximum and minimum temperature data. These data are generally available from weather stations in the National Oceanic and Atmospheric Administration/National Weather Service (NOAA/NWS) Cooperative Station Network. The standardized ASCE reference ET equation requires more extensive data that are good quality and represent reference conditions. The daily weather data parameters needed are maximum and minimum temperature, a measure of vapor pressure at the site (such as maximum and minimum relative humidity or dewpoint temperature), daily wind speed and solar radiation. Automated weather stations and NOAA/NWS stations that are located at airports may collect data for some or all of these parameters.

### **NOAA/NWS WEATHER STATIONS NEAR ZUNI PUEBLO**

The NOAA/NWS Cooperative Station Network weather stations (coop stations) generally record only minimum and maximum temperature and precipitation data. Stations located at airports may have data for dewpoint temperature or relative humidity, wind speed and weather or sky conditions in addition to temperatures and precipitation. Stations in the coop network are identified by a 6-digit station identifier number and can be one site or a series of sites whose locations typically fall within 2 miles horizontal or 100 feet vertical difference, with exceptions determined by the NWS field manager. Some data stored at the National Climatic Data Center (NCDC) may also be identified with a Weather-Bureau-Army-Navy (WBAN) or World Meteorological Organization (WMO) number. (NCDC 2009).

Seven NOAA/NWS weather stations were selected for evaluation based on proximity to the areas of interest and length of record, and are summarized in Table 1. The station locations are shown on Figure 2. Several of the stations have been moved during the period of record. Only the most recent location is included in Table 1 and Figure 2.

#### **Locations of NOAA/NWS Weather Stations**

The seven NOAA stations are located within 30 miles of the Zuni Pueblo, except for the Albuquerque station, located about 130 miles away. The Albuquerque WSFO Airport weather

station (290234) was included in the investigation in part because data from it were used by Natural Resources Consulting Engineers (NRCE) in their report for the United States (US) and the Bureau of Indian Affairs (BIA) in this case (NRCE 2008). The stations were visited and photographed between July 21 and July 24, 2009. The Albuquerque station (290234) is currently located at the airport near the runways, and we were unable to approach close enough to photograph it clearly. The Fence Lake station (293180) ceased operating in 2007. We photographed the location shown in Table 1, but later discovered the station had been moved. The Gallup Municipal Airport coop station (293422) was formerly located at the airport, but was replaced with an Automated Surface Observation Station (ASOS) in 2000. The data for station 293422 now appear to be collected at Gallup Sand and Gravel Company, about 2.6 miles from the airport location. The airport location is located in a grassed area near runways, and the Gallup Sand and Gravel location is surrounded by pavement. Photographs of the Albuquerque, Fence Lake and both Gallup weather station locations are shown in Figure 3. These stations were used for data comparison and substitution.

**Table 1**  
**NOAA/NWS Weather Stations**  
**Near Zuni Pueblo, New Mexico**

<b>Station Name &amp; Number</b>	<b>Latitude<sup>(1)</sup> Degrees</b>	<b>Longitude<sup>(1)</sup> degrees</b>	<b>Elevation m</b>	<b>Elevation ft</b>	<b>Period of Record<sup>(2)</sup></b>
Albuquerque WSFO Airport 290234	35.04	106.62	1619	5310	1919-2009
Black Rock 291018	35.08	108.78	1970	6463	1914-1948
El Morro Nat'l. Monument 292785	35.04	108.35	2202	7223	1938-2009
Fence Lake 1N 293180	34.65	108.68	2154	7065	1964-2007
Gallup Municipal Airport (Gallup Sand & Gravel) 293422	35.53	108.75	1983	6505	1973-2009
Mc Gaffey 5SE 295560	35.34	108.44	2439	8000	1949-2009
Zuni 299897	35.07	108.84	1924	6311	1949-2009

(1) Latitude, longitude and elevation are shown for the most recent station location only.

(2) Period of record is for all locations. Limited data may be available in earlier years.

The Zuni (299897), Black Rock (291018), El Morro (292785) and McGaffey (295560) stations were initially selected for further evaluation for use in evapotranspiration calculations at Zuni Pueblo because of their proximity to the irrigated areas, all within 30 miles of the pueblo. Photographs of the current location of the Zuni NOAA station are shown in Figure 4. The same station number, 299897, has been used for stations in several locations. (NOAA 2009). The station is currently in the back yard of the station operator's residence. The station has reportedly been in its current location since 1993. The maximum temperature at this station appears to be somewhat higher at the current location than in earlier years, but the minimum

temperature is not affected. The Black Rock station no longer exists, but we photographed the former location, on the roof of a building near the Black Rock Dam, as shown in Figure 5. It is located about 3.4 miles from the Zuni station. The period of record for the Black Rock station overlaps that of the Zuni station for several months in 1949. Photographs of the El Morro station are shown in Figure 6. The station is located beside the visitor center at El Morro National Monument. The Zuni, Black Rock and El Morro stations are or were located near buildings and pavement and are not near the irrigated areas. The McGaffey station is shown in Figure 7. It is located in the yard of the station operator. It is near the road, but surrounded by grass, trees and other vegetation. We photographed the McGaffey station from the road because the station operator did not allow us to approach any closer.

### **Climate Data Review for NOAA/NWS Weather Stations**

Maximum, minimum and average daily temperature and daily precipitation data for the stations listed in Table 1 were purchased and obtained electronically from the Western Regional Climate Center (WRCC). These parameters were summarized, evaluated for completeness and compared to determine their suitability for replacing missing data at each station. Temperature data from Zuni, Black Rock, Gallup, Fence Lake and El Morro stations were similar to each other on a monthly and annual basis. Albuquerque temperatures were consistently higher and McGaffey temperatures were consistently lower than the other stations. Total monthly and annual precipitation data from the Zuni, Black Rock and Gallup stations were very similar to each other. The Black Rock station was located near the current location of the Zuni station and has a period of record extending back to 1914. The period of record average data for the two stations is slightly different, which could be attributable to a number of factors such as station siting and equipment, operator procedures, and differences in the climate during the different periods of record. There is not enough overlap in the record at the two stations to evaluate the differences further. Precipitation at McGaffey was higher than any other station in all months, and precipitation at Albuquerque was lower in all months. Precipitation at Fence Lake and El Morro was higher than at Zuni, but not as high as McGaffey. Figures 8-11 illustrate the comparison of the raw data parameters on an average basis.

The daily data were graphed and tabulated to identify missing or questionable data. In general, temperature and precipitation data appeared to be good and were not replaced except for missing data. Missing days during 1948-2008 ranged from less than 1% of the days at El Morro to about 7% at Zuni. The Zuni, Black Rock and El Morro stations were used for data replacements for each other when data were available and surrounding days were similar and Gallup was used for data replacements at Zuni after 1973. If temperature data from the nearby station were not available or suitable, the following procedure was used: For three or fewer days of missing data, we used an average of the day before and the day after the missing day or days. For four to nine days of missing data, we used an average of the three days before and the three days after the missing days. For ten or more days of missing data within one month, we used the monthly average from the entire period of record. The exception to this procedure was that all missing temperature data at McGaffey were replaced with average values for the McGaffey station because of the dissimilarity compared to the other stations. Missing precipitation data were generally replaced with an average of the nearby stations for the day, and “accumulated”

readings noted in the data were distributed to the preceding days based on the relative amount of precipitation at the nearby stations.

The filled data for the seven evaluated stations are summarized in Table 2. Summary tables for all the weather stations evaluated, as well as documentation of missing days, are located in Appendix A.

## **NOAA STATIONS REFERENCE EVAPOTRANSPIRATION AND CROP IRRIGATION REQUIREMENTS**

The reference ETo for the NOAA stations in the Zuni Pueblo area was calculated with the 1985 Hargreaves-Samani method. Calculation of crop CIR at the NOAA stations was done with both the modified Blaney-Criddle Method and the original Blaney-Criddle Method per the request of the OSE.

There are five distinct agricultural areas at the Zuni Pueblo, located at average elevations ranging from approximately 6,200 feet to 6,800 feet within a radius of 22 miles from the pueblo (Figure 2). The Zuni NOAA station is located at an elevation of about 6,310 feet and is somewhat centrally located to all the irrigated areas. The Black Rock station is no longer in operation, but it was located within 3.4 miles and 142 feet of elevation of the Zuni station and has a period of record extending back to 1914. These two stations are likely to be more representative of the climatic conditions of all five agricultural areas than the more distant and higher-elevation El Morro and McGaffey stations. The Black Rock and Zuni stations were analyzed separately, but we understand the results of the ETo and CIR calculations were combined by the OSE to obtain a longer period of record at this location.

### **Calculation of Hargreaves-Samani Reference ETo, NOAA/NWS Stations**

The grass-based reference ETo for the Zuni Pueblo area was calculated with the 1985 Hargreaves-Samani method, using the Ref-ET program from the University of Idaho (2008 version 3.1.01) and the daily filled maximum and minimum temperature data from the Zuni, Black Rock, El Morro and McGaffey stations. Average annual reference ETo ranged from 45.1 inches at the McGaffey weather station to 53.1 inches at the Zuni weather station over the period of record for each station, as shown in Table 3. Annual and monthly results for the Zuni, Black Rock, El Morro and McGaffey weather stations are summarized in Tables 4 through 7.

### **Blaney-Criddle Crop Consumptive Irrigation Requirement at the NOAA/NWS Stations**

Crop CIR was calculated with the modified Blaney-Criddle Method and the original Blaney-Criddle Method. The Modified Blaney-Criddle Method is described in “Irrigation Water Requirements, Technical Release No. 21”, USDA, Soil Conservation Service, September 1970 (TR-21). The Original Blaney-Criddle method is described in “Technical Report 32, Consumptive Use and Water Requirements in New Mexico”, Blaney and Hanson, USDA, Soil

Conservation Service and NM State Engineer, 1965 (TR-32). Table 8 lists the crops, the modified Blaney-Criddle crop coefficients and the growing season start and end criteria used in both methods. Table 9 shows the seasonal coefficients used in the original Blaney-Criddle method. Average monthly results for the Zuni, Black Rock, El Morro and McGaffey weather stations are summarized for each crop in Table 10 for the original Blaney-Criddle method and Table 11 for the modified Blaney-Criddle method. Annual results for the modified Blaney-Criddle method for each crop at the four stations are presented in Tables 12-15. Monthly and annual results for each crop for the four stations are located in Appendix B.

## **AUTOMATED WEATHER STATIONS NEAR ZUNI PUEBLO**

The standardized ASCE Reference ET equation requires data that are good quality and represent reference conditions. The daily weather data parameters needed for input to the equation are maximum and minimum temperature, a measure of vapor pressure at the site (such as maximum and minimum relative humidity or dewpoint temperature), daily wind speed and solar radiation. These data parameters are not typically collected at NOAA/NWS stations, except for some airport locations, but are available at automated weather stations that have been established more recently, since about the mid-1980s.

Weather stations in the Remote Automated Weather Station (RAWS) network can collect all the data elements needed for the ASCE Standardized Penman-Monteith (ASCE std. PM) calculations. The purpose of the RAWS network is to monitor weather for danger of forest fires. The stations are typically located in forested or grassland areas where fires might burn, not in irrigated agricultural environments. (USFS 2009. USDA 2003). The RAWS network is relatively recent and data are available for short periods of record. Many stations were not established until 2000 or later. Some weather stations operated by the Federal Aviation Administration (FAA) or NWS, located at airports, collect some of the data elements needed for PM, typically wind speed and dewpoint temperature. Some of these stations also collect cloud cover or hours of sunshine data, but do not have direct measurements of solar radiation.

Four RAWS stations and three airport stations were selected for evaluation based on proximity to Zuni Pueblo and period of record, as shown on Table 16 and Figure 2. Zuni, Zuni Buttes, Ramah and Malpais Lava Flow RAWS stations are located in the general vicinity of the Zuni Pueblo, within approximately 40 miles. The Zuni RAWS station was discontinued and replaced with the Zuni Buttes RAWS station in 2006. Airport stations at Albuquerque and Gallup are the same as shown on Table 1 (NOAA stations). The Zuni airport station (# 299897) shares the identification number of the current Zuni NOAA station and was one of the former locations of the station during the period of record at the station. At the Gallup and Albuquerque airport locations, the manual weather stations were replaced with Automated Weather Observing System (AWOS) or Automated Surface Observing System (ASOS) automated equipment during the period of records, 1996 for Albuquerque and 2000 for Gallup. (Aviation Weather Assets Database, 2009). The Zuni airport was no longer in operation when AWOS/ASOS equipment was introduced.

**Table 16**  
**Automated and Airport Weather Stations**  
**Near Zuni Pueblo, New Mexico**

Station Name	Station Number	Latitude degrees	Longitude degrees	Elevation, Feet/(meters)	Period of Record <sup>(1)</sup>
Albuquerque International Airport <sup>(2)</sup>	290234 (WBAN 23050) (WMO 723650)	35.04	106.61	5351/1631	1941-2009
Gallup Municipal Airport <sup>(2)</sup>	293422 (WBAN 23081) (WMO 723627)	35.51	108.79	6473/1973	1973-2009
Malpais Lava Flow RAWS <sup>(3)</sup>	293301	34.9	108.10	7460/2274	1985-2009
Ramah RAWS	-	34.99	108.41	7038/2146	2005-2009
Zuni FAA Airport <sup>(2)</sup>	299897 (WBAN 93044)	35.10	108.78	6440/1963	1949-1972
Zuni RAWS	-	35.04	108.48	6320/1927	2003-2005
Zuni Buttes RAWS	290603	35.14	108.94	6689/2039	2006-2009

(1) A portion of the period of record at the airport stations is from NOAA/NWS Coop station and a portion is from ASOS/AWOS station.

(2) Same station number and similar location as NOAA station in Table 1

(3) RAWS = Remote Automated Weather Station, AWOS = Automated Weather Observing System operated by the Federal Aviation Administration (FAA), ASOS = Automated Surface Observing System operated by the NWS and FAA,.

### Station Siting and Equipment

Ideally, stations to be used for calculating reference ET should be sited within a large level area of well-watered vegetation, have a ground cover of clipped grass and be located away from obstacles that can shade the site or affect the wind measurement. In reality, few weather stations, including those in Table 16, are in ideal locations. Data from a non-ideal site may require adjustment to better represent reference conditions before they are used to calculate reference ET<sub>o</sub>. (ASCE, 2005).

The Albuquerque and Gallup airport stations and the Ramah and Zuni Buttes RAWS stations were visited and photographed July 21-24, 2009. The Zuni airport station is one of the former locations of the current Zuni NOAA station and its actual location could not be visited. However, a photograph was taken on the site of one of the former runways at the Zuni airport location, as shown in Figure 12. The Albuquerque and Gallup stations, shown in the photographs in Figure 3, are currently ASOS stations located near the airport runways. ASOS stations are sited to provide weather information for aviation purposes, and are not located in

irrigated agricultural areas. The Gallup station ground cover is concrete and non-irrigated grass. Non-irrigated grass and paved roads generally surround the station. Ground cover at the Albuquerque airport could not be determined, but it can be assumed the station is not located in an irrigated crop area. The Ramah and Zuni Buttes RAWS stations, shown in the photographs in Figure 12, are located over non-irrigated grass and other vegetation. They are not located near an agricultural area, but are in higher-elevation areas that are important for forest fire weather prediction. We were unable to visit the Zuni RAWS former location and the Malpais RAWS location, but data were obtained from these stations for data evaluation purposes. Neither the airport stations nor the RAWS stations are located in reference environments. Instrument heights could not be measured because of fencing around the sites. We were unable to obtain information on the instrument heights and dates of calibration or replacement of the sensors at the RAWS stations.

Another consideration in selection of weather stations for use in the Penman-Monteith calculations is distance from the irrigated areas, and elevation differences between the weather stations and the irrigated areas. The Albuquerque station is located about 130 miles from the Zuni Pueblo as shown on Figure 2, is about 1,000 feet lower in elevation, and is on the eastern side of the continental divide. As noted above in the evaluation of data from the NOAA stations, Albuquerque has higher temperatures and lower rainfall than weather stations located closer to Zuni. The great distance and intervening topography reduces the likelihood that weather elements such as solar radiation will be similar to the Zuni area, even when averaged over a month. The Zuni airport station, which is located at the Zuni Pueblo, is in a good location for providing weather data for Penman-Monteith calculations because of its proximity, but the station was discontinued in 1972. Beginning in 1973, similar data were collected at Gallup airport. Gallup is located only 31 miles from the Zuni Pueblo, and within 20 feet of elevation. Data from Gallup are more likely to be more representative of conditions at Zuni agricultural areas than data from Albuquerque airport. The Ramah and Zuni Buttes/Zuni RAWS stations are within 25 miles of the Zuni Pueblo, but the period of record for these stations is very short. The Malpais RAWS has a longer period of record for some data parameters, beginning in 1985, but it is 41 miles from the Zuni Pueblo and 1,000 feet higher in elevation.

### **Evaluation of Weather Data for Penman-Monteith Calculations at Zuni Pueblo**

Precipitation and maximum and minimum temperatures from the Zuni NOAA station were available from 1949-2008 and were evaluated as described above for the NOAA stations. The other climate parameters needed for the ASCE Std. PM method are wind speed, humidity or dewpoint temperature and solar radiation. Wind speed, dewpoint temperatures and solar radiation availability was more limited.

For the RAWS stations, daily maximum and minimum temperature, maximum and minimum relative humidity, average wind speed, solar radiation, and precipitation data were downloaded from the New Mexico Climate Center (NMCC) website (<http://weather.nmsu.edu/data/data.htm>) and the WRCC Desert Research Institute (DRI) website (<http://wrcc.dri.edu>). The WRCC/DRI data appear to have been subjected to some QA/QC procedures, because the data are more complete than the NMCC data, but the procedures were not described on the web site. The



NMCC web site has two forms of data available. The “interpolated” data sets have had missing data replaced by an algorithm which uses data from nearby stations but there is no information on which stations were used to generate the interpolated data. A disclaimer on the web site notes that minimal QA/QC has been done, and the user is responsible for evaluating the data. For this analysis, the data from WRCC/DRI were evaluated and the NMCC data were not used.

Temperature, wind and dewpoint data for the Albuquerque, Gallup and Zuni airports were downloaded from the Global Summary of the Day in the Integrated Surface Database at NCDC (<http://www7.ncdc.noaa.gov/CDO/>). The National Solar Radiation Database (NSRDB) produced by NCDC and the National Renewable Energy Laboratory (NREL) of the US Department of Energy (USDE) contains hourly data for solar radiation at Albuquerque for 1961-2005 and Gallup for 1991-2005. The data were downloaded from <http://rredc.nrel.gov/solar/>.

Data from the stations in Table 16 for each parameter were tabulated and graphed so that daily, monthly and annual data could be compared among all stations. Albuquerque was not used for data substitutions because of distance and climate differences but was included in some of the comparisons. Table 17 and Figure 13 show the comparisons of raw data on an average monthly basis. In general, the average of the data from the day before and the day after the missing days was used to replace missing data for up to ten days. The data replacements for each climate parameter are discussed in more detail below. A tabulation of the actual daily replacements made for each data parameter is found in Appendix C (electronic only).

## **Temperature**

Daily maximum and minimum air temperatures from the Zuni NOAA station were used.

## **Precipitation**

Precipitation data from Zuni NOAA station were used.

## **Dewpoint Temperature and Relative Humidity**

The Ref-ET program can accept several types of humidity data as input, including dewpoint temperature and relative humidity. Maximum and minimum relative humidity data were available at the RAWS stations for various periods, starting in 1992 for Malpais RAWS, and 2003 for Zuni/Zuni Buttes and Ramah RAWS. Mean relative humidity was available beginning in 1985 at Malpais RAWS. The data downloaded from NMCC also contains minimum and maximum relative humidity at the Albuquerque and Gallup airports beginning in 2002. Graphs of the raw data indicated high variability between the stations, and between years at several stations, and there was extensive missing data. This variability is illustrated on Figure 14. Due to the amount of review and potential data correction that would have been required for a short period of data availability since 1985, the relative humidity data were not used in the Penman-Monteith calculations.

Dewpoint temperatures were available at Zuni airport for 1949-1972, Albuquerque airport for 1948-2008 and Gallup airport for 1973-2008 from the Global Summary of the Day (GSD) available from NCDC. The Gallup average dewpoint temperature was slightly lower than at Zuni airport for the earlier period, and also lower than the average dewpoint at the Albuquerque airport during the 1948-2008 period. The average dewpoint at the Zuni and Albuquerque airports is similar for the overlapping period of record. Summary tables of the raw dewpoint and relative humidity data are located in Appendix D.

None of the airport stations are located in a reference environment. The ASCE publication “The ASCE Standardized Reference Evapotranspiration Equation” by the Task Committee on Standardization of Reference Evapotranspiration (ASCE Task Committee Report), in Appendix E, cautions that when humidity data are available only from a site located in a non-reference environment, then use of an “adjusted” dewpoint temperature may produce a more reliable estimate of reference ET. Arid conditions at the weather station can cause overestimation of reference ET. In general, in a reference environment,  $T_{min}$  will approach  $T_{dew}$  within a few degrees C. If  $T_{dew}$  consistently is more than three to five degrees C less than  $T_{min}$ , the station may be affected by aridity. ASCE Task Committee Report Appendix E, Equation E-1, suggests that substituting  $T_{dew} = T_{min} - K_o$ , where  $K_o$  is 2-5 degrees C for arid and semi-arid regions, can improve estimates of reference ET. If the  $T_{dew}$  is adjusted with this method, further adjustments to air temperatures are generally not needed. (ASCE 2005)

The average difference between  $T_{min}$  at Zuni NOAA and  $T_{dew}$  from the Zuni (1949-1972) and Gallup (1973-2008) airport stations ranges from near zero in the winter months to over eight degrees C in June. Equation E-1 of ASCE Task Committee Report Appendix E was used to adjust the dewpoint temperature on days when it was more than four degrees C below the minimum temperature. Figure 15 illustrates the average monthly dewpoint temperature for both the raw and adjusted data for the Zuni/Gallup combined data. Table 18 summarizes the adjusted data for 1949-2008.

## **Wind Speed**

Wind speed data were available at Albuquerque airport for 1941-2008, the Zuni airport for 1949-1972 and the Gallup airport from 1973-2008 in the GSD dataset. Wind data were also collected at the RAWS stations for the short period of record at those stations.

The ASCE std. PM equation uses wind speed measured at a height of two meters. Data collected at different heights should be converted to two meters for use in the std. PM equation. Instrument heights could not be measured at the airport or RAWS stations because of fencing around the sites. Standard wind measurement height at ASOS weather stations is currently 10 meters. The Natural Resources Conservation Service (NRCS), National Water and Climate Center reports that the anemometer height at Albuquerque has changed three times over the years, ranging from 14.63 meters in 1939 to 7.01 meters in 1960 to its current height of 10 meters in 1996. (<http://www.wcc.nrcs.usda.gov/climate/>). This anemometer history did not include information for Gallup or Zuni airports, therefore, a 10 meter (32.8 feet) height was

assumed for Gallup and 14.63 meters was assumed for Zuni airport. Standard wind measurement for RAWS stations is 20 feet (6.1 meters) (USDA 2003). Wind speeds recorded in the raw data were adjusted to reflect the wind speed measured at two meters using the anemometer height assumptions in this section using Equation 33 of the ASCE Task Committee Report. Figure 13 illustrates the comparison of the wind data after adjustment to a measurement height of two meters.

During the period of record (1948-1972) at the Zuni airport, annual average wind speed was higher and more variable than at Albuquerque during the same period or at Gallup during 1973-2008. Average wind speeds at Albuquerque airport were consistently higher than at Gallup airport. The RAWS wind speed data for Ramah and Zuni/Zuni Buttes were similar to the Gallup data during the overlapping period of record. The Malpais RAWS station recorded very low wind speeds until the middle of 2004, when the data become more similar to Gallup and the other RAWS stations. Based on these data comparisons, the Gallup data were used for the 1973-2008 period. Missing days were filled where necessary with daily average values. Because the wind measurement height at the Zuni and Gallup airport stations is unknown, the data may not be correct for wind measured at two meters. Table 19 summarizes the combined Zuni/Gallup airport wind data for 1949-2008.

## **Solar Radiation**

Actual solar radiation ( $R_s$ ) measurements were available at the Ramah and Zuni/Zuni Buttes RAWS stations from 2005-2008 and at Malpais RAWS from 1998-2008. The solar radiation data for the RAWS stations were evaluated by plotting against the theoretical clear sky solar radiation ( $R_{so}$ ) at the Zuni NOAA station location. The  $R_{so}$  was calculated with equation D.2 in ASCE Task Committee Report Appendix D, using the site elevation and latitude, and the remaining data for the site, cleaned and filled as described above. For the purpose of calculating the  $R_{so}$ , we assumed a temperature sensor height of 1.5 meters.

The theoretical  $R_{so}$  curve assumes clean air on cloud-free days. Measured  $R_s$  may differ from the theoretical  $R_{so}$  due to clouds, dust, smoke or other turbidity in the atmosphere, in addition to sensor problems such as calibration, dirt on the sensor, or sensor out of level. For this review, if measured  $R_s$  at the RAWS stations was within about 5% of the  $R_{so}$  curve at least some of the time during a given period of time, the  $R_s$  data were considered acceptable. Malpais RAWS data for 1998-2004 and 2008 were not acceptable, but were not used in the calculation of reference ET, so they were not adjusted. Ramah RAWS data were adjusted upward for 2006 between May 25 and August 26 by between 5 and 10%. Zuni Buttes RAWS had acceptable data for 2007-2008. Figure 16 illustrates the raw and adjusted data.

In their report for the US and BIA in this matter, NRCE developed a total sky cover data set in order to calculate a “cloud factor” that was multiplied by the calculated clear-sky solar radiation in order to obtain an estimated actual solar radiation. They obtained cloud cover data through 1995 from the Albuquerque and Gallup airports from another dataset maintained by NCDC. NRCE used an empirical relationship developed by the Tennessee Valley Authority in its “cloud

factor”. For estimating cloud cover after 1995, the cloud factor was estimated from the daily temperature range.

The solar radiation data from the NSRDB compiled by NREL were available for Gallup airport from 1991-2005, and Albuquerque airport for 1961-2005. Data included in the NSRDB are reportedly subjected to extensive QA/QC procedures, and the dataset contains numerous flags relating to data uncertainty and quality. Most of the values in the database for Albuquerque are measured data, with some periods filled with data from the Meteorological-Statistical (METSTAT) model, which uses other meteorological data at the site to estimate actual solar radiation. METSTAT was developed using NWS cloud cover manual observations and measured solar data. When NWS observers were replaced by ASOS automatic observations that were incompatible with METSTAT, beginning in the 1990s, NCDC developed a supplemental cloud data set suitable for use with METSTAT. The Gallup data are all modeled. (NREL, 2007). The Albuquerque data are consistently higher than the Gallup data, as shown on Figure 13.

Since the NSRDB has already produced and published a data set of  $R_s$  for Gallup airport based on cloud cover and other meteorological data, these values were used for the period 1991-2005. Data from Ramah and Zuni Buttes RAWS, adjusted as described above, were used for 2006-2008. The 17-year period of 1991-2008 is sufficiently long to compare the  $ET_o$  estimates calculated with the ASCE std. Penman-Monteith method with the results of the Hargreaves-Samani method.

### **Summary of Cleaned and Filled Data**

A single climate data set for the five Zuni irrigated areas was compiled from the cleaned and filled data described above. The years 1991 through 2008 were selected based on the availability of solar radiation data from the NSRDB and the RAWS stations. Monthly and annual data for each parameter for 1991-2008 are summarized in Tables 20 through 25.

### **AUTOMATED WEATHER STATIONS REFERENCE $ET_o$**

The reference  $ET_o$  for the Zuni Pueblo area was calculated with the ASCE standardized Penman-Monteith method using the Ref-ET program from the University of Idaho (2008 version 3.1.01) and the cleaned data described above for 1991-2008. The  $ET_o$  was also calculated with the Hargreaves-Samani method using the same data set for comparison purposes. Annual and monthly results from both methods are summarized in Table 26.

The average annual ASCE Penman-Monteith  $ET_o$  at Zuni is 57.39 inches, compared to 56.41 inches for the Hargreaves-Samani Method for the same input data and study period, a difference of about one inch. The Hargreaves-Samani  $ET_o$  for the longer 1948-2008 study period using Zuni temperatures averaged 53.1 inches, indicating the more recent period is different from the long-term average. Because of the use of non-local data from Gallup such as wind, dewpoint and solar radiation, and the location of all the weather stations in non-reference environments, the ASCE Penman-Monteith estimate of  $ET_o$  during 1991-2008 may not be as reliable as the

Hargreaves-Samani estimate of ETo calculated with local temperature data for a longer study period.

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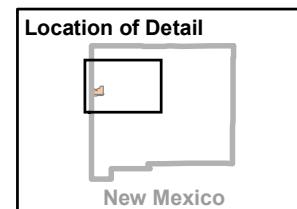
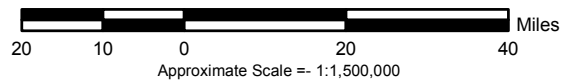
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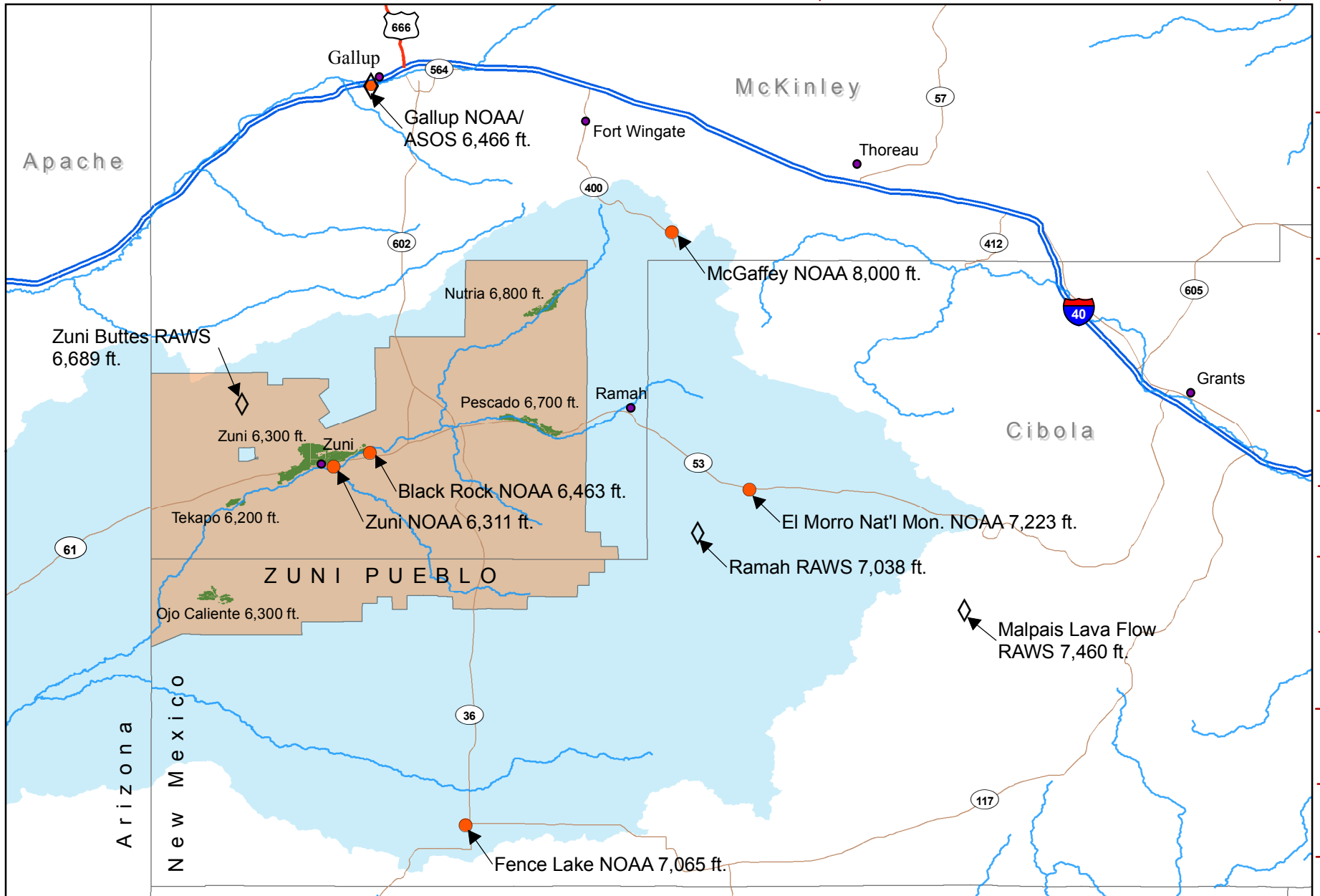
# Figures



Source: New Mexico DNR, NOAA

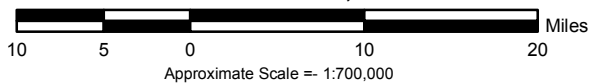
**FIGURE 1**  
Zuni Pueblo, New Mexico  
Location Map





Source: New Mexico DNR, NOAA

**FIGURE 2**  
Weather Stations  
Near Zuni River Basin, New Mexico



- ◇ Automated Weather Station
- NOAA Weather Station
- Zuni Pueblo Agricultural Areas
- Zuni River Basin
- Zuni Pueblo
- Towns
- River



218.11.NM/jar / 2.18.10



**Figure 3**

Photographs of Weather Stations at Albuquerque, Fence Lake, and Gallup , NM  
July 2009



Albuquerque Airport, NM (290234, WBAN 23050, WMO 723650)  
(in distance between plane and white shelter in foreground)



Fence Lake, NM NOAA/NWS (293180)



Gallup Airport, NM (293422, WBAN 23081, WMO 723627)



Gallup Sand & Gravel, NM NOAA/NWS (293422)



**Figure 4**  
Location of Zuni, NM NOAA/NWS Weather Station (299897)  
July 2009



**Figure 5**  
Former Location of Black Rock, NM Weather Station (291018)  
Photographed July 2009



Station was located on roof of building on a small platform.



**Figure 6**  
Current Location of Weather Station at El Morro National Monument, NM (292785)  
July 2009



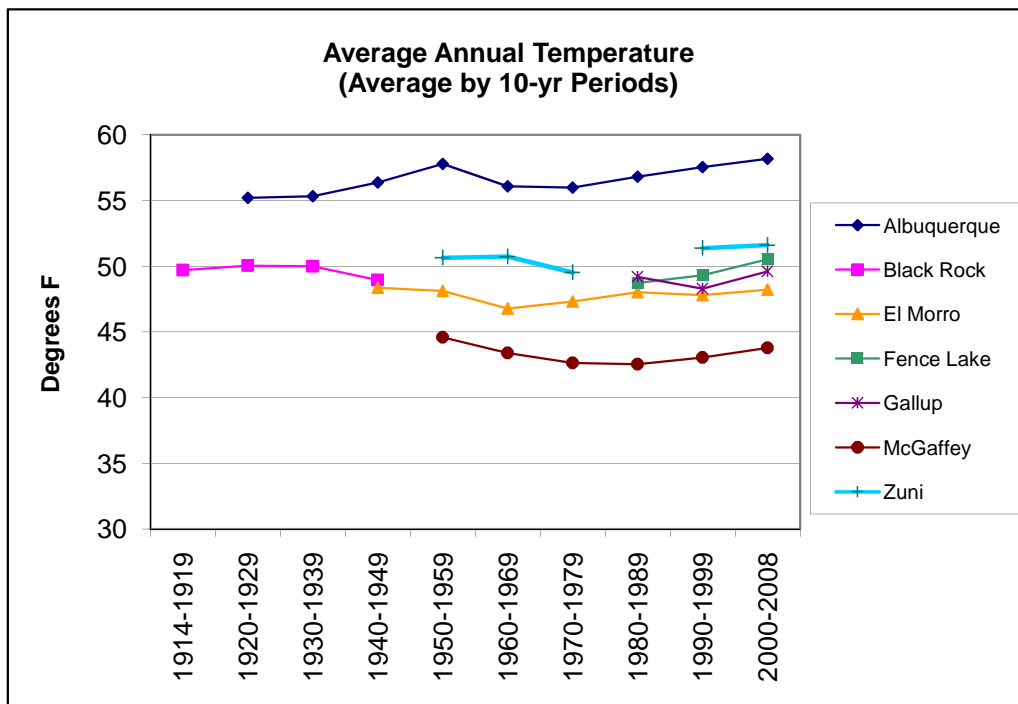
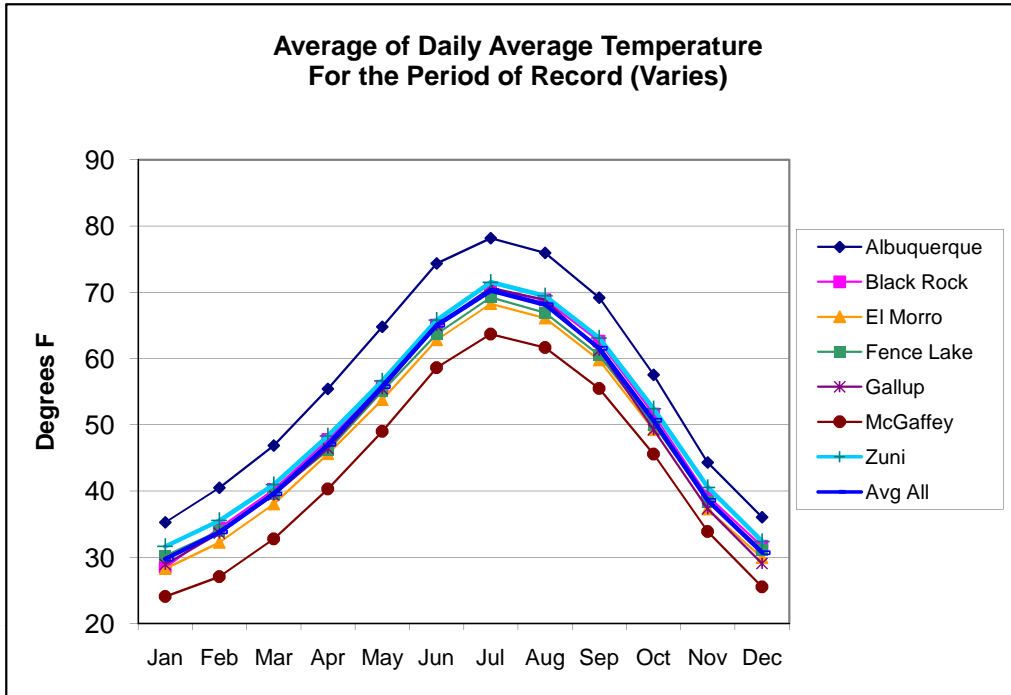
Visitor Center building is located immediately to the right of the photographed area.

**Figure 7**  
Current Location of McGaffey, NM NOAA/NWS Weather Station (295560)  
July 2009

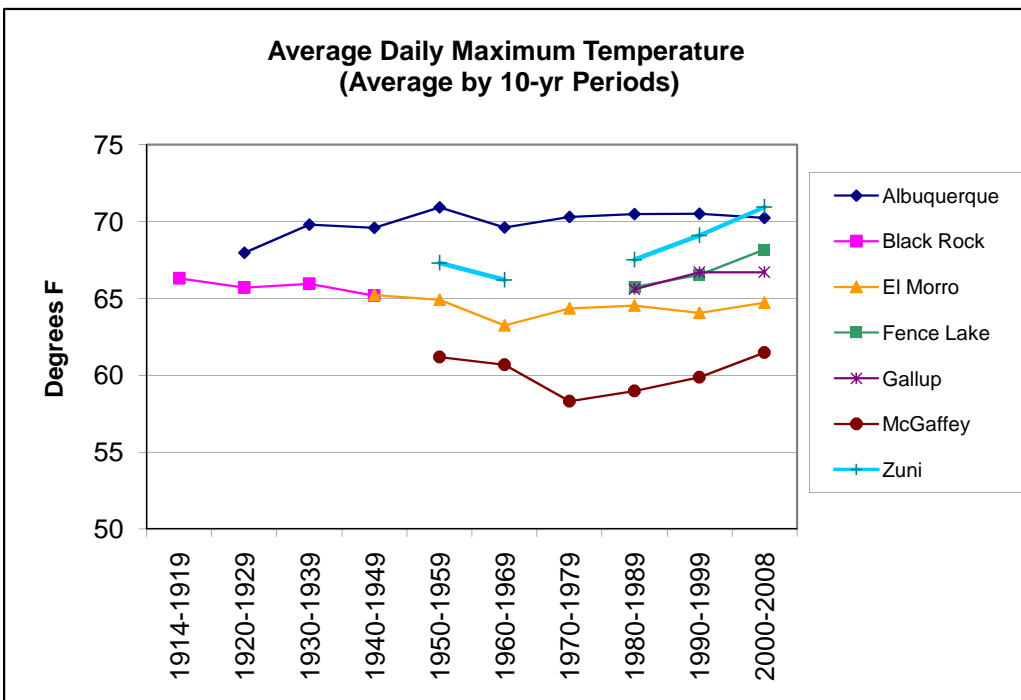
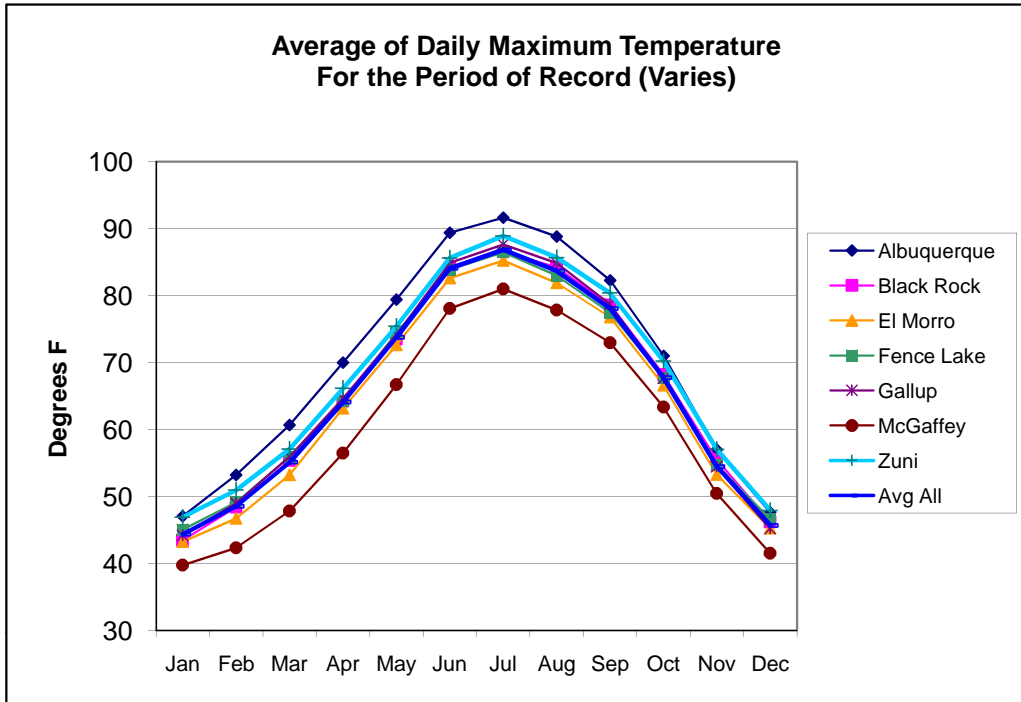




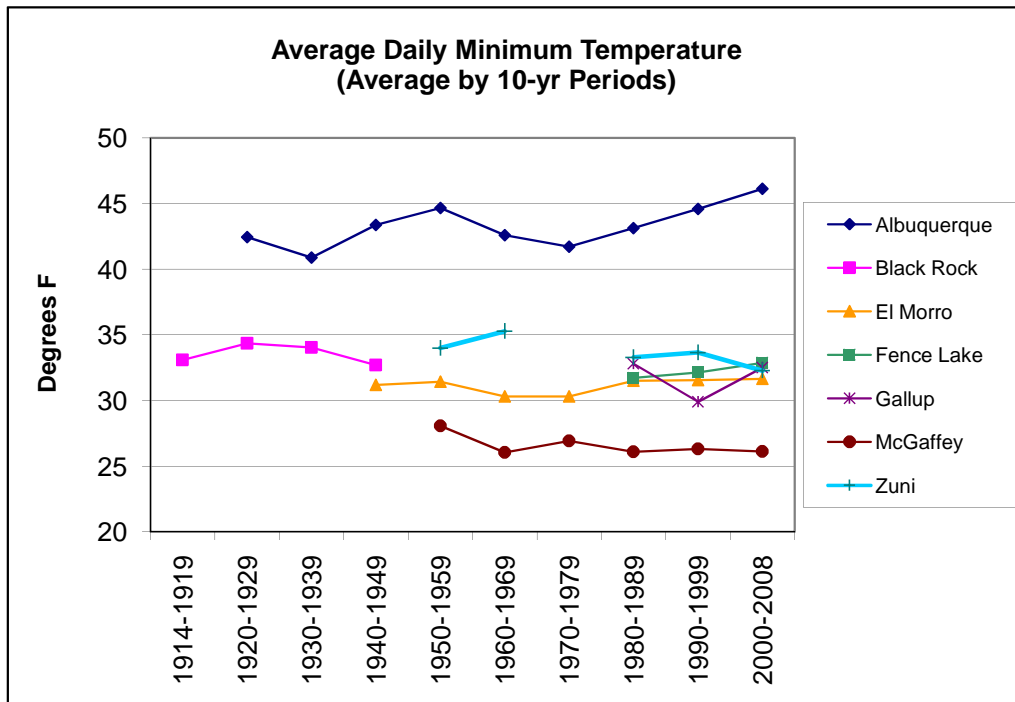
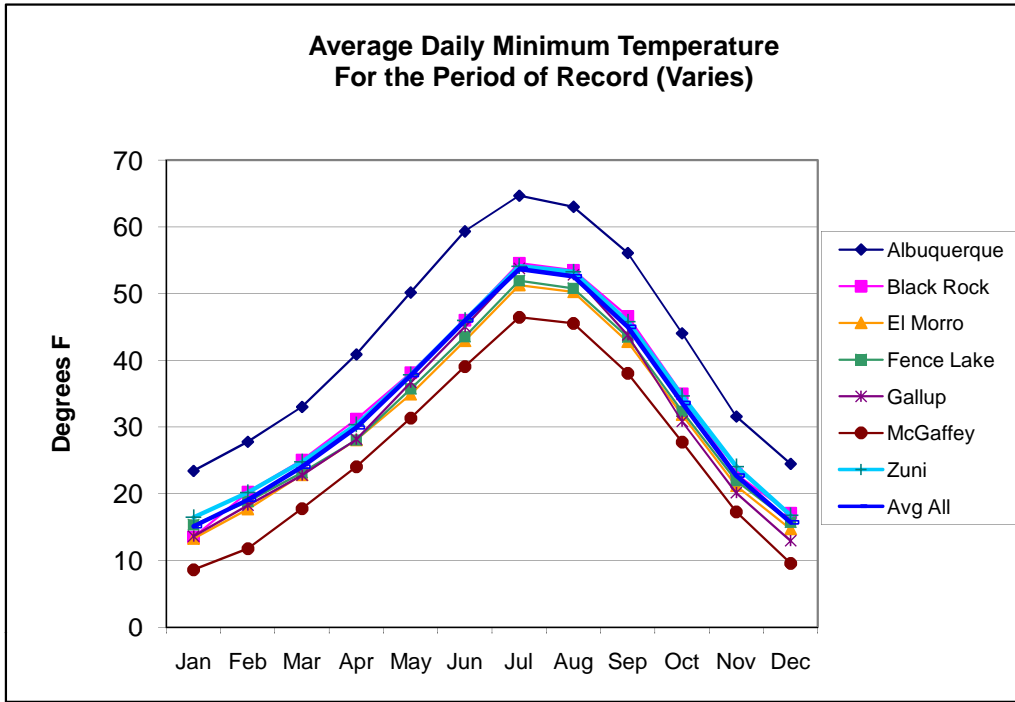
**Figure 8**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Raw Data



**Figure 9**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Raw Data

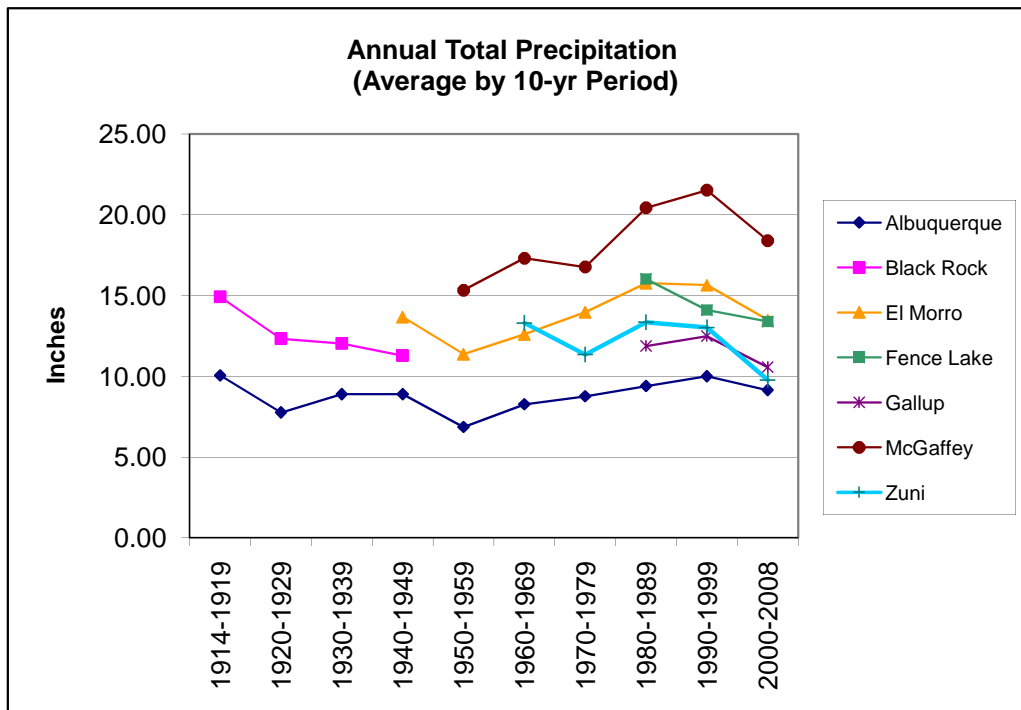
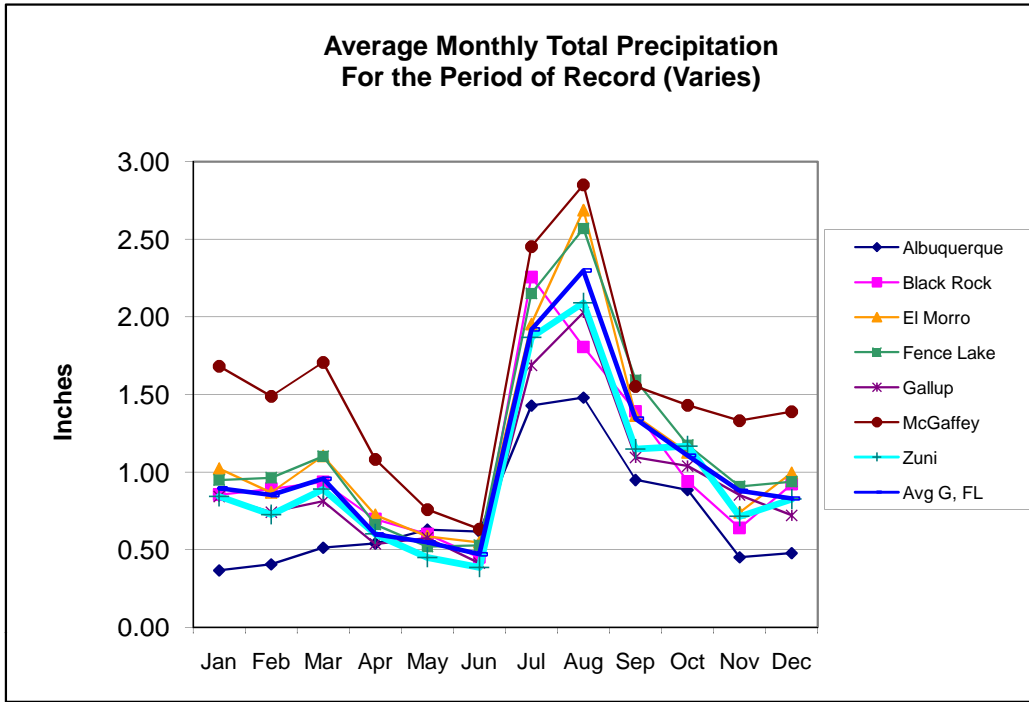


**Figure 10**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Raw Data





**Figure 11**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Raw Data



**Figure 12**

Automated Weather Stations at Ramah and Zuni Buttes, NM  
July, 2009



Ramah, NM RAWS



Zuni Buttes, NM RAWS

Location of Zuni FAA Airport, NM (Former location of NOAA/NWS 299897, WBAN 93044)

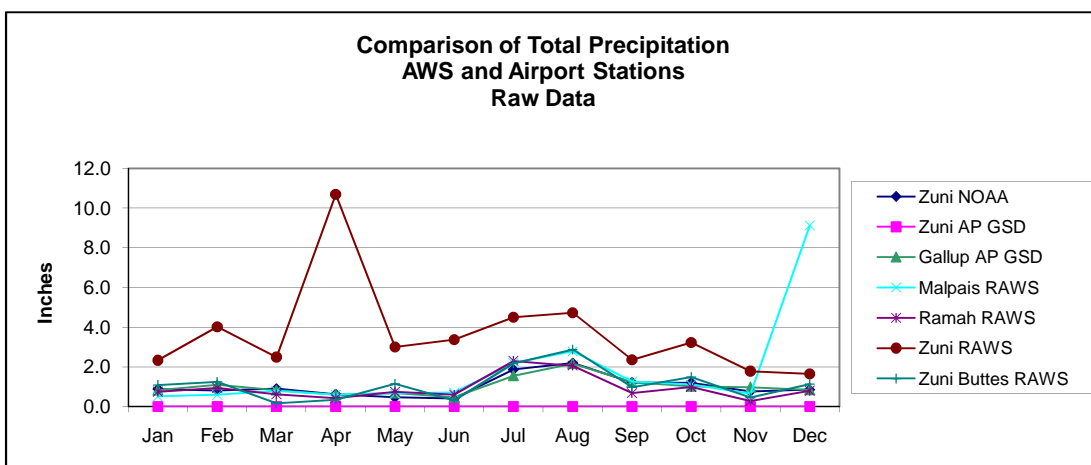
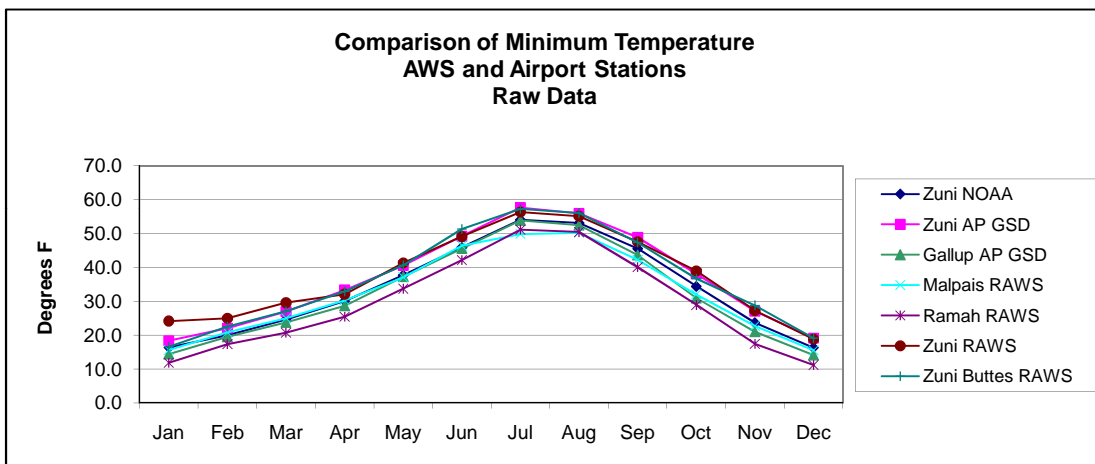
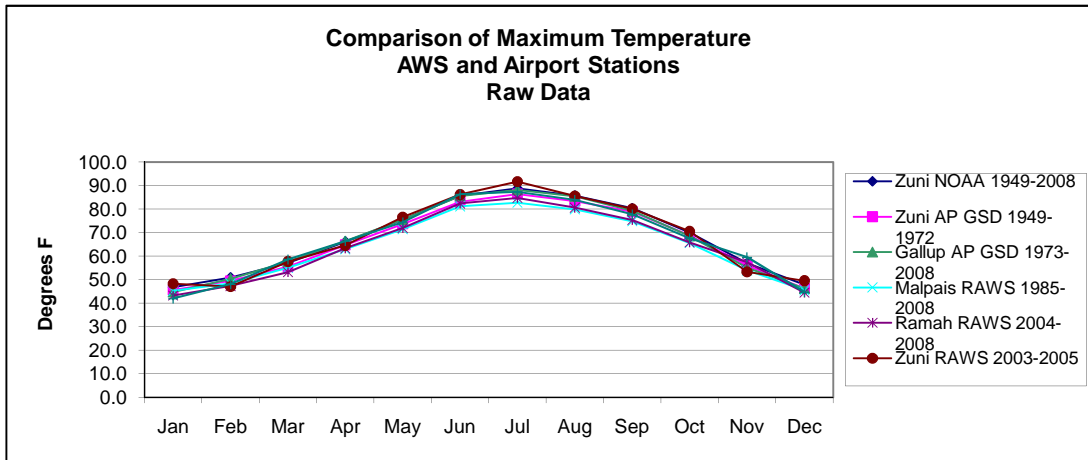


Zuni FAA Airport, NM View 1

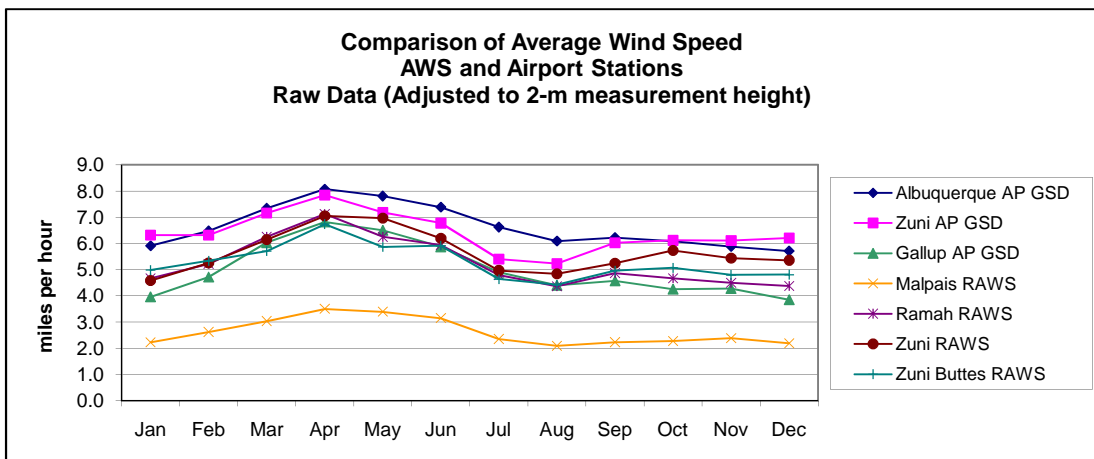
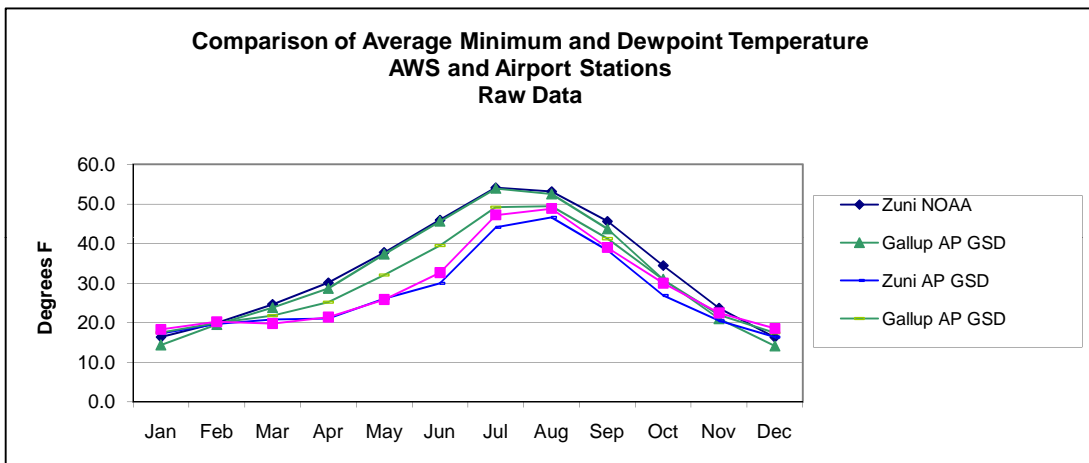
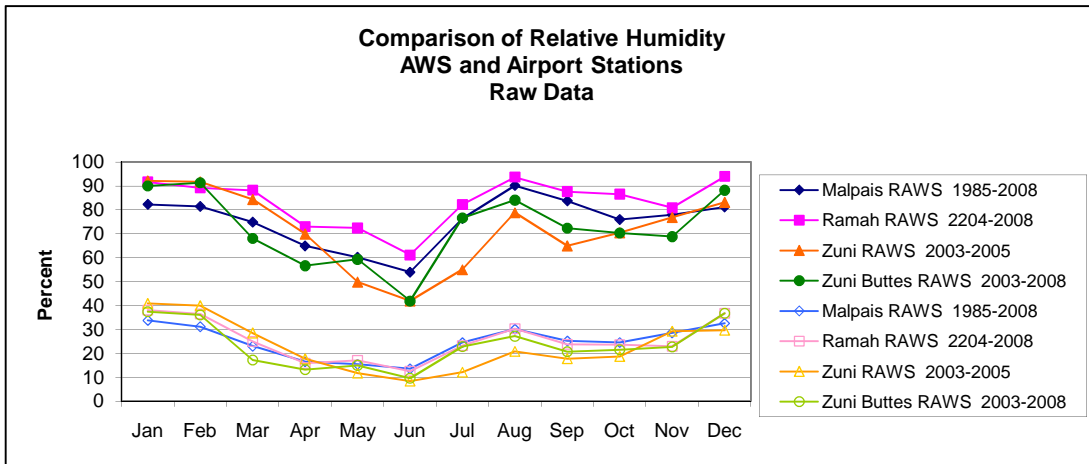


Zuni FAA Airport, NM View 2

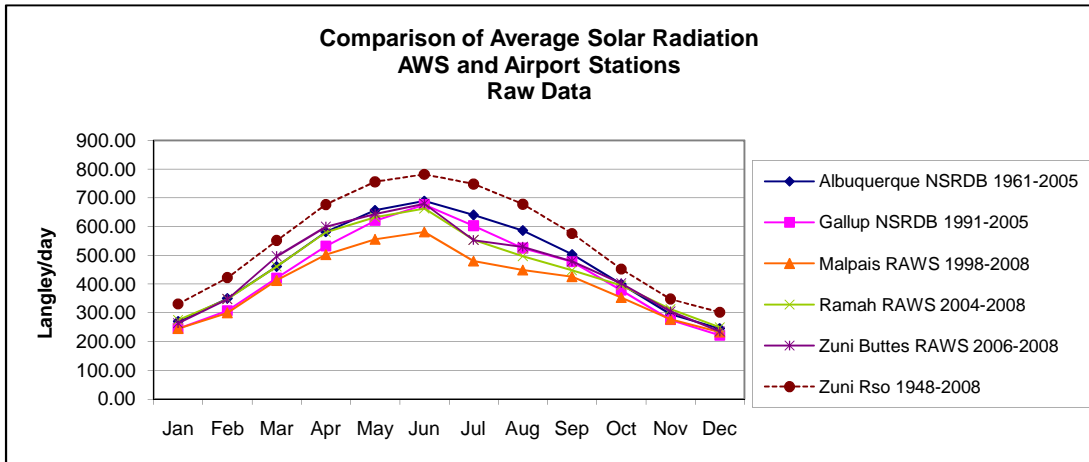
**Figure 13**  
Automated and Airport Weather Stations near Zuni Pueblo  
Summary of Raw Data



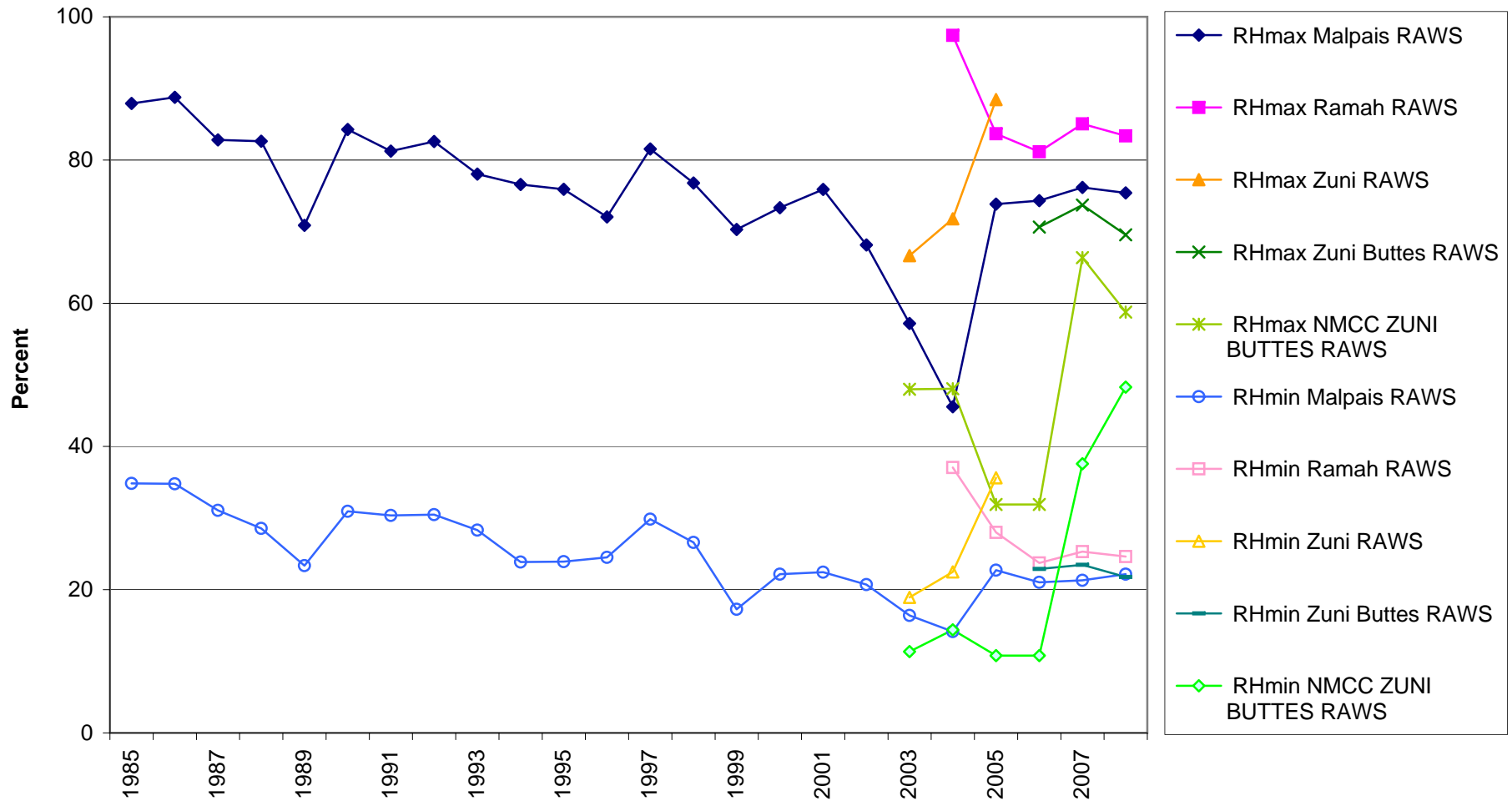
**Figure 13**  
Automated and Airport Weather Stations near Zuni Pueblo  
Summary of Raw Data



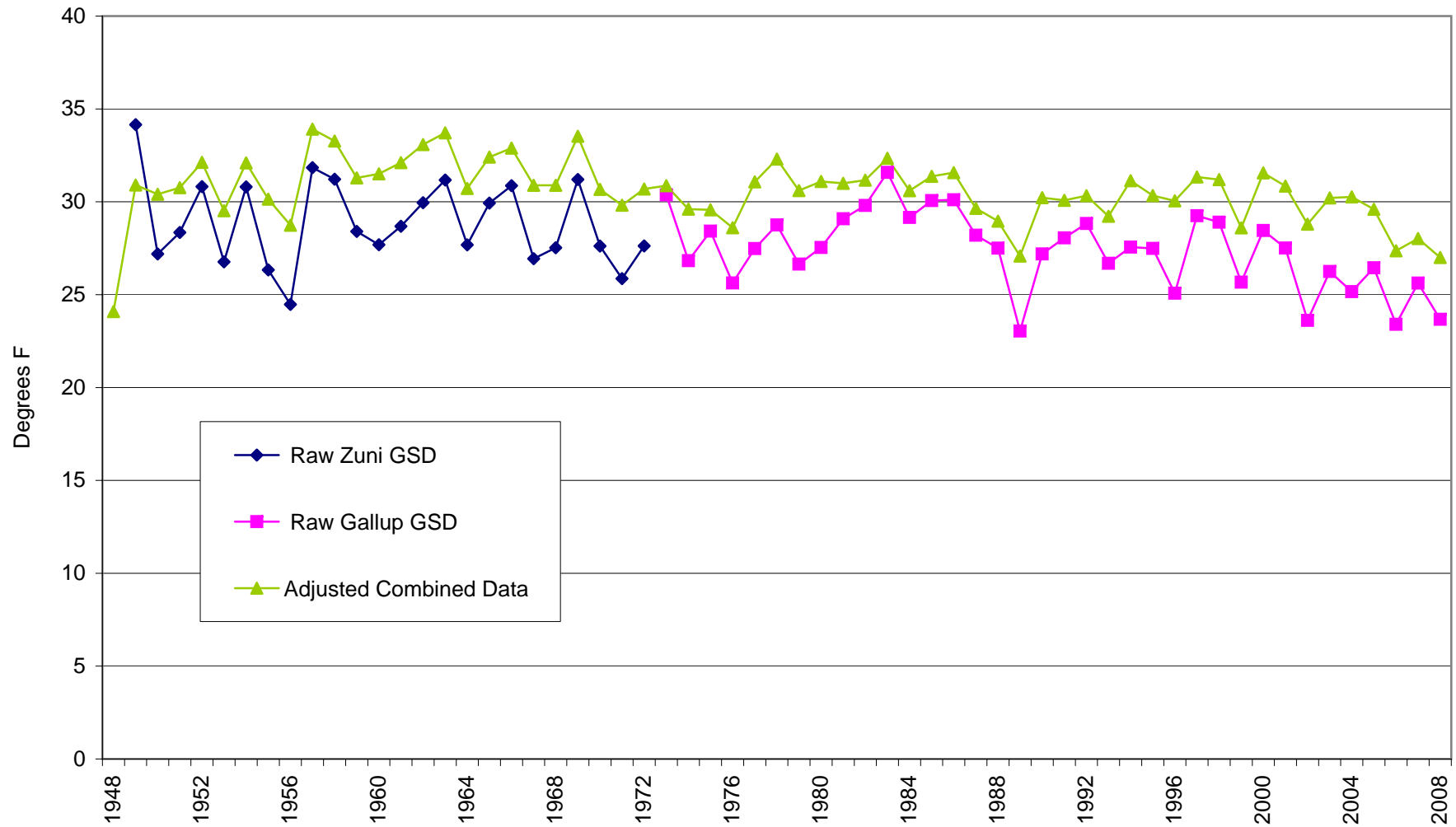
**Figure 13**  
Automated and Airport Weather Stations near Zuni Pueblo  
Summary of Raw Data



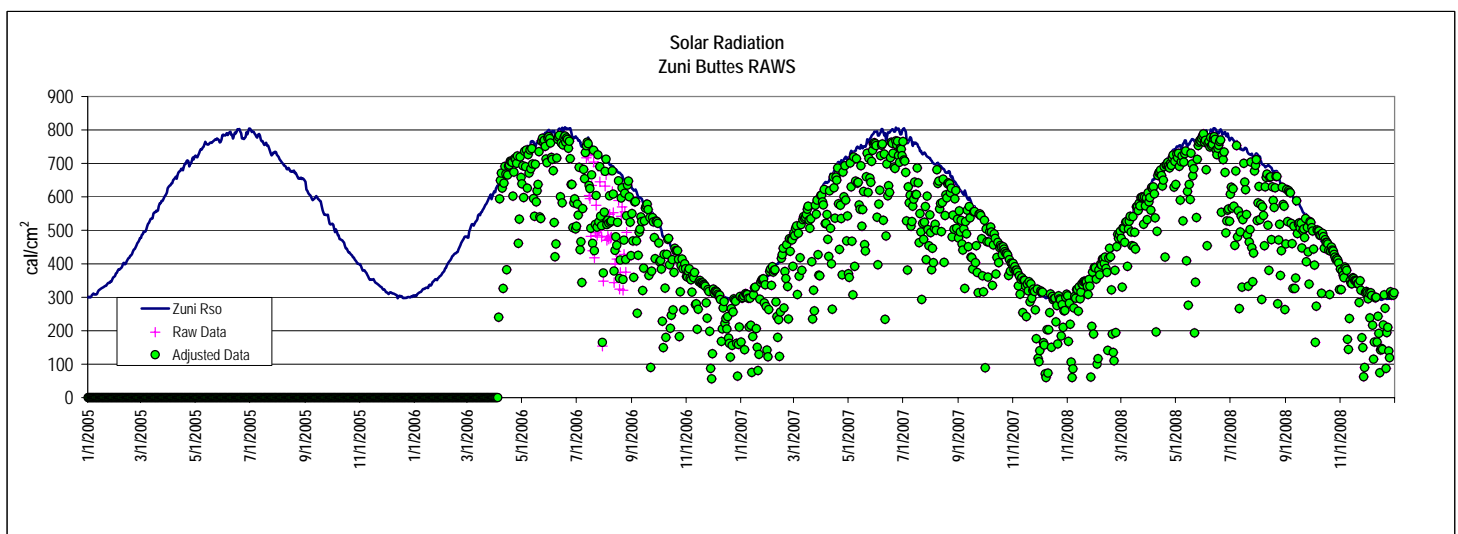
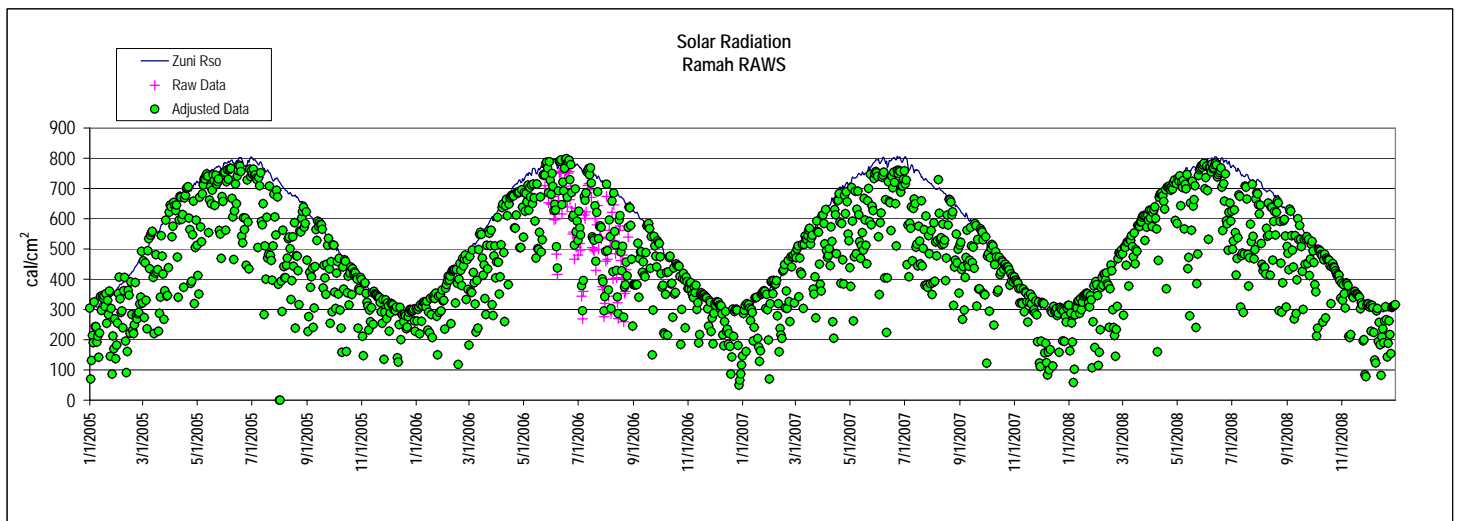
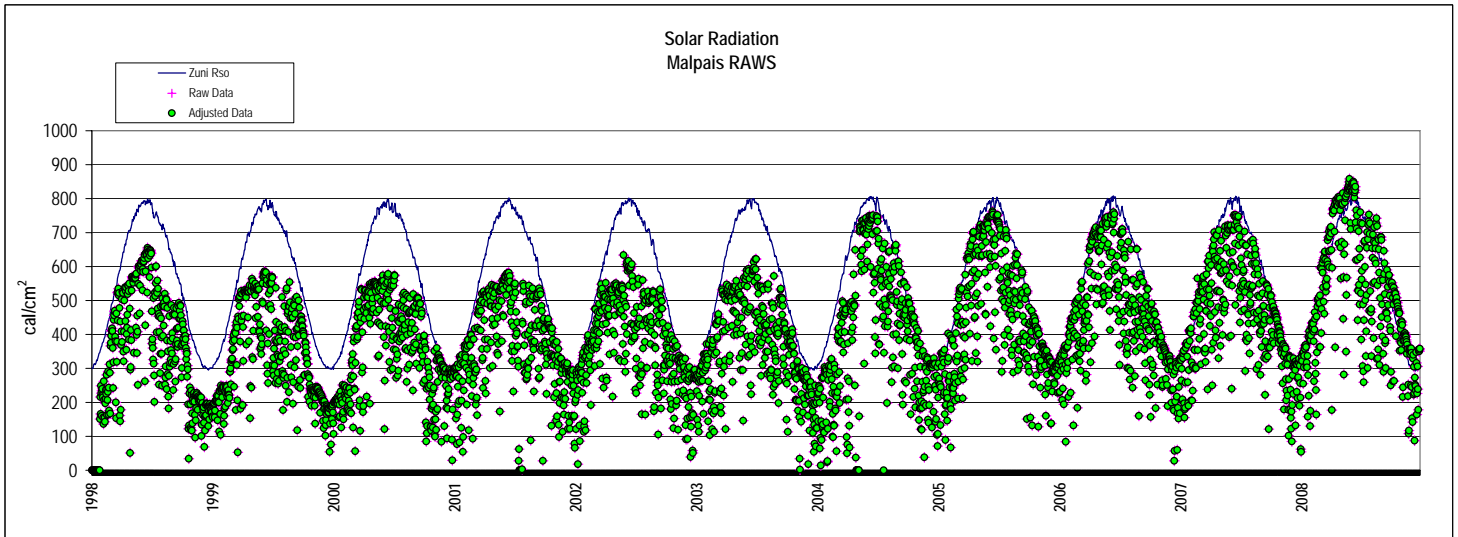
**Figure 14**  
 Comparison of Relative Humidity  
 Automated and Airport Weather Stations  
 Raw Data



**Figure 15**  
 Dewpoint Temperature  
 Zuni and Gallup Airport Weather Stations  
 Raw and Adjusted Data



**Figure 16**  
Weather Stations near Zuni Pueblo, New Mexico  
Raw and Adjusted Solar Radiation Data





# Tables

**Table 2**

Zuni Pueblo Area  
Summary of Weather Data  
NOAA/NWS Weather Stations

**Monthly Average Maximum Temperature, Degrees F**

Station	Period	Elevation, ft	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque	1948-2008	5,350	47.5	53.4	61.1	70.6	80.0	90.1	92.2	89.2	82.7	71.2	57.2	47.7	70.2
Zuni	1949-2008	6,309	46.6	50.7	57.1	66.1	75.4	85.6	88.8	85.7	80.3	70.0	57.0	47.8	67.6
Black Rock	1914-1949	6,450	43.5	48.3	55.3	64.3	73.5	84.1	86.5	83.9	78.5	68.1	55.5	46.0	65.6
Gallup	1973-2008	6,470	44.2	49.0	56.0	64.7	74.2	84.9	87.7	84.9	78.7	67.7	54.4	45.2	66.0
Fence Lake	1964-2007	7,060	45.4	49.6	56.1	64.8	74.6	84.4	86.6	83.0	77.8	68.0	55.4	46.5	66.0
El Morro	1938-2008	7,231	43.2	46.8	53.3	63.2	72.7	82.6	85.3	81.9	76.8	66.6	53.5	44.9	64.2
McGaffey	1949-2008	7,999	39.9	42.5	47.8	56.5	66.8	77.8	81.0	77.8	72.9	63.4	50.5	41.5	59.9

**Monthly Average Minimum Temperature, Degrees F**

Station	Period	Elevation, ft	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque	1948-2008	5,350	24.0	28.0	33.4	41.3	50.5	60.0	65.3	63.6	56.5	44.5	32.3	24.8	43.7
Zuni	1949-2008	6,309	16.3	19.8	24.6	30.1	37.7	45.9	54.1	53.1	45.6	34.4	23.6	16.3	33.5
Black Rock	1914-1949	6,450	13.5	20.2	24.9	31.2	38.1	46.2	54.5	53.4	46.6	35.0	23.0	16.9	33.6
Gallup	1973-2008	6,470	13.6	18.3	22.8	28.2	36.7	45.0	53.8	52.8	43.8	30.8	20.2	13.0	31.6
Fence Lake	1964-2007	7,060	15.2	18.9	22.9	27.7	35.4	43.5	51.9	50.7	43.4	32.1	22.0	15.1	31.6
El Morro	1938-2008	7,231	13.3	17.7	22.8	28.1	34.9	42.9	51.3	50.3	42.8	31.9	21.2	14.6	31.0
McGaffey	1949-2008	7,999	8.5	11.9	17.7	24.1	31.3	38.9	46.4	45.5	38.1	27.7	17.3	9.6	26.4

**Monthly Average Temperature, Degrees F**

Station	Period	Elevation, ft	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque	1948-2008	5,350	35.7	40.7	47.3	55.9	65.3	75.1	78.7	76.4	69.6	57.8	44.8	36.2	57.0
Zuni	1949-2008	6,309	31.4	35.3	40.9	48.1	56.6	65.8	71.4	69.4	63.0	52.2	40.3	32.1	50.5
Black Rock	1914-1949	6,450	28.5	34.2	40.1	47.7	55.8	65.2	70.5	68.7	62.6	51.5	39.2	31.4	49.6
Gallup	1973-2008	6,470	28.9	33.6	39.4	46.4	55.4	65.0	70.7	68.8	61.2	49.2	37.3	29.1	48.8
Fence Lake	1964-2007	7,060	30.3	34.2	39.5	46.2	55.0	64.0	69.2	66.8	60.6	50.1	38.7	30.8	48.8
El Morro	1938-2008	7,231	28.2	32.2	38.0	45.6	53.8	62.8	68.3	66.1	59.8	49.2	37.4	29.7	47.6
McGaffey	1949-2008	7,999	24.2	27.2	32.7	40.3	49.0	58.4	63.7	61.6	55.5	45.5	33.9	25.6	43.1

**Monthly Average Precipitation, Inches**

Station	Period	Elevation, ft	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque	1948-2008	5,350	0.39	0.46	0.54	0.50	0.51	0.57	1.40	1.51	0.94	0.91	0.47	0.49	8.69
Zuni	1949-2008	6,309	0.89	0.74	0.90	0.60	0.46	0.39	1.86	2.19	1.18	1.19	0.74	0.85	11.98
Black Rock	1914-1949	6,450	0.83	0.88	0.92	0.70	0.60	0.47	2.20	1.89	1.39	0.94	0.64	0.92	12.37
Gallup	1973-2008	6,470	0.84	0.74	0.85	0.54	0.59	0.41	1.69	2.03	1.09	1.04	0.85	0.72	11.40
Fence Lake	1964-2007	7,060	0.95	0.87	1.10	0.66	0.47	0.53	2.18	2.59	1.58	1.26	0.91	1.09	14.12
El Morro	1938-2008	7,231	1.02	0.87	1.12	0.72	0.59	0.55	1.95	2.72	1.36	1.15	0.76	1.00	13.82
McGaffey	1949-2008	7,999	1.75	1.48	1.76	1.07	0.76	0.66	2.49	2.85	1.62	1.50	1.40	1.49	18.83

**Table 3**

NOAA/NWS Weather Stations near Zuni Pueblo, NM  
Average Hargreaves-Samani Reference Evapotranspiration

Weather Station	Period	Elevation, ft.	ET <sub>o</sub> , inches												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Zuni 299897	1949-2008	6311	1.44	1.91	3.23	4.70	6.54	7.85	8.08	6.96	5.34	3.65	2.03	1.38	53.10
Black Rock 291018	1914-1948	6453	1.29	1.75	3.05	4.46	6.24	7.62	7.66	6.65	5.08	3.46	1.95	1.29	50.51
Gallup 293422	1973-2008	6505	1.30	1.79	3.10	4.54	6.37	7.77	7.89	6.83	5.16	3.45	1.87	1.23	51.28
El Morro 292785	1938-2008	7223	1.26	1.67	2.90	4.39	6.20	7.48	7.63	6.52	5.00	3.38	1.84	1.24	49.53
McGaffey 295560	1949-2008	8000	1.11	1.43	2.46	3.73	5.48	6.90	7.18	6.13	4.69	3.17	1.69	1.09	45.08

**Table 4**

Black Rock NOAA Station  
Monthly Hargreaves-Samani Reference ETo

Year	(Values in Inches)												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1914	1.32	1.76	3.06	3.90	6.00	7.06	6.52	6.59	4.93	3.12	2.18	1.03	47.47
1915	1.08	1.45	2.81	4.10	5.53	6.95	6.89	6.67	4.82	3.76	1.95	1.26	47.26
1916	1.15	1.99	3.43	4.53	6.17	7.72	7.11	6.16	4.91	3.09	1.94	1.24	49.42
1917	1.83	1.91	3.42	4.79	6.06	8.06	8.02	7.29	5.53	4.06	2.33	1.73	55.02
1918	1.09	1.72	3.16	4.35	6.08	8.04	7.59	6.73	5.53	3.49	1.76	1.01	50.55
1919	1.01	1.31	2.91	4.78	6.66	8.68	8.26	7.62	5.34	3.23	2.00	1.50	53.30
1920	1.56	1.93	3.02	4.05	6.50	7.64	7.68	7.11	5.19	3.29	1.96	1.24	51.16
1921	1.54	2.02	3.49	4.36	6.25	7.50	7.07	6.16	5.45	3.87	2.32	1.51	51.53
1922	1.28	1.71	2.99	3.99	6.31	8.09	7.88	6.55	5.25	3.28	1.59	1.33	50.24
1923	1.58	1.71	2.58	4.14	6.36	7.69	7.76	5.97	4.62	3.15	1.70	1.13	48.41
1924	1.37	2.09	2.50	4.13	6.44	8.15	7.47	7.25	5.40	3.53	2.23	1.01	51.56
1925	1.11	1.98	3.49	4.91	6.73	6.87	7.57	6.22	4.75	3.25	1.72	1.30	49.91
1926	1.16	1.98	2.86	3.88	5.68	7.62	7.35	7.27	5.15	3.72	2.09	1.06	49.80
1927	1.56	1.80	2.94	4.51	6.47	7.10	7.77	6.65	4.51	3.62	2.19	1.11	50.23
1928	1.66	1.72	3.39	4.42	6.08	7.58	8.03	6.78	4.80	3.60	1.79	1.29	51.14
1929	1.35	1.41	2.95	4.22	6.08	7.92	7.20	6.18	4.78	3.50	1.90	1.71	49.19
1930	1.12	2.07	2.97	5.00	5.75	8.10	7.41	6.96	5.31	3.76	1.82	1.24	51.51
1931	1.32	1.63	3.20	4.47	6.35	7.74	8.08	6.95	5.11	3.63	2.09	0.87	51.44
1932	0.94	1.86	3.02	4.83	6.18	7.55	7.54	6.75	5.33	3.56	2.33	1.02	50.89
1933	1.00	1.39	3.43	4.06	5.97	7.76	7.75	6.00	4.69	2.77	1.73	1.25	47.79
1934	1.31	1.76	3.35	4.46	6.26	7.07	7.04	5.69	4.50	3.78	2.01	1.47	48.70
1935	1.42	1.73	2.95	4.34	5.14	7.68	7.77	6.50	5.10	3.63	1.95	1.34	49.54
1936	1.40	1.65	3.22	4.81	6.69	7.91	7.80	6.68	4.48	3.34	1.98	1.32	51.27
1937	0.80	1.50	2.80	4.64	6.58	7.32	7.74	7.29	5.45	3.75	2.17	1.43	51.46
1938	1.53	1.72	2.94	4.77	6.18	7.50	7.88	7.14	4.97	3.67	1.84	1.46	51.60
1939	1.20	1.16	3.08	4.73	6.56	7.86	8.23	7.36	5.17	3.36	1.97	1.43	52.11
1940	1.19	1.66	3.33	4.37	6.58	7.46	7.68	6.10	4.24	3.05	1.51	1.16	48.32
1941	1.04	1.57	2.62	3.22	5.42	6.20	6.66	6.00	4.56	2.65	1.63	1.04	42.61
1942	1.09	1.41	2.71	4.31	6.04	7.69	7.78	5.97	5.25	3.21	2.02	1.49	48.99
1943	1.46	2.20	3.18	5.22	6.61	7.48	7.94	6.73	5.38	3.59	2.20	1.38	53.37
1944	1.38	1.88	3.01	4.20	6.21	7.63	7.75	7.31	5.34	3.59	1.84	1.35	51.51
1945	1.39	1.93	2.81	4.65	6.65	7.70	8.22	7.16	5.76	3.64	2.07	1.16	53.14
1946	1.18	1.92	3.29	5.28	6.32	8.20	8.12	5.94	5.05	3.26	1.93	1.66	52.15
1947	1.29	2.13	3.42	4.71	6.75	7.54	8.39	5.82	5.61	3.79	1.63	1.32	52.38
1948	1.54	1.71	2.51	5.02	6.77	7.56	8.22	7.20	5.57	3.45	1.84	1.37	52.77
Average	1.29	1.75	3.05	4.46	6.24	7.62	7.66	6.65	5.08	3.46	1.95	1.29	50.51

**Table 5**

Zuni NOAA Station  
 Monthly Hargreaves-Samani Reference ETo

Year	(Values in Inches)												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1949	0.97	1.54	3.05	4.71	6.21	7.14	7.31	6.97	5.37	3.35	2.52	1.28	50.42
1950	1.45	2.05	3.32	4.99	6.43	7.88	7.44	7.35	5.06	4.37	2.38	1.78	54.50
1951	1.44	1.78	3.08	4.26	6.40	7.64	8.36	6.90	5.65	3.45	1.84	1.14	51.94
1952	1.44	1.79	2.50	4.33	6.35	7.53	7.86	7.20	5.55	4.24	1.63	1.20	51.63
1953	1.64	1.84	3.21	4.42	5.74	7.88	8.12	7.19	6.02	3.75	2.13	1.05	53.00
1954	1.60	2.33	2.79	5.24	6.45	7.79	8.15	6.89	5.46	3.84	2.36	1.36	54.26
1955	1.12	1.39	3.16	4.39	5.96	7.42	7.81	6.56	5.74	4.02	2.08	1.60	51.23
1956	1.62	1.50	3.65	4.38	6.94	8.15	8.11	6.82	5.97	3.71	1.88	1.40	54.13
1957	1.32	2.12	2.94	4.17	5.40	7.48	7.62	6.40	5.54	3.15	1.62	1.55	49.30
1958	1.41	1.91	2.33	4.24	6.92	7.94	8.15	7.07	4.98	3.52	2.03	1.78	52.28
1959	1.65	1.81	3.23	4.72	6.39	7.82	8.34	6.53	5.38	3.44	2.01	1.34	52.66
1960	1.12	1.44	3.44	4.83	6.27	7.72	7.82	7.27	5.52	3.18	2.06	1.22	51.88
1961	1.56	1.82	2.99	4.55	6.55	8.08	7.95	6.40	4.85	3.51	1.67	1.13	51.05
1962	1.18	1.70	2.68	5.09	6.29	7.58	7.75	7.47	5.04	3.55	2.11	1.49	51.93
1963	1.15	1.94	3.14	4.55	6.71	7.64	7.93	6.06	5.24	3.75	1.95	1.49	51.53
1964	1.32	1.46	2.65	4.08	6.42	7.50	7.72	6.41	4.79	3.99	1.84	1.23	49.40
1965	1.45	1.64	2.79	4.36	5.81	6.78	7.22	6.84	4.64	3.96	2.08	1.36	48.92
1966	1.31	1.51	3.50	4.75	6.83	7.41	8.23	6.94	5.00	3.63	2.24	1.26	52.60
1967	1.43	2.07	3.59	4.43	6.15	7.02	7.53	6.32	4.82	3.80	2.23	1.00	50.38
1968	1.28	2.06	3.12	4.04	6.13	7.67	7.55	6.28	5.24	3.64	1.76	1.16	49.92
1969	1.40	1.71	2.75	4.70	6.53	7.38	7.68	6.99	5.21	3.17	1.82	1.50	50.83
1970	1.42	2.02	2.68	3.92	6.55	7.31	7.71	6.97	4.84	3.07	2.10	1.45	50.04
1971	1.59	1.81	3.52	4.42	5.95	7.71	8.14	6.49	5.03	3.05	1.91	1.14	50.74
1972	1.62	2.38	4.01	4.90	6.56	7.10	8.19	6.62	5.06	2.89	1.57	1.25	52.14
1973	1.49	1.92	2.08	3.96	6.39	7.26	7.91	7.11	5.25	3.70	1.99	1.38	50.43
1974	1.16	1.66	3.49	4.42	6.92	8.24	7.22	6.78	5.01	3.11	1.86	1.23	51.08
1975	1.44	1.56	2.85	4.00	5.96	7.55	7.21	7.11	4.68	3.80	2.01	1.27	49.43
1976	1.44	2.07	2.98	4.56	6.37	7.84	7.79	6.70	5.02	3.17	2.10	1.27	51.31
1977	1.12	1.97	2.93	4.64	5.87	7.30	7.36	6.61	4.96	3.62	2.11	1.53	50.02
1978	1.29	1.63	3.23	4.68	6.01	7.52	7.98	6.34	4.60	3.79	1.77	1.04	49.87
1979	1.09	1.71	2.82	4.59	5.28	7.12	7.97	6.76	5.60	3.97	1.68	1.52	50.11
1980	1.22	1.87	2.84	4.50	5.79	7.80	8.36	6.72	5.29	3.76	2.16	1.76	52.07
1981	1.74	2.19	2.76	4.95	5.99	7.61	7.57	6.86	4.90	3.25	2.31	1.57	51.71
1982	1.28	1.71	2.96	4.40	5.88	7.46	7.60	6.46	4.97	3.45	1.75	1.26	49.17
1983	1.41	1.75	2.81	4.06	6.36	7.50	7.92	6.04	4.72	2.93	1.68	1.14	48.30
1984	1.35	2.13	3.45	4.42	7.48	7.53	7.98	6.81	5.26	2.77	2.03	1.38	52.59
1985	1.28	1.70	3.11	5.00	6.45	8.29	8.31	7.43	5.07	3.69	1.92	1.52	53.76
1986	2.10	2.09	3.66	4.77	6.79	7.73	7.61	7.34	5.22	3.49	1.93	1.33	54.05
1987	1.44	1.75	2.93	5.09	6.25	8.05	8.16	6.84	5.60	3.99	1.95	1.38	53.41
1988	1.32	2.22	3.61	4.82	6.77	8.08	8.37	6.72	5.26	4.13	2.05	1.48	54.80
1989	1.43	2.11	4.08	5.78	7.23	8.30	8.67	7.19	5.96	3.63	2.19	1.46	58.03
1990	1.47	1.79	3.13	4.74	6.16	8.74	8.10	7.09	5.37	3.80	2.11	1.16	53.67
1991	1.27	2.25	2.88	4.87	6.98	7.62	8.26	6.99	5.47	4.04	1.90	1.29	53.81
1992	1.27	2.00	3.29	5.39	5.82	7.64	7.79	7.12	5.63	3.84	1.74	1.26	52.79
1993	1.46	1.86	3.49	5.05	6.71	8.24	8.65	6.95	5.61	3.62	1.85	1.56	55.04
1994	1.71	1.92	3.56	4.89	6.77	8.68	8.53	6.94	5.62	3.46	1.83	1.52	55.43
1995	1.42	2.34	3.48	4.41	6.04	7.92	8.71	7.58	5.63	4.11	2.33	1.59	55.54
1996	1.73	2.42	3.66	5.38	7.65	8.33	8.62	7.45	4.91	3.54	2.11	1.52	57.31
1997	1.33	1.97	4.03	4.49	7.05	7.75	8.51	7.32	5.52	3.72	2.11	1.21	55.00
1998	1.53	1.57	3.23	4.29	6.72	7.99	8.07	7.42	5.79	3.71	2.15	1.63	54.10
1999	1.85	2.40	4.03	4.53	6.64	7.98	7.67	6.81	5.48	4.16	2.73	1.46	55.75
2000	1.78	2.57	3.40	5.62	7.86	8.40	8.80	7.62	5.97	3.45	1.63	1.63	58.73
2001	1.42	1.99	3.63	4.98	7.40	8.67	8.26	7.21	5.92	4.05	2.16	1.43	57.09
2002	1.56	2.19	3.68	5.52	7.37	8.95	8.47	7.66	5.46	3.54	2.11	1.23	57.73
2003	1.90	1.79	3.31	4.92	7.24	8.39	9.56	7.53	5.94	4.20	2.07	1.64	58.48
2004	1.56	1.89	4.22	4.76	7.47	8.45	8.71	7.34	5.59	3.64	1.93	1.50	57.03
2005	1.69	1.77	3.11	5.03	7.12	8.21	9.45	7.38	5.90	3.99	2.40	1.55	57.61
2006	1.83	2.31	3.21	5.49	7.85	8.96	8.59	6.88	5.22	3.58	2.34	1.47	57.71
2007	1.42	1.93	3.90	5.12	6.92	8.82	9.03	7.67	5.94	4.14	2.59	1.31	58.78
2008	1.35	1.96	3.73	5.27	6.75	8.57	8.40	7.84	5.93	3.98	2.30	1.41	57.48
Average	1.44	1.91	3.23	4.70	6.54	7.85	8.08	6.96	5.34	3.65	2.03	1.38	53.10

**Table 6**  
Page (1 of 2)

El Morro National Monument NOAA Station  
Monthly Hargreaves-Samani Reference ETo

(Values in Inches)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1938	1.31	1.69	2.73	4.45	5.85	7.18	7.55	6.95	4.62	3.47	1.72	1.36	48.88
1939	1.09	1.00	2.74	4.44	6.23	7.40	7.74	6.84	4.79	3.33	1.86	1.43	48.89
1940	1.18	1.58	3.12	4.32	6.55	7.46	7.82	6.60	4.44	3.37	1.77	1.37	49.57
1941	1.15	1.56	2.56	3.31	5.72	6.63	7.45	6.31	4.83	2.99	1.91	1.11	45.54
1942	1.37	1.52	2.68	4.32	6.61	7.77	8.37	6.72	5.44	3.35	2.25	1.41	51.79
1943	1.43	2.09	3.02	5.13	6.44	7.41	7.84	6.59	5.24	3.45	2.09	1.29	52.02
1944	1.31	1.71	2.83	4.07	6.16	7.49	7.80	7.21	5.05	3.30	1.62	1.28	49.82
1945	1.24	1.81	2.63	4.39	6.43	7.41	7.98	7.01	5.40	3.43	2.01	1.06	50.80
1946	1.07	1.63	3.13	5.10	6.01	8.03	7.61	5.94	4.46	3.13	1.84	1.56	49.51
1947	1.18	1.92	3.16	4.37	6.41	7.09	8.01	5.74	5.17	3.58	1.63	1.14	49.40
1948	1.49	1.64	2.37	4.89	6.44	7.46	8.21	6.67	5.42	3.37	1.62	1.34	50.91
1949	0.96	1.40	3.00	4.70	6.34	7.22	7.18	6.93	5.21	3.24	2.37	1.19	49.71
1950	1.34	1.82	3.10	4.76	6.26	7.89	7.12	7.15	4.85	4.13	2.16	1.63	52.21
1951	1.34	1.60	2.87	4.15	6.33	7.52	8.14	6.47	5.51	3.28	1.72	1.08	50.01
1952	1.27	1.54	2.29	4.14	6.15	7.50	7.69	6.68	5.28	3.98	1.53	1.08	49.12
1953	1.44	1.62	2.98	4.16	5.58	7.80	7.71	6.92	5.71	3.49	1.98	1.03	50.43
1954	1.39	2.12	2.66	5.06	6.31	7.72	7.69	6.33	4.99	3.58	2.15	1.33	51.34
1955	1.00	1.27	2.99	4.29	5.78	7.23	7.26	5.86	5.52	3.75	1.87	1.35	48.16
1956	1.45	1.27	3.28	4.23	6.68	7.71	7.62	6.64	5.80	3.51	1.73	1.30	51.22
1957	1.23	1.93	2.65	3.99	5.26	7.35	7.10	5.98	5.35	2.89	1.39	1.37	46.49
1958	1.28	1.74	2.28	4.08	6.67	7.75	7.81	6.91	4.88	3.37	1.85	1.60	50.23
1959	1.43	1.63	2.97	4.52	6.35	7.74	8.15	6.08	5.15	3.21	1.84	1.25	50.31
1960	0.97	1.28	3.08	4.57	6.07	7.68	7.75	7.15	5.41	3.03	1.90	1.04	49.93
1961	1.35	1.71	2.83	4.38	6.49	8.05	7.83	6.36	4.72	3.25	1.50	1.03	49.49
1962	1.09	1.61	2.43	4.74	6.21	7.39	7.59	7.33	4.90	3.31	1.92	1.33	49.85
1963	0.94	1.69	2.88	4.47	6.63	7.48	7.92	5.84	4.83	3.60	1.78	1.30	49.36
1964	1.13	1.21	2.30	3.88	6.15	7.29	7.61	6.18	4.60	3.67	1.74	1.00	46.77
1965	1.28	1.48	2.55	4.11	5.59	6.67	7.05	6.80	4.65	3.76	1.94	1.18	47.04
1966	1.08	1.22	3.06	4.39	6.39	7.14	7.93	6.58	4.73	3.38	2.06	1.16	49.09
1967	1.30	1.85	3.37	4.39	6.00	6.66	7.28	6.09	4.71	3.71	2.05	0.91	48.31
1968	1.17	1.78	2.85	3.93	5.84	7.50	7.17	5.92	4.86	3.47	1.60	1.08	47.16
1969	1.27	1.54	2.50	4.57	6.37	7.35	7.66	6.87	4.91	3.07	1.75	1.37	49.21
1970	1.30	1.88	2.58	3.81	6.46	7.38	7.80	6.75	4.98	2.90	1.95	1.37	49.14
1971	1.45	1.70	3.27	4.36	5.99	7.66	8.21	6.37	5.01	2.98	1.86	1.05	49.88
1972	1.50	2.19	3.88	4.79	6.38	7.16	8.02	6.44	4.73	2.94	1.43	1.18	50.63
1973	1.12	1.39	2.17	3.60	5.68	7.27	7.58	6.89	5.11	3.70	2.01	1.35	47.86
1974	1.17	1.73	3.44	4.44	6.86	8.19	7.46	6.52	4.91	3.01	1.82	1.13	50.69
1975	1.24	1.42	2.72	3.80	5.77	7.41	7.22	6.80	4.34	3.64	2.03	1.17	47.57
1976	1.25	2.10	3.00	4.40	6.07	7.67	7.58	6.61	4.87	3.42	1.94	1.38	50.29
1977	1.09	1.74	2.81	4.65	6.04	7.92	7.44	7.04	5.08	3.63	1.99	1.50	50.92
1978	1.20	1.51	3.20	4.63	6.03	7.81	8.36	7.13	5.38	3.80	1.78	1.03	51.85
1979	0.90	1.56	2.56	4.42	5.51	7.17	8.10	6.64	5.60	3.93	1.52	1.43	49.32

**Table 6**  
**Page (2 of 2)**

El Morro National Monument NOAA Station  
Monthly Hargreaves-Samani Reference ETo

(Values in Inches)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1980	1.19	1.78	2.69	4.36	5.94	8.21	8.36	6.76	5.26	3.70	2.06	1.73	52.03
1981	1.60	2.02	2.64	4.81	5.92	7.84	7.50	6.83	5.05	3.25	2.20	1.51	51.16
1982	1.20	1.56	2.79	4.40	5.96	7.54	7.53	6.19	4.83	3.43	1.65	1.11	48.19
1983	1.31	1.62	2.41	3.62	6.11	7.17	7.72	6.84	5.23	3.21	1.81	1.18	48.22
1984	1.39	1.92	3.15	4.07	7.12	7.32	7.66	6.20	4.87	2.48	1.80	1.20	49.16
1985	1.19	1.48	2.71	4.70	6.21	8.08	7.81	6.98	4.83	3.41	1.77	1.38	50.55
1986	1.90	1.92	3.25	4.33	6.17	7.12	6.80	6.63	4.79	3.09	1.68	1.13	48.80
1987	1.24	1.47	2.51	4.56	5.54	7.29	7.56	6.18	4.97	3.62	1.69	1.14	47.77
1988	1.16	1.88	3.11	4.34	6.12	7.08	7.23	5.71	4.84	3.69	1.81	1.22	48.18
1989	1.19	1.83	3.65	5.24	6.77	7.78	7.71	6.34	5.23	3.25	1.92	1.34	52.23
1990	1.31	1.63	3.05	4.31	6.04	8.10	6.84	6.28	4.94	3.35	1.85	0.98	48.68
1991	1.06	1.87	2.54	4.42	6.43	6.94	7.18	6.33	4.86	3.67	1.64	1.08	48.01
1992	1.11	1.65	2.95	4.85	5.24	6.99	7.07	6.30	5.15	3.51	1.45	1.05	47.32
1993	1.21	1.50	3.05	4.55	5.97	7.42	7.71	5.96	5.10	3.17	1.63	1.32	48.60
1994	1.46	1.57	3.11	4.28	6.16	7.86	7.89	6.82	4.83	3.11	1.64	1.30	50.04
1995	1.19	2.03	3.07	4.00	5.70	7.19	7.77	6.77	4.92	3.68	2.04	1.37	49.71
1996	1.46	2.01	3.15	4.71	7.08	7.62	7.64	6.72	4.51	3.21	1.82	1.26	51.17
1997	1.10	1.67	3.49	3.84	6.25	7.10	7.29	6.28	4.82	3.29	1.69	0.95	47.76
1998	1.33	1.25	2.65	4.00	6.26	7.35	7.10	6.40	5.17	3.28	1.90	1.39	48.07
1999	1.58	2.08	3.49	4.17	6.03	7.17	6.66	6.07	4.90	3.74	2.73	1.26	49.87
2000	1.47	2.12	3.03	4.96	7.28	7.50	7.91	6.98	5.43	2.89	1.31	1.32	52.21
2001	1.11	1.86	2.95	4.57	6.51	7.74	7.40	6.23	5.25	3.58	1.84	1.16	50.21
2002	1.24	1.80	3.17	5.02	6.64	8.14	7.46	6.84	4.65	3.08	1.78	1.03	50.85
2003	1.64	1.51	2.81	4.50	6.44	7.44	8.50	6.38	5.14	3.76	1.74	1.38	51.22
2004	1.26	1.52	3.63	4.06	6.63	7.53	7.62	6.31	4.80	3.16	1.55	1.26	49.31
2005	1.39	1.44	2.57	4.42	6.47	7.37	8.27	6.24	5.03	3.34	2.07	1.37	49.96
2006	1.53	2.03	2.79	4.98	6.94	7.88	7.33	5.58	4.15	2.84	1.81	0.99	48.86
2007	0.99	1.46	3.08	4.09	5.49	7.46	7.74	6.51	5.03	3.49	2.24	1.06	48.63
2008	1.05	1.62	3.12	4.52	6.03	7.54	7.07	6.44	4.97	3.41	1.94	1.21	48.92
Average	1.26	1.67	2.90	4.39	6.20	7.48	7.63	6.52	5.00	3.38	1.84	1.24	49.53

**Table 7**

McGaffey NOAA Station  
Monthly Hargreaves-Samani Reference ETo

(Values in Inches)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1949	0.99	1.23	2.51	3.97	5.41	6.58	6.94	6.39	4.81	2.99	2.10	1.04	44.97
1950	1.14	1.59	2.61	4.22	5.60	7.18	6.69	6.52	4.40	3.68	1.97	1.40	47.00
1951	1.09	1.43	2.46	3.49	5.59	6.80	7.39	6.28	5.09	2.91	1.44	0.94	44.89
1952	1.05	1.23	1.86	3.60	5.46	6.86	7.10	6.32	4.86	3.68	1.35	0.92	44.28
1953	1.32	1.34	2.56	3.63	4.68	6.97	7.24	6.19	5.35	3.37	1.49	0.86	45.01
1954	1.21	1.80	2.26	4.44	5.30	7.05	7.04	6.19	4.40	2.77	1.87	1.16	45.47
1955	0.83	1.01	2.56	3.85	5.72	6.77	6.65	5.60	5.05	3.41	1.69	1.12	44.25
1956	1.14	1.49	2.48	3.73	5.94	7.23	6.83	6.14	4.88	3.32	1.68	1.15	46.02
1957	1.03	1.77	2.36	3.43	4.53	6.77	7.10	5.89	4.95	2.85	1.34	1.35	43.35
1958	1.14	1.51	1.94	3.46	6.09	7.23	7.81	6.39	4.44	3.32	1.74	1.45	46.52
1959	1.38	1.38	2.76	4.13	5.96	7.36	7.66	6.05	5.20	3.02	1.80	1.25	47.95
1960	0.94	1.09	2.65	4.02	5.66	7.01	8.12	7.28	5.56	2.91	1.81	1.03	48.09
1961	1.34	1.61	2.48	3.88	6.14	7.62	7.61	6.36	4.90	3.35	1.47	1.02	47.79
1962	1.10	1.47	2.15	4.09	5.71	7.40	7.69	6.94	4.79	3.44	1.99	1.17	47.93
1963	0.99	1.60	2.60	3.66	6.26	6.90	7.82	5.84	4.96	3.73	1.86	1.37	47.58
1964	1.11	1.14	2.02	3.55	5.84	7.27	7.52	6.22	4.47	3.55	1.72	1.08	45.48
1965	1.27	1.34	2.17	3.53	4.94	5.92	7.06	6.43	4.57	3.69	2.01	1.15	44.07
1966	0.98	1.25	2.76	4.04	5.99	6.98	7.67	6.49	4.80	3.22	2.01	1.19	47.37
1967	1.17	1.72	2.98	3.68	5.40	6.27	6.68	6.08	4.56	3.44	2.05	0.90	44.92
1968	1.15	1.58	2.47	3.29	5.36	7.17	7.16	5.65	4.67	3.40	1.56	1.03	44.47
1969	1.23	1.31	2.18	3.86	5.28	6.94	7.26	6.33	4.39	2.68	1.45	1.23	44.15
1970	1.04	1.67	1.98	3.31	5.62	6.62	7.09	6.02	4.43	2.57	1.65	1.19	43.18
1971	1.11	1.36	2.66	3.65	5.14	6.81	7.44	6.07	4.49	2.57	1.69	0.90	43.89
1972	1.18	1.78	3.30	4.00	5.59	6.37	7.20	6.08	4.37	2.56	1.18	0.90	44.51
1973	0.92	1.18	1.85	2.86	4.78	6.29	6.79	6.24	4.50	3.26	1.78	1.09	41.54
1974	0.94	1.29	2.81	3.56	5.96	7.48	6.59	5.93	4.61	2.85	1.58	0.96	44.56
1975	1.02	1.21	2.05	3.00	4.87	6.54	6.52	6.31	4.14	3.15	1.72	1.03	41.53
1976	1.07	1.64	2.29	3.66	5.19	6.74	6.77	5.76	4.24	2.84	1.71	1.13	43.05
1977	0.90	1.38	2.12	3.87	5.03	6.90	6.89	6.05	4.43	3.12	1.69	1.14	43.52
1978	0.99	1.24	2.31	3.61	5.00	6.96	7.44	6.34	4.51	3.24	1.44	0.74	43.81
1979	0.73	1.32	2.05	3.44	4.51	6.18	7.38	6.02	5.13	3.45	1.23	1.23	42.66
1980	0.93	1.39	2.07	3.41	4.85	7.18	7.36	6.15	4.69	3.09	1.78	1.48	44.38
1981	1.42	1.67	2.09	3.90	5.14	7.07	6.59	6.09	4.40	2.87	1.94	1.27	44.45
1982	1.02	1.35	2.13	3.63	4.98	6.66	6.87	5.59	4.39	2.95	1.40	0.91	41.88
1983	1.20	1.32	2.07	2.96	4.90	6.33	6.95	5.94	4.83	2.85	1.61	0.96	41.92
1984	1.17	1.50	2.62	3.38	6.17	6.39	6.85	5.75	4.63	2.24	1.66	1.09	43.45
1985	1.01	1.19	2.37	3.82	5.22	7.04	7.03	6.27	4.39	3.06	1.46	1.20	44.04
1986	1.60	1.59	2.93	3.74	5.32	6.40	6.39	6.17	4.17	2.88	1.58	1.05	43.81
1987	1.09	1.26	2.24	3.90	4.88	6.72	6.99	5.50	4.56	3.48	1.63	0.99	43.22
1988	1.03	1.61	2.61	3.57	5.32	6.45	6.71	5.58	4.50	3.55	1.64	1.03	43.59
1989	0.99	1.46	3.07	4.70	6.16	7.07	7.69	6.18	4.98	3.07	1.79	1.19	48.35
1990	1.06	1.31	2.54	3.80	5.26	7.37	6.54	5.81	4.64	3.15	1.78	0.91	44.17
1991	0.95	1.72	2.09	3.62	5.56	6.27	6.92	6.06	4.66	3.46	1.36	0.95	43.60
1992	0.97	1.40	2.47	4.28	4.92	6.43	6.75	5.93	4.91	3.43	1.33	0.84	43.65
1993	1.06	1.24	2.46	3.79	5.45	6.74	7.35	5.99	4.75	3.05	1.52	1.15	44.54
1994	1.32	1.34	2.68	3.55	5.33	7.50	7.85	6.44	4.56	2.98	1.43	1.18	46.17
1995	1.04	1.74	2.47	3.26	4.68	6.44	7.25	6.36	4.67	3.43	1.97	1.28	44.57
1996	1.24	1.84	2.61	4.31	6.55	7.23	7.38	6.27	4.08	2.99	1.64	1.10	47.22
1997	0.95	1.43	3.06	3.25	5.47	6.44	7.42	5.76	4.64	3.16	1.71	0.95	44.22
1998	1.21	1.13	2.25	3.16	5.45	6.70	7.11	6.26	5.03	3.12	1.75	1.24	44.41
1999	1.35	1.81	3.12	3.51	5.53	6.71	6.39	5.73	4.50	3.65	2.40	1.04	45.73
2000	1.34	1.73	2.69	4.56	6.67	7.14	7.60	6.57	5.16	2.88	1.14	1.24	48.71
2001	1.03	1.45	2.73	4.03	6.08	7.54	7.38	5.83	5.20	3.74	1.95	1.03	47.99
2002	1.02	1.44	2.58	4.48	6.00	7.80	7.27	6.60	4.59	3.10	1.71	0.87	47.45
2003	1.44	1.21	2.43	3.63	5.84	7.21	8.45	6.46	4.97	3.68	1.67	1.19	48.18
2004	1.04	1.21	3.19	3.44	5.97	7.22	7.21	6.25	4.69	3.00	1.36	1.22	45.76
2005	1.27	1.27	2.20	3.62	5.47	6.43	7.95	5.68	4.68	3.10	2.11	1.17	44.96
2006	1.34	1.64	2.26	4.42	6.34	7.59	6.77	5.34	4.28	3.01	1.98	1.09	46.06
2007	1.01	1.37	2.87	3.64	5.57	7.59	7.57	6.45	4.93	3.42	2.24	0.98	47.63
2008	0.94	1.46	2.75	3.96	5.36	7.10	7.05	6.66	5.00	3.37	1.96	1.02	46.63
Average	1.11	1.43	2.46	3.73	5.48	6.90	7.18	6.13	4.69	3.17	1.69	1.09	45.08



**Table 8**

Modified Blaney-Criddle Method  
 Crop Coefficients<sup>1</sup> and Growing Season Criteria<sup>2</sup>  
 Zuni Pueblo Area, New Mexico

Crop	Monthly Coefficients												Growing Season Start Date Criteria	Growing Season End Date Criteria
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Alfalfa	0.63	0.73	0.86	0.99	1.08	1.13	1.11	1.06	0.99	0.91	0.78	0.64	50 Mean	28 Frost
Pasture/Grass Hay	0.49	0.57	0.73	0.85	0.90	0.92	0.92	0.91	0.87	0.79	0.67	0.55	45 Mean	45 Mean

Crop	Percent of Growing Season Coefficients												Growing Season Start Date Criteria	Growing Season End Date Criteria	Maximum Season Days
	0	10	20	30	40	50	60	70	80	90	100				
Spring Grain	0.28	0.46	0.51	0.94	1.14	1.31	1.27	1.04	0.69	0.30	0.00		45 Mean	Fall 32 Frost	130
Small Vegetables <sup>3</sup>	0.29	0.39	0.56	0.69	0.78	0.82	0.83	0.80	0.72	0.58	0.38		50 Mean	Fall 32 Frost	200
Corn (Grain)	0.44	0.49	0.58	0.71	0.92	1.05	1.08	1.06	1.00	0.93	0.85		55 Mean	Fall 32 Frost	140

**Notes:**

- (1) All crop coefficients are based on TR-21.
- (2) Start and End Criteria are based on TR-21 unless otherwise noted.
- (3) Crop growth criteria selected to encompass growth periods of most garden crops.

## Table 9

### Zuni Pueblo Area, New Mexico Original Blaney-Criddle Crop Coefficients

Crop	During Frost-Free Period	Outside Frost-Free Period
Alfalfa	0.85	0.50
Corn, Grain	0.75	0.40
Misc. Vegetables	0.65	0.40
Pasture, Improved	0.80	0.50
Pasture, Native	0.70	0.50
Spring Grain	0.70	0.70

Note: Coefficients are based on New Mexico State Engineer information.

**Table 10a**

Zuni Pueblo Area  
Original Blaney-Criddle Method

Crop Potential Evapotranspiration (PET), Inches

**Average Monthly Original Blaney-Criddle Crop PET for Alfalfa**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.49	3.33	5.46	6.04	5.53	4.47	1.23	0.00	0.00	26.54
Black Rock (1914-1948)	0.00	0.00	0.00	0.42	3.34	5.41	5.96	5.47	4.45	1.61	0.00	0.00	26.66
El Morro (1938-2008)	0.00	0.00	0.00	0.00	2.37	4.92	5.76	5.27	3.96	0.13	0.00	0.00	22.41
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.85	3.92	5.39	4.91	2.72	0.00	0.00	0.00	17.79

**Average Monthly Original Blaney-Criddle Crop PET for Corn, Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.00	1.99	4.82	5.33	4.88	3.68	0.50	0.00	0.00	21.18
Black Rock (1914-1948)	0.00	0.00	0.00	0.00	1.81	4.77	5.26	4.83	3.92	0.10	0.00	0.00	20.69
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.68	4.31	5.09	4.65	3.13	0.00	0.00	0.00	17.85
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.00	2.97	4.76	4.34	1.86	0.00	0.00	0.00	13.92

**Average Monthly Original Blaney-Criddle Crop PET for Improved Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	1.91	3.25	5.14	5.68	5.20	4.21	2.25	0.19	0.00	27.82
Black Rock (1914-1948)	0.00	0.00	0.00	1.75	3.25	5.09	5.61	5.15	4.18	2.34	0.09	0.00	27.47
El Morro (1938-2008)	0.00	0.00	0.00	1.07	2.63	4.66	5.42	4.96	3.75	1.75	0.00	0.00	24.24
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	2.16	3.77	5.07	4.62	3.06	1.04	0.00	0.00	19.73

**Average Monthly Original Blaney-Criddle Crop PET for Native Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	1.91	3.09	4.49	4.97	4.55	3.68	2.19	0.19	0.00	25.07
Black Rock (1914-1948)	0.00	0.00	0.00	1.75	3.08	4.45	4.91	4.51	3.66	2.24	0.09	0.00	24.69
El Morro (1938-2008)	0.00	0.00	0.00	1.07	2.63	4.13	4.75	4.34	3.33	1.75	0.00	0.00	22.00
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	2.16	3.46	4.44	4.05	2.81	1.04	0.00	0.00	17.97

**Average Monthly Original Blaney-Criddle Crop PET for Spring Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	2.67	3.87	4.49	4.97	1.61	0.00	0.00	0.00	0.00	17.62
Black Rock (1914-1948)	0.00	0.00	0.00	2.46	3.82	4.45	4.91	1.89	0.00	0.00	0.00	0.00	17.52
El Morro (1938-2008)	0.00	0.00	0.00	1.50	3.68	4.29	4.75	3.08	0.00	0.00	0.00	0.00	17.30
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	3.03	4.00	4.44	4.05	1.08	0.00	0.00	0.00	16.59

**Average Monthly Original Blaney-Criddle Crop PET for Misc. Vegetables**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.40	2.61	4.17	4.62	4.23	3.42	0.43	0.00	0.00	19.87
Black Rock (1914-1948)	0.00	0.00	0.00	0.34	2.62	4.13	4.56	4.19	3.40	0.68	0.00	0.00	19.91
El Morro (1938-2008)	0.00	0.00	0.00	0.00	1.90	3.78	4.41	4.03	2.71	0.00	0.00	0.00	16.82
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.68	3.05	4.12	3.76	1.61	0.00	0.00	0.00	13.21

**Table 10b**

Zuni Pueblo Area  
Original Blaney-Criddle Method

Effective Precipitation (USBR Method), Inches

**Average Monthly Original Blaney-Criddle Effective Precipitation for Alfalfa**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.13	0.45	0.37	1.73	2.01	1.11	0.55	0.00	0.00	6.36
Black Rock (1914-1948)	0.00	0.00	0.00	0.13	0.59	0.42	2.06	1.76	1.31	0.55	0.00	0.00	6.83
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.51	0.52	1.81	2.44	1.27	0.07	0.00	0.00	6.63
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.26	0.63	2.26	2.60	1.21	0.00	0.00	0.00	6.96

**Average Monthly Original Blaney-Criddle Effective Precipitation for Corn, Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.29	0.37	1.73	2.01	1.04	0.00	0.00	0.00	5.44
Black Rock (1914-1948)	0.00	0.00	0.00	0.00	0.32	0.42	2.06	1.76	1.31	0.03	0.00	0.00	5.90
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.18	0.52	1.81	2.44	1.06	0.00	0.00	0.00	6.02
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.00	0.52	2.26	2.60	0.80	0.00	0.00	0.00	6.19

**Average Monthly Original Blaney-Criddle Effective Precipitation for Improved Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.51	0.45	0.37	1.73	2.01	1.11	1.13	0.09	0.00	7.41
Black Rock (1914-1948)	0.00	0.00	0.00	0.56	0.59	0.42	2.06	1.76	1.31	0.90	0.04	0.00	7.65
El Morro (1938-2008)	0.00	0.00	0.00	0.37	0.56	0.52	1.81	2.44	1.27	0.98	0.00	0.00	7.96
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.66	0.63	2.26	2.60	1.51	0.82	0.00	0.00	8.48

**Average Monthly Original Blaney-Criddle Effective Precipitation for Native Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.51	0.45	0.37	1.73	2.01	1.11	1.13	0.09	0.00	7.41
Black Rock (1914-1948)	0.00	0.00	0.00	0.56	0.59	0.42	2.06	1.76	1.31	0.90	0.04	0.00	7.65
El Morro (1938-2008)	0.00	0.00	0.00	0.37	0.56	0.52	1.81	2.44	1.27	0.98	0.00	0.00	7.96
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.66	0.63	2.26	2.60	1.51	0.82	0.00	0.00	8.48

**Average Monthly Original Blaney-Criddle Effective Precipitation for Spring Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.51	0.45	0.37	1.73	0.71	0.00	0.00	0.00	0.00	3.78
Black Rock (1914-1948)	0.00	0.00	0.00	0.56	0.59	0.42	2.06	0.74	0.00	0.00	0.00	0.00	4.37
El Morro (1938-2008)	0.00	0.00	0.00	0.37	0.56	0.52	1.81	1.73	0.00	0.00	0.00	0.00	5.00
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.66	0.63	2.26	2.60	0.50	0.00	0.00	0.00	6.65

**Average Monthly Original Blaney-Criddle Crop PET for Misc. Vegetables**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.13	0.45	0.37	1.73	2.01	1.11	0.18	0.00	0.00	5.99
Black Rock (1914-1948)	0.00	0.00	0.00	0.13	0.59	0.42	2.06	1.76	1.31	0.23	0.00	0.00	6.51
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.51	0.52	1.81	2.44	1.06	0.00	0.00	0.00	6.34
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.26	0.63	2.26	2.60	0.80	0.00	0.00	0.00	6.56

**Table 10c**

Zuni Pueblo Area  
Original Blaney-Criddle Method

Crop Irrigation Requirement (CIR), Inches

**Average Monthly Original Blaney-Criddle Crop Irrigation Requirement for Alfalfa**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.36	2.88	5.09	4.30	3.51	3.36	0.68	0.00	0.00	20.18
Black Rock (1914-1948)	0.00	0.00	0.00	0.29	2.75	4.99	3.90	3.71	3.14	1.06	0.00	0.00	19.83
El Morro (1938-2008)	0.00	0.00	0.00	0.00	1.86	4.40	3.95	2.83	2.68	0.06	0.00	0.00	15.78
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.59	3.29	3.13	2.31	1.52	0.00	0.00	0.00	10.84

**Average Monthly Original Blaney-Criddle Crop Irrigation Requirement for Corn, Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.00	1.70	4.44	3.59	2.86	2.64	0.50	0.00	0.00	15.74
Black Rock (1914-1948)	0.00	0.00	0.00	0.00	1.49	4.35	3.19	3.07	2.61	0.07	0.00	0.00	14.79
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.50	3.79	3.27	2.21	2.06	0.00	0.00	0.00	11.83
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.00	2.45	2.50	1.73	1.05	0.00	0.00	0.00	7.72

**Average Monthly Original Blaney-Criddle Crop Irrigation Requirement for Improved Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	1.40	2.80	4.77	3.95	3.19	3.10	1.12	0.09	0.00	20.41
Black Rock (1914-1948)	0.00	0.00	0.00	1.19	2.66	4.67	3.54	3.39	2.87	1.44	0.05	0.00	19.83
El Morro (1938-2008)	0.00	0.00	0.00	0.70	2.06	4.14	3.61	2.52	2.48	0.77	0.00	0.00	16.28
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	1.50	3.14	2.81	2.02	1.55	0.22	0.00	0.00	11.25

**Average Monthly Original Blaney-Criddle Crop Irrigation Requirement for Native Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	1.40	2.64	4.12	3.24	2.54	2.57	1.06	0.09	0.00	17.65
Black Rock (1914-1948)	0.00	0.00	0.00	1.19	2.49	4.03	2.84	2.75	2.35	1.34	0.05	0.00	17.04
El Morro (1938-2008)	0.00	0.00	0.00	0.70	2.06	3.61	2.93	1.90	2.06	0.77	0.00	0.00	14.04
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	1.50	2.84	2.18	1.44	1.31	0.22	0.00	0.00	9.49

**Average Monthly Original Blaney-Criddle Crop Irrigation Requirement for Spring Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	2.16	3.42	4.12	3.24	0.90	0.00	0.00	0.00	0.00	13.84
Black Rock (1914-1948)	0.00	0.00	0.00	1.89	3.23	4.03	2.84	1.15	0.00	0.00	0.00	0.00	13.15
El Morro (1938-2008)	0.00	0.00	0.00	1.13	3.11	3.77	2.93	1.35	0.00	0.00	0.00	0.00	12.30
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	2.37	3.37	2.18	1.44	0.58	0.00	0.00	0.00	9.94

**Average Monthly Original Blaney-Criddle Crop PET for Misc. Vegetables**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.26	2.17	3.80	2.88	2.21	2.31	0.25	0.00	0.00	13.88
Black Rock (1914-1948)	0.00	0.00	0.00	0.20	2.03	3.72	2.49	2.43	2.09	0.45	0.00	0.00	13.41
El Morro (1938-2008)	0.00	0.00	0.00	0.00	1.39	3.26	2.59	1.59	1.65	0.00	0.00	0.00	10.48
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.42	2.42	1.86	1.15	0.80	0.00	0.00	0.00	6.66

**Table 11a**

Zuni Pueblo Area  
Modified Blaney-Criddle Method

Crop Potential Evapotranspiration (PET), Inches

**Average Monthly Modified Blaney-Criddle Crop Potential Evapotranspiration for Alfalfa**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.86	3.94	5.99	7.27	6.12	4.00	1.25	0.03	0.00	29.46
Black Rock (1914-1948)	0.00	0.00	0.00	0.75	3.79	5.86	7.05	5.96	3.98	1.42	0.03	0.00	28.84
El Morro (1938-2008)	0.00	0.00	0.00	0.24	3.26	5.36	6.53	5.45	3.23	0.45	0.00	0.00	24.52
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	1.40	4.50	5.55	4.56	2.33	0.15	0.00	0.00	18.49

**Average Monthly Modified Blaney-Criddle Crop Potential Evapotranspiration for Corn, Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.02	1.34	3.58	6.66	6.05	3.01	0.06	0.00	0.00	20.72
Black Rock (1914-1948)	0.00	0.00	0.00	0.00	1.18	3.36	6.34	5.95	3.28	0.11	0.00	0.00	20.22
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.69	2.85	5.76	5.42	2.65	0.08	0.00	0.00	17.45
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.08	1.80	4.47	4.48	1.65	0.02	0.00	0.00	12.50

**Average Monthly Modified Blaney-Criddle Crop Potential Evapotranspiration for Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.15	1.68	3.32	4.87	6.02	5.25	3.56	1.87	0.18	0.00	26.90
Black Rock (1914-1948)	0.00	0.00	0.10	1.59	3.20	4.77	5.84	5.12	3.50	1.79	0.10	0.00	26.01
El Morro (1938-2008)	0.00	0.00	0.01	1.11	2.92	4.36	5.41	4.68	3.14	1.45	0.02	0.00	23.10
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.16	2.14	3.67	4.60	3.96	2.61	0.85	0.00	0.00	17.99

**Average Monthly Modified Blaney-Criddle Crop Potential Evapotranspiration for Spring Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.07	0.95	3.60	6.51	4.34	0.40	0.00	0.00	0.00	0.00	15.87
Black Rock (1914-1948)	0.00	0.00	0.05	0.87	3.36	6.45	4.56	0.48	0.00	0.00	0.00	0.00	15.77
El Morro (1938-2008)	0.00	0.00	0.00	0.55	2.41	5.94	5.58	0.94	0.00	0.00	0.00	0.00	15.42
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.07	1.16	4.14	6.18	2.54	0.11	0.00	0.00	0.00	14.20

**Average Monthly Modified Blaney-Criddle Crop Potential Evapotranspiration for Misc. Vegetables**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.28	1.70	3.78	5.35	4.57	2.35	0.38	0.00	0.00	18.41
Black Rock (1914-1948)	0.00	0.00	0.00	0.25	1.59	3.63	5.17	4.52	2.50	0.40	0.00	0.00	18.06
El Morro (1938-2008)	0.00	0.00	0.00	0.07	1.26	3.29	4.81	3.98	1.65	0.09	0.00	0.00	15.15
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.46	2.39	4.04	3.26	0.98	0.01	0.00	0.00	11.14

**Table 11b**

Zuni Pueblo Area  
Modified Blaney-Criddle Method

Crop Effective Precipitation (SCS Method), Inches

**Average Monthly Modified Blaney-Criddle Crop Effective Precipitation for Alfalfa**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.08	0.31	0.29	1.56	1.70	0.82	0.37	0.01	0.00	5.14
Black Rock (1914-1948)	0.00	0.00	0.00	0.09	0.42	0.34	1.83	1.47	0.97	0.38	0.00	0.00	5.50
El Morro (1938-2008)	0.00	0.00	0.00	0.01	0.35	0.42	1.58	1.99	0.84	0.10	0.00	0.00	5.29
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.15	0.47	1.85	1.99	0.83	0.05	0.00	0.00	5.34

**Average Monthly Modified Blaney-Criddle Crop Effective Precipitation for Corn, Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.17	0.26	1.50	1.70	0.60	0.00	0.00	0.00	4.23
Black Rock (1914-1948)	0.00	0.00	0.00	0.00	0.21	0.30	1.75	1.48	0.81	0.03	0.00	0.00	4.58
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.10	0.36	1.51	1.99	0.73	0.01	0.00	0.00	4.70
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.00	0.33	1.75	1.96	0.59	0.00	0.00	0.00	4.63

**Average Monthly Modified Blaney-Criddle Crop Effective Precipitation for Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.03	0.30	0.31	0.27	1.45	1.61	0.81	0.67	0.05	0.00	5.50
Black Rock (1914-1948)	0.00	0.00	0.02	0.34	0.41	0.32	1.71	1.41	0.95	0.55	0.01	0.00	5.72
El Morro (1938-2008)	0.00	0.00	0.00	0.22	0.39	0.39	1.48	1.90	0.91	0.54	0.00	0.00	5.83
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.02	0.42	0.45	1.76	1.95	1.05	0.39	0.00	0.00	6.04

**Average Monthly Modified Blaney-Criddle Crop Effective Precipitation for Spring Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.02	0.27	0.31	0.30	1.31	0.32	0.00	0.00	0.00	0.00	2.53
Black Rock (1914-1948)	0.00	0.00	0.02	0.32	0.42	0.35	1.55	0.28	0.00	0.00	0.00	0.00	2.94
El Morro (1938-2008)	0.00	0.00	0.00	0.21	0.38	0.43	1.49	0.78	0.00	0.00	0.00	0.00	3.29
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.03	0.37	0.47	1.92	1.57	0.10	0.00	0.00	0.00	4.46

**Average Monthly Modified Blaney-Criddle Crop Potential Evapotranspiration for Misc. Vegetables**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.07	0.27	0.26	1.40	1.56	0.70	0.16	0.00	0.00	4.42
Black Rock (1914-1948)	0.00	0.00	0.00	0.09	0.38	0.30	1.64	1.36	0.87	0.17	0.00	0.00	4.81
El Morro (1938-2008)	0.00	0.00	0.00	0.01	0.30	0.37	1.43	1.81	0.69	0.03	0.00	0.00	4.64
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.12	0.42	1.71	1.81	0.54	0.00	0.00	0.00	4.60

**Table 11c**

Zuni Pueblo Area  
Modified Blaney-Criddle Method

Crop Irrigation Requirement (CIR), Inches

**Average Monthly Modified Blaney-Criddle Crop Irrigation Requirement for Alfalfa**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.78	3.63	5.70	5.71	4.42	3.18	0.88	0.02	0.00	24.32
Black Rock (1914-1948)	0.00	0.00	0.00	0.66	3.37	5.52	5.22	4.49	3.01	1.04	0.03	0.00	23.34
El Morro (1938-2008)	0.00	0.00	0.00	0.23	2.91	4.94	4.95	3.46	2.39	0.35	0.00	0.00	19.23
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	1.25	4.03	3.70	2.57	1.50	0.10	0.00	0.00	13.15

**Average Monthly Modified Blaney-Criddle Crop Irrigation Requirement for Corn, Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.02	1.17	3.32	5.16	4.35	2.41	0.06	0.00	0.00	16.49
Black Rock (1914-1948)	0.00	0.00	0.00	0.00	0.97	3.06	4.59	4.47	2.47	0.08	0.00	0.00	15.64
El Morro (1938-2008)	0.00	0.00	0.00	0.00	0.59	2.49	4.25	3.43	1.92	0.07	0.00	0.00	12.75
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.08	1.47	2.72	2.52	1.06	0.02	0.00	0.00	7.87

**Average Monthly Modified Blaney-Criddle Crop Irrigation Requirement for Pasture**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.12	1.38	3.01	4.60	4.57	3.64	2.75	1.20	0.13	0.00	21.40
Black Rock (1914-1948)	0.00	0.00	0.08	1.25	2.79	4.45	4.13	3.71	2.55	1.24	0.09	0.00	20.29
El Morro (1938-2008)	0.00	0.00	0.01	0.89	2.53	3.97	3.93	2.78	2.23	0.91	0.02	0.00	17.27
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.14	1.72	3.22	2.84	2.01	1.56	0.46	0.00	0.00	11.95

**Average Monthly Modified Blaney-Criddle Crop Irrigation Requirement for Spring Grain**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.05	0.68	3.29	6.21	3.03	0.08	0.00	0.00	0.00	0.00	13.34
Black Rock (1914-1948)	0.00	0.00	0.03	0.55	2.94	6.10	3.01	0.20	0.00	0.00	0.00	0.00	12.83
El Morro (1938-2008)	0.00	0.00	0.00	0.34	2.03	5.51	4.09	0.16	0.00	0.00	0.00	0.00	12.13
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.04	0.79	3.67	4.26	0.97	0.01	0.00	0.00	0.00	9.74

**Average Monthly Modified Blaney-Criddle Crop Irrigation Requirement for Misc. Vegetables**

Station	January	February	March	April	May	June	July	August	September	October	November	December	Total
Zuni NOAA (1949-2008)	0.00	0.00	0.00	0.21	1.43	3.52	3.95	3.01	1.65	0.22	0.00	0.00	13.99
Black Rock (1914-1948)	0.00	0.00	0.00	0.16	1.21	3.33	3.53	3.16	1.63	0.23	0.00	0.00	13.25
El Morro (1938-2008)	0.00	0.00	0.00	0.06	0.96	2.92	3.38	2.17	0.96	0.06	0.00	0.00	10.51
McGaffey NOAA (1949-2008)	0.00	0.00	0.00	0.00	0.34	1.97	2.33	1.45	0.44	0.01	0.00	0.00	6.54



**Table 12**

Modified Blaney-Criddle Method  
 Annual Crop Irrigation Requirement  
 Black Rock, NM (291018) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1914	20.18	12.31	16.50	10.53	9.91
1915	17.77	11.04	15.38	8.33	8.41
1916	21.17	13.88	18.31	10.40	12.37
1917	26.07	17.81	23.47	13.79	14.82
1918	23.42	15.05	20.71	13.77	12.64
1919	18.29	12.14	15.91	11.51	9.53
1920	21.54	15.57	18.88	14.55	12.76
1921	21.54	13.53	19.65	10.02	11.53
1922	26.75	18.80	23.14	15.86	16.25
1923	21.22	14.03	18.00	13.92	11.09
1924	26.56	19.33	24.20	16.15	15.93
1925	24.03	15.59	20.36	11.41	13.58
1926	25.09	16.97	21.78	11.95	14.89
1927	23.71	14.90	20.41	12.75	12.13
1928	24.65	17.18	21.92	12.38	14.52
1929	20.29	12.68	16.91	11.87	10.42
1930	25.89	17.32	22.74	12.43	15.22
1931	24.77	16.20	20.73	12.61	13.84
1932	24.42	16.34	21.09	12.18	13.96
1933	22.44	15.68	18.92	13.82	12.72
1934	23.67	14.89	20.70	10.95	13.31
1935	24.38	16.92	21.99	13.06	14.61
1936	24.88	15.96	21.15	14.25	13.82
1937	23.39	16.01	20.55	12.19	13.53
1938	24.23	16.96	21.88	13.15	14.65
1939	26.81	18.97	23.56	14.52	16.49
1940	22.26	14.91	18.75	13.41	12.46
1941	17.81	12.16	14.67	11.83	9.63
1942	23.47	15.82	20.26	14.06	13.93
1943	25.89	17.37	22.50	12.02	15.43
1944	23.66	15.60	20.19	13.70	12.63
1945	23.11	16.63	21.49	13.72	13.53
1946	24.14	15.05	21.11	13.25	14.07
1947	23.50	15.94	20.27	13.37	13.49
1948	25.64	18.26	22.28	15.16	15.53
Average	23.33	15.65	20.30	12.82	13.25

**Table 13**

Modified Blaney-Criddle Method  
Annual Crop Irrigation Requirement  
Zuni, NM (299897) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1949	25.04	16.95	22.57	12.62	14.83
1950	30.08	18.90	26.44	13.48	18.75
1951	26.43	18.78	23.19	14.91	16.03
1952	24.49	15.46	21.03	13.29	12.28
1953	26.53	19.23	24.01	14.95	16.27
1954	27.76	17.92	24.11	13.52	16.50
1955	22.75	15.88	21.54	12.55	13.24
1956	26.77	17.86	23.45	14.56	16.14
1957	20.75	14.53	17.69	11.30	11.57
1958	26.39	18.01	22.54	16.30	15.48
1959	25.95	17.36	21.73	15.12	15.13
1960	28.13	20.40	24.57	13.39	17.73
1961	25.35	17.50	21.61	15.56	14.93
1962	27.92	19.54	23.48	15.08	17.44
1963	25.82	16.64	21.84	16.02	14.68
1964	24.87	16.03	21.25	13.97	13.62
1965	19.70	12.87	18.51	10.40	10.40
1966	26.50	18.16	23.87	13.92	15.56
1967	21.22	13.39	19.74	10.57	11.12
1968	22.58	15.00	19.43	12.69	12.84
1969	24.05	16.72	20.40	13.43	13.86
1970	23.57	16.85	20.22	14.57	13.71
1971	21.35	14.04	18.41	15.17	11.68
1972	24.50	17.88	22.29	10.66	15.17
1973	19.15	11.96	17.74	11.85	9.42
1974	22.67	16.38	19.41	14.68	13.26
1975	20.91	14.01	18.78	13.80	11.63
1976	23.24	15.99	20.33	13.25	13.67
1977	24.63	15.31	21.25	14.59	14.17
1978	26.11	17.81	23.63	13.21	15.88
1979	25.24	16.98	22.11	13.08	15.27
1980	25.48	17.92	23.36	14.62	15.82
1981	22.81	14.54	19.50	12.25	13.06
1982	17.46	11.23	16.22	12.11	8.93
1983	18.77	12.72	15.98	10.97	10.18
1984	22.74	16.04	18.74	15.02	12.64
1985	26.29	18.16	22.40	12.78	14.88
1986	21.74	14.52	18.65	10.86	11.79
1987	21.52	12.46	18.61	10.83	10.48
1988	19.20	12.69	17.62	13.08	9.90
1989	27.08	17.10	23.36	12.38	14.36
1990	24.46	16.27	21.57	13.46	14.42
1991	24.57	16.76	21.56	14.31	14.03

**Table 13**

Modified Blaney-Criddle Method  
Annual Crop Irrigation Requirement  
Zuni, NM (299897) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1992	20.03	12.11	17.40	8.78	10.66
1993	25.72	17.63	22.71	14.79	14.50
1994	25.63	18.59	21.63	11.23	15.08
1995	24.76	18.12	23.34	13.94	14.88
1996	25.66	17.34	22.13	14.12	14.24
1997	23.41	15.87	20.07	10.31	13.01
1998	22.99	16.60	19.45	13.14	13.33
1999	22.33	14.60	21.20	10.26	12.00
2000	31.09	20.97	26.25	15.36	18.16
2001	26.84	17.85	24.38	13.75	15.92
2002	26.37	18.69	22.97	14.36	15.76
2003	30.58	21.31	26.97	17.16	18.71
2004	25.94	19.16	25.12	12.42	15.91
2005	28.04	19.47	24.52	14.82	17.03
2006	23.65	16.99	20.99	15.30	14.07
2007	21.06	14.99	20.21	13.33	11.75
2008	22.28	14.74	20.38	12.55	11.80
Average	24.32	16.50	21.41	13.35	13.99

**Table 14**

Modified Blaney-Criddle Method  
Annual Crop Irrigation Requirement  
El Morro, NM (292785) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1938	19.57	13.40	17.93	12.25	11.08
1939	23.40	16.10	20.63	13.82	13.90
1940	19.93	12.58	16.70	12.35	10.48
1941	15.33	10.74	13.93	10.65	8.22
1942	22.01	14.30	19.49	13.46	12.62
1943	20.13	12.98	17.34	11.40	11.15
1944	19.83	14.08	17.66	12.47	11.57
1945	19.58	12.26	18.17	11.95	10.40
1946	21.14	12.91	18.49	12.67	12.07
1947	16.84	10.47	14.48	11.77	8.76
1948	20.32	13.65	17.49	12.34	11.22
1949	20.20	13.84	17.98	12.37	11.66
1950	18.77	12.18	20.01	12.28	10.82
1951	21.75	14.06	19.31	13.38	11.40
1952	18.62	12.83	18.44	12.19	10.28
1953	20.41	14.48	19.55	12.86	11.70
1954	20.19	12.51	17.43	12.24	10.85
1955	17.35	10.76	16.67	9.88	8.51
1956	23.23	16.22	20.29	13.54	13.77
1957	16.41	10.90	15.16	10.31	8.47
1958	23.04	15.62	19.54	13.86	12.48
1959	20.29	13.13	17.90	14.30	11.12
1960	23.43	16.24	20.71	13.51	13.56
1961	17.86	12.20	17.53	13.46	10.03
1962	20.67	13.36	18.24	13.16	12.07
1963	19.81	12.97	17.21	13.69	10.71
1964	17.66	11.69	15.83	11.99	9.50
1965	15.16	9.91	14.82	8.73	8.09
1966	20.89	13.87	18.11	12.47	11.59
1967	17.18	9.53	16.04	10.19	7.82
1968	18.00	11.92	17.29	11.85	9.90
1969	19.63	13.60	16.72	11.95	10.84
1970	19.42	13.46	17.38	13.41	10.72
1971	16.58	10.32	15.27	13.00	8.57
1972	18.04	11.78	16.25	11.63	9.69
1973	18.36	12.81	17.28	12.49	10.33
1974	21.00	14.52	17.98	14.74	11.95
1975	17.67	11.30	16.05	13.53	9.64
1976	20.28	14.30	17.95	12.37	11.55
1977	18.12	11.49	15.52	10.88	9.11
1978	20.05	14.41	20.18	12.25	11.86
1979	19.68	13.86	17.42	11.25	11.10
1980	21.95	15.05	19.36	14.82	12.49

**Table 14**

Modified Blaney-Criddle Method  
Annual Crop Irrigation Requirement  
El Morro, NM (292785) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1981	21.01	13.58	17.69	11.43	11.51
1982	17.04	11.38	16.09	11.43	9.13
1983	15.97	10.70	14.38	11.41	8.44
1984	17.94	11.98	14.50	12.23	9.04
1985	20.39	13.24	17.70	12.05	11.05
1986	15.73	10.22	14.79	9.15	8.10
1987	17.29	9.83	15.38	10.18	7.67
1988	17.39	11.24	16.37	10.77	8.80
1989	20.68	13.49	19.14	11.74	11.69
1990	18.90	12.60	16.20	10.77	10.23
1991	18.86	12.70	16.95	11.66	10.64
1992	17.22	11.40	15.44	9.21	9.13
1993	16.93	10.53	15.63	13.29	9.19
1994	20.00	14.05	16.62	11.79	11.01
1995	18.53	12.53	17.28	12.42	10.48
1996	18.77	12.67	15.89	12.96	10.11
1997	17.67	11.76	14.89	9.83	9.11
1998	18.13	11.65	15.29	9.96	9.53
1999	17.27	11.17	16.05	9.82	8.68
2000	22.63	15.97	20.10	14.40	13.40
2001	18.56	12.76	18.81	12.70	10.31
2002	21.02	13.25	17.74	13.45	12.13
2003	23.81	16.18	21.03	14.73	13.06
2004	19.38	12.44	17.57	12.49	10.36
2005	22.10	14.34	19.25	13.33	11.72
2006	16.30	9.99	14.08	11.85	8.11
2007	17.63	12.27	16.80	11.52	9.54
2008	18.38	12.40	15.97	10.63	9.74
Average	19.23	12.75	17.26	12.13	10.50

**Table 15**

Modified Blaney-Criddle Method  
 Annual Crop Irrigation Requirement  
 McGaffey, NM (295560) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1949	6.56	5.77	7.70	3.34	5.41
1950	7.33	6.74	7.55	5.03	6.69
1951	6.30	5.66	7.41	5.15	5.34
1952	6.48	5.77	6.68	5.01	5.93
1953	3.57	3.46	4.71	1.30	3.25
1954	4.99	4.60	6.01	2.98	4.54
1955	5.89	5.59	6.68	2.10	5.21
1956	3.73	3.23	3.93	2.18	2.98
1957	3.56	3.02	4.93	2.29	2.83
1958	3.46	2.63	4.14	2.01	2.56
1959	8.25	7.98	8.54	4.71	7.53
1960	5.92	5.34	6.39	4.57	5.41
1961	5.92	4.98	6.24	4.94	5.18
1962	0.00	0.00	0.00	0.00	0.00
1963	0.00	0.00	0.00	0.00	0.00
1964	0.00	0.00	0.00	0.00	0.00
1965	0.00	0.00	0.00	0.00	0.00
1966	0.00	0.00	0.00	0.00	0.00
1967	0.00	0.00	0.00	0.00	0.00
1968	Total	Total	Total	Total	Total
1969	19.57	13.40	17.93	12.25	11.08
1970	23.40	16.10	20.63	13.82	13.90
1971	19.93	12.58	16.70	12.35	10.48
1972	15.33	10.74	13.93	10.65	8.22
1973	22.01	14.30	19.49	13.46	12.62
1974	20.13	12.98	17.34	11.40	11.15
1975	19.83	14.08	17.66	12.47	11.57
1976	19.58	12.26	18.17	11.95	10.40
1977	21.14	12.91	18.49	12.67	12.07
1978	16.84	10.47	14.48	11.77	8.76
1979	20.32	13.65	17.49	12.34	11.22
1980	20.20	13.84	17.98	12.37	11.66
1981	18.77	12.18	20.01	12.28	10.82
1982	21.75	14.06	19.31	13.38	11.40
1983	18.62	12.83	18.44	12.19	10.28
1984	20.41	14.48	19.55	12.86	11.70
1985	20.19	12.51	17.43	12.24	10.85
1986	17.35	10.76	16.67	9.88	8.51
1987	23.23	16.22	20.29	13.54	13.77
1988	16.41	10.90	15.16	10.31	8.47
1989	23.04	15.62	19.54	13.86	12.48
1990	20.29	13.13	17.90	14.30	11.12
1991	23.43	16.24	20.71	13.51	13.56

**Table 15**

Modified Blaney-Criddle Method  
Annual Crop Irrigation Requirement  
McGaffey, NM (295560) Weather Station

Year	Values in Inches				
	Alfalfa	Corn	Grass	Spring Grain	Small Veg.
1992	17.86	12.20	17.53	13.46	10.03
1993	20.67	13.36	18.24	13.16	12.07
1994	19.81	12.97	17.21	13.69	10.71
1995	17.66	11.69	15.83	11.99	9.50
1996	15.16	9.91	14.82	8.73	8.09
1997	20.89	13.87	18.11	12.47	11.59
1998	17.18	9.53	16.04	10.19	7.82
1999	18.00	11.92	17.29	11.85	9.90
2000	19.63	13.60	16.72	11.95	10.84
2001	19.42	13.46	17.38	13.41	10.72
2002	16.58	10.32	15.27	13.00	8.57
2003	18.04	11.78	16.25	11.63	9.69
2004	18.36	12.81	17.28	12.49	10.33
2005	21.00	14.52	17.98	14.74	11.95
2006	17.67	11.30	16.05	13.53	9.64
2007	20.28	14.30	17.95	12.37	11.55
2008	18.12	11.49	15.52	10.88	9.11
Average	14.41	9.83	13.25	9.17	8.32

**Table 17**

Automated and Airport Weather Stations near Zuni Pueblo  
Summary of Raw Data

Monthly Average Maximum Temperature, Degrees F														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Zuni NOAA	1949-2008	46.7	50.9	57.1	66.1	75.4	85.6	88.8	85.7	80.3	70.0	57.0	47.8	67.7
Zuni AP GSD	1949-1972	45.6	49.5	55.5	64.8	73.6	83.1	86.4	83.4	78.9	68.9	56.1	46.3	66.3
Gallup AP GSD	1973-2008	44.7	50.3	57.7	66.3	75.5	85.5	88.1	85.4	79.2	68.5	55.0	46.2	67.1
Malpais RAWs	1985-2008	45.2	48.4	55.1	62.9	71.4	81.2	82.7	79.8	74.8	65.5	53.9	45.6	64.1
Ramah RAWs	2004-2008	43.3	47.3	53.2	63.3	71.9	82.3	84.7	80.6	75.4	65.8	57.4	44.5	63.8
Zuni RAWs	2003-2005	48.3	47.1	57.7	64.6	76.5	86.1	91.6	85.6	80.1	70.5	53.3	49.6	66.8
Zuni Buttes RAWs	2006-2008	42.0	48.1	58.6	66.4	74.4	86.3	87.3	83.9	77.7	67.5	59.5	44.7	67.9

Monthly Average Minimum Temperature, Degrees F														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Zuni NOAA	1949-2008	16.4	19.9	24.6	30.1	37.7	45.9	54.1	53.1	45.6	34.4	23.6	16.3	33.6
Zuni AP GSD	1949-1972	18.4	22.0	27.0	33.3	40.6	49.2	57.7	56.0	48.9	38.1	27.1	19.1	36.7
Gallup AP GSD	1973-2008	14.4	19.5	23.8	28.7	37.3	45.6	53.9	52.5	43.7	31.0	21.0	14.1	32.2
Malpais RAWs	1985-2008	15.6	20.8	25.0	30.3	37.1	46.4	49.9	50.2	42.3	32.0	22.8	15.5	32.5
Ramah RAWs	2004-2008	11.8	17.4	20.7	25.4	33.7	42.2	51.1	50.4	40.1	28.9	17.4	11.2	28.9
Zuni RAWs	2003-2005	24.2	25.0	29.6	32.1	41.3	49.2	56.4	55.2	47.6	39.0	27.3	18.8	36.5
Zuni Buttes RAWs	2006-2008	16.5	22.5	27.1	32.9	40.7	51.4	57.3	56.1	47.4	36.7	28.8	19.1	37.7

Monthly Average Total Precipitation, Inches														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Zuni NOAA	1949-2008	0.88	0.81	0.90	0.62	0.46	0.40	1.86	2.19	1.21	1.19	0.76	0.85	12.14
Zuni AP GSD	1949-1972	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gallup AP GSD	1973-2008	0.83	1.10	0.83	0.61	0.69	0.47	1.56	2.16	1.23	1.02	0.98	0.85	12.32
Malpais RAWs	1985-2008	0.51	0.60	0.79	0.60	0.65	0.70	2.20	2.78	1.26	1.11	0.64	9.12	20.96
Ramah RAWs	2004-2008	0.75	0.94	0.61	0.42	0.74	0.60	2.30	2.06	0.67	0.98	0.27	0.79	11.12
Zuni RAWs	2003-2005	2.34	4.02	2.49	10.69	3.00	3.37	4.51	4.73	2.36	3.23	1.78	1.65	44.15
Zuni Buttes RAWs	2006-2008	1.09	1.23	0.16	0.34	1.15	0.30	2.17	2.87	0.96	1.48	0.45	1.13	13.33

Monthly Average Dewpoint Temperature, Degrees F														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque AP GSD	1948-2006	18.33	20.25	19.82	21.42	25.87	32.66	47.24	48.82	38.99	29.99	22.48	18.56	28.85
Zuni AP GSD	1949-1972	17.27	19.68	20.81	21.04	26.08	29.97	44.15	46.64	38.26	26.92	20.51	16.35	27.36
Gallup AP GSD	1973-2008	17.51	19.92	21.78	25.18	32.07	39.48	49.19	49.41	41.21	30.79	21.93	17.42	30.55

Monthly Average Maximum Relative Humidity (%)														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Malpais RAWs	1985-2008	82.28	81.38	74.82	64.88	60.14	53.90	76.38	90.17	83.69	75.92	77.91	81.15	75.27
Ramah RAWs	2004-2008	91.60	89.23	88.19	72.99	72.40	61.13	82.18	93.68	87.61	86.53	80.83	93.92	83.59
Zuni RAWs	2003-2005	92.10	91.65	84.32	69.88	49.83	41.88	54.97	78.77	64.93	70.42	76.78	83.11	72.39
Zuni Buttes RAWs	2003-2008	89.95	91.26	68.00	56.58	59.29	41.87	76.58	84.00	72.30	70.31	68.74	88.17	71.37

Monthly Average Minimum Relative Humidity (%)														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Malpais RAWs	1985-2008	33.77	31.12	22.97	16.49	15.36	13.49	24.51	30.10	25.18	24.54	28.59	32.53	24.90
Ramah RAWs	2004-2008	38.02	36.46	24.93	15.80	17.02	12.53	23.21	30.29	23.73	23.63	22.90	36.75	25.64
Zuni RAWs	2003-2005	40.81	39.91	28.45	17.64	11.69	8.35	12.06	20.74	17.73	18.63	29.17	29.60	23.16
Zuni Buttes RAWs	2003-2008	37.34	36.00	17.15	13.10	14.91	9.53	22.73	27.13	20.66	21.44	22.63	36.73	22.70

Monthly Average Wind Speed, miles per hour (Adjusted to 2-meter measurement height)														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque AP GSD	1949-2008	5.91	6.48	7.35	8.08	7.81	7.39	6.63	6.09	6.22	6.08	5.88	5.71	6.64
Zuni AP GSD	1949-1972	6.32	6.32	7.16	7.85	7.19	6.78	5.40	5.23	6.03	6.12	6.11	6.21	6.39
Gallup AP GSD	1973-2008	3.96	4.72	6.04	6.82	6.50	5.88	4.91	4.40	4.58	4.26	4.29	3.86	5.02
Malpais RAWs	1985-2008	2.22	2.62	3.04	3.50	3.39	3.15	2.35	2.09	2.23	2.27	2.38	2.19	2.62
Ramah RAWs	2004-2008	4.66	5.22	6.25	7.12	6.25	5.94	4.79	4.36	4.87	4.66	4.49	4.37	5.23
Zuni RAWs	2003-2005	4.59	5.26	6.15	7.05	6.97	6.20	4.97	4.84	5.25	5.74	5.44	5.36	5.70
Zuni Buttes RAWs	2006-2008	4.99	5.34	5.71	6.74	5.87	5.92	4.64	4.42	4.96	5.07	4.80	4.81	5.26

Monthly Average Solar Radiation (Ly/d)														
Station	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Albuquerque NSRDB	1961-2005	270.02	350.07	461.17	581.97	656.63	689.34	640.64	586.39	503.15	399.93	295.07	245.42	473.76
Gallup NSRDB	1991-2005	245.53	307.72	420.90	531.74	620.80	676.32	602.78	524.68	477.85	378.66	276.02	222.06	440.87
Malpais RAWs	1998-2008	244.91	299.86	412.69	501.90	555.94	581.13	480.17	449.05	425.61	352.75	277.37	232.76	401.86
Ramah RAWs	2004-2008	275.01	347.81	460.94	580.67	632.88	662.73	554.06	497.11	447.69	395.42	313.06	249.35	447.63
Zuni Buttes RAWs	2006-2008	263.79	347.93	497.18	599.41	644.42	679.69	553.03	529.51	478.99	402.92	305.36	235.32	469.35
Zuni Rso	1948-2008	330.12	422.39	551.54	676.39	755.47	781.46	747.84	677.57	575.30	451.89	347.66	301.70	552.10



**Table 18**

Zuni Pueblo Area<sup>1</sup>  
Average Adjusted<sup>2</sup> Dewpoint Temperature

Year	Degrees F												Ann
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948	3.43	7.49	8.12	21.50	29.28	40.63	46.45	45.99	39.02	28.61	10.42	7.61	24.09
1949	4.99	9.39	25.32	30.06	34.60	44.19	52.98	49.11	46.83	32.61	23.18	16.16	30.90
1950	17.87	25.13	21.42	27.52	30.95	39.25	52.47	44.42	39.28	32.77	18.44	14.94	30.41
1951	17.19	21.76	18.14	27.52	34.22	34.87	50.98	51.14	38.21	31.37	22.84	20.02	30.76
1952	24.25	20.10	22.85	32.11	34.82	41.97	49.13	52.15	40.36	26.31	21.38	19.55	32.13
1953	22.51	16.15	23.16	24.17	27.59	39.66	51.64	46.74	36.63	29.79	22.74	12.34	29.52
1954	18.92	20.23	22.22	28.88	35.80	38.57	52.49	49.69	44.84	32.91	21.80	17.80	32.09
1955	16.76	14.53	19.13	22.57	33.21	38.61	47.83	54.24	39.43	30.11	21.11	22.76	30.15
1956	22.91	14.76	18.42	24.14	31.06	42.71	47.36	45.52	39.08	30.41	13.97	13.79	28.74
1957	25.00	29.55	24.72	25.19	34.21	41.17	51.10	53.09	37.47	37.11	24.93	22.78	33.91
1958	20.27	25.58	25.84	26.79	35.27	43.59	47.39	52.43	46.23	34.64	23.39	17.37	33.28
1959	18.65	22.17	16.75	27.62	30.14	43.85	48.90	52.28	37.00	32.08	22.83	22.53	31.29
1960	14.45	17.82	23.71	24.67	32.55	44.90	50.20	49.00	43.11	34.14	22.99	20.01	31.51
1961	17.01	22.17	24.36	26.11	32.18	43.84	50.51	52.86	40.92	29.72	26.04	18.90	32.11
1962	17.80	25.53	20.18	28.50	30.51	40.32	50.29	47.80	46.97	35.80	29.25	23.68	33.08
1963	17.46	27.23	23.48	24.99	34.77	39.87	51.70	54.48	48.36	37.16	29.75	14.93	33.71
1964	10.34	13.46	19.40	25.38	33.75	40.23	53.09	51.19	45.91	30.50	22.97	21.64	30.72
1965	24.15	19.29	20.76	27.08	32.59	39.28	53.23	48.45	40.96	30.09	27.12	24.77	32.41
1966	17.45	18.38	24.04	27.97	36.58	42.67	52.22	51.68	46.32	31.60	25.56	19.16	32.89
1967	15.14	18.63	22.93	24.30	31.38	42.19	53.05	50.49	44.50	29.02	23.37	14.85	30.89
1968	16.60	25.44	23.72	26.80	32.84	40.77	49.67	47.93	38.53	30.85	23.91	13.51	30.89
1969	24.94	21.47	20.07	27.07	36.34	40.15	53.60	54.04	45.25	32.18	24.23	21.95	33.53
1970	17.47	22.52	22.91	21.86	32.59	41.89	51.65	51.30	40.65	29.01	19.27	16.15	30.67
1971	13.24	16.15	18.03	23.46	29.73	39.97	49.46	51.59	39.29	32.30	22.48	20.99	29.82
1972	14.10	14.05	20.09	22.03	30.01	42.76	49.87	48.83	40.91	41.49	24.86	18.49	30.69
1973	16.53	26.02	29.93	26.92	35.88	38.93	49.50	48.52	37.77	24.63	21.12	14.21	30.86
1974	19.41	14.31	22.58	19.34	30.01	39.76	49.47	44.12	39.27	37.69	23.67	14.29	29.61
1975	15.69	19.95	25.06	26.30	30.71	35.87	50.79	44.25	44.20	28.84	16.01	16.39	29.57
1976	14.41	21.74	17.20	26.00	34.17	37.26	49.27	46.07	43.05	26.05	16.15	11.69	28.60
1977	14.47	17.93	17.80	25.83	32.37	44.36	50.83	50.38	43.49	33.03	23.06	18.46	31.07
1978	24.36	24.80	27.72	25.21	30.73	41.20	48.17	44.33	40.30	31.30	30.98	18.05	32.30
1979	18.64	20.89	24.30	26.41	38.86	41.14	45.70	44.83	40.74	30.10	19.34	15.57	30.61
1980	26.59	24.38	21.42	26.18	30.41	38.52	46.65	46.89	40.84	27.50	17.87	25.45	31.10
1981	15.17	14.81	24.45	28.83	33.98	42.98	51.05	48.25	43.93	30.62	19.25	17.41	30.99
1982	18.30	23.18	25.98	24.20	31.83	34.57	47.26	53.79	44.95	23.65	25.65	20.04	31.17
1983	19.17	24.01	26.99	22.04	28.95	35.35	48.94	51.50	44.42	35.65	24.97	25.27	32.35
1984	17.39	13.01	18.16	23.86	31.83	39.50	49.99	51.16	43.21	33.68	20.89	23.54	30.60
1985	20.80	19.21	24.97	27.09	35.25	38.52	48.80	46.45	38.60	33.65	24.62	17.45	31.37
1986	16.33	22.56	23.82	26.98	30.08	43.02	49.04	49.75	39.26	30.39	26.55	20.54	31.57
1987	14.55	23.00	20.99	25.22	34.55	38.29	42.37	48.48	36.66	31.12	23.75	16.35	29.65
1988	15.94	20.96	13.66	24.78	28.80	40.70	47.59	52.28	35.83	29.52	21.79	15.36	28.96
1989	14.66	19.74	21.00	25.30	30.06	35.10	48.27	44.69	36.08	27.71	14.42	7.25	27.08
1990	11.61	16.67	24.83	29.89	31.14	39.19	49.23	45.21	46.87	29.61	26.03	11.73	30.22
1991	16.95	21.94	23.72	19.95	25.23	37.90	48.44	50.94	40.84	28.53	23.27	22.51	30.08
1992	16.59	24.23	25.76	27.49	39.90	37.25	45.65	46.78	38.23	29.90	18.15	13.56	30.33
1993	25.40	24.10	21.15	20.80	33.56	35.38	42.01	49.93	37.41	30.21	16.62	13.41	29.22
1994	11.14	18.98	24.59	26.07	33.43	40.52	48.72	56.25	41.47	29.32	21.90	20.27	31.14
1995	22.79	24.68	25.49	23.97	30.80	35.46	44.11	52.73	41.59	23.96	21.98	15.98	30.34
1996	15.65	21.47	18.35	22.67	30.33	40.88	49.93	48.04	41.18	31.02	24.62	16.19	30.05
1997	20.61	19.65	18.85	26.08	34.05	39.47	46.03	51.45	48.73	29.82	22.34	18.16	31.33
1998	21.83	23.03	23.38	23.70	28.45	33.29	52.40	49.92	43.34	32.41	24.29	17.47	31.19
1999	13.60	13.37	19.33	23.04	31.09	37.34	52.46	52.25	44.03	25.24	18.45	11.79	28.60
2000	18.93	21.30	24.00	26.33	31.49	43.15	49.08	51.21	41.77	35.35	20.27	15.25	31.55
2001	16.43	20.06	23.66	26.78	32.41	38.34	50.49	50.19	40.97	28.92	25.41	15.73	30.85
2002	15.15	11.50	14.71	26.80	27.85	38.90	50.35	45.40	41.25	32.44	20.34	19.60	28.80
2003	21.45	20.23	21.74	20.87	32.48	38.31	47.81	51.42	39.61	31.73	20.20	15.65	30.21
2004	19.81	16.80	26.54	27.98	28.64	38.56	44.45	45.96	38.53	31.95	25.17	18.25	30.27
2005	25.69	27.93	23.85	23.20	32.26	34.71	44.09	48.06	39.66	31.40	14.84	9.13	29.60
2006	10.06	8.07	19.58	22.67	28.09	38.23	48.72	50.37	35.79	32.25	17.03	15.71	27.36
2007	15.29	21.23	17.07	22.27	32.79	33.55	46.52	48.88	37.66	24.44	17.10	18.73	28.02
2008	13.84	20.91	16.29	16.47	26.69	34.96	49.38	46.71	36.24	22.15	20.59	19.43	27.00
Average	17.51	19.92	21.78	25.18	32.07	39.48	49.19	49.41	41.21	30.79	21.93	17.42	30.55
1991-2008	17.85	19.97	21.56	23.73	31.08	37.57	47.81	49.81	40.46	29.50	20.70	16.49	29.77

<sup>1</sup>Source: Zuni Airport/ Gallup Airport combined.

<sup>2</sup>Adjusted with Equation E-1 of the ASCE Task Committee Report, Appendix E, January 2005.

**Table 19**  
 Zuni Pueblo Area<sup>1</sup>  
 Average Wind Speed at 2 Meters

Year	Values in miles per hour												Average
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1949		7.02	6.29	4.72	6.96	6.82	4.78	5.23	5.71	5.65	6.78	6.94	6.03
1950	8.49	5.24	7.15	6.70	6.70	5.91	3.94	4.64	5.55	6.42	6.57	6.34	6.14
1951	5.69	5.60	7.02	8.17	7.74	7.66	5.73	5.86	7.12	7.05	6.81	8.38	6.91
1952	6.31	6.69	7.96	6.46	6.99	6.92	5.33	5.07	6.47	8.03	6.02	7.03	6.61
1953	7.10	7.27	7.97	10.33	9.35	8.39	6.20	6.28	6.90	6.69	6.35	6.85	7.47
1954	7.03	5.97	9.59	8.68	7.96	7.95	5.36	4.77	5.33	5.00	7.37	5.83	6.74
1955	5.20	6.62	7.06	8.33	6.51	6.37	5.16	3.51	5.13	5.54	6.09	5.65	5.92
1956	5.92	6.25	6.25	6.48	5.99	5.31	4.00	3.96	4.69	5.16	5.92	6.19	5.51
1957	6.47	6.17	7.46	8.65	6.77	6.41	4.85	4.55	5.84	5.17	5.42	5.81	6.13
1958	5.63	6.27	6.26	8.43	7.42	7.69	6.45	5.18	6.44	5.18	4.89	4.86	6.22
1959	4.52	4.81	6.25	8.20	8.87	7.78	7.07	6.18	7.90	7.08	7.18	6.80	6.89
1960	7.85	8.67	8.76	8.75	8.11	7.69	6.41	6.29	6.80	6.67	7.47	6.82	7.51
1961	6.34	6.04	7.28	8.10	7.73	7.05	6.22	5.81	6.78	6.14	6.56	6.41	6.71
1962	6.11	6.64	6.43	6.08	7.06	5.80	4.34	5.15	5.56	6.73	5.85	5.56	5.94
1963	5.97	5.58	7.53	10.28	8.48	9.10	8.44	7.49	8.09	7.78	4.08	4.70	7.30
1964	8.26	8.34	9.15	10.51	8.83	8.12	5.96	6.39	6.47	6.61	5.92	6.56	7.59
1965	6.86	7.09	7.72	8.45	8.21	6.80	5.86	7.16	9.07	8.65	8.70	8.19	7.73
1966	8.57	8.42	9.22	9.01	6.53	5.26	4.37	4.42	4.89	5.71	5.90	5.81	6.50
1967	5.32	5.49	6.30	7.91	5.84	5.70	3.73	4.39	3.58	5.48	6.22	5.80	5.47
1968	5.52	5.32	5.17	6.90	7.62	8.72	7.58	7.04	6.53	5.98	5.63	7.28	6.61
1969	6.80	6.07	6.58	6.62	6.05	6.76	4.85	4.15	4.36	6.10	5.06	5.83	5.77
1970	5.06	5.14	6.42	7.91	6.17	5.98	4.57	4.67	6.16	5.82	7.03	5.23	5.84
1971	5.11	5.47	5.92	5.78	5.41	3.87	3.95	3.63	4.99	4.92	4.10	3.96	4.75
1972	5.16	5.88	6.18	6.87	5.29	4.69	4.46	3.78	4.30	3.31	4.76	2.80	4.78
1973	3.96	4.19	6.82	6.46	5.63	5.28	4.84	4.38	4.93	3.99	5.67	4.33	5.04
1974	4.22	4.08	6.97	6.68	6.74	5.01	4.83	4.93	4.84	4.21	3.44	3.80	4.99
1975	4.55	4.72	7.27	7.83	6.28	6.19	3.97	3.80	3.51	4.09	3.98	2.60	4.90
1976	2.68	5.17	7.29	7.09	5.68	6.60	5.31	4.80	4.54	4.25	3.02	2.26	4.88
1977	2.53	4.23	7.19	5.88	8.31	5.90	5.44	4.63	5.69	3.57	4.47	5.06	5.25
1978	4.00	5.63	5.71	7.65	6.36	6.24	5.41	5.93	5.91	3.86	4.95	4.55	5.51
1979	5.16	4.22	5.55	6.73	6.35	5.88	4.79	4.76	4.20	4.51	4.77	2.69	4.97
1980	5.76	5.22	7.34	6.20	7.23	5.92	4.77	5.28	4.05	3.95	3.41	2.83	5.17
1981	3.38	4.22	5.81	5.85	6.98	5.80	4.45	4.86	4.07	5.56	3.90	3.89	4.90
1982	4.96	4.46	6.94	9.31	7.31	5.57	5.17	3.97	5.47	3.86	5.06	4.78	5.57
1983	2.44	3.80	6.54	7.12	5.96	5.30	4.80	3.76	4.24	3.67	5.21	6.29	4.93
1984	3.32	4.67	5.88	7.31	6.54	5.97	3.51	3.94	4.84	4.90	4.55	4.70	5.01
1985	4.26	3.81	7.54	5.94	6.03	4.89	4.60	4.17	5.26	4.67	6.46	3.05	5.06
1986	2.65	5.25	4.84	7.64	6.60	4.83	4.84	3.76	5.49	3.82	3.82	2.35	4.64
1987	3.26	3.93	5.04	5.10	5.21	4.43	5.34	3.80	3.36	2.94	4.00	3.56	4.16
1988	3.34	3.81	5.31	5.03	5.93	5.00	4.11	3.98	4.69	3.96	5.34	4.77	4.61
1989	3.61	5.33	5.87	5.90	7.04	6.11	5.38	4.71	5.33	4.10	4.01	3.17	5.04
1990	4.18	4.96	5.37	6.57	7.89	6.58	4.99	4.76	3.86	4.06	3.94	4.19	5.11
1991	2.66	3.41	6.89	6.86	6.24	5.89	4.50	3.92	4.05	4.34	4.27	3.93	4.75
1992	4.00	4.63	5.32	4.75	5.63	5.97	5.18	4.78	4.40	4.39	4.11	3.41	4.71
1993	4.90	6.30	5.35	6.89	5.78	6.33	6.56	4.63	3.90	4.00	3.97	3.38	5.16
1994	3.18	4.44	4.91	6.23	5.40	5.24	5.35	4.35	3.69	4.28	5.38	3.37	4.65
1995	4.41	4.57	6.66	6.91	7.27	5.60	4.60	4.07	4.23	3.39	3.57	2.78	4.84
1996	4.86	4.86	5.53	6.49	7.64	5.43	4.82	4.77	4.49	4.93	4.02	5.00	5.24
1997	4.94	4.84	4.91	6.26	4.79	4.74	4.46	3.86	4.09	4.01	3.32	3.60	4.48
1998	3.43	5.35	5.70	6.05	5.21	7.06	4.06	3.47	4.36	4.61	3.97	3.88	4.75
1999	4.38	4.85	6.09	7.30	7.37	6.40	5.18	4.43	4.33	3.42	2.78	3.65	5.01
2000	4.42	5.51	5.34	6.04	6.91	6.26	5.59	4.81	5.34	4.77	3.96	3.78	5.22
2001	3.52	4.84	4.66	8.15	5.63	6.08	5.32	4.21	4.23	4.66	4.60	4.03	4.98
2002	4.17	4.46	6.48	7.79	7.05	6.69	5.16	4.60	5.08	4.33	4.33	3.67	5.32
2003	3.28	6.03	5.83	8.57	6.88	6.78	5.23	4.37	4.41	4.34	5.71	4.18	5.45
2004	4.01	4.77	4.78	6.89	7.74	6.26	5.17	5.48	5.42	5.77	4.97	3.44	5.39
2005	4.73	4.76	6.46	7.72	6.39	6.97	5.05	4.01	5.33	4.61	4.41	4.16	5.38
2006	4.94	4.72	7.28	7.23	6.58	6.01	5.20	4.18	5.09	4.45	4.13	3.85	5.31
2007	4.61	5.29	5.39	7.19	6.36	5.88	4.45	4.27	4.83	4.67	3.10	5.05	5.09
2008	4.03	4.56	6.40	7.91	7.18	6.41	4.24	4.10	3.33	4.29	3.80	4.85	5.09
Average	4.88	5.35	6.49	7.23	6.78	6.24	5.10	4.74	5.16	5.00	5.02	4.74	5.56

<sup>1</sup>Source: Zuni Airport/ Gallup Airport combined.

**Table 20**Zuni Pueblo Area<sup>1</sup>

## Average Maximum Temperature 1991-2008

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	43.5	57.0	53.6	67.3	77.8	83.3	89.4	86.2	81.2	73.2	54.7	46.6	67.9
1992	42.6	51.5	58.4	71.7	71.9	83.4	86.0	85.7	82.4	72.5	51.1	45.2	66.9
1993	48.0	50.9	60.2	68.8	76.9	87.2	90.5	85.6	81.9	69.2	54.2	51.4	68.8
1994	52.0	51.4	61.4	67.9	77.1	90.9	92.1	90.0	82.8	67.5	53.5	51.3	69.9
1995	46.6	58.6	60.5	63.2	71.3	85.2	91.5	90.7	82.6	74.8	63.4	51.8	70.1
1996	52.0	58.2	61.5	71.5	82.8	89.1	92.3	89.1	76.3	68.5	58.9	50.9	71.0
1997	44.5	52.2	65.4	64.1	79.2	84.7	90.5	88.5	83.7	70.2	58.5	44.2	68.9
1998	48.4	45.5	57.3	62.2	76.2	85.1	89.6	89.3	85.1	70.6	59.7	52.7	68.6
1999	54.6	59.3	65.9	64.2	76.0	86.1	87.1	85.1	81.9	75.3	68.7	49.7	71.2
2000	53.3	60.4	59.4	73.4	84.2	89.7	93.4	89.9	86.4	68.4	50.3	52.8	71.8
2001	46.1	52.6	61.3	68.9	81.2	90.5	90.2	87.7	85.3	75.2	59.4	48.6	70.7
2002	48.8	55.6	62.0	73.5	80.5	92.2	91.6	89.2	81.0	68.5	59.2	44.6	70.6
2003	55.4	50.0	58.1	67.8	80.5	88.8	97.0	89.3	85.3	76.9	58.1	53.0	71.8
2004	49.2	49.0	67.3	66.8	81.5	89.2	91.3	87.5	81.8	69.9	55.6	50.5	70.0
2005	51.9	49.9	56.1	69.1	79.2	86.8	95.6	87.5	85.0	73.7	63.3	51.9	70.9
2006	54.8	58.4	56.8	72.8	84.0	92.2	91.0	84.2	77.6	68.5	62.0	49.9	71.1
2007	46.3	51.4	64.6	69.6	77.5	90.6	92.9	88.9	84.0	75.3	66.3	46.3	71.3
2008	44.9	50.4	62.2	70.6	76.0	89.3	89.3	89.8	83.9	73.9	62.3	48.7	70.2
Average	49.0	53.5	60.7	68.5	78.5	88.0	91.2	88.0	82.7	71.8	58.8	49.5	70.1

<sup>1</sup>Source: Zuni NOAA Weather Station (#299897)

**Table 21**

Zuni Pueblo Area<sup>1</sup>  
Average Minimum Temperature 1991-2008

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	17.5	22.3	23.6	24.8	31.7	42.7	53.2	54.5	45.0	33.5	23.8	21.0	32.9
1992	13.5	24.7	28.0	31.7	42.5	43.1	50.4	50.4	43.3	35.2	18.7	15.4	33.1
1993	24.6	23.3	24.7	27.1	38.5	42.3	48.6	53.7	42.9	33.4	20.8	15.8	33.0
1994	12.6	18.3	26.5	31.0	38.1	46.9	55.8	62.4	45.7	33.6	23.6	21.7	34.8
1995	20.9	25.6	27.3	27.6	34.7	42.0	50.6	57.4	46.4	30.8	28.0	19.2	34.3
1996	16.9	25.5	22.8	29.3	37.5	47.6	55.7	54.0	44.5	35.5	25.4	18.1	34.4
1997	19.1	20.5	23.5	30.1	39.2	45.3	51.5	55.1	52.2	33.6	24.1	16.9	34.3
1998	21.3	21.4	24.4	27.8	34.9	40.1	56.7	55.4	49.2	35.3	26.2	17.8	34.3
1999	15.2	17.3	24.4	28.0	36.7	44.4	56.3	54.2	46.6	31.7	24.1	10.4	32.5
2000	18.7	21.5	25.4	31.0	38.2	49.2	55.8	53.9	48.0	38.0	21.2	16.8	34.8
2001	15.6	18.5	24.9	31.5	38.4	45.2	55.9	54.3	46.9	35.5	28.4	15.3	34.3
2002	15.3	16.3	21.1	32.9	34.8	46.1	56.3	50.3	44.6	34.5	25.0	18.9	33.1
2003	22.6	23.1	25.1	26.2	39.4	45.5	54.2	54.0	44.6	36.5	22.7	15.5	34.2
2004	18.9	18.9	30.7	32.2	35.5	45.6	50.3	51.0	43.6	33.9	26.2	14.0	33.5
2005	24.6	26.6	24.8	27.7	37.9	41.1	50.5	50.2	44.7	33.8	19.4	10.8	32.7
2006	11.9	12.2	19.7	28.2	35.0	45.1	52.2	50.2	37.8	28.9	16.6	9.9	29.1
2007	9.3	13.1	17.2	23.8	35.2	40.1	49.5	48.8	40.6	27.2	20.9	18.6	28.8
2008	16.4	20.3	21.9	23.2	32.0	41.6	49.8	47.4	37.7	25.7	24.9	18.7	30.0
Average	17.5	20.5	24.2	28.6	36.7	44.1	53.0	53.2	44.7	33.1	23.3	16.4	33.0

<sup>1</sup>Source: Zuni NOAA Weather Station (#299897)

**Table 22**

Zuni Pueblo Area<sup>1</sup>  
Average Dewpoint Temperature<sup>2</sup> 1991-2008

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	15.8	20.3	21.6	19.7	25.2	37.4	48.4	50.7	40.5	28.2	21.9	20.1	29.2
1992	13.1	23.0	25.2	27.3	39.5	37.2	45.6	46.5	38.1	29.5	17.2	12.2	29.6
1993	23.5	22.0	20.9	20.8	33.4	35.4	42.0	49.7	37.4	29.5	16.1	12.6	28.7
1994	9.6	16.7	23.8	26.0	32.9	40.4	48.7	56.2	41.2	29.1	20.7	19.5	30.5
1995	19.7	23.5	24.5	23.7	30.3	35.3	44.1	52.6	41.2	24.0	22.0	15.3	29.7
1996	14.3	21.1	18.0	22.7	30.3	40.8	49.9	48.0	40.6	30.6	23.2	15.4	29.6
1997	18.1	18.5	18.2	25.5	33.8	39.3	46.0	51.3	48.5	29.3	21.3	16.0	30.5
1998	20.2	20.3	22.2	23.2	28.3	33.3	52.4	49.8	43.3	31.1	23.3	16.0	30.4
1999	12.7	12.9	18.7	22.7	30.9	37.3	52.2	52.0	43.2	25.2	18.4	8.6	28.0
2000	16.1	19.3	22.8	25.7	31.3	43.2	49.1	50.7	41.8	34.9	19.0	13.9	30.7
2001	13.8	16.9	22.4	26.7	32.2	38.3	50.4	49.9	40.9	28.9	24.6	13.3	29.9
2002	12.6	11.0	14.7	26.5	27.8	38.9	50.3	45.1	40.6	31.4	20.2	17.8	28.2
2003	20.4	19.9	21.2	20.6	32.5	38.3	47.8	50.7	39.4	31.3	19.3	13.4	29.6
2004	17.8	16.1	26.0	27.6	28.6	38.6	44.3	45.8	38.3	30.9	23.9	13.5	29.3
2005	23.4	25.8	22.6	22.4	32.1	34.7	44.1	47.5	39.6	30.4	14.1	8.1	28.8
2006	8.2	7.2	16.7	22.6	28.1	38.2	48.0	48.8	34.7	27.8	14.7	9.8	25.5
2007	9.0	12.9	14.9	20.4	31.3	33.4	45.5	47.2	36.9	23.2	16.2	17.0	25.8
2008	13.4	19.1	16.2	16.5	26.3	34.9	47.8	44.8	34.8	21.0	19.8	17.7	26.1
Average	15.7	18.1	20.6	23.4	30.8	37.5	47.6	49.3	40.1	28.7	19.8	14.5	28.9

<sup>1</sup>Source: Gallup Airport (#293422/23081)

<sup>2</sup>Adjusted with Equation E-1 of the ASCE Task Committee Report, Appendix E, January 2005.

**Table 23**

Zuni Pueblo Area<sup>1</sup>  
Average Precipitation 1991-2008

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	1.23	0.36	2.00	0.01	0.00	0.89	0.53	2.42	0.96	0.77	1.72	1.41	12.30
1992	1.23	0.44	1.84	0.10	3.29	0.28	4.52	2.75	0.58	1.23	0.47	1.69	18.42
1993	3.63	0.51	1.21	0.02	0.46	0.00	0.05	3.49	0.04	1.11	1.37	0.19	12.08
1994	0.02	0.90	0.81	1.43	1.10	0.69	1.98	1.72	1.71	2.62	0.55	0.89	14.42
1995	1.67	1.16	1.08	0.75	0.76	0.00	0.41	2.35	0.23	0.00	1.42	0.42	10.25
1996	0.63	0.80	0.36	0.21	0.00	0.41	3.01	1.94	2.74	1.24	1.25	0.00	12.59
1997	2.07	0.57	0.00	2.07	0.85	1.61	1.04	3.97	1.06	1.05	1.15	1.46	16.90
1998	0.64	2.02	1.98	0.74	0.00	0.00	3.57	1.83	1.40	3.22	1.50	0.68	17.58
1999	0.05	0.10	0.21	0.55	0.70	0.42	3.08	3.60	1.19	0.00	0.00	0.04	9.94
2000	0.59	0.50	1.79	0.00	0.00	1.09	0.12	2.13	0.45	2.12	0.65	0.18	9.62
2001	0.60	0.69	0.10	0.92	0.23	0.11	1.69	3.68	0.93	0.33	0.47	0.64	10.39
2002	0.85	0.18	0.56	0.79	0.00	0.33	1.15	1.92	2.83	1.63	0.31	1.68	12.23
2003	0.10	1.04	0.67	0.04	0.00	0.05	0.91	0.78	0.58	0.89	0.78	0.25	6.09
2004	0.42	0.51	0.92	0.62	0.00	0.20	0.39	1.34	1.16	0.57	0.72	0.92	7.77
2005	1.55	2.56	1.58	1.05	0.22	0.23	0.69	1.05	0.36	0.76	0.12	0.19	10.36
2006	0.11	0.00	1.08	0.28	0.00	0.52	1.83	1.92	1.49	1.75	0.42	1.12	10.52
2007	0.81	0.91	0.06	0.64	1.41	0.14	2.03	3.86	0.35	0.38	0.09	2.08	12.76
2008	1.48	1.36	0.14	0.16	1.68	0.07	2.04	1.32	0.39	1.38	0.69	1.74	12.45
Average	0.98	0.81	0.91	0.58	0.59	0.39	1.61	2.34	1.03	1.17	0.76	0.87	12.04

<sup>1</sup>Source: Zuni NOAA Weather Station (#299897)

**Table 24**

Zuni Pueblo Area<sup>1</sup>  
Average Wind Speed 1991-2008  
at 2 Meters Height

Year	Values in Miles per Hour												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	2.7	3.4	6.9	6.9	6.2	5.9	4.5	3.9	4.0	4.3	4.3	3.9	4.8
1992	4.0	4.6	5.3	4.7	5.6	6.0	5.2	4.8	4.4	4.4	4.1	3.4	4.7
1993	4.9	6.3	5.4	6.9	5.8	6.3	6.6	4.6	3.9	4.0	4.0	3.4	5.2
1994	3.2	4.4	4.9	6.2	5.4	5.2	5.4	4.4	3.7	4.3	5.4	3.4	4.6
1995	4.4	4.6	6.7	6.9	7.3	5.6	4.6	4.1	4.2	3.4	3.6	2.8	4.8
1996	4.9	4.9	5.5	6.5	7.6	5.4	4.8	4.8	4.5	4.9	4.0	5.0	5.2
1997	4.9	4.8	4.9	6.3	4.8	4.7	4.5	3.9	4.1	4.0	3.3	3.6	4.5
1998	3.4	5.3	5.7	6.1	5.2	7.1	4.1	3.5	4.4	4.6	4.0	3.9	4.8
1999	4.4	4.9	6.1	7.3	7.4	6.4	5.2	4.4	4.3	3.4	2.8	3.7	5.0
2000	4.4	5.5	5.3	6.0	6.9	6.3	5.6	4.8	5.3	4.8	4.0	3.8	5.2
2001	3.5	4.8	4.7	8.1	5.6	6.1	5.3	4.2	4.2	4.7	4.6	4.0	5.0
2002	4.2	4.5	6.5	7.8	7.0	6.7	5.2	4.6	5.1	4.3	4.3	3.7	5.3
2003	3.3	6.0	5.8	8.6	6.9	6.8	5.2	4.4	4.4	4.3	5.7	4.2	5.5
2004	4.0	4.8	4.8	6.9	7.7	6.3	5.2	5.5	5.4	5.8	5.0	3.4	5.4
2005	4.7	4.8	6.5	7.7	6.4	7.0	5.0	4.0	5.3	4.6	4.4	4.2	5.4
2006	4.9	4.7	7.3	7.2	6.6	6.0	5.2	4.2	5.1	4.4	4.1	3.9	5.3
2007	4.6	5.3	5.4	7.2	6.4	5.9	4.5	4.3	4.8	4.7	3.1	5.1	5.1
2008	4.0	4.6	6.4	7.9	7.2	6.4	4.2	4.1	3.3	4.3	3.8	4.9	5.1
Average	4.1	4.9	5.8	7.0	6.4	6.1	5.0	4.4	4.5	4.4	4.1	3.9	5.0

<sup>1</sup>Source: Gallup Airport (#293422/23081)

**Table 25**

Zuni Pueblo Area<sup>1</sup>  
Average Solar Radiation 1991-2008

Year	Values in Langleys per Day												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	249	343	392	591	664	604	596	498	456	364	243	165	431
1992	235	268	343	532	510	661	559	510	508	378	268	184	413
1993	212	268	436	548	593	688	674	508	535	380	280	230	447
1994	278	302	435	478	604	688	622	530	472	361	268	211	438
1995	201	303	397	466	541	662	610	519	463	417	296	222	425
1996	258	294	435	563	674	622	565	508	427	361	250	202	430
1997	210	276	446	434	574	643	569	469	443	384	253	192	408
1998	217	280	390	512	612	702	573	496	443	334	271	237	423
1999	280	357	464	528	610	673	527	502	469	431	324	233	450
2000	253	331	426	582	680	652	607	560	503	358	272	252	457
2001	247	338	409	547	616	710	590	554	527	423	282	242	457
2002	275	385	467	562	678	721	590	561	459	350	305	216	464
2003	295	308	408	563	598	684	643	535	499	405	266	246	455
2004	247	306	476	491	694	710	617	549	499	351	245	236	452
2005	226	253	383	577	665	724	700	571	459	373	316	264	460
2006	298	387	422	577	660	683	567	486	456	373	322	234	455
2007	252	349	470	551	605	664	561	554	471	424	314	235	454
2008	276	347	524	629	643	697	546	538	494	424	302	228	471
Average	250	316	429	541	623	677	595	525	477	383	282	224	444

<sup>1</sup>Source: 1991-2005 National Solar Radiation Database, Gallup Airport (#723627)

2006 Ramah RAWS (#297248)

2007-2008 Zuni Buttes RAWS (#290603)



**Table 26**

Zuni Pueblo Area  
Monthly ASCE Std. Penman-Monteith Reference ET<sub>o</sub>

Year	Values in Inches												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	1.28	2.23	3.26	5.75	7.63	7.49	7.54	6.12	5.11	3.95	1.89	1.28	53.50
1992	1.38	2.08	3.30	5.34	5.55	7.82	7.25	6.53	5.63	4.03	1.94	1.23	52.08
1993	1.56	2.03	3.85	5.80	6.83	8.60	9.17	6.42	5.51	3.56	1.98	1.70	57.01
1994	1.74	2.01	3.78	5.07	6.77	8.51	8.42	6.85	5.13	3.58	2.18	1.50	55.54
1995	1.45	2.37	3.81	4.78	6.26	7.86	8.00	6.75	5.38	4.10	2.45	1.64	54.85
1996	2.10	2.67	4.11	6.05	8.80	8.05	7.76	6.92	4.67	3.71	2.12	1.93	58.88
1997	1.36	2.15	4.42	4.55	6.60	7.43	7.55	6.11	5.13	3.75	2.03	1.17	52.24
1998	1.46	1.70	3.41	4.64	6.77	8.80	7.21	6.26	5.53	3.83	2.21	1.80	53.63
1999	2.25	2.90	4.85	5.19	7.23	8.40	7.06	6.13	5.27	4.06	2.54	1.75	57.61
2000	2.00	2.93	3.65	6.21	8.55	8.55	8.62	7.23	6.33	3.52	1.73	1.79	61.11
2001	1.36	2.19	3.67	5.73	7.47	8.99	7.95	6.67	5.89	4.53	2.48	1.68	58.62
2002	1.87	2.69	4.52	6.48	8.22	9.61	8.04	7.20	5.37	3.62	2.34	1.32	61.26
2003	1.94	2.23	3.67	6.03	7.52	8.93	9.11	6.80	5.72	4.27	2.60	1.80	60.61
2004	1.64	2.16	4.54	5.23	8.66	9.00	8.28	7.28	5.86	4.05	2.15	1.38	60.23
2005	1.69	1.72	3.39	5.85	7.64	9.02	9.30	6.69	6.10	4.24	2.78	2.02	60.43
2006	2.46	2.87	3.80	6.30	8.47	9.09	7.75	5.80	5.05	3.47	2.50	1.62	59.18
2007	1.56	2.09	4.35	5.72	6.97	8.74	7.63	6.78	5.76	4.48	2.56	1.55	58.18
2008	1.48	1.99	4.73	6.61	7.48	8.91	6.95	6.76	5.20	4.17	2.29	1.48	58.05
Average	1.70	2.28	3.95	5.63	7.41	8.54	7.98	6.63	5.48	3.94	2.26	1.59	57.39

Zuni Pueblo Area  
Monthly Hargreaves-Samani Reference ET<sub>o</sub>

Year	Values in Inches												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1991	1.27	2.25	2.88	4.87	6.98	7.62	8.26	6.99	5.47	4.04	1.90	1.29	53.81
1992	1.27	2.00	3.29	5.39	5.82	7.64	7.79	7.12	5.63	3.84	1.74	1.26	52.79
1993	1.46	1.86	3.49	5.05	6.71	8.24	8.65	6.95	5.61	3.62	1.85	1.56	55.04
1994	1.71	1.92	3.56	4.89	6.77	8.68	8.53	6.94	5.62	3.46	1.83	1.52	55.43
1995	1.42	2.34	3.48	4.41	6.04	7.92	8.71	7.58	5.63	4.11	2.33	1.59	55.54
1996	1.73	2.42	3.66	5.38	7.65	8.33	8.62	7.45	4.91	3.54	2.11	1.52	57.31
1997	1.33	1.97	4.03	4.49	7.05	7.75	8.51	7.32	5.52	3.72	2.11	1.21	55.00
1998	1.53	1.57	3.23	4.29	6.72	7.99	8.07	7.42	5.79	3.71	2.15	1.63	54.10
1999	1.85	2.40	4.03	4.53	6.64	7.98	7.67	6.81	5.48	4.16	2.73	1.46	55.75
2000	1.78	2.57	3.40	5.62	7.86	8.40	8.80	7.62	5.97	3.45	1.63	1.63	58.73
2001	1.42	1.99	3.63	4.98	7.40	8.67	8.26	7.21	5.92	4.05	2.16	1.43	57.09
2002	1.56	2.19	3.68	5.52	7.37	8.95	8.47	7.66	5.46	3.54	2.11	1.23	57.73
2003	1.90	1.79	3.31	4.92	7.24	8.39	9.56	7.53	5.94	4.20	2.07	1.64	58.48
2004	1.56	1.89	4.22	4.76	7.47	8.45	8.71	7.34	5.59	3.64	1.93	1.50	57.03
2005	1.69	1.77	3.11	5.03	7.12	8.21	9.45	7.38	5.90	3.99	2.40	1.55	57.61
2006	1.83	2.31	3.21	5.49	7.85	8.96	8.59	6.88	5.22	3.58	2.34	1.47	57.71
2007	1.42	1.93	3.90	5.12	6.92	8.82	9.03	7.67	5.94	4.14	2.59	1.31	58.78
2008	1.35	1.96	3.73	5.27	6.75	8.57	8.40	7.84	5.93	3.98	2.30	1.41	57.48
Average	1.56	2.06	3.55	5.00	7.02	8.31	8.56	7.32	5.64	3.82	2.13	1.46	56.41

**Climate Data Assessment, Zuni Pueblo  
Appendix A**

## Appendix A

### Albuquerque, NM NOAA Weather Station (290234) Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948	45.5	49.3	53.6	73.9	80.8	87.9	93.4	91.6	85.1	70.6	53.3	49.3	69.5
1949	39.5	49.7	61.8	69.2	78.2	88.2	90.6	90.1	84.8	69.8	65.9	46.2	69.5
1950	50.6	58.0	62.5	73.8	80.8	91.1	89.4	90.3	80.5	80.7	62.5	55.7	73.0
1951	48.5	52.5	59.4	68.9	80.6	89.6	96.2	88.8	86.8	72.3	55.3	47.4	70.5
1952	50.5	51.4	54.7	69.5	79.6	91.6	92.1	92.4	84.6	77.2	51.7	44.0	69.9
1953	54.3	51.3	61.5	69.6	75.9	93.1	93.4	91.2	88.2	72.6	58.4	42.9	71.0
1954	50.3	61.4	58.9	76.8	81.0	91.1	94.7	89.9	85.6	74.3	62.1	47.6	72.8
1955	44.2	47.2	61.0	69.5	76.9	88.5	89.8	89.2	86.7	75.1	58.2	51.7	69.8
1956	52.5	48.2	64.3	69.7	85.2	93.7	91.9	90.0	89.1	74.2	55.1	49.5	72.0
1957	49.4	59.1	58.9	68.0	74.6	89.8	92.7	88.0	84.9	67.0	49.8	50.0	69.3
1958	46.1	55.3	53.4	65.4	83.3	93.0	93.1	92.4	80.6	68.6	58.6	54.6	70.4
1959	45.4	51.2	59.6	70.4	78.8	90.9	92.5	88.3	84.8	69.4	56.5	47.8	69.6
1960	43.9	47.6	63.4	72.7	78.2	90.8	91.4	92.1	84.7	68.1	59.2	42.9	69.6
1961	46.4	53.3	59.7	69.7	81.6	91.0	90.2	87.2	79.0	71.5	49.4	44.1	68.6
1962	42.9	55.8	55.8	73.8	81.3	88.7	89.8	92.7	81.9	71.0	58.4	48.3	70.0
1963	42.1	53.6	59.3	72.8	84.2	90.3	95.2	87.9	85.0	75.4	58.0	47.6	71.0
1964	43.1	40.0	56.0	65.8	81.3	89.7	91.8	90.0	81.3	73.6	55.7	45.6	67.8
1965	50.4	52.1	57.7	70.0	77.5	85.0	91.6	88.6	79.6	73.3	61.2	46.2	69.4
1966	41.6	45.4	61.5	70.2	83.3	88.7	93.7	89.3	81.9	71.3	60.3	47.0	69.5
1967	48.1	54.7	67.3	72.7	79.3	85.7	92.2	86.7	81.1	73.4	59.7	41.9	70.2
1968	49.0	55.0	59.7	67.6	77.7	91.5	89.1	84.7	82.8	73.7	54.2	42.2	68.9
1969	51.0	52.1	54.9	72.1	80.6	89.3	93.8	92.5	83.4	66.2	54.3	51.7	70.2
1970	48.4	56.0	57.6	68.8	82.2	87.7	93.3	90.8	81.2	66.7	58.3	49.6	70.0
1971	48.2	53.0	64.2	69.0	77.9	90.5	92.6	87.3	80.5	67.1	57.6	41.7	69.1
1972	51.2	58.7	71.1	75.2	81.2	90.3	93.1	86.4	80.6	68.3	50.9	47.3	71.2
1973	42.1	46.3	58.0	64.9	77.3	89.0	91.8	92.2	82.1	72.2	60.0	48.7	68.7
1974	45.6	53.7	69.5	73.3	85.4	96.3	90.9	85.5	78.4	68.6	58.0	43.7	70.7
1975	42.9	51.2	58.8	65.8	76.8	89.8	90.3	90.4	78.9	73.1	58.7	49.1	68.8
1976	47.5	58.8	59.8	70.7	77.9	89.2	90.2	88.4	80.6	67.3	55.8	47.6	69.5
1977	41.6	55.1	57.9	70.5	79.1	91.4	91.9	89.8	82.4	73.8	61.0	53.5	70.7
1978	46.4	51.6	65.4	75.0	76.6	91.9	96.8	89.9	83.2	75.3	59.3	46.0	71.4
1979	43.2	55.2	64.2	73.5	78.5	89.1	96.1	90.9	87.3	78.1	53.8	52.4	71.9
1980	51.5	58.1	60.9	68.9	78.2	96.3	99.1	91.5	84.1	70.3	59.0	54.9	72.7
1981	52.9	59.7	60.4	75.6	79.5	93.7	94.3	90.1	83.4	68.9	62.2	54.4	72.9
1982	49.0	52.5	62.0	71.5	79.3	91.2	93.9	90.9	82.2	69.7	54.8	45.1	70.2
1983	46.7	52.0	60.5	65.8	79.3	89.6	94.9	92.4	87.2	70.5	56.8	47.8	70.3
1984	46.2	54.9	62.0	68.2	85.7	88.3	92.4	87.6	81.9	61.6	55.3	44.6	69.1
1985	43.1	50.1	59.6	72.0	77.6	88.8	90.5	90.1	78.7	69.5	57.4	50.6	69.0
1986	54.6	54.8	64.7	70.3	77.8	85.9	87.9	88.8	79.6	66.5	52.8	46.0	69.2
1987	43.8	50.3	57.5	69.1	75.4	88.0	92.6	87.8	82.4	75.4	57.6	46.5	68.9
1988	46.1	57.3	61.7	69.3	78.6	88.2	91.5	86.1	79.4	75.6	58.9	46.6	69.9
1989	47.9	54.9	68.8	77.8	85.1	90.5	92.1	86.8	82.8	69.5	60.2	47.7	72.0
1990	47.2	50.9	61.6	70.6	77.8	94.7	89.7	86.4	82.7	73.0	57.9	43.9	69.7
1991	46.0	58.7	59.9	71.8	81.7	88.4	89.9	88.0	80.5	74.6	54.9	47.0	70.1
1992	42.8	54.2	62.3	75.4	77.3	87.8	90.5	88.6	85.0	75.2	51.2	42.2	69.4
1993	50.0	53.9	63.4	72.5	80.9	91.0	94.8	88.5	83.6	70.1	56.4	50.2	71.3
1994	52.1	53.8	63.9	72.0	80.3	95.5	95.5	92.6	84.1	69.2	55.8	51.8	72.2
1995	49.0	62.3	63.6	67.5	78.2	89.4	94.3	92.8	81.8	74.5	63.8	52.3	72.5
1996	51.7	58.7	61.1	71.9	87.2	90.0	91.2	87.9	77.1	67.5	57.2	50.3	71.0
1997	43.5	51.5	66.7	64.1	78.7	86.3	90.0	87.9	82.8	69.9	54.5	41.7	68.1
1998	49.9	49.7	59.2	65.0	80.7	89.8	88.8	89.1	86.8	69.0	58.4	50.1	69.7
1999	53.2	58.5	64.3	67.3	76.9	87.1	87.9	85.3	80.1	72.5	63.4	46.9	70.3
2000	53.1	57.6	60.3	72.8	85.4	89.2	92.6	90.1	85.5	65.0	48.9	47.5	70.7
2001	43.5	54.4	60.5	71.8	83.2	91.4	91.7	87.6	84.7	73.7	57.6	46.7	70.6
2002	47.3	52.6	62.7	76.3	81.9	93.2	90.7	90.0	80.2	68.0	55.5	45.6	70.3
2003	55.8	50.7	59.6	70.0	81.1	88.4	96.7	90.3	82.9	74.3	56.3	47.8	71.2
2004	48.4	48.2	65.3	65.7	81.8	88.8	90.6	86.5	80.3	67.7	54.1	47.5	68.7
2005	51.6	51.4	57.1	69.3	79.6	89.2	94.1	87.9	83.3	67.9	60.4	50.5	70.2
2006	51.6	56.4	60.1	74.0	83.9	91.3	89.8	83.1	75.8	67.8	60.1	45.0	69.9
2007	41.3	53.6	64.4	68.9	76.6	89.9	91.5	91.6	83.0	73.2	60.8	45.9	70.1
2008	44.2	53.8	63.3	70.5	77.7	91.0	87.7	88.1	82.2	71.0	58.9	48.4	69.7
<b>Average</b>	<b>47.5</b>	<b>53.4</b>	<b>61.1</b>	<b>70.6</b>	<b>80.0</b>	<b>90.1</b>	<b>92.2</b>	<b>89.2</b>	<b>82.7</b>	<b>71.2</b>	<b>57.2</b>	<b>47.7</b>	<b>70.2</b>
1948-2004 Av	47.5	53.4	61.1	70.6	80.1	90.1	92.3	89.3	82.8	71.3	57.1	47.7	70.3
1991-2005 Av	49.2	54.4	62.0	70.2	81.0	89.7	92.0	88.9	82.6	70.6	56.6	47.9	70.4

## Appendix A

### Albuquerque, NM NOAA Weather Station (290234) Average of Minimum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948	21.9	25.8	28.2	44.7	52.6	59.8	65.8	63.7	57.6	43.7	28.0	27.0	43.2
1949	21.1	24.8	34.0	41.8	51.3	59.2	64.8	62.5	58.7	42.5	35.5	22.0	43.2
1950	24.4	31.5	33.3	43.2	50.6	61.1	64.1	62.2	55.2	50.9	34.0	28.9	44.9
1951	24.6	27.0	33.1	40.6	52.3	59.8	68.9	64.4	56.9	45.3	29.1	25.0	43.9
1952	27.5	27.3	29.9	42.3	53.1	64.5	64.3	65.4	56.7	44.7	28.4	23.3	44.0
1953	30.1	26.1	36.0	40.9	47.1	63.0	66.5	64.2	57.8	45.8	34.2	22.7	44.5
1954	26.5	32.2	33.1	48.7	52.9	61.6	67.8	63.3	60.0	48.5	35.2	24.6	46.2
1955	23.0	22.3	33.8	40.7	50.9	59.3	64.1	64.5	58.3	47.0	31.9	28.3	43.7
1956	29.6	23.8	34.0	40.9	54.0	64.1	64.8	62.5	59.1	46.4	26.8	23.0	44.1
1957	30.3	37.1	35.6	40.4	49.2	59.8	65.4	63.9	55.6	46.2	30.7	27.0	45.1
1958	24.5	31.6	32.2	40.6	53.8	64.0	66.0	65.3	57.8	45.2	33.4	28.4	45.2
1959	23.1	27.8	32.1	43.6	51.4	63.1	64.7	64.0	56.3	44.2	31.2	28.5	44.2
1960	22.0	25.4	36.4	43.1	51.2	62.3	65.9	64.7	58.9	44.9	33.7	24.9	44.5
1961	21.4	27.9	34.2	39.2	50.1	60.5	63.2	63.2	52.2	42.1	31.2	24.0	42.4
1962	20.2	28.8	26.6	42.3	46.9	56.7	62.7	62.5	56.9	45.1	35.4	25.4	42.4
1963	16.6	27.3	31.1	42.6	51.7	58.8	67.6	63.9	59.9	47.5	33.3	22.0	43.5
1964	16.9	18.1	27.0	37.6	50.2	57.5	64.5	63.6	57.3	45.1	31.7	25.3	41.2
1965	27.1	26.7	31.5	39.6	45.9	53.7	64.1	62.2	53.5	42.6	35.5	25.4	42.3
1966	18.6	21.0	29.6	38.9	51.0	56.9	65.9	62.0	54.8	42.3	33.1	21.6	41.3
1967	18.3	26.3	36.7	42.8	48.2	57.3	66.2	62.2	55.6	42.9	32.4	22.9	42.7
1968	24.5	31.6	33.7	39.2	47.7	58.8	63.1	60.1	53.2	42.9	31.3	17.8	42.0
1969	24.9	24.8	27.2	42.7	51.7	57.8	66.6	65.5	56.6	41.4	28.5	26.5	42.8
1970	20.6	29.6	30.5	36.1	50.2	57.7	65.9	64.8	53.8	38.5	30.6	23.2	41.8
1971	18.9	24.7	31.2	37.6	45.4	57.1	63.6	60.4	52.2	40.5	32.8	22.0	40.5
1972	21.0	26.2	36.1	38.5	46.7	57.1	64.1	61.8	55.5	46.9	29.3	22.6	42.2
1973	21.5	25.4	32.2	35.4	48.1	58.0	64.9	63.7	52.8	40.6	29.2	19.3	40.9
1974	21.6	22.0	36.0	39.5	51.5	63.9	63.1	59.8	53.8	47.5	31.9	20.2	42.6
1975	18.7	24.8	31.1	33.9	45.1	56.2	63.2	61.7	53.6	39.8	26.5	22.1	39.7
1976	18.9	27.8	28.8	38.5	47.6	57.5	63.8	61.6	55.4	38.8	25.4	18.3	40.2
1977	18.0	26.2	28.4	42.5	49.2	59.6	65.2	65.0	56.3	44.0	31.8	27.2	42.8
1978	27.1	26.9	34.9	40.4	44.3	59.0	66.3	61.0	55.0	45.3	35.7	22.5	43.2
1979	22.5	27.0	32.6	40.2	48.8	57.5	65.0	63.2	57.3	44.8	28.1	22.9	42.5
1980	28.8	30.3	31.3	35.3	44.0	58.0	66.2	63.2	55.7	38.7	28.0	26.0	42.1
1981	23.1	26.1	31.9	42.4	49.4	60.2	65.3	62.6	56.0	42.5	31.7	26.5	43.1
1982	22.8	26.2	32.8	40.6	46.6	58.4	64.2	63.9	56.7	39.9	30.9	23.7	42.2
1983	23.2	27.4	33.2	34.5	46.7	57.2	65.8	66.4	59.6	46.1	33.3	25.5	43.2
1984	22.0	25.3	31.6	37.4	54.1	58.8	65.4	63.7	55.7	41.5	32.1	26.5	42.8
1985	24.5	26.4	35.3	42.7	50.4	59.4	63.7	63.1	53.1	45.4	33.3	24.6	43.5
1986	27.9	31.1	37.0	42.7	49.6	59.5	61.5	63.2	53.4	42.7	31.6	26.3	43.9
1987	20.8	28.0	29.9	40.4	50.1	58.0	62.9	61.5	55.1	47.2	32.7	24.1	42.6
1988	23.0	30.5	32.2	40.9	49.9	60.5	64.7	63.8	53.2	46.5	31.8	21.1	43.2
1989	23.0	28.9	36.7	45.0	52.5	60.6	65.0	61.7	56.0	43.8	32.5	22.5	44.0
1990	22.0	26.1	35.5	44.0	49.4	63.2	63.9	61.1	59.0	43.6	32.0	20.2	43.3
1991	25.3	30.4	32.2	40.1	49.3	58.3	63.8	62.9	55.6	44.5	31.8	27.6	43.5
1992	22.5	30.3	35.4	44.6	51.9	56.9	61.8	61.4	55.5	46.4	28.2	23.3	43.2
1993	29.3	31.0	34.1	41.7	50.5	59.2	64.9	62.7	54.6	42.2	30.2	24.3	43.7
1994	24.0	27.6	36.4	44.9	53.4	65.2	67.0	66.2	57.9	44.7	33.2	29.9	45.9
1995	29.4	36.2	37.8	40.9	50.7	60.1	65.6	66.8	57.2	44.4	37.7	29.4	46.3
1996	26.9	33.5	32.4	43.0	55.8	62.9	67.7	64.5	55.3	44.3	34.0	27.0	45.6
1997	23.2	29.8	36.9	41.1	53.1	59.7	65.1	64.6	60.2	43.1	32.6	23.6	44.4
1998	25.8	27.9	34.2	39.4	50.5	58.9	65.4	65.1	61.9	46.8	34.6	26.8	44.8
1999	28.2	29.4	37.0	40.1	50.4	58.5	65.4	64.0	56.2	44.7	36.2	24.3	44.5
2000	28.7	32.4	35.1	45.3	55.5	63.2	66.4	66.0	59.2	46.4	29.9	26.7	46.2
2001	24.1	30.9	36.2	43.8	54.5	62.4	67.0	64.2	60.0	47.8	38.1	25.9	46.3
2002	26.7	27.5	32.3	47.2	53.0	65.0	66.6	65.2	58.2	45.9	34.2	27.5	45.8
2003	31.2	30.7	35.4	43.3	54.0	61.4	71.0	67.1	58.3	50.0	35.2	26.6	47.0
2004	28.2	27.1	41.1	43.3	54.4	61.4	65.1	62.9	57.0	45.7	35.3	26.5	45.7
2005	31.8	35.0	34.7	42.8	53.4	61.0	68.5	65.3	59.8	47.6	35.2	27.1	46.9
2006	27.3	29.1	36.7	46.9	56.1	65.0	67.6	63.8	53.6	45.4	35.1	25.2	46.0
2007	22.6	29.4	37.3	42.4	52.1	61.7	67.1	67.6	60.0	46.4	36.2	27.0	45.8
2008	22.7	29.7	34.2	41.2	50.4	61.5	65.4	65.1	58.5	46.4	35.3	29.2	44.9
<b>Average</b>	<b>24.0</b>	<b>28.0</b>	<b>33.4</b>	<b>41.3</b>	<b>50.5</b>	<b>60.0</b>	<b>65.3</b>	<b>63.6</b>	<b>56.5</b>	<b>44.5</b>	<b>32.3</b>	<b>24.8</b>	<b>43.7</b>
1948-2004 Av	23.9	27.8	33.2	41.1	50.4	59.8	65.1	63.4	56.4	44.4	32.0	24.6	43.5
1991-2005 Av	27.0	30.6	35.4	42.8	52.7	60.9	66.1	64.6	57.8	45.6	33.8	26.4	45.3

## Appendix A

### Albuquerque, NM NOAA Weather Station (290234) Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948	33.7	37.6	40.9	59.3	66.7	73.9	79.6	77.6	71.3	57.2	40.6	38.1	56.4
1949	30.3	37.2	47.9	55.5	64.8	73.7	77.7	76.3	71.8	56.1	50.7	34.1	56.3
1950	37.5	44.8	47.9	58.5	65.7	76.1	76.8	76.2	67.8	65.8	48.3	42.3	59.0
1951	36.5	39.8	46.3	54.8	66.5	74.7	82.6	76.6	71.9	58.8	42.2	36.2	57.2
1952	39.0	39.4	42.3	55.9	66.3	78.1	78.2	78.9	70.7	61.0	40.1	33.6	57.0
1953	42.2	38.7	48.7	55.2	61.5	78.1	80.0	77.7	73.0	59.2	46.3	32.8	57.8
1954	38.4	46.8	46.0	62.8	66.9	76.4	81.3	76.6	72.8	61.4	48.6	36.1	59.5
1955	33.6	34.7	47.4	55.1	63.9	73.9	77.0	76.8	72.5	61.1	45.1	40.0	56.8
1956	41.1	36.0	49.1	55.3	69.6	78.9	78.4	76.2	74.1	60.3	40.9	36.3	58.0
1957	39.9	48.1	47.2	54.2	61.9	74.8	79.1	76.0	70.3	56.6	40.2	38.5	57.2
1958	35.3	43.4	42.8	53.0	68.6	78.5	79.5	78.9	69.2	56.9	46.0	41.5	57.8
1959	34.3	39.5	45.8	57.0	65.1	77.0	78.6	76.2	70.5	56.8	43.8	38.2	56.9
1960	33.0	36.5	49.9	57.9	64.7	76.6	78.6	78.4	71.8	56.5	46.5	33.9	57.0
1961	33.9	40.6	47.0	54.4	65.9	75.7	76.7	75.2	65.6	56.8	40.3	34.0	55.5
1962	31.5	42.3	41.2	58.0	64.1	72.7	76.3	77.6	69.4	58.0	46.9	36.9	56.2
1963	29.4	40.4	45.2	57.7	68.0	74.6	81.4	75.9	72.4	61.5	45.6	34.8	57.2
1964	30.0	29.1	41.5	51.7	65.7	73.6	78.2	76.8	69.3	59.3	43.7	35.5	54.5
1965	38.8	39.4	44.6	54.8	61.7	69.3	77.8	75.4	66.5	57.9	48.4	35.8	55.9
1966	30.1	33.2	45.6	54.5	67.1	72.8	79.8	75.6	68.4	56.8	46.7	34.3	55.4
1967	33.2	40.5	52.0	57.8	63.7	71.5	79.2	74.4	68.4	58.1	46.1	32.4	56.4
1968	36.8	43.3	46.7	53.4	62.7	75.2	76.1	72.4	68.0	58.3	42.8	30.0	55.5
1969	38.0	38.4	41.0	57.4	66.2	73.5	80.2	79.0	70.0	53.8	41.4	39.1	56.5
1970	34.5	42.8	44.0	52.5	66.2	72.7	79.6	77.8	67.5	52.6	44.5	36.4	55.9
1971	33.5	38.8	47.7	53.3	61.7	73.8	78.1	73.8	66.4	53.8	45.2	31.8	54.8
1972	36.1	42.4	53.6	56.9	64.0	73.7	78.6	74.1	68.1	57.6	40.1	34.9	56.7
1973	31.8	35.8	45.1	50.2	62.7	73.5	78.3	77.9	67.5	56.4	44.6	34.0	54.8
1974	33.6	37.8	52.7	56.4	68.5	80.1	77.0	72.6	66.1	58.1	45.0	32.0	56.6
1975	30.8	38.0	45.0	49.9	61.0	73.0	76.8	76.1	66.2	56.5	42.6	35.6	54.3
1976	33.2	43.3	44.3	54.6	62.8	73.4	77.0	75.0	68.0	53.0	40.6	33.0	54.8
1977	29.8	40.7	43.1	56.5	64.2	75.5	78.5	77.4	69.4	58.9	46.4	40.3	56.7
1978	36.7	39.2	50.1	57.7	60.4	75.5	81.5	75.5	69.1	60.3	47.5	34.3	57.3
1979	32.9	41.1	48.4	56.9	63.6	73.3	80.5	77.0	72.3	61.5	40.9	37.6	57.2
1980	40.2	44.2	46.1	52.1	61.1	77.2	82.6	77.3	69.9	54.5	43.5	40.5	57.4
1981	38.0	42.9	46.1	59.0	64.5	76.9	79.8	76.4	69.7	55.7	47.0	40.5	58.0
1982	35.9	39.4	47.4	56.1	63.0	74.8	79.0	77.4	69.4	54.8	42.9	34.4	56.2
1983	35.0	39.7	46.8	50.2	63.0	73.4	80.3	79.4	73.4	58.3	45.0	36.6	56.8
1984	34.1	40.1	46.8	52.8	69.9	73.6	78.9	75.7	68.8	51.5	43.7	35.6	55.9
1985	33.8	38.2	47.5	57.4	64.0	74.1	77.1	76.6	65.9	57.4	45.3	37.6	56.2
1986	41.3	43.0	50.8	56.5	63.7	72.7	74.7	76.0	66.5	54.6	42.2	36.2	56.5
1987	32.3	39.1	43.7	54.8	62.7	73.0	77.7	74.7	68.8	61.3	45.2	35.3	55.7
1988	34.5	43.9	47.0	55.1	64.3	74.3	78.1	75.0	66.3	61.0	45.4	33.9	56.6
1989	35.4	41.9	52.7	61.4	68.8	75.6	78.5	74.3	69.4	56.6	46.4	35.1	58.0
1990	34.6	38.5	48.6	57.3	63.6	78.9	76.8	73.8	70.9	58.3	44.9	32.0	56.5
1991	35.6	44.6	46.0	56.0	65.5	73.3	76.9	75.5	68.1	59.6	43.3	37.3	56.8
1992	32.7	42.3	48.8	60.0	64.6	72.4	76.2	75.0	70.2	60.8	39.7	32.7	56.3
1993	39.6	42.4	48.7	57.1	65.7	75.1	79.9	75.6	69.1	56.1	43.3	37.3	57.5
1994	38.0	40.7	50.2	58.4	66.8	80.4	81.3	79.4	71.0	56.9	44.5	40.8	59.0
1995	39.2	49.2	50.7	54.2	64.5	74.7	80.0	79.8	69.5	59.5	50.8	40.8	59.4
1996	39.3	46.1	46.7	57.4	71.5	76.5	79.5	76.2	66.2	55.9	45.6	38.6	58.3
1997	33.3	40.6	51.8	52.6	65.9	73.0	77.5	76.3	71.5	56.5	43.6	32.7	56.3
1998	37.9	38.8	46.7	52.2	65.6	74.4	77.1	77.1	74.4	57.9	46.5	38.5	57.2
1999	40.7	43.9	50.6	53.7	63.7	72.8	76.6	74.6	68.1	58.6	49.8	35.6	57.4
2000	40.9	45.0	47.7	59.0	70.4	76.2	79.5	78.0	72.4	55.7	39.4	37.1	58.4
2001	33.8	42.7	48.3	57.8	68.9	76.9	79.4	75.9	72.4	60.8	47.9	36.3	58.4
2002	37.0	40.1	47.5	61.8	67.4	79.1	78.6	77.6	69.2	57.0	44.9	36.5	58.1
2003	43.5	40.7	47.5	56.7	67.6	74.9	83.8	78.7	70.6	62.2	45.7	37.2	59.1
2004	38.3	37.6	53.2	54.5	68.1	75.1	77.9	74.7	68.6	56.7	44.7	37.0	57.2
2005	41.7	43.2	45.9	56.1	66.5	75.1	81.3	76.6	71.6	57.8	47.8	38.8	58.5
2006	39.5	42.8	48.4	60.5	70.0	78.1	78.7	73.5	64.7	56.6	47.6	35.1	57.9
2007	32.0	41.5	50.8	55.6	64.4	75.8	79.3	79.6	71.5	59.8	48.5	36.5	57.9
2008	33.4	41.7	48.7	55.9	64.1	76.3	76.6	76.6	70.3	58.7	47.1	38.8	57.3
<b>Average</b>	<b>35.7</b>	<b>40.7</b>	<b>47.3</b>	<b>55.9</b>	<b>65.3</b>	<b>75.1</b>	<b>78.7</b>	<b>76.4</b>	<b>69.6</b>	<b>57.8</b>	<b>44.8</b>	<b>36.2</b>	<b>57.0</b>
1948-2004 Av	35.7	40.6	47.2	55.8	65.2	75.0	78.7	76.4	69.6	57.8	44.6	36.1	56.9
1991-2005 Av	38.1	42.5	48.7	56.5	66.9	75.3	79.0	76.7	70.2	58.1	45.2	37.2	57.9

## Appendix A

### Albuquerque, NM NOAA Weather Station (290234) Total Monthly Precipitation

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948	0.18	1.42	0.41	0.33	0.94	0.57	0.46	0.51	0.8	0.6	0.11	0.11	6.44
1949	0.61	0.29	0.65	0.67	1.35	0.32	2.21	0.72	0.87	0.14	0.00	0.59	8.42
1950	0.02	0.38	0.04	0.27	0.06	0.23	2.00	0.08	1.01	0.01	0.00	0.00	4.10
1951	0.41	0.27	0.29	0.38	0.10	0.02	0.85	2.22	0.05	0.37	0.14	0.28	5.38
1952	0.20	0.17	0.59	0.76	0.65	1.64	1.91	1.10	0.34	0.00	0.53	0.20	8.09
1953	0.00	0.43	0.74	0.69	0.03	0.35	0.53	0.59	0.06	0.46	0.91	0.29	5.08
1954	0.20	0.07	0.24	0.00	0.51	0.01	1.45	0.65	0.77	0.25	0.22	0.14	4.51
1955	0.29	0.18	0.00	0.04	0.53	0.33	1.60	1.32	1.94	0.06	0.00	0.22	6.51
1956	0.46	0.49	0.00	0.00	0.18	0.43	1.49	0.62	0.02	0.34	0.03	0.00	4.06
1957	0.78	0.59	0.52	0.38	0.35	0.04	2.48	1.32	0.00	2.59	1.24	0.32	10.61
1958	0.21	0.27	1.71	0.62	0.43	0.22	0.14	1.74	1.34	1.72	0.37	1.35	10.12
1959	0.17	0.04	0.42	0.43	0.80	0.78	0.73	2.79	0.36	1.70	0.07	1.85	10.14
1960	0.34	0.38	0.44	0.19	0.71	0.91	0.47	0.78	0.56	2.88	0.07	0.39	8.12
1961	0.23	0.10	0.61	0.73	0.01	0.11	2.70	1.69	1.09	0.47	0.48	0.65	8.87
1962	1.01	0.11	0.18	0.07	0.01	0.19	1.24	0.00	0.71	0.75	0.61	0.51	5.39
1963	0.29	0.24	0.55	0.14	0.03	0.11	1.43	3.00	0.63	0.76	0.29	0.00	7.47
1964	0.07	1.12	0.13	0.61	0.35	0.00	1.87	0.98	1.57	0.04	0.21	0.49	7.44
1965	0.47	0.60	0.49	0.49	0.19	0.99	1.65	0.61	1.18	0.89	0.33	1.42	9.31
1966	0.42	0.30	0.00	0.04	0.02	1.66	1.63	1.06	1.04	0.54	0.09	0.01	6.81
1967	0.01	0.44	0.25	0.00	0.04	1.71	0.61	3.30	0.79	0.18	0.15	0.56	8.04
1968	0.01	0.98	1.48	0.51	0.99	0.05	3.33	1.49	0.30	0.12	0.59	0.82	10.67
1969	0.08	0.34	0.41	1.76	1.31	0.59	0.94	0.95	1.08	2.37	0.01	0.72	10.56
1970	0.00	0.27	0.42	0.05	0.33	0.40	1.22	2.24	0.79	0.25	0.08	0.23	6.28
1971	0.27	0.21	0.03	0.78	0.16	0.02	1.05	0.87	1.44	1.15	0.67	1.40	8.05
1972	0.12	0.12	0.08	0.00	0.18	0.55	1.00	2.93	1.00	3.08	0.69	0.36	10.11
1973	0.85	0.33	2.18	0.91	0.66	1.37	1.80	1.19	1.13	0.35	0.08	0.03	10.88
1974	0.88	0.11	0.85	0.14	0.01	0.22	2.40	0.79	1.58	1.96	0.38	0.51	9.83
1975	0.26	0.99	0.95	0.10	0.66	0.00	1.43	1.40	1.66	0.00	0.28	0.28	8.01
1976	0.00	0.40	0.09	0.31	0.82	0.60	1.32	0.73	0.45	0.03	0.24	0.20	5.19
1977	0.88	0.13	0.63	1.07	0.10	0.04	0.69	2.28	0.78	0.76	0.42	0.13	7.91
1978	1.32	1.02	0.54	0.05	0.69	1.05	0.24	2.49	0.59	1.22	1.00	0.76	10.97
1979	1.07	0.62	0.14	0.24	2.48	1.02	0.80	1.53	0.40	0.27	0.91	0.87	10.35
1980	0.87	0.58	0.60	0.60	0.56	0.01	0.08	2.61	1.83	0.09	0.30	0.74	8.87
1981	0.05	0.67	0.80	0.30	0.53	0.35	1.07	1.68	0.41	1.43	0.37	0.00	7.66
1982	0.32	0.20	0.84	0.05	0.52	0.09	1.32	1.09	1.34	0.26	0.60	0.78	7.41
1983	1.10	0.71	0.61	0.02	0.32	1.21	0.55	0.27	0.91	1.20	0.44	0.42	7.76
1984	0.33	0.00	0.62	0.50	0.16	0.48	1.13	2.70	1.13	3.04	0.63	1.36	12.08
1985	0.49	0.54	0.70	1.69	1.12	0.53	1.16	0.49	1.53	2.15	0.19	0.16	10.75
1986	0.22	1.01	0.17	0.33	1.11	2.57	1.51	2.26	0.53	1.54	1.29	0.44	12.98
1987	0.66	0.61	0.07	1.00	0.58	0.13	0.91	2.98	0.20	0.44	0.42	0.34	8.34
1988	0.15	0.07	0.85	1.42	0.62	1.25	2.26	3.29	2.63	0.32	0.22	0.03	13.11
1989	0.57	0.35	0.48	0.00	0.02	0.02	1.51	0.48	0.31	0.97	0.00	0.28	4.99
1990	0.21	0.49	0.41	1.71	0.45	0.27	2.36	1.79	0.96	0.15	0.86	0.59	10.25
1991	0.60	0.06	0.14	0.00	1.14	0.65	2.63	1.26	1.43	0.26	1.93	1.49	11.59
1992	0.60	0.20	0.63	0.22	1.81	0.67	2.01	2.17	0.79	0.70	1.12	1.16	12.08
1993	0.94	1.82	0.22	0.00	0.20	0.44	0.23	3.05	0.49	0.64	0.97	0.03	9.03
1994	0.02	0.26	0.59	0.07	1.87	0.28	0.61	2.70	1.21	1.54	1.38	0.62	11.15
1995	0.55	0.39	0.16	0.69	0.08	0.20	0.35	0.74	2.32	0.00	0.03	0.17	5.68
1996	0.17	0.19	0.02	0.00	0.02	2.86	1.03	1.54	1.45	1.52	0.95	0.00	9.75
1997	0.55	0.12	0.11	1.65	0.42	1.03	2.04	1.96	2.43	0.32	0.73	1.00	12.36
1998	0.14	0.66	2.34	0.64	0.00	0.17	2.37	0.88	0.15	1.80	0.46	0.22	9.83
1999	0.12	0.00	1.10	0.59	0.54	0.60	1.47	3.04	0.54	0.26	0.00	0.03	8.29
2000	0.30	0.30	1.27	0.00	0.07	0.72	0.83	0.57	0.37	2.66	0.91	0.24	8.24
2001	0.28	0.27	0.27	0.51	0.38	0.26	1.37	1.59	0.51	0.14	0.68	0.24	6.50
2002	0.34	0.07	0.00	0.39	0.02	0.18	0.88	1.59	1.53	0.54	0.49	0.36	6.39
2003	0.00	1.02	1.45	0.00	0.09	0.20	0.41	0.71	0.29	1.58	0.49	0.11	6.35
2004	0.10	1.17	0.67	3.00	0.00	0.61	2.25	0.23	0.97	1.13	1.37	0.30	11.80
2005	1.38	1.78	1.12	1.17	0.40	0.09	1.03	0.49	2.83	1.03	0.00	0.10	11.42
2006	0.04	0.00	0.14	0.13	0.00	1.14	3.55	3.74	1.10	1.70	0.02	1.50	13.06
2007	0.18	0.70	0.64	1.06	2.00	0.66	1.63	1.05	0.73	0.17	0.25	1.14	10.21
2008	0.39	0.41	0.00	0.11	0.18	0.50	3.38	1.04	0.08	1.38	0.23	0.65	8.35
<b>Average</b>	<b>0.39</b>	<b>0.46</b>	<b>0.54</b>	<b>0.50</b>	<b>0.51</b>	<b>0.57</b>	<b>1.40</b>	<b>1.51</b>	<b>0.94</b>	<b>0.91</b>	<b>0.47</b>	<b>0.49</b>	<b>8.69</b>
1948-2004 Av	0.38	0.44	0.55	0.49	0.50	0.57	1.33	1.50	0.92	0.89	0.49	0.47	8.54
1991-2005 Av	0.41	0.55	0.67	0.60	0.47	0.60	1.30	1.50	1.15	0.94	0.77	0.40	9.36

## Appendix A

### Albuquerque, NM NOAA Weather Station (29023) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1948	3/22	4/2	11/5	11/9
1949	4/2	4/10	10/20	10/21
1950	3/14	3/29	11/4	11/9
1951	4/11	4/13	10/24	11/2
1952	3/23	3/28	11/4	11/17
1953	4/13	4/13	11/9	11/18
1954	3/19	3/27	11/7	11/29
1955	4/4	4/9	11/3	11/8
1956	3/28	4/19	10/30	11/2
1957	3/25	4/8	11/7	11/18
1958	4/6	4/6	10/22	11/17
1959	3/21	4/10	11/5	11/6
1960	3/18	4/3	11/9	11/10
1961	4/15	4/25	11/3	11/3
1962	3/31	4/7	11/8	11/19
1963	3/19	4/19	11/17	11/17
1964	3/27	4/26	11/4	11/12
1965	4/11	4/15	11/12	11/27
1966	4/5	4/21	11/1	11/10
1967	5/1	5/2	10/30	10/31
1968	3/22	4/24	10/18	10/18
1969	3/26	4/27	10/13	10/30
1970	4/15	4/30	10/9	10/28
1971	4/1	4/22	10/18	10/19
1972	4/15	4/27	10/31	11/1
1973	4/9	4/21	10/11	11/15
1974	4/4	4/5	10/31	11/4
1975	5/7	5/7	10/24	10/24
1976	4/17	5/1	10/8	10/19
1977	4/4	4/5	11/2	11/9
1978	3/17	5/2	11/13	11/28
1979	4/13	4/13	10/22	10/31
1980	4/14	4/24	10/16	10/17
1981	4/5	4/6	10/26	11/19
1982	4/8	5/7	10/10	10/29
1983	4/13	4/15	11/9	11/15
1984	4/26	4/27	10/16	11/10
1985	3/31	4/1	11/2	11/14
1986	3/20	4/27	10/12	11/8
1987	3/31	4/7	11/12	11/17
1988	4/2	4/2	11/13	11/16
1989	4/10	4/10	10/30	10/31
1990	3/17	3/18	10/22	11/5
1991	4/14	4/29	10/28	10/29
1992	2/25	3/20	11/2	11/5
1993	4/9	4/20	10/28	10/29
1994	3/28	4/6	11/14	11/18
1995	3/26	4/18	11/11	11/28
1996	4/6	4/6	10/21	10/21
1997	4/12	4/26	10/25	10/25
1998	4/19	4/26	11/9	11/10
1999	3/13	4/16	10/18	11/23
2000	4/2	4/2	11/7	11/8
2001	2/17	3/15	11/20	11/24
2002	3/17	3/25	11/7	11/16
2003	3/29	3/30	10/26	11/23
2004	3/1	3/6	11/2	11/27
2005	4/1	4/10	11/16	11/16
2006	3/21	3/23	11/11	11/29
2007	3/6	4/14	11/22	11/24
2008	3/18	5/2	10/23	11/15
<b>Average</b>	<b>3/31</b>	<b>4/12</b>	<b>10/30</b>	<b>11/9</b>
1948-2004 Av	3/31	4/12	10/29	11/8
1991-2005 Av	3/25	4/6	11/3	11/11

## Appendix A

### Black Rock, NM NOAA Weather Station (291018) Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1914	43.4	48.4	55.3	60.2	72.9	81.9	80.2	83.5	77.9	64.8	60.1	40.5	64.1
1915	39.3	44.1	51.7	62.3	68.0	79.5	82.3	83.6	75.8	71.1	55.6	44.8	63.2
1916	41.9	51.7	60.1	64.9	72.4	84.3	84.0	81.4	77.6	65.2	54.6	44.3	65.2
1917	54.0	50.7	58.6	66.6	71.6	86.5	88.9	87.0	81.9	74.0	62.0	55.1	69.7
1918	40.5	48.1	56.9	63.1	71.6	87.4	85.4	83.2	81.5	67.7	50.5	38.9	64.6
1919	39.7	40.7	53.0	66.2	75.6	89.6	88.4	88.1	78.9	64.0	56.9	50.4	66.0
1920	48.4	50.2	54.3	59.1	74.1	83.6	86.5	84.3	79.4	65.3	56.4	44.6	65.5
1921	49.2	52.3	60.7	62.7	73.3	83.6	83.9	81.7	81.6	73.1	61.9	51.2	67.9
1922	43.5	48.2	54.5	59.9	74.1	88.0	88.2	84.6	80.3	64.9	49.0	47.5	65.2
1923	49.9	47.7	50.1	61.8	74.6	83.8	87.5	80.0	74.2	63.8	52.2	42.6	64.0
1924	44.4	53.0	48.9	61.2	75.0	87.7	86.1	87.6	81.4	68.8	60.8	40.2	66.3
1925	40.3	52.8	60.1	68.5	77.5	80.5	86.7	81.3	76.4	66.4	52.1	45.9	65.7
1926	41.0	52.4	54.1	60.3	70.4	84.8	84.5	87.7	79.7	71.8	58.4	42.2	65.6
1927	49.5	50.7	54.0	64.5	74.9	81.5	88.0	83.8	75.4	69.8	60.2	42.0	66.2
1928	50.8	47.3	59.1	63.2	73.6	83.9	88.9	85.1	76.6	70.5	53.8	46.2	66.6
1929	44.6	42.4	54.0	62.1	73.4	86.0	84.8	82.0	77.5	68.4	54.2	54.5	65.3
1930	40.6	53.9	54.4	69.7	69.7	87.6	85.8	86.2	79.9	71.1	52.2	44.7	66.3
1931	44.1	48.0	57.0	65.5	74.6	85.6	89.6	86.1	79.9	71.2	57.8	37.2	66.4
1932	36.7	49.4	54.7	67.3	73.3	83.5	86.2	85.3	80.2	69.0	62.7	39.9	65.7
1933	37.8	42.5	59.5	60.3	70.4	85.6	88.0	81.0	77.4	63.2	51.8	45.0	63.5
1934	43.4	50.3	59.2	65.1	76.0	80.5	83.8	79.3	73.6	72.8	55.5	49.9	65.8
1935	46.3	48.8	54.1	63.6	65.8	84.7	87.5	84.0	78.3	69.6	55.8	47.0	65.4
1936	45.2	46.2	57.1	67.1	77.0	86.6	87.4	84.5	73.9	66.7	56.8	46.8	66.3
1937	33.7	44.4	52.8	65.2	75.8	82.1	86.2	87.7	81.8	71.5	59.3	49.4	65.8
1938	48.6	48.6	54.6	66.5	72.3	84.0	86.9	86.1	78.2	70.6	53.8	49.5	66.7
1939	42.4	38.3	55.9	67.3	76.3	85.4	88.7	87.5	79.5	65.9	56.2	48.5	66.0
1940	41.3	45.8	58.3	63.3	75.7	83.8	86.4	80.0	72.3	64.5	47.9	43.9	63.6
1941	39.0	46.7	50.8	53.5	68.3	74.8	80.0	78.9	73.1	58.5	49.6	40.9	59.5
1942	38.4	42.8	51.0	63.7	71.7	83.9	86.7	79.3	79.0	64.3	56.9	50.2	64.0
1943	47.6	55.9	56.9	70.7	76.2	83.2	87.7	85.1	80.2	69.0	59.9	47.4	68.3
1944	45.5	49.4	54.3	61.5	72.9	83.8	86.1	87.3	79.8	70.4	53.3	47.2	66.0
1945	45.5	51.5	52.2	65.0	75.8	83.0	88.8	87.1	82.3	70.3	57.7	43.4	66.9
1946	41.1	50.8	58.5	72.0	73.8	87.9	88.0	79.6	78.6	65.6	55.3	52.9	67.0
1947	43.2	55.0	58.7	65.7	77.1	82.9	90.0	78.5	82.5	71.2	49.1	46.2	66.7
1948	48.6	46.1	47.9	68.4	76.8	84.4	89.4	87.5	82.3	68.2	53.3	47.5	66.7
1949	37.0	44.6	56.0	65.9	74.5	83.2							
<b>Average</b>	<b>43.5</b>	<b>48.3</b>	<b>55.3</b>	<b>64.3</b>	<b>73.5</b>	<b>84.1</b>	<b>86.5</b>	<b>83.9</b>	<b>78.5</b>	<b>68.1</b>	<b>55.5</b>	<b>46.0</b>	<b>65.6</b>



## Appendix A

### Black Rock, NM NOAA Weather Station (291018) Average of Minimum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1914	13.5	20.3	25.0	34.2	41.7	50.0	54.9	54.2	48.9	37.4	27.7	20.2	35.7
1915	12.7	20.2	23.9	36.0	37.4	45.3	54.5	53.1	45.4	32.5	24.3	16.3	33.5
1916	18.7	21.3	29.3	34.3	36.0	44.6	55.5	54.9	47.0	37.0	20.0	13.4	34.3
1917	15.1	19.9	21.3	29.1	35.5	45.4	56.1	51.1	46.1	30.9	21.5	13.7	32.1
1918	2.4	17.2	27.5	29.2	33.5	49.1	53.1	50.3	43.6	35.2	21.5	12.1	31.2
1919	-2.9	6.4	17.3	25.8	33.8	41.0	50.1	47.4	42.2	26.0	16.0	12.2	26.3
1920	13.2	18.9	16.9	19.2	30.6	43.3	54.6	45.1	45.3	32.7	24.0	12.2	29.7
1921	21.4	17.9	29.2	27.9	37.2	47.1	56.5	55.9	47.3	38.2	23.5	24.0	35.5
1922	15.0	20.6	23.7	30.4	38.8	49.8	56.3	57.0	48.7	34.6	24.3	24.3	35.3
1923	21.0	22.6	24.8	32.7	39.1	43.1	56.0	54.6	45.7	33.8	28.2	21.2	35.2
1924	12.3	22.8	23.9	31.2	38.8	47.9	56.1	53.1	46.5	33.9	23.8	12.7	33.6
1925	4.8	24.3	26.9	33.2	40.5	48.8	56.7	53.7	47.4	37.7	24.4	18.4	34.7
1926	10.7	23.0	28.9	36.4	41.5	48.8	54.2	53.5	49.2	37.9	25.6	13.9	35.3
1927	22.2	28.9	26.4	32.7	38.1	47.4	57.2	53.9	50.4	35.2	28.2	14.3	36.2
1928	16.1	22.5	28.5	30.4	43.6	46.5	55.5	54.2	46.7	37.6	28.2	16.5	35.5
1929	16.7	16.5	25.5	30.2	40.5	46.5	57.0	56.1	49.9	38.1	19.8	16.4	34.4
1930	14.1	23.1	25.3	35.0	37.2	48.4	56.8	54.6	45.1	33.0	22.7	13.9	34.1
1931	9.8	28.0	24.5	35.1	40.1	48.6	56.7	54.4	50.3	37.4	25.0	5.4	34.6
1932	2.7	22.0	26.1	31.3	39.8	45.3	55.5	55.3	45.1	33.5	20.8	9.9	32.3
1933	8.1	8.1	24.9	26.8	33.8	48.5	57.5	56.5	51.6	40.3	24.7	21.4	33.5
1934	18.3	27.3	29.1	35.4	45.8	45.4	56.5	56.7	45.6	37.9	23.2	20.3	36.8
1935	21.9	23.6	26.9	33.4	38.5	47.1	55.4	56.6	46.0	34.6	22.2	20.1	35.5
1936	12.6	24.4	26.1	33.8	40.7	48.5	54.9	54.4	47.4	35.1	24.1	14.9	34.7
1937	1.2	15.8	24.7	27.7	37.5	44.9	52.5	53.7	48.0	35.7	22.7	21.2	32.1
1938	17.7	24.6	26.6	29.8	35.5	47.4	52.5	51.3	46.6	34.8	14.1	18.3	33.3
1939	14.2	5.7	23.8	34.4	40.6	45.0	51.2	51.1	48.4	29.3	25.2	16.2	32.1
1940	18.4	21.9	26.4	31.2	37.9	47.4	54.1	52.5	48.4	37.9	25.2	24.4	35.5
1941	22.0	27.2	27.0	30.5	40.0	44.4	52.1	51.0	43.5	35.5	23.0	22.7	34.9
1942	15.6	18.5	22.7	33.7	36.7	43.5	53.5	52.4	43.4	32.8	25.0	22.8	33.4
1943	20.4	23.8	27.5	33.4	39.1	45.3	53.4	55.9	45.2	33.3	22.2	18.3	34.8
1944	12.0	21.4	22.0	28.4	37.0	44.1	51.8	51.0	43.4	38.0	24.0	17.0	32.5
1945	16.5	23.0	23.5	26.3	35.3	39.1	52.3	54.2	41.5	35.4	20.7	12.1	31.7
1946	13.2	14.7	27.7	36.0	37.2	46.8	51.3	54.1	48.4	32.0	22.5	18.5	33.5
1947	10.0	21.0	23.3	26.8	39.1	43.2	52.7	53.3	45.4	33.4	17.6	18.0	32.0
1948	10.6	14.7	15.3	28.7	36.5	47.8	53.6	53.2	46.2	35.8	17.6	14.8	31.2
1949	12.2	14.0	25.0	32.0	38.1	46.8							
<b>Average</b>	<b>13.5</b>	<b>20.2</b>	<b>24.9</b>	<b>31.2</b>	<b>38.1</b>	<b>46.2</b>	<b>54.5</b>	<b>53.4</b>	<b>46.6</b>	<b>35.0</b>	<b>23.0</b>	<b>16.9</b>	<b>33.6</b>

## Appendix A

### Black Rock, NM NOAA Weather Station (291018) Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1914	28.4	34.3	40.2	47.2	57.3	65.9	67.5	68.9	63.4	51.1	43.9	30.4	49.9
1915	26.0	32.1	37.8	49.2	52.7	62.4	68.4	68.4	60.6	51.8	40.0	30.5	48.3
1916	30.3	36.5	44.7	49.6	54.2	64.4	69.8	68.1	62.3	51.1	37.3	28.9	49.8
1917	34.5	35.3	39.9	47.8	53.6	66.0	72.5	69.0	64.0	52.4	41.8	34.4	50.9
1918	21.5	32.6	42.2	46.1	52.5	68.3	69.3	66.7	62.5	51.5	36.0	25.5	47.9
1919	18.4	23.6	35.1	46.0	54.7	65.3	69.2	67.7	60.5	45.0	36.5	31.3	46.1
1920	30.8	34.6	35.6	39.2	52.4	63.4	70.6	64.7	62.4	49.0	40.2	28.4	47.6
1921	35.3	35.1	44.9	45.3	55.3	65.4	70.2	68.8	64.5	55.6	42.7	37.6	51.7
1922	29.3	34.4	39.1	45.2	56.4	68.9	72.2	70.8	64.5	49.8	36.6	35.9	50.3
1923	35.5	35.1	37.5	47.2	56.8	63.5	71.7	67.3	59.9	48.8	40.2	31.9	49.6
1924	28.3	37.9	36.4	46.2	56.9	67.8	71.1	70.4	63.9	51.4	42.3	26.5	49.9
1925	22.5	38.5	43.5	50.8	59.0	64.7	71.7	67.5	61.9	52.0	38.2	32.1	50.2
1926	25.9	37.7	41.5	48.4	55.9	66.8	69.4	70.6	64.5	54.9	42.0	28.0	50.5
1927	35.8	39.8	40.2	48.6	56.5	64.5	72.6	68.9	62.9	52.5	44.2	28.1	51.2
1928	33.4	34.9	43.8	46.8	58.6	65.2	72.2	69.6	61.7	54.1	41.0	31.3	51.1
1929	30.6	29.5	39.8	46.2	57.0	66.3	70.9	69.1	63.7	53.2	37.0	35.4	49.9
1930	27.4	38.5	39.9	52.3	53.4	68.0	71.3	70.4	62.5	52.1	37.5	29.3	50.2
1931	27.0	38.0	40.8	50.3	57.3	67.1	73.2	70.2	65.1	54.3	41.4	21.3	50.5
1932	19.7	35.7	40.4	49.3	56.6	64.4	70.8	70.3	62.7	51.2	41.8	24.9	49.0
1933	23.0	25.3	42.2	43.5	52.1	67.1	72.7	68.8	64.5	51.8	38.3	33.2	48.5
1934	30.9	38.8	44.1	50.2	60.9	63.0	70.2	68.0	59.6	55.4	39.3	35.1	51.3
1935	34.1	36.2	40.5	48.5	52.1	65.9	71.4	70.3	62.1	52.1	39.0	33.6	50.5
1936	28.9	35.3	41.6	50.5	58.9	67.6	71.1	69.4	60.7	50.9	40.5	30.8	50.5
1937	17.5	30.1	38.8	46.5	56.7	63.5	69.3	70.7	64.9	53.6	41.0	35.3	49.0
1938	33.2	36.6	40.6	48.1	53.9	65.7	69.7	68.7	62.4	52.7	34.0	33.9	50.0
1939	28.3	22.0	39.9	50.9	58.5	65.2	70.0	69.3	64.0	47.6	40.7	32.3	49.0
1940	29.9	33.9	42.3	47.3	56.8	65.6	70.2	66.2	60.4	51.2	36.5	34.1	49.5
1941	30.5	36.9	38.9	42.0	54.2	59.6	66.1	64.9	58.3	47.0	36.3	31.8	47.2
1942	27.0	30.6	36.9	48.7	54.2	63.7	70.1	65.8	61.2	48.6	41.0	36.5	48.7
1943	34.0	39.8	42.2	52.0	57.7	64.3	70.6	70.5	62.7	51.2	41.1	32.9	51.6
1944	28.7	35.4	38.1	44.9	55.0	64.0	69.0	69.1	61.6	54.2	38.7	32.1	49.2
1945	31.0	37.3	37.9	45.7	55.5	61.1	70.5	70.7	61.9	52.9	39.2	27.7	49.3
1946	27.2	32.8	43.1	54.0	55.5	67.4	69.7	66.9	63.5	48.8	38.9	35.7	50.3
1947	26.6	38.0	41.0	46.3	58.1	63.1	71.4	65.9	63.9	52.3	33.3	32.1	49.3
1948	29.6	30.4	31.6	48.5	56.6	66.1	71.5	70.3	64.3	52.0	35.5	31.2	49.0
1949	24.6	29.3	40.5	49.0	56.3	65.0							
<b>Average</b>	<b>28.5</b>	<b>34.2</b>	<b>40.1</b>	<b>47.7</b>	<b>55.8</b>	<b>65.2</b>	<b>70.5</b>	<b>68.7</b>	<b>62.6</b>	<b>51.5</b>	<b>39.2</b>	<b>31.4</b>	<b>49.6</b>

## Appendix A

### Black Rock, NM NOAA Weather Station (291018) Total Monthly Precipitation

B

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1914	0.02	0.40	0.40	0.98	1.01	0.58	5.29	3.78	0.68	1.69	0.14	2.41	17.38
1915	1.24	0.87	1.21	2.15	2.18	1.28	3.70	2.51	1.40	0.01	0.78	1.18	18.51
1916	3.40	0.33	1.60	0.33	0.42	0.02	3.38	2.12	1.71	3.91	0.00	0.30	17.52
1917	1.09	0.56	0.11	0.68	1.19	0.07	1.55	0.24	0.77	0.12	0.00	0.00	6.38
1918	1.45	0.87	0.40	0.25	0.13	0.49	2.16	2.00	0.09	1.14	0.94	0.64	10.56
1919	0.05	0.85	1.38	0.67	0.79	0.00	5.39	0.92	3.57	0.41	1.17	1.74	16.94
1920	1.28	1.29	1.54	0.75	0.37	0.67	0.15	0.72	0.80	0.73	0.10	0.65	9.05
1921	0.36	0.61	0.26	0.40	0.15	1.04	5.84	2.55	0.28	0.46	0.00	1.45	13.40
1922	0.89	0.34	0.41	0.82	0.38	0.14	0.98	2.61	0.26	0.19	1.16	1.00	9.18
1923	0.89	0.52	1.65	0.67	0.46	0.00	1.71	3.19	3.41	0.63	1.76	1.30	16.19
1924	0.12	0.54	1.65	0.65	0.01	0.04	1.33	0.76	0.61	0.47	0.16	1.05	7.39
1925	0.20	0.48	1.28	0.49	0.14	0.83	2.65	1.91	1.98	1.19	0.47	0.18	11.80
1926	0.62	0.48	2.44	1.33	1.78	0.23	1.98	0.45	1.89	0.39	0.15	1.95	13.69
1927	0.33	2.36	1.26	0.45	0.20	1.31	2.18	1.51	3.64	0.19	0.20	1.21	14.84
1928	0.09	0.80	0.17	0.49	1.60	0.13	2.04	1.52	0.50	1.35	0.59	0.58	9.86
1929	0.44	0.90	0.42	0.56	0.21	0.00	6.25	2.59	3.01	1.30	0.15	0.01	15.84
1930	0.75	0.61	1.03	1.16	0.77	0.55	1.71	1.70	0.10	0.22	1.58	0.19	10.37
1931	0.51	1.09	0.85	1.10	0.12	0.82	3.29	1.75	2.17	1.33	2.97	0.84	16.84
1932	1.23	1.73	0.82	1.19	0.08	0.08	3.64	1.98	0.28	0.67	0.00	1.09	12.79
1933	1.15	0.05	0.05	0.80	0.25	0.77	2.94	0.92	1.70	2.22	1.44	0.17	12.46
1934	0.39	1.95	0.02	1.13	1.70	0.33	1.18	3.68	1.01	0.23	1.02	1.57	14.21
1935	1.65	1.31	0.76	0.53	1.27	0.02	1.15	2.14	0.61	0.05	0.96	0.98	11.43
1936	0.69	1.77	0.80	0.14	0.68	0.49	1.14	4.15	1.13	1.15	0.43	1.32	13.89
1937	1.07	0.96	1.19	0.29	0.77	0.89	3.15	0.61	1.19	0.98	0.06	0.44	11.60
1938	0.23	1.51	1.35	0.78	0.42	1.36	0.35	0.80	1.30	0.21	0.05	0.51	8.87
1939	0.99	0.81	0.27	0.88	0.02	0.00	0.75	0.66	1.39	0.54	1.13	0.40	7.84
1940	1.02	1.54	0.93	0.81	0.49	0.67	1.00	2.09	2.89	1.46	1.64	2.72	17.26
1941	2.14	1.69	3.01	1.86	1.19	0.35	1.09	1.16	3.34	2.06	0.85	0.79	19.53
1942	0.70	0.93	0.64	0.71	0.00	0.00	0.99	1.59	1.26	1.32	0.17	1.29	9.60
1943	0.73	0.26	1.02	0.48	0.48	1.17	1.02	1.64	0.54	1.26	0.00	0.78	9.38
1944	0.32	0.74	0.39	0.26	0.49	0.06	1.62	1.89	1.48	0.75	1.00	0.43	9.43
1945	0.73	0.37	1.04	0.17	0.00	0.10	1.53	2.27	0.05	0.98	0.00	1.39	8.63
1946	0.69	0.18	0.41	0.19	0.00	0.00	1.07	4.90	1.82	0.46	1.16	0.39	11.27
1947	0.51	0.29	0.08	0.12	1.40	0.52	1.43	2.28	0.36	1.24	0.02	0.16	8.41
1948	0.30	1.17	1.57	0.30	0.34	0.64	1.27	0.73	1.49	1.55	0.10	1.14	10.60
1949	1.63	0.43	0.77	0.50	0.11	1.21							
<b>Average</b>	<b>0.83</b>	<b>0.88</b>	<b>0.92</b>	<b>0.70</b>	<b>0.60</b>	<b>0.47</b>	<b>2.20</b>	<b>1.89</b>	<b>1.39</b>	<b>0.94</b>	<b>0.64</b>	<b>0.92</b>	<b>12.37</b>

## Appendix A

### Black Rock, NM NOAA Weather Station (29101) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1914	4/23	5/3	10/14	11/12
1915	5/3	5/8	9/26	10/12
1916	4/20	5/27	10/16	10/20
1917	4/30	6/2	9/27	10/18
1918	5/31	5/31	9/25	10/26
1919	6/3	6/5	10/1	10/2
1920	5/16	6/1	10/11	10/11
1921	5/19	6/1	10/18	10/26
1922	5/12	5/13	10/16	10/16
1923	5/1	5/2	9/28	10/18
1924	4/27	5/16	9/27	10/3
1925	5/12	6/7	10/14	10/25
1926	3/30	5/11	10/23	10/24
1927	5/9	5/24	10/2	11/3
1928	4/26	4/26	10/15	10/15
1929	5/2	5/29	10/22	10/24
1930	5/10	5/17	10/3	10/12
1931	4/10	5/20	10/12	10/27
1932	4/28	6/2	10/5	10/19
1933	5/15	5/23	10/17	11/2
1934	4/9	4/10	10/20	10/24
1935	4/26	5/4	10/17	10/20
1936	6/1	6/5	10/4	11/2
1937	5/1	5/11	10/17	10/19
1938	5/7	5/28	10/9	10/10
1939	4/18	6/18	10/4	10/5
1940	4/28	5/7	10/29	10/29
1941	4/23	6/9	9/23	10/25
1942	5/3	5/17	10/4	10/15
1943	5/17	5/19	10/5	10/13
1944	5/5	6/4	10/1	11/9
1945	5/21	6/1	9/25	9/30
1946	4/10	5/31	10/7	10/7
1947	4/28	5/13	10/15	10/22
1948	5/2	5/12	10/7	10/7
1949	4/18	5/21		
<b>Average</b>	<b>5/2</b>	<b>5/21</b>	<b>10/8</b>	<b>10/19</b>

## Appendix A

### El Morro Nat'l Monument, NM NOAA Weather Station (292785) Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1938	43.2	46.7	51.9	63.5	69.7	81.8	84.4	84.1	74.2	68.5	51.9	47.6	64.0
1939	40.2	35.5	51.9	64.4	73.1	82.4	86.2	84.2	76.2	65.7	54.6	48.6	63.6
1940	41.5	44.4	55.6	62.6	75.3	83.3	86.5	82.4	72.9	67.4	52.2	48.2	64.4
1941	41.3	45.9	50.1	53.8	70.0	76.6	83.4	80.3	75.1	62.2	54.5	42.2	61.3
1942	44.5	44.8	50.5	63.7	75.3	83.7	89.0	82.9	80.0	65.7	60.7	48.4	65.8
1943	46.6	54.0	54.7	69.4	74.3	82.2	86.5	82.7	78.2	66.8	58.2	45.4	66.6
1944	44.4	46.6	52.2	60.1	72.1	82.2	85.7	86.1	76.8	67.1	49.2	45.7	64.0
1945	42.8	49.5	49.9	62.7	73.9	80.9	87.0	85.5	79.0	67.8	56.7	41.5	64.8
1946	39.8	46.2	55.8	69.7	71.0	86.0	84.9	79.6	75.9	64.0	53.3	51.1	64.8
1947	42.1	51.8	55.8	62.9	75.0	79.9	87.8	78.0	78.7	68.9	49.1	42.3	64.4
1948	47.9	45.3	46.9	67.3	74.7	82.5	88.8	83.4	80.1	66.6	49.5	46.9	65.0
1949	36.7	42.2	54.3	65.3	73.4	81.0	83.0	83.7	79.0	64.2	62.7	43.2	64.1
1950	44.3	49.6	55.7	66.7	72.7	84.9	82.2	84.5	74.4	75.7	59.9	53.3	67.0
1951	44.0	46.1	53.1	61.4	73.3	82.5	88.8	82.1	80.4	65.6	51.6	41.6	64.2
1952	43.4	43.6	45.2	61.6	72.9	83.1	85.0	83.4	79.4	73.6	47.0	40.8	63.2
1953	46.4	45.9	54.1	61.3	67.3	85.3	86.3	83.7	82.6	67.6	55.7	39.8	64.7
1954	45.5	54.5	51.0	69.4	73.8	84.1	86.2	80.6	77.3	69.6	59.3	46.4	66.5
1955	38.1	40.0	54.4	62.6	70.0	81.0	83.4	79.1	80.7	70.8	54.0	47.3	63.5
1956	47.7	38.9	56.7	61.3	76.2	85.0	84.7	81.6	83.3	68.6	51.5	46.3	65.1
1957	43.5	52.8	50.9	59.4	66.2	82.1	82.9	78.6	79.0	61.1	45.4	47.5	62.4
1958	43.3	48.4	45.7	60.1	76.3	85.3	85.8	84.6	76.4	66.5	53.6	52.2	64.8
1959	46.3	46.0	54.3	64.6	73.5	85.5	88.3	79.4	77.0	64.4	54.2	45.6	64.9
1960	37.5	39.0	55.2	64.7	71.5	83.9	85.9	86.2	80.4	62.5	55.2	39.6	63.5
1961	45.0	47.4	52.7	63.0	74.5	86.7	86.4	81.2	73.8	64.4	47.5	39.9	63.5
1962	39.8	46.5	46.9	66.9	72.3	81.6	84.6	86.2	75.9	65.8	55.1	46.8	64.0
1963	37.4	47.6	52.8	63.9	76.0	82.0	87.4	77.7	76.6	69.3	52.7	45.7	64.1
1964	40.4	38.4	45.6	57.7	72.1	81.0	85.5	79.7	73.5	69.9	51.7	40.2	61.3
1965	43.5	43.2	48.6	60.5	68.1	76.5	82.1	83.4	72.9	70.2	56.0	44.0	62.4
1966	39.4	39.2	54.7	63.2	74.5	80.7	87.2	82.1	74.6	67.0	57.7	43.2	63.6
1967	43.7	50.1	59.1	63.4	71.1	77.8	84.3	79.0	74.7	69.8	57.1	36.9	63.9
1968	41.7	48.3	52.4	58.7	69.7	82.3	82.5	77.4	74.8	68.3	49.5	41.3	62.2
1969	44.5	44.9	47.2	64.9	73.7	81.4	86.1	84.9	76.6	62.6	51.8	47.5	63.9
1970	43.8	50.8	49.8	57.8	74.2	82.1	86.6	83.5	76.3	60.2	56.0	47.6	64.0
1971	46.3	47.4	57.0	62.9	70.6	83.7	88.6	80.3	75.9	61.6	53.4	41.1	64.1
1972	47.3	54.0	64.2	66.6	73.7	81.0	87.5	81.2	74.8	62.6	45.8	43.3	65.2
1973	39.8	42.5	45.1	55.1	69.1	80.8	84.4	83.7	76.5	70.1	55.8	47.1	62.5
1974	41.5	47.6	59.5	63.8	77.3	87.8	84.2	81.2	75.6	63.2	53.6	42.3	64.8
1975	42.6	42.7	51.4	57.0	69.2	81.2	83.2	83.1	71.9	69.1	56.6	43.6	62.6
1976	42.8	53.1	54.2	63.3	72.1	83.5	85.4	82.5	76.3	66.6	54.9	48.1	65.2
1977	40.0	48.1	51.9	65.3	71.2	85.4	84.2	85.4	77.7	69.7	56.0	50.7	65.5
1978	42.2	44.6	56.7	65.5	70.8	84.5	88.8	84.3	79.1	71.2	52.5	41.5	65.2
1979	36.7	45.0	49.7	63.4	68.0	80.6	87.5	81.6	81.7	72.0	47.7	48.9	63.6
1980	42.7	48.6	51.1	62.5	70.4	87.1	89.5	83.6	79.6	69.5	56.7	55.1	66.4
1981	50.0	52.7	50.0	67.1	71.0	85.9	84.7	83.9	77.3	65.4	59.8	50.4	66.5
1982	41.9	45.1	52.7	63.3	70.7	82.2	84.2	80.5	76.1	66.4	50.7	41.9	63.0
1983	44.8	46.0	48.7	55.7	71.8	79.8	85.0	83.7	79.1	65.5	52.3	44.5	63.1
1984	45.3	49.7	56.0	59.8	79.1	82.0	85.7	80.1	76.0	55.5	52.5	44.5	63.8
1985	41.3	43.7	52.1	66.5	73.1	86.4	86.6	84.7	74.2	66.8	52.3	48.0	64.6
1986	54.8	50.7	57.5	63.2	72.5	80.8	80.5	83.0	74.0	63.3	51.3	43.0	64.6
1987	42.5	43.8	49.0	64.8	68.3	81.4	83.6	80.0	75.5	69.1	51.2	42.0	62.6
1988	41.1	49.2	55.0	62.6	72.2	81.3	83.2	77.8	75.1	70.8	52.5	44.1	63.8
1989	41.9	49.3	61.4	70.8	76.7	84.0	85.6	80.2	78.4	65.4	54.4	47.0	66.3
1990	44.2	45.6	55.0	63.4	71.3	87.0	81.2	79.5	77.2	66.3	54.0	39.7	63.7
1991	39.9	50.7	49.3	63.1	74.1	78.6	82.6	81.1	75.9	68.6	50.2	41.8	63.0
1992	39.7	46.0	54.2	67.1	67.5	78.9	81.1	80.0	77.9	68.3	45.8	41.1	62.3
1993	43.1	44.8	55.2	64.3	71.6	81.9	84.8	78.5	76.7	63.6	50.0	46.3	63.4
1994	47.2	45.4	56.2	62.4	72.5	85.3	86.5	84.4	75.6	62.9	49.9	46.6	64.6
1995	41.7	53.6	55.7	59.5	68.7	80.2	85.4	84.7	75.9	69.5	58.0	47.0	65.0
1996	46.9	51.9	55.9	65.6	78.7	84.3	85.6	83.1	71.8	63.9	53.3	45.6	65.6
1997	39.9	46.8	59.6	58.2	73.5	79.7	83.0	80.9	77.2	64.8	50.7	38.9	62.8
1998	43.9	39.6	50.8	59.2	72.9	80.8	83.1	81.5	79.8	65.5	55.2	47.6	63.3
1999	49.1	54.0	60.2	60.8	71.3	80.6	80.2	79.8	75.8	70.4	68.7	44.8	66.3
2000	46.9	53.5	54.8	67.9	79.7	83.5	86.7	84.8	80.3	61.6	43.7	46.2	65.8
2001	39.8	50.4	54.1	64.9	75.1	84.5	84.4	80.7	79.3	69.5	53.5	43.0	64.9
2002	42.5	48.9	56.2	69.1	75.6	87.0	84.6	83.7	74.4	62.8	53.1	39.7	64.8
2003	50.3	44.7	52.1	63.9	74.7	82.9	90.7	82.0	78.5	71.8	52.3	47.2	65.9
2004	43.2	42.9	60.9	60.3	75.5	82.8	84.6	79.8	74.8	64.2	48.9	45.5	63.6
2005	46.2	44.3	50.3	63.7	74.5	81.4	88.3	80.2	77.9	66.6	57.5	47.9	64.9
2006	48.6	53.5	52.5	68.5	78.0	86.1	84.3	76.1	67.7	59.5	52.5	39.6	63.9
2007	37.1	43.0	55.3	60.4	67.6	82.8	86.0	82.6	77.5	68.4	60.4	40.6	63.5
2008	38.8	44.7	55.5	63.8	71.1	83.3	82.5	81.8	76.3	67.3	55.8	43.8	63.7
<b>Average</b>	<b>43.2</b>	<b>46.8</b>	<b>53.3</b>	<b>63.2</b>	<b>72.7</b>	<b>82.6</b>	<b>85.3</b>	<b>81.9</b>	<b>76.8</b>	<b>66.6</b>	<b>53.5</b>	<b>44.9</b>	<b>64.2</b>
1991-2005 Av	44.0	47.8	55.0	63.3	73.7	82.2	84.8	81.7	76.8	66.3	52.7	44.6	64.4

## Appendix A

### El Morro Nat'l Monument, NM NOAA Weather Station (292785) Average of Minimum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1938	13.3	17.7	25.2	28.8	33.6	46.0	50.2	48.9	43.6	33.4	12.4	17.2	30.9
1939	10.6	3.6	22.8	32.0	35.9	43.8	52.0	51.0	46.8	29.3	25.7	16.5	30.8
1940	14.6	20.3	24.5	30.0	36.2	46.1	52.4	50.4	45.6	35.3	22.9	22.2	33.4
1941	18.8	23.4	26.1	29.0	38.5	41.2	48.5	49.7	42.4	34.2	22.3	21.7	33.0
1942	13.0	16.1	19.8	33.7	32.2	39.0	49.5	49.2	40.6	32.1	21.4	18.9	30.5
1943	17.5	20.7	24.1	28.4	33.5	42.9	51.2	51.9	41.8	30.6	17.9	17.0	31.5
1944	9.5	19.4	20.0	26.3	33.1	40.4	49.2	49.0	41.8	37.2	21.0	14.5	30.1
1945	14.5	21.7	21.7	24.9	32.1	36.7	50.8	52.3	40.8	33.9	16.2	7.7	29.4
1946	6.5	11.2	24.1	31.5	33.0	42.8	50.7	54.1	52.9	30.3	21.2	12.7	30.9
1947	4.5	18.7	22.5	27.1	39.0	42.4	52.4	53.4	45.1	33.4	16.6	14.5	30.8
1948	10.8	17.9	16.5	28.8	36.7	43.5	51.4	50.8	42.6	32.5	13.5	13.2	29.9
1949	9.1	9.0	21.3	25.8	31.8	43.6	52.4	47.1	45.2	30.0	20.5	8.3	28.7
1950	14.4	20.2	22.8	29.6	32.6	40.6	51.3	44.6	38.7	35.9	21.5	15.4	30.6
1951	13.3	18.0	21.5	28.8	35.8	39.0	53.1	52.0	40.8	32.9	21.1	13.7	30.8
1952	21.9	17.4	20.3	31.0	38.3	45.1	49.3	51.9	44.2	29.6	18.7	14.8	31.9
1953	18.7	15.6	24.1	28.4	32.2	45.4	53.6	47.8	42.1	32.3	22.2	7.8	30.8
1954	15.7	20.6	21.0	30.4	37.9	42.8	53.5	50.2	45.3	33.4	21.5	14.3	32.2
1955	10.6	6.3	21.9	26.4	36.1	43.3	51.5	53.8	41.3	32.9	20.8	20.0	30.4
1956	21.8	6.9	21.1	26.6	36.1	46.9	49.8	46.2	41.6	33.2	13.5	8.6	29.4
1957	23.1	27.0	25.5	27.2	36.4	45.1	53.3	51.2	39.6	35.2	21.2	17.9	33.5
1958	15.5	22.8	23.0	28.1	37.7	46.3	50.0	51.2	44.9	32.9	19.2	14.9	32.2
1959	12.0	17.8	18.1	29.7	33.7	47.3	51.5	51.4	40.2	30.5	20.8	19.4	31.0
1960	5.1	12.3	25.0	28.5	34.2	44.2	51.1	50.5	43.3	31.1	21.1	13.9	30.0
1961	11.5	17.4	23.7	26.9	33.8	45.4	51.5	51.7	40.4	30.3	23.5	10.1	30.5
1962	8.5	20.0	18.9	30.8	31.9	40.8	50.0	47.2	44.1	32.2	24.8	14.4	30.3
1963	3.1	17.5	21.8	26.7	36.2	40.8	52.9	51.2	46.8	35.5	25.0	11.6	30.7
1964	6.5	4.4	16.4	25.3	34.1	41.3	52.6	49.7	43.3	30.8	20.6	13.3	28.2
1965	19.2	13.0	21.0	28.4	33.7	39.8	52.3	49.8	39.8	28.5	24.7	15.2	30.5
1966	9.0	7.3	20.8	28.1	37.7	43.6	52.0	50.3	44.0	31.2	24.5	13.5	30.2
1967	8.4	17.6	24.8	27.7	33.2	44.6	54.7	49.5	43.9	29.5	22.8	10.5	30.6
1968	7.9	22.6	24.3	26.9	33.6	42.0	51.1	48.3	39.1	30.9	22.5	9.2	29.9
1969	20.2	19.4	17.6	29.0	36.5	40.7	53.5	53.1	45.3	32.2	21.8	20.4	32.5
1970	14.2	21.3	22.6	23.1	33.6	43.1	52.6	50.9	41.2	27.8	21.8	13.9	30.5
1971	10.0	15.1	21.9	26.2	31.1	42.3	51.7	49.0	40.0	32.2	22.2	16.4	29.8
1972	15.1	16.7	24.0	25.2	32.3	44.5	51.5	50.0	42.2	38.5	22.5	12.8	31.3
1973	8.9	18.5	24.5	26.0	36.2	41.8	49.7	48.9	38.8	29.8	21.4	15.4	30.0
1974	15.1	13.6	25.7	26.3	34.8	46.8	51.0	47.7	42.4	37.5	22.2	10.0	31.1
1975	10.5	17.1	22.1	24.2	31.7	38.5	52.5	48.0	43.4	29.5	15.9	10.5	28.7
1976	7.2	21.7	20.8	28.0	37.0	41.4	52.1	49.2	44.7	27.9	16.7	10.9	29.8
1977	5.4	15.3	19.0	27.7	32.9	42.7	51.9	51.0	44.6	32.4	21.9	18.2	30.3
1978	18.2	19.5	26.5	28.7	33.0	41.6	48.6	44.8	40.3	32.5	25.9	12.2	31.0
1979	11.5	10.8	22.2	29.8	35.9	43.8	49.2	46.9	43.8	31.5	20.6	13.8	30.0
1980	21.6	22.6	23.8	26.9	32.4	41.8	51.3	50.1	42.7	27.0	18.0	19.3	31.5
1981	19.2	16.2	24.0	30.9	35.9	46.6	52.0	50.5	43.4	32.6	20.8	15.6	32.3
1982	11.3	17.9	25.1	27.9	33.7	38.7	49.7	52.4	46.0	27.2	25.0	16.5	31.0
1983	12.5	18.5	27.3	26.6	33.1	39.4	49.4	49.9	45.7	35.2	20.9	22.1	31.7
1984	13.6	16.3	20.6	25.9	36.5	44.5	52.2	51.0	43.9	31.2	22.0	21.7	31.6
1985	16.2	9.9	25.9	30.5	36.5	43.3	52.7	49.1	39.2	32.4	23.3	14.5	31.1
1986	18.8	22.9	26.1	31.0	34.7	44.9	51.5	52.0	40.2	31.9	24.8	19.6	33.2
1987	11.9	19.2	19.3	29.4	36.2	43.2	46.4	50.6	39.2	32.8	22.4	14.5	30.4
1988	9.9	20.6	20.9	27.7	36.3	46.6	52.1	52.9	39.6	32.5	20.4	14.3	31.1
1989	11.6	22.3	23.6	29.5	36.3	40.7	51.6	49.0	41.3	31.4	18.2	8.7	30.4
1990	8.7	17.8	25.1	33.0	34.5	45.1	52.7	47.6	47.0	30.1	21.9	8.2	31.0
1991	10.9	20.4	23.2	24.9	32.6	40.6	51.3	51.1	43.7	30.5	23.1	19.4	31.0
1992	10.8	23.7	26.0	30.5	40.5	41.1	48.4	48.9	41.4	32.0	15.2	13.5	31.0
1993	21.1	23.8	25.3	26.5	37.1	41.5	48.2	51.0	39.2	31.1	20.2	13.7	31.6
1994	10.8	17.0	25.7	29.8	35.8	44.5	50.6	52.2	42.6	29.4	22.5	20.2	31.7
1995	15.2	24.9	25.3	26.3	32.7	39.4	48.1	54.3	43.7	27.8	23.0	15.4	31.3
1996	13.7	24.0	20.9	27.8	35.0	45.3	51.9	49.8	39.9	31.8	23.4	15.9	31.6
1997	14.0	19.2	22.1	28.8	37.6	41.7	49.9	51.7	49.4	30.0	22.9	12.6	31.7
1998	17.5	19.5	23.2	27.1	33.4	38.9	54.0	51.6	47.3	33.3	24.4	17.1	32.3
1999	16.1	18.8	24.4	26.7	35.2	42.3	52.9	51.8	42.6	28.0	24.1	10.8	31.1
2000	14.8	21.9	23.6	29.7	32.9	46.4	50.7	50.5	42.0	35.7	19.2	15.3	31.9
2001	12.2	18.2	25.8	30.0	37.3	44.0	52.9	52.0	44.0	32.8	24.6	12.9	32.2
2002	13.6	16.3	19.4	31.0	34.0	44.5	52.5	48.7	44.4	33.0	22.7	14.8	31.2
2003	21.8	20.8	23.1	24.8	37.2	44.9	52.8	53.6	43.0	34.9	23.0	15.5	33.0
2004	17.9	16.5	27.1	30.6	34.8	42.7	49.1	47.7	41.7	31.5	24.8	16.2	31.7
2005	24.4	25.6	25.4	28.2	36.2	41.1	49.0	50.3	44.4	34.5	19.9	12.6	32.6
2006	13.5	14.1	22.6	29.1	36.6	47.2	53.6	51.0	35.5	28.2	15.9	7.3	29.6
2007	7.2	15.0	21.3	26.4	35.0	44.4	52.1	52.6	44.4	31.4	23.4	15.6	30.7
2008	9.9	17.1	22.7	23.6	32.8	43.6	52.8	51.0	41.4	29.7	22.1	14.7	30.1
<b>Average</b>	<b>13.3</b>	<b>17.7</b>	<b>22.8</b>	<b>28.1</b>	<b>34.9</b>	<b>42.9</b>	<b>51.3</b>	<b>50.3</b>	<b>42.8</b>	<b>31.9</b>	<b>21.2</b>	<b>14.6</b>	<b>31.0</b>
1991-2005 Av	15.7	20.7	24.0	28.2	35.5	42.6	50.8	51.0	43.3	31.7	22.2	15.1	31.7

## Appendix A

### El Morro Nat'l Monument, NM NOAA Weather Station (292785)

#### Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1938	28.25	32.20	38.57	46.13	51.65	63.90	67.29	66.53	58.92	50.90	32.15	32.44	47.4
1939	25.39	19.55	37.37	48.17	54.52	63.08	69.11	67.61	61.48	47.52	40.13	32.58	47.2
1940	28.10	32.38	40.06	46.30	55.71	64.73	69.48	66.42	59.22	51.37	37.53	35.19	48.9
1941	30.06	34.64	38.10	41.42	54.24	58.93	65.92	65.02	58.75	48.23	38.38	31.97	47.1
1942	28.77	30.41	35.15	48.72	53.73	61.35	69.27	66.02	60.33	48.90	41.05	33.65	48.1
1943	32.06	37.36	39.39	48.92	53.87	62.53	68.84	67.34	60.02	48.71	38.03	31.23	49.0
1944	26.92	33.00	36.06	43.18	52.60	61.33	67.44	67.53	59.32	52.13	35.08	30.08	47.1
1945	28.68	35.61	35.81	43.82	52.98	58.78	68.92	68.94	59.92	50.82	36.45	24.61	47.1
1946	23.16	28.71	39.95	50.63	52.03	64.37	67.81	66.85	64.40	47.13	37.24	31.91	47.8
1947	23.29	35.23	39.19	44.97	56.98	61.13	70.06	65.67	61.92	51.13	32.87	28.37	47.6
1948	29.37	31.60	31.69	48.08	55.69	62.98	70.06	67.10	61.34	49.58	31.48	30.06	47.4
1949	22.93	25.58	37.82	45.52	52.56	62.30	67.68	65.37	62.12	47.08	41.60	25.78	46.4
1950	29.35	34.89	39.24	48.15	52.66	62.72	66.74	64.55	56.57	55.81	40.70	34.35	48.8
1951	28.65	32.04	37.32	45.08	54.53	60.72	70.95	67.05	60.60	49.26	36.33	27.66	47.5
1952	32.66	30.48	32.73	46.33	55.60	64.12	67.15	67.61	61.82	51.61	32.85	27.82	47.6
1953	32.56	30.77	39.11	44.87	49.76	65.32	69.94	65.76	62.32	49.94	38.95	23.79	47.8
1954	30.56	37.55	35.98	49.92	55.85	63.47	69.87	65.42	61.27	51.50	40.38	30.34	49.3
1955	24.34	23.11	38.13	44.53	53.03	62.13	67.47	66.48	60.97	51.85	37.43	33.68	46.9
1956	34.76	22.88	38.87	43.97	56.15	65.92	67.24	63.90	62.43	50.89	32.48	27.42	47.2
1957	33.31	39.86	38.19	43.27	51.27	63.58	68.10	64.87	59.28	48.11	33.32	32.69	48.0
1958	29.37	35.55	34.35	44.12	57.02	65.78	67.90	67.89	60.67	49.71	36.38	33.56	48.5
1959	29.16	31.93	36.21	47.15	53.63	66.38	69.92	65.37	58.60	47.40	37.48	32.48	48.0
1960	21.31	25.66	40.11	46.58	52.84	64.07	68.52	68.34	61.85	46.79	38.13	26.74	46.7
1961	28.24	32.43	38.23	44.97	54.11	66.02	68.95	66.44	57.10	47.32	35.48	25.02	47.0
1962	24.15	33.25	32.89	48.85	52.13	61.20	67.27	66.69	60.02	48.98	39.92	30.58	47.2
1963	20.26	32.54	37.27	45.32	56.06	61.40	70.15	64.42	61.68	52.39	38.88	28.66	47.4
1964	23.42	21.45	31.00	41.53	53.10	61.15	69.05	64.73	58.42	50.37	36.15	26.76	44.8
1965	31.39	28.11	34.79	44.45	50.94	58.15	67.18	66.60	56.37	49.34	40.35	29.61	46.4
1966	24.19	23.25	37.73	45.68	56.10	62.12	69.60	66.19	59.30	49.08	41.12	28.39	46.9
1967	26.03	33.84	41.95	45.55	52.15	61.23	69.52	64.23	59.30	49.66	39.97	23.68	47.3
1968	24.77	35.45	38.34	42.82	51.66	62.17	66.84	62.82	56.95	49.58	35.98	25.27	46.1
1969	32.32	32.18	32.37	46.97	55.11	61.07	69.81	69.00	60.95	47.42	36.80	33.93	48.2
1970	29.03	36.00	36.23	40.43	53.87	62.58	69.60	67.19	58.72	43.98	38.90	30.77	47.3
1971	28.15	31.23	39.44	44.57	50.85	63.02	70.18	64.65	57.93	46.87	37.80	28.76	47.0
1972	31.21	35.33	44.10	45.90	53.00	62.73	69.50	65.58	58.47	50.53	34.15	28.03	48.2
1973	24.34	30.52	34.77	40.55	52.65	61.28	67.05	66.31	57.68	49.97	38.60	31.24	46.2
1974	28.31	30.63	42.60	45.05	56.06	67.30	67.56	64.42	58.97	50.35	37.87	26.11	47.9
1975	26.55	29.93	36.73	40.62	50.45	59.83	67.87	65.52	57.65	49.31	36.25	27.05	45.6
1976	24.97	37.38	37.52	45.65	54.56	62.45	68.71	65.85	60.52	47.26	35.82	29.50	47.5
1977	22.71	31.68	35.47	46.52	52.06	64.05	68.05	68.19	61.17	51.06	38.95	34.45	47.9
1978	30.21	32.02	41.61	47.10	51.92	63.05	68.74	64.53	59.73	51.82	39.23	26.89	48.1
1979	24.11	27.91	35.97	46.58	51.95	62.22	68.35	64.24	62.72	51.76	34.13	31.39	46.8
1980	32.16	35.57	37.47	44.70	51.35	64.48	70.42	66.87	61.15	48.26	37.35	37.21	48.9
1981	34.61	34.45	37.00	48.98	53.47	66.22	68.35	67.21	60.35	49.00	40.32	33.00	49.4
1982	26.61	31.52	38.94	45.58	52.19	60.45	66.92	66.44	61.05	46.79	37.85	29.18	47.0
1983	28.61	32.25	38.02	41.13	52.44	59.58	67.21	66.77	62.37	50.37	36.58	33.26	47.4
1984	29.44	32.98	38.29	42.87	57.77	63.25	68.97	65.55	59.95	43.39	37.27	33.10	47.7
1985	28.74	26.80	39.00	48.48	54.77	64.88	69.68	66.90	56.68	49.60	37.78	31.26	47.9
1986	36.81	36.77	41.77	47.12	53.63	62.83	66.02	67.50	57.12	47.61	38.07	31.27	48.9
1987	27.23	31.48	34.16	47.12	52.26	62.28	65.00	65.27	57.37	50.95	36.78	28.26	46.5
1988	25.52	34.90	37.97	45.15	54.26	63.95	67.61	65.39	57.38	51.61	36.43	29.21	47.4
1989	26.79	35.80	42.48	50.12	56.48	62.37	68.61	64.61	59.85	48.39	36.30	27.82	48.3
1990	26.45	31.71	40.05	48.20	52.90	66.03	66.94	63.53	62.07	48.16	37.93	23.97	47.3
1991	25.39	35.57	36.23	44.02	53.35	59.63	66.95	66.08	59.82	49.56	36.62	30.60	47.0
1992	25.26	34.81	40.11	48.80	53.95	60.00	64.73	64.44	59.65	50.16	30.47	27.26	46.6
1993	32.06	34.27	40.24	45.43	54.35	61.72	66.50	64.74	57.93	47.39	35.10	29.97	47.5
1994	28.97	31.18	40.94	46.10	54.16	64.92	68.56	68.26	59.10	46.15	36.20	33.42	48.2
1995	28.45	39.25	40.50	42.92	50.69	59.78	66.76	69.48	59.80	48.61	40.50	31.18	48.2
1996	30.31	37.97	38.37	46.70	56.85	64.78	68.77	66.47	55.87	47.84	38.37	30.77	48.6
1997	26.97	33.02	40.82	43.50	55.55	60.73	66.44	66.29	63.28	47.37	36.80	25.76	47.2
1998	30.69	29.54	37.00	43.15	53.11	59.83	68.55	66.60	63.55	49.39	39.78	32.37	47.8
1999	32.61	36.38	42.32	43.77	53.24	61.42	66.53	65.81	59.20	49.19	46.38	27.82	48.7
2000	30.85	37.71	39.19	48.77	56.31	64.97	68.74	67.66	61.17	48.65	31.47	30.74	48.9
2001	25.98	34.30	39.92	47.47	56.21	64.25	68.65	66.35	61.62	51.11	39.03	27.92	48.6
2002	28.10	32.63	37.76	50.07	54.81	65.75	68.60	66.19	59.37	47.89	37.90	27.27	48.0
2003	36.02	32.73	37.58	44.35	55.98	63.87	71.76	67.82	60.73	53.34	37.67	31.37	49.4
2004	30.56	29.72	43.98	45.45	55.18	62.75	66.82	63.73	58.23	47.81	36.87	30.85	47.7
2005	35.31	34.96	37.81	45.93	55.34	61.23	68.65	65.26	61.15	50.55	38.70	30.26	48.8
2006	31.10	33.77	37.55	48.78	57.31	66.65	68.95	63.55	51.58	43.84	34.20	23.45	46.7
2007	22.15	29.04	38.27	43.38	51.31	63.60	69.02	67.63	60.98	49.89	41.90	28.10	47.1
2008	24.34	30.91	39.06	43.72	51.97	63.42	67.69	66.42	58.85	48.47	38.98	29.26	46.9
<b>Average</b>	<b>28.2</b>	<b>32.2</b>	<b>38.0</b>	<b>45.6</b>	<b>53.8</b>	<b>62.8</b>	<b>68.3</b>	<b>66.1</b>	<b>59.8</b>	<b>49.2</b>	<b>37.4</b>	<b>29.7</b>	<b>47.6</b>
1991-2005 Av	29.8	34.3	39.5	45.8	54.6	62.4	67.8	66.3	60.0	49.0	37.5	29.8	48.1

## Appendix A

### El Morro Nat'l Monument, NM NOAA Weather Station (292785)

#### Total Monthly Precipitation

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1938	0.05	0.79	1.72	0.81	0.46	1.03	1.01	1.91	1.90	0.04	0.07	0.63	10.42
1939	1.82	1.11	1.43	0.75	0.05	0.01	1.20	0.98	1.31	0.87	1.39	0.66	11.58
1940	1.40	1.35	1.00	1.05	0.38	0.54	2.92	3.20	2.17	0.95	1.46	2.49	18.91
1941	1.72	1.66	2.11	1.84	1.49	0.64	1.35	2.18	3.12	1.23	0.79	0.79	18.92
1942	0.44	0.70	0.45	0.73	0.03	0.00	0.96	2.53	0.70	1.10	0.03	2.09	9.76
1943	0.68	0.64	1.22	0.48	0.37	0.74	2.70	3.08	0.81	1.46	0.31	0.56	13.05
1944	0.46	0.95	0.72	0.47	0.57	0.84	1.28	1.12	1.12	1.79	0.70	0.88	10.90
1945	0.65	0.62	1.70	0.42	0.04	0.09	1.70	3.12	0.53	0.86	0.01	1.69	11.43
1946	0.95	0.11	0.45	0.15	0.17	0.15	1.80	4.90	1.30	0.54	1.16	0.15	11.83
1947	0.54	0.12	0.20	0.00	1.25	0.61	2.23	8.93	0.93	1.79	0.98	0.40	17.98
1948	0.24	1.29	2.33	0.06	0.58	1.29	2.01	2.20	2.10	1.55	0.08	0.63	14.36
1949	1.36	0.70	0.38	0.60	0.09	0.85	1.83	1.03	1.68	0.89	0.21	0.96	10.58
1950	0.87	0.77	0.82	0.01	0.07	0.07	2.78	0.76	1.31	0.12	0.16	0.04	7.78
1951	0.71	0.22	0.44	1.21	0.40	0.00	0.92	3.19	0.42	0.44	0.62	1.57	10.14
1952	1.11	0.51	1.32	1.27	0.24	1.11	1.73	3.12	0.92	0.00	1.42	0.64	13.39
1953	0.63	0.30	1.40	1.01	0.30	0.15	2.51	1.52	0.00	0.53	0.56	0.95	9.86
1954	0.43	0.27	1.61	0.00	1.32	0.60	2.28	2.82	3.05	0.65	0.11	0.45	13.59
1955	1.19	0.73	0.11	0.26	0.40	0.90	4.18	3.29	0.03	0.15	0.38	0.80	12.42
1956	2.77	0.51	0.07	0.49	0.59	0.38	1.49	1.23	0.07	0.61	0.12	0.17	8.50
1957	1.29	1.26	1.15	0.55	1.17	0.65	3.05	2.72	0.02	2.18	0.76	0.65	15.45
1958	0.31	0.79	1.69	1.04	0.01	0.50	1.26	1.86	1.56	0.74	0.80	0.22	10.78
1959	0.47	0.22	0.17	0.84	0.02	0.64	0.88	4.80	0.14	2.32	0.03	1.19	11.72
1960	1.12	0.81	0.39	0.44	0.61	0.52	0.87	0.59	0.32	1.78	0.13	0.45	8.03
1961	0.95	0.30	2.11	0.65	0.34	0.27	1.75	3.43	0.34	2.15	0.52	1.46	14.27
1962	1.03	0.57	0.69	0.30	0.03	0.25	1.06	0.51	3.49	1.72	1.09	0.48	11.22
1963	0.20	1.13	0.99	0.13	0.00	0.06	1.52	3.71	3.13	1.35	1.36	0.18	13.76
1964	0.66	0.98	0.87	1.24	0.15	0.23	1.98	4.04	1.90	0.25	0.65	1.18	14.13
1965	1.49	1.46	0.51	1.80	0.77	1.37	3.59	1.52	0.74	0.29	1.25	2.39	17.18
1966	0.66	0.82	0.43	1.16	0.21	0.66	1.87	2.06	2.01	0.20	0.40	1.05	11.53
1967	0.22	0.19	0.43	0.08	0.21	1.52	4.03	2.47	0.72	0.46	0.34	2.06	12.73
1968	0.08	0.71	1.06	0.77	0.51	0.12	2.19	1.79	0.10	0.37	0.67	1.26	9.63
1969	1.38	0.60	1.18	0.58	1.15	0.02	2.40	3.55	1.11	1.75	0.76	0.35	14.83
1970	0.18	0.63	1.26	0.40	0.35	0.77	1.09	2.49	0.80	0.94	0.11	0.61	9.63
1971	0.22	1.08	0.23	0.69	0.08	0.00	1.67	4.49	2.05	1.72	0.51	1.12	13.86
1972	0.08	0.06	0.06	0.10	0.27	1.20	1.50	3.85	1.24	4.75	1.07	1.04	15.22
1973	0.93	1.01	2.29	0.51	1.04	0.35	1.47	1.90	0.93	0.02	1.59	0.75	12.79
1974	1.70	0.45	0.05	0.36	0.00	0.01	1.17	3.61	0.88	4.40	0.09	0.54	13.26
1975	0.58	1.29	1.88	1.20	0.21	0.11	1.31	1.75	3.40	0.02	1.58	1.53	14.86
1976	0.18	0.64	0.83	0.16	1.09	0.28	1.89	1.87	1.01	1.04	0.36	0.46	9.81
1977	2.65	0.04	0.65	2.13	0.57	0.36	3.72	2.72	2.64	0.75	0.74	0.70	17.67
1978	1.12	1.61	2.53	0.19	1.46	0.29	0.98	0.89	0.22	0.86	1.92	1.44	13.51
1979	4.37	1.95	0.93	0.44	2.56	0.63	1.14	2.98	0.10	0.93	1.66	1.93	19.62
1980	1.82	2.23	1.17	0.64	0.41	0.00	0.42	1.48	2.87	0.52	0.16	0.56	12.28
1981	0.34	0.90	3.14	1.64	0.42	1.31	2.50	1.42	1.91	0.79	0.31	0.05	14.73
1982	2.06	1.30	1.63	0.14	0.91	0.00	2.23	3.57	1.65	0.20	0.94	1.72	16.35
1983	1.78	1.17	2.37	0.42	0.82	0.40	2.03	2.56	3.85	1.37	1.06	1.98	19.81
1984	0.39	0.06	1.64	1.18	0.23	0.56	2.13	4.17	3.54	2.33	1.45	1.33	19.01
1985	2.04	0.81	1.71	1.43	0.60	0.12	3.06	1.61	1.40	1.49	1.51	0.46	16.24
1986	0.00	1.10	1.27	0.88	0.84	1.60	3.78	1.93	1.13	1.91	2.43	2.68	19.55
1987	1.62	1.84	1.00	0.42	1.35	1.18	2.20	3.74	0.30	0.71	0.98	1.13	16.47
1988	0.64	0.82	0.07	2.20	0.51	2.65	1.39	3.27	0.27	0.14	0.68	0.47	13.11
1989	1.29	1.54	0.29	0.00	0.14	0.01	3.13	1.64	1.36	1.35	0.02	0.09	10.86
1990	0.58	0.56	0.93	1.38	1.42	0.91	2.22	1.74	2.29	0.93	0.86	2.73	16.55
1991	1.04	0.17	1.86	0.00	0.00	0.85	1.24	2.27	1.45	1.12	1.39	1.73	13.12
1992	0.96	0.86	1.39	0.00	3.82	0.44	1.78	3.01	0.59	0.90	1.20	1.10	16.05
1993	3.65	1.38	1.25	0.04	1.11	0.18	0.08	7.68	0.35	1.38	0.87	0.17	18.14
1994	0.21	1.16	1.16	1.60	1.57	0.69	1.56	1.40	1.84	2.75	1.74	0.88	16.56
1995	1.65	0.87	1.04	1.37	0.49	0.24	0.57	2.77	2.14	0.00	0.50	0.77	12.41
1996	1.32	1.67	0.85	0.87	0.00	0.87	2.10	3.00	3.01	1.92	1.38	0.79	17.78
1997	2.74	0.04	0.71	1.10	0.50	1.70	2.18	3.00	2.17	0.99	1.44	1.56	18.13
1998	0.69	1.82	2.84	1.26	0.00	0.00	4.41	3.01	0.49	3.33	0.91	0.49	19.25
1999	0.05	0.00	0.72	1.47	1.30	0.46	2.74	3.79	0.66	0.00	0.00	0.18	11.37
2000	0.38	0.61	3.10	0.07	0.00	0.75	0.49	2.60	0.93	2.66	0.63	0.67	12.89
2001	1.07	1.07	0.83	0.74	0.79	0.37	1.90	3.12	1.16	0.36	0.77	0.83	13.01
2002	1.11	0.23	0.52	0.49	0.01	0.00	2.32	1.64	3.86	2.02	0.41	1.75	14.36
2003	0.08	1.98	1.96	0.34	0.11	0.08	0.96	2.63	0.77	0.91	1.00	0.83	11.65
2004	0.88	0.94	0.63	1.86	0.00	0.45	1.07	2.33	1.14	0.58	0.84	0.86	11.58
2005	1.53	2.06	1.62	1.30	0.23	0.35	0.47	2.13	1.26	0.73	0.22	0.13	12.03
2006	0.44	0.00	1.67	0.15	0.24	1.00	5.08	4.79	0.83	2.03	0.43	1.60	18.26
2007	1.03	1.10	0.31	0.91	1.26	0.53	1.72	4.39	0.56	0.36	0.41	1.81	14.39
2008	0.84	1.49	0.09	0.16	1.34	0.31	3.73	1.91	0.73	1.09	0.60	1.98	14.27
<b>Average</b>	<b>1.02</b>	<b>0.87</b>	<b>1.12</b>	<b>0.72</b>	<b>0.59</b>	<b>0.55</b>	<b>1.95</b>	<b>2.72</b>	<b>1.36</b>	<b>1.15</b>	<b>0.76</b>	<b>1.00</b>	<b>13.82</b>
1991-2005 Av	1.16	0.99	1.37	0.83	0.66	0.50	1.59	2.96	1.45	1.31	0.89	0.85	14.56



## Appendix A

### El Morro Nat'l Monument, NM NOAA Weather Station (292785) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1938	5/23	6/14	10/8	10/9
1939	5/25	5/26	9/29	10/5
1940	4/28	5/30	10/14	10/22
1941	5/20	6/9	9/9	9/9
1942	5/13	6/1	9/24	10/4
1943	5/20	6/15	10/5	10/13
1944	6/4	6/18	10/2	10/3
1945	5/31	6/18	9/14	9/30
1946	5/31	6/1	10/7	10/7
1947	4/28	5/17	10/15	10/16
1948	5/12	5/23	10/5	10/7
1949	5/20	6/2	10/9	10/9
1950	6/9	6/9	9/12	9/15
1951	6/2	6/10	9/13	10/6
1952	5/23	5/23	9/13	9/13
1953	5/30	6/4	9/26	9/29
1954	6/7	6/7	10/12	10/15
1955	6/2	6/4	9/21	9/30
1956	5/15	5/27	10/13	10/14
1957	4/28	5/25	9/15	9/19
1958	5/14	6/13	9/25	10/19
1959	5/22	6/2	9/18	9/25
1960	5/26	6/1	9/23	10/13
1961	5/13	6/3	9/4	9/4
1962	5/22	6/17	10/1	10/7
1963	5/13	6/9	10/14	10/14
1964	5/29	5/30	10/7	10/7
1965	5/26	6/2	9/21	9/21
1966	5/1	5/14	10/8	10/14
1967	5/15	5/29	9/14	10/8
1968	6/10	6/11	9/17	9/24
1969	5/2	6/9	10/5	10/5
1970	5/8	6/16	9/15	9/23
1971	6/4	6/5	9/5	9/19
1972	5/23	5/26	9/26	9/30
1973	5/28	6/6	9/24	9/28
1974	5/21	6/10	9/28	9/29
1975	5/9	6/26	9/23	10/9
1976	5/9	6/26	10/5	10/6
1977	5/27	5/30	10/1	10/11
1978	5/18	6/22	9/20	9/21
1979	5/13	6/20	10/6	10/15
1980	6/2	6/5	10/4	10/16
1981	5/18	6/15	10/4	10/17
1982	6/9	6/9	9/29	9/29
1983	5/18	6/5	9/21	9/21
1984	5/8	6/17	9/30	10/13
1985	5/14	6/4	9/12	9/30
1986	5/13	5/18	9/11	9/11
1987	5/27	5/30	9/15	10/16
1988	6/1	6/1	9/15	9/23
1989	5/13	6/3	9/14	9/21
1990	5/20	6/17	10/9	10/9
1991	5/23	6/1	10/3	10/5
1992	4/24	4/24	9/26	10/8
1993	6/7	6/8	9/14	9/26
1994	5/21	5/21	9/23	10/2
1995	6/18	6/18	9/30	10/3
1996	5/27	6/1	9/19	9/28
1997	5/2	5/28	10/8	10/9
1998	5/15	6/19	9/26	10/6
1999	6/5	6/7	9/30	10/9
2000	5/17	5/21	9/24	9/24
2001	6/13	6/14	9/9	9/9
2002	5/22	5/24	10/4	10/4
2003	5/12	5/19	9/21	10/14
2004	5/2	5/31	9/6	9/22
2005	5/13	5/14	9/14	10/12
2006	5/29	5/29	9/17	9/17
2007	5/24	6/8	9/25	9/25
2008	5/12	6/13	10/1	10/12
<b>Average</b>	<b>5/20</b>	<b>6/4</b>	<b>9/25</b>	<b>10/2</b>
1991-2005 Av	5/21	5/29	9/23	10/2

## Appendix A

### Fence Lake, NM NOAA Weather Station (293180) Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1964					72.1	81.0	86.1	82.5	75.3	73.1	55.1	42.6	
1965	45.5	45.9	49.1	60.6	68.6	78.1	82.2	82.9	73.1	71.2	58.7	47.8	63.6
1966	41.2	41.8	55.9	61.5	79.2	83.8	90.9	83.8	78.3	70.7	61.2	44.5	66.1
1967	42.3	49.8	58.5	60.4	69.5	80.9	87.1	82.6	76.5	70.2	58.2	40.2	64.7
1968	40.8	47.0	49.5	56.6	71.6	84.6	87.4	78.7	75.1	68.8	52.7	43.0	63.0
1969	47.2	48.1	50.4	66.5	75.0	81.7	85.6	84.5	80.1	65.2	52.7	48.8	65.5
1970	43.4	51.9	51.2	58.8	75.7	82.6	87.0	85.4	76.3	60.8	58.3	49.8	65.1
1971	45.1	47.7	59.0	63.0	71.2	84.6	89.0	81.9	76.5	61.4	56.0	40.6	64.7
1972	49.3	54.4	64.9	67.4	74.9	81.5	88.7	83.3	76.9	63.9	46.7	44.3	66.3
1973	40.6	43.5	46.6	56.2	70.2	80.8	85.9	84.7	78.5	71.2	56.1	47.5	63.5
1974	42.9	47.9	60.9	65.8	78.8	89.9	86.6	81.5	76.8	64.8	54.6	42.7	66.1
1975	42.9	43.9	51.5	58.9	70.8	83.8	83.8	84.3	73.0	69.2	57.2	44.4	63.6
1976	44.3	54.3	54.6	64.6	73.6	85.2	85.1	83.3	76.9	63.2	54.6	47.0	65.6
1977	40.1	49.6	54.0	66.0	74.4	85.8	84.8	84.8	79.3	70.4	56.0	51.3	66.4
1978	44.3	45.3	57.0	66.5	73.4	86.3	88.8	84.0	78.2	71.1	52.8	42.1	65.8
1979	38.2	45.8	51.7	64.7	70.3	81.2	87.5	83.3	82.2	72.6	50.0	49.8	64.8
1980	45.0	50.4	52.9	63.2	71.5	89.0	88.7	82.5	79.4	67.8	55.8	54.7	66.7
1981	50.5	53.6	51.1	69.3	71.6	86.5	84.6	84.3	78.2	66.3	60.5	51.6	67.4
1982	42.5	46.4	54.5	64.5	71.3	83.9	85.1	80.6	76.0	66.9	52.1	42.3	63.8
1983	45.2	48.1	51.7	57.1	71.4	81.2	85.5	81.9	78.9	66.4	53.1	47.3	64.0
1984	45.9	51.1	56.9	61.7	79.3	83.5	86.6	80.9	76.9	56.7	53.5	45.4	64.9
1985	41.1	44.2	54.8	66.9	73.8	85.8	86.4	82.8	73.4	66.4	51.8	46.5	64.5
1986	54.7	51.1	58.1	66.0	75.0	82.4	83.2	84.9	75.9	64.5	53.1	44.3	66.1
1987	45.0	46.2	50.8	66.9	71.9	84.3	85.2	79.7	77.1	70.7	53.0	44.9	64.6
1988	43.5	52.4	57.7	64.5	74.9	83.6	84.9	79.3	75.4	72.6	55.0	47.7	66.0
1989	44.7	54.3	63.8	72.9	78.5	86.3	88.6	83.3	80.3	66.4	56.2	48.2	68.6
1990	46.5	49.3	57.8	66.0	73.3	89.2	82.7	82.0	78.1	69.1	56.2	42.5	66.1
1991	42.5	54.8	52.4	65.1	75.6	81.3	84.5	82.4	78.7	69.3	52.5	44.5	65.3
1992	40.1	48.6	56.2	70.0	69.8	80.7	83.6	82.6	80.3	71.5	48.1	44.2	64.6
1993	46.4	48.1	58.0	66.4	75.4	84.2	87.5	81.1	78.8	65.6	52.3	47.7	66.0
1994	48.8	48.5	58.8	65.0	74.9	88.7	88.3	85.6	77.5	64.4	51.9	48.8	66.8
1995	43.7	55.8	57.6	62.1	69.8	81.8	88.2	86.6	79.2	71.8	60.3	49.8	67.2
1996	50.1	55.7	57.9	68.0	81.1	87.1	88.4	85.2	73.5	65.5	56.1	49.5	68.2
1997	42.5	49.6	62.7	62.1	76.5	81.7	85.4	83.1	79.7	66.6	55.5	41.7	65.6
1998	46.4	43.4	54.1	61.1	75.3	83.1	85.5	84.4	82.8	69.1	58.4	49.5	66.1
1999	51.6	57.0	63.7	62.9	74.9	83.6	82.3	82.2	78.7	73.9	66.2	47.8	68.7
2000	51.8	57.9	58.1	71.2	81.7	86.4	89.3	86.4	83.5	64.6	47.3	51.4	69.1
2001	43.5	50.2	58.7	68.4	78.3	87.9	87.6	82.9	82.2	72.5	57.6	46.6	68.0
2002	46.5	52.6	60.2	73.1	79.3	90.6	88.2	86.2	77.5	66.9	56.8	43.8	68.5
2003	53.9	49.1	55.9	67.7	79.3	85.8	93.6	85.6	81.7	75.1	56.6	49.7	69.5
2004	48.0	47.0	65.0	63.7	79.5	86.9	88.4	82.5	77.6	65.5	50.8	47.1	66.8
2005	48.4	47.6	52.5	66.1	76.3	82.7	89.8	81.6	78.9	68.8	59.4	50.3	66.9
2006	51.3	55.4	53.3	69.3	79.5	87.3	85.9	78.0	73.2	64.6	58.3	45.0	66.8
2007	42.2	48.4	60.3	66.1	72.9	85.7	87.0	83.5	78.9	75.3	66.3	46.3	67.8
2008													
<b>Average</b>	<b>45.4</b>	<b>49.6</b>	<b>56.1</b>	<b>64.8</b>	<b>74.6</b>	<b>84.4</b>	<b>86.6</b>	<b>83.0</b>	<b>77.8</b>	<b>68.0</b>	<b>55.4</b>	<b>46.5</b>	<b>66.0</b>
991-2005 Av	46.9	51.1	58.1	66.2	76.5	84.8	87.4	83.9	79.4	68.7	55.3	47.5	67.2

## Appendix A

### Fence Lake, NM NOAA Weather Station (293180) Average of Minimum Temperature

Year	Values in Degrees F												Annual	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
1964	15.4	18.9	23.2	28.0	36.0	42.0	51.8	51.0	44.7	32.5	21.5	12.5		
1965	19.4	14.4	11.1	19.1	33.8	41.1	52.8	48.0	41.9	30.2	24.1	10.4	28.9	
1966	2.0	3.7	21.4	30.7	44.0	43.6	56.2	52.8	46.7	36.3	28.8	15.8	31.8	
1967	10.1	18.0	27.7	28.0	35.3	51.5	58.1	51.7	44.8	33.2	22.7	8.7	32.5	
1968	8.3	21.1	27.2	32.7	36.2	45.4	54.4	47.5	41.6	35.0	25.9	10.7	32.2	
1969	23.4	23.8	21.1	32.4	39.5	42.0	53.7	54.1	44.9	31.7	21.2	21.0	34.1	
1970	12.7	20.8	21.0	20.6	32.8	42.1	52.6	52.5	40.4	26.5	17.8	13.5	29.5	
1971	8.0	16.2	20.4	24.1	29.0	43.1	53.4	50.8	41.3	31.6	21.6	16.1	29.6	
1972	15.4	17.5	22.9	23.6	30.9	43.7	52.4	49.8	43.9	37.3	20.2	12.7	30.9	
1973	8.6	16.2	25.2	26.3	34.7	42.4	50.4	48.0	39.4	28.2	21.3	15.3	29.7	
1974	15.9	11.9	24.1	23.8	32.3	46.5	49.5	47.5	41.9	36.2	20.3	8.6	29.9	
1975	12.4	15.7	22.3	22.9	31.7	39.8	52.1	47.6	43.4	29.4	15.0	12.7	28.7	
1976	12.3	21.5	18.1	26.8	36.0	41.5	51.2	47.3	42.6	28.3	17.2	11.7	29.5	
1977	10.3	17.5	17.9	27.4	32.1	44.1	52.7	51.7	44.0	33.8	22.3	19.8	31.1	
1978	19.8	19.5	27.7	28.8	34.7	43.9	50.6	46.7	41.2	33.5	26.4	14.1	32.3	
1979	12.2	15.7	23.6	27.8	35.2	43.7	48.8	46.6	43.8	31.0	19.1	13.0	30.0	
1980	22.4	20.8	20.7	25.8	29.6	40.3	51.6	50.5	41.9	27.0	18.2	19.9	30.7	
1981	18.9	17.3	22.3	29.0	37.2	47.5	52.3	50.1	44.0	31.9	21.3	17.1	32.4	
1982	14.3	20.1	24.5	27.4	33.1	38.8	49.4	52.1	44.6	25.6	23.5	17.5	30.9	
1983	16.7	21.4	26.1	24.1	34.1	40.5	51.2	51.1	47.5	35.7	24.0	22.9	32.9	
1984	15.7	12.8	20.4	25.4	39.0	44.1	51.3	50.5	45.0	31.6	22.4	22.3	31.7	
1985	16.3	13.4	25.4	28.9	36.2	43.8	51.8	49.1	40.1	32.0	22.2	14.8	31.2	
1986	21.2	21.1	25.1	29.9	34.7	44.9	50.5	52.2	38.9	30.5	25.4	19.7	32.8	
1987	13.9	19.5	20.7	29.2	35.1	44.4	46.8	49.6	40.5	34.3	21.6	14.6	30.8	
1988	12.4	21.9	19.3	28.4	35.1	45.8	52.9	52.7	40.1	35.4	21.9	13.8	31.6	
1989	12.8	22.2	24.2	31.2	36.8	42.6	52.4	49.6	42.6	32.2	19.5	11.8	31.5	
1990	11.7	16.3	25.9	31.0	35.1	45.0	52.1	48.2	45.5	30.3	21.5	8.0	30.9	
1991	18.0	20.8	21.7	24.4	31.8	40.1	51.3	50.9	43.2	30.3	23.6	19.8	31.3	
1992	12.0	23.2	25.6	31.5	40.7	43.1	49.8	48.5	42.7	33.4	16.3	15.6	31.9	
1993	23.5	23.1	22.6	28.2	36.7	42.1	48.6	51.5	39.6	31.2	19.3	13.5	31.7	
1994	11.4	17.5	24.7	29.5	34.8	45.7	51.2	53.9	44.0	30.8	22.5	19.8	32.2	
1995	17.6	24.4	25.1	25.7	33.8	40.9	49.1	54.7	44.4	28.1	24.6	16.9	32.1	
1996	15.2	24.0	21.3	29.7	37.8	44.4	54.3	51.5	43.2	34.4	25.1	17.8	33.2	
1997	17.7	20.6	22.9	29.3	38.6	43.5	49.9	51.8	48.9	30.9	22.6	13.0	32.5	
1998	20.3	19.6	24.0	25.6	34.3	42.3	54.1	52.1	47.7	34.4	24.1	17.6	33.0	
1999	15.9	18.6	25.5	30.1	35.9	44.1	54.8	51.7	44.2	29.1	21.3	12.5	32.0	
2000	16.6	22.0	24.0	30.0	37.0	46.6	51.6	50.6	43.9	35.0	19.1	15.6	32.7	
2001	15.3	19.8	23.4	28.3	37.4	42.1	52.4	51.8	43.2	33.5	24.1	13.5	32.1	
2002	16.0	16.2	16.5	30.5	32.3	43.6	51.9	49.4	45.3	32.5	22.9	14.2	30.9	
2003	22.2	21.1	21.8	24.4	36.6	43.6	52.5	52.8	42.9	35.5	21.6	16.2	32.6	
2004	16.4	16.6	27.2	28.7	33.8	40.2	48.3	49.5	44.1	34.1	26.4	17.9	31.9	
2005	25.0	27.4	26.5	30.1	38.4	44.3	51.6	51.6	47.7	36.0	24.7	16.4	35.0	
2006	15.3	16.5	23.4	31.2	39.0	49.6	55.8	53.2	41.5	34.3	22.8	5.3	32.3	
2007	7.8	19.3	23.3	29.2	39.3	45.3	52.3	53.8	46.9	27.2	20.9	18.6	32.0	
2008														
<b>Average</b>	<b>15.2</b>	<b>18.9</b>	<b>22.9</b>	<b>27.7</b>	<b>35.4</b>	<b>43.5</b>	<b>51.9</b>	<b>50.7</b>	<b>43.4</b>	<b>32.1</b>	<b>22.0</b>	<b>15.1</b>	<b>31.6</b>	
1991-2005 Av	17.5	21.0	23.5	28.4	36.0	43.1	51.4	51.5	44.3	32.6	22.5	16.0	32.3	

## Appendix A

### Fence Lake, NM NOAA Weather Station (293180) Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1964	30.3	34.0	39.6	46.2	54.0	61.5	68.9	66.8	60.0	52.8	38.3	27.5	48.3
1965	32.4	30.1	30.1	39.9	51.2	59.6	67.5	65.5	57.5	50.7	41.4	29.1	46.2
1966	21.6	22.8	38.6	46.1	61.6	63.7	73.5	68.3	62.5	53.5	45.0	30.2	49.0
1967	26.2	33.9	43.1	44.2	52.4	66.2	72.6	67.2	60.6	51.7	40.4	24.4	48.6
1968	24.5	34.1	38.4	44.7	53.9	65.0	70.9	63.1	58.4	51.9	39.3	26.9	47.6
1969	35.3	35.9	35.7	49.5	57.3	61.8	69.7	69.3	62.5	48.5	37.0	34.9	49.8
1970	28.1	36.4	36.1	39.7	54.3	62.4	69.8	69.0	58.4	43.7	38.1	31.7	47.3
1971	26.5	31.9	39.7	43.6	50.1	63.9	71.2	66.3	58.9	46.5	38.8	28.3	47.1
1972	32.3	35.9	43.9	45.5	52.9	62.6	70.5	66.6	60.4	50.6	33.5	28.5	48.6
1973	24.6	29.8	35.9	41.3	52.5	61.6	68.1	66.4	58.9	49.7	38.7	31.4	46.6
1974	29.4	29.9	42.5	44.8	55.6	68.2	68.0	64.5	59.4	50.5	37.4	25.7	48.0
1975	27.7	29.8	36.9	40.9	51.2	61.8	68.0	66.0	58.2	49.3	36.1	28.5	46.2
1976	28.3	37.9	36.4	45.7	54.8	63.4	68.1	65.3	59.7	45.7	35.9	29.4	47.6
1977	25.2	33.6	35.9	46.7	53.2	64.9	68.8	68.2	61.7	52.1	39.1	35.5	48.8
1978	32.0	32.4	42.4	47.7	54.0	65.1	69.7	65.4	59.7	52.3	39.6	28.1	49.0
1979	25.2	30.8	37.6	46.3	52.7	62.5	68.2	65.0	63.0	51.8	34.6	31.4	47.4
1980	33.7	35.6	36.8	44.5	50.6	64.6	70.1	66.5	60.6	47.4	37.0	37.3	48.7
1981	34.7	35.4	36.7	49.2	54.4	67.0	68.5	67.2	61.1	49.1	40.9	34.4	49.9
1982	28.4	33.3	39.5	45.9	52.2	61.3	67.2	66.4	60.3	46.2	37.8	29.9	47.4
1983	31.0	34.7	38.9	40.6	52.7	60.8	68.3	66.5	63.2	51.1	38.5	35.1	48.5
1984	30.8	32.0	38.6	43.6	59.1	63.8	68.9	65.7	60.9	44.2	38.0	33.9	48.3
1985	28.7	28.8	40.1	47.9	55.0	64.8	69.1	66.0	56.8	49.2	37.0	30.7	47.8
1986	38.0	36.1	41.6	48.0	54.9	63.6	66.8	68.6	57.4	47.5	39.3	32.0	49.5
1987	29.5	32.8	35.7	48.1	53.5	64.4	66.0	64.6	58.8	52.5	37.3	29.8	47.7
1988	28.0	37.1	38.5	46.5	55.0	64.7	68.9	66.0	57.8	54.0	38.5	30.8	48.8
1989	28.7	38.2	44.0	52.0	57.7	64.5	70.5	66.4	61.5	49.3	37.9	30.0	50.1
1990	29.1	32.8	41.8	48.5	54.2	67.1	67.4	65.1	61.8	49.7	38.8	25.3	48.5
1991	30.2	37.8	37.1	44.7	53.7	60.7	67.9	66.7	60.9	49.8	38.1	32.1	48.3
1992	26.0	35.9	40.9	50.7	55.2	61.9	66.7	65.6	61.5	52.4	32.2	29.9	48.2
1993	35.0	35.6	40.3	47.3	56.0	63.2	68.0	66.3	59.2	48.4	35.8	30.6	48.8
1994	30.1	33.0	41.8	47.3	54.9	67.2	69.7	69.8	60.7	47.6	37.2	34.3	49.5
1995	30.7	40.1	41.4	43.9	51.8	61.3	68.7	70.6	61.8	49.9	42.4	33.3	49.7
1996	32.6	39.8	39.6	48.9	59.4	65.7	71.3	68.3	58.4	49.9	40.6	33.6	50.7
1997	30.1	35.1	42.8	45.7	57.6	62.6	67.7	67.5	64.3	48.7	39.1	27.4	49.0
1998	33.4	31.5	39.1	43.3	54.8	62.7	69.8	68.3	65.3	51.8	41.3	33.6	49.6
1999	33.7	37.8	44.6	46.5	55.4	63.9	68.6	67.0	61.5	51.5	43.8	30.2	50.4
2000	34.2	40.0	41.1	50.6	59.4	66.5	70.4	68.5	63.7	49.8	33.2	33.5	50.9
2001	29.4	35.0	41.0	48.4	57.8	65.0	70.0	67.4	62.7	53.0	40.9	30.0	50.1
2002	31.3	34.4	38.4	51.8	55.8	67.1	70.0	67.8	61.4	49.7	39.8	29.0	49.7
2003	38.0	35.1	38.8	46.1	58.0	64.7	73.1	69.2	62.3	55.3	39.1	33.0	51.1
2004	32.2	31.8	46.1	46.2	56.6	63.5	68.4	66.0	60.9	49.8	38.6	32.5	49.4
2005	36.7	37.5	39.5	48.1	57.3	63.5	70.7	66.6	63.3	52.4	42.1	33.3	50.9
2006	33.3	36.0	38.3	50.3	59.3	68.5	70.8	65.6	57.4	49.4	40.6	25.1	49.5
2007	25.0	33.8	41.8	47.7	56.1	65.5	69.6	68.6	62.9	51.2	43.6	32.5	49.9
2008													
<b>Average</b>	<b>30.3</b>	<b>34.2</b>	<b>39.5</b>	<b>46.2</b>	<b>55.0</b>	<b>64.0</b>	<b>69.2</b>	<b>66.8</b>	<b>60.6</b>	<b>50.1</b>	<b>38.7</b>	<b>30.8</b>	<b>48.8</b>
1991-2005 Av	32.2	36.0	40.8	47.3	56.3	64.0	69.4	67.7	61.9	50.7	38.9	31.8	49.7

## Appendix A

### Fence Lake, NM NOAA Weather Station (293180) Total Monthly Precipitation

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1964	0.66	0.98	0.87	1.24	0.00	0.00	1.38	1.19	2.44	0.09	0.74	1.18	10.77
1965	1.87	2.01	0.52	0.78	0.64	0.91	5.16	1.57	2.53	0.72	0.70	2.39	19.80
1966	0.83	0.96	0.28	0.46	0.00	0.05	0.64	2.12	1.72	0.16	0.49	1.05	8.76
1967	0.22	0.20	0.92	0.54	0.26	1.01	4.90	1.87	1.19	0.36	0.63	2.06	14.16
1968	0.05	0.81	0.83	1.12	0.45	0.42	1.59	2.88	0.61	0.70	0.99	1.26	11.71
1969	1.64	0.79	1.88	0.47	1.26	0.00	2.22	4.59	1.59	1.65	0.60	0.35	17.02
1970	0.97	0.15	1.42	0.77	0.25	0.74	0.54	2.02	1.11	1.29	0.00	0.61	9.87
1971	0.18	0.00	0.40	0.45	0.00	0.00	1.59	4.48	2.24	1.16	0.67	1.12	12.29
1972	0.00	0.00	0.00	0.00	0.00	2.56	1.32	2.01	1.15	5.77	1.28	1.04	15.13
1973	0.78	1.62	2.19	1.00	0.85	0.25	1.49	0.42	0.53	0.00	0.70	0.75	10.58
1974	0.78	0.34	0.00	0.00	0.00	0.00	1.20	2.58	0.46	4.36	0.16	0.54	10.42
1975	0.33	1.34	1.14	0.82	0.25	0.05	1.98	1.44	4.36	0.00	0.75	1.53	13.99
1976	0.28	0.31	1.14	0.18	0.93	0.13	3.13	2.50	0.91	0.72	0.54	0.46	11.23
1977	1.16	0.29	0.88	0.47	0.00	0.66	3.55	2.20	1.24	0.93	0.98	0.70	13.06
1978	1.56	2.33	3.01	0.30	0.83	0.00	1.16	1.54	0.49	0.68	2.04	1.44	15.38
1979	2.27	0.48	1.38	0.94	1.54	1.56	0.58	1.19	0.44	0.73	1.75	1.93	14.79
1980	1.35	2.96	1.19	1.14	0.19	0.00	2.64	1.61	1.39	0.00	0.60	0.56	13.63
1981	0.47	0.93	3.46	1.42	1.49	0.91	2.91	1.41	1.31	1.90	0.38	0.05	16.64
1982	2.54	1.84	1.51	0.00	0.64	0.00	1.58	5.68	1.25	0.10	2.14	1.72	19.00
1983	1.45	0.76	1.91	0.48	0.60	0.16	2.97	3.15	3.01	1.79	0.95	1.98	19.21
1984	0.11	0.00	1.62	1.42	0.07	0.18	1.32	2.96	2.99	2.37	0.54	1.33	14.91
1985	2.19	1.22	1.24	1.35	0.18	0.18	5.48	1.29	2.86	0.88	1.38	0.46	18.71
1986	0.07	1.01	1.64	0.33	0.59	1.31	2.85	1.12	2.18	2.42	2.33	2.68	18.53
1987	1.47	1.81	1.58	0.52	0.70	0.85	3.39	2.93	0.30	1.15	1.23	1.13	17.06
1988	0.77	1.01	0.00	2.31	0.12	1.82	2.17	5.52	1.41	0.52	0.54	0.47	16.66
1989	1.05	0.26	0.21	0.00	0.00	0.00	1.89	1.06	1.22	1.92	0.00	0.09	7.70
1990	0.56	0.27	0.44	0.65	1.06	0.71	3.17	2.99	1.88	0.70	1.04	2.73	16.20
1991	0.70	0.28	0.99	0.00	0.10	0.74	3.28	1.90	0.50	0.47	2.61	1.73	13.30
1992	0.92	0.54	1.93	0.04	3.50	0.50	1.95	3.16	0.87	1.33	1.17	1.10	17.01
1993	2.65	1.11	0.78	0.00	0.54	0.00	0.30	4.74	0.20	1.28	1.03	0.17	12.80
1994	0.41	0.88	1.22	1.19	0.34	0.33	2.67	3.57	2.46	2.62	1.12	0.88	17.69
1995	1.48	0.32	0.78	0.67	0.36	0.13	0.56	1.66	1.36	0.00	0.59	0.77	8.68
1996	0.38	1.14	0.85	0.12	0.00	0.68	2.03	1.04	3.73	2.16	0.85	0.79	13.77
1997	2.42	0.79	0.00	1.33	0.46	2.34	1.86	2.54	2.30	1.20	1.14	1.56	17.94
1998	0.49	1.95	2.38	1.50	0.12	0.12	2.80	2.06	0.82	2.76	0.58	0.49	16.07
1999	0.23	0.16	0.07	1.29	0.55	0.27	2.75	2.32	1.55	0.00	0.00	0.18	9.37
2000	0.17	0.23	1.80	0.07	0.00	0.60	0.78	3.29	0.05	3.66	0.49	0.67	11.81
2001	1.16	0.70	0.34	0.42	0.54	0.21	0.88	4.30	1.56	0.49	0.85	0.83	12.28
2002	1.00	0.13	0.05	0.13	0.00	0.00	2.93	1.85	4.22	1.22	1.06	1.75	14.34
2003	0.31	1.39	1.10	0.05	0.00	0.93	2.39	2.17	1.38	0.63	1.31	0.83	12.49
2004	0.73	0.46	0.82	1.14	0.00	0.53	1.17	1.51	1.23	1.07	1.44	0.86	10.96
2005	1.89	2.44	1.39	1.00	0.07	0.71	1.09	3.05	2.34	0.36	0.45	0.13	14.92
2006	0.20	0.00	1.80	0.38	0.07	0.60	2.91	6.78	1.08	1.68	0.20	1.60	17.30
2007	0.99	1.14	0.23	0.37	1.33	0.24	2.71	3.57	1.05			1.81	13.44
2008													
<b>Average</b>	<b>0.95</b>	<b>0.87</b>	<b>1.10</b>	<b>0.66</b>	<b>0.47</b>	<b>0.53</b>	<b>2.18</b>	<b>2.59</b>	<b>1.58</b>	<b>1.26</b>	<b>0.91</b>	<b>1.09</b>	<b>14.12</b>
991-2005 Av	1.00	0.83	0.97	0.60	0.44	0.54	1.83	2.61	1.64	1.28	0.98	0.85	13.56

## Appendix A

### Fence Lake, NM NOAA Weather Station (293180) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1964	5/9	5/15	10/12	10/12
1965	5/26	6/2	9/20	9/21
1966	4/24	4/25	10/14	10/14
1967	5/15	5/16	9/14	10/6
1968	5/18	6/11	8/23	9/17
1969	4/27	6/10	9/24	10/5
1970	6/1	6/16	9/15	9/15
1971	6/4	6/8	9/19	9/19
1972	5/23	5/27	9/22	10/22
1973	5/8	6/1	9/26	9/28
1974	6/9	6/9	9/28	9/28
1975	6/11	6/11	9/23	10/14
1976	6/15	6/25	9/28	10/5
1977	5/27	5/28	10/11	10/12
1978	5/9	6/3	9/16	10/13
1979	5/13	6/20	10/9	10/16
1980	6/4	6/7	9/25	10/16
1981	5/9	6/16	10/14	10/16
1982	6/9	6/9	9/29	9/29
1983	5/17	6/14	9/21	10/22
1984	5/8	6/17	10/7	10/16
1985	5/14	6/3	9/12	10/11
1986	5/12	5/31	9/11	9/30
1987	5/26	6/3	10/1	10/19
1988	5/31	6/1	9/23	9/29
1989	5/12	6/1	9/14	9/21
1990	5/13	6/2	10/4	10/9
1991	5/30	6/22	10/2	10/25
1992	4/21	6/17	9/26	10/7
1993	5/10	6/7	9/19	9/25
1994	5/20	5/21	10/6	10/8
1995	6/18	6/18	9/30	10/5
1996	4/30	5/8	9/28	10/21
1997	4/26	5/27	10/8	10/8
1998	5/16	6/8	9/26	10/5
1999	6/5	6/7	9/29	10/17
2000	5/19	5/19	9/25	9/25
2001	6/14	6/15	9/9	9/9
2002	5/23	5/25	10/3	10/3
2003	5/12	5/19	9/21	10/24
2004	5/23	6/11	9/22	9/22
2005	4/22	5/13	10/10	10/12
2006	4/28	5/23	9/17	9/17
2007	6/7	6/8	9/30	10/7
2008				
<b>Average</b>	<b>5/19</b>	<b>6/3</b>	<b>9/25</b>	<b>10/5</b>
1991-2005 Av	5/17	6/1	9/27	10/6

## Appendix A

### Gallup, NM NOAA Weather Station (293422) Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1973	44.2	49.0	56.0	64.7	74.2	84.9	86.1	85.3	77.8	69.8	55.6	48.1	66.3
1974	40.4	46.3	60.3	63.2	77.9	88.3	84.1	83.7	76.7	64.7	54.2	42.7	65.2
1975	43.7	44.8	51.0	57.1	68.6	82.4	83.8	84.3	74.3	68.2	54.3	42.8	63.0
1976	44.7	52.9	53.6	64.0	73.1	83.7	85.8	83.2	75.6	63.9	55.6	46.1	65.2
1977	38.6	50.1	52.0	65.5	71.3	84.8	85.3	85.1	78.2	69.9	56.7	50.8	65.7
1978	44.1	45.5	56.5	65.3	70.8	85.7	89.5	84.9	77.6	70.7	51.9	39.3	65.2
1979	35.5	45.4	50.9	64.4	68.4	81.7	89.2	83.7	82.6	71.8	47.8	48.1	64.1
1980	41.9	49.4	50.9	61.8	70.1	87.2	90.3	85.5	79.7	66.4	57.4	53.8	66.2
1981	51.1	53.5	51.4	68.4	72.3	86.4	87.0	84.7	78.3	64.9	59.2	50.6	67.3
1982	40.5	44.8	53.2	64.1	71.9	83.1	86.3	83.2	77.4	64.6	50.0	41.8	63.4
1983	44.0	48.4	52.3	56.1	71.5	80.6	86.2	84.6	80.8	66.6	51.7	44.5	63.9
1984	44.7	50.3	56.2	60.1	79.9	82.5	87.0	83.3	78.6	57.0	53.9	43.6	64.8
1985	41.1	45.0	53.2	66.3	72.5	86.2	87.5	86.4	74.3	66.5	51.8	49.5	65.0
1986	54.8	50.9	59.3	64.3	73.3	82.3	84.2	85.5	73.9	64.0	53.0	44.5	65.8
1987	42.3	45.5	51.0	66.5	70.6	84.3	86.1	81.6	77.8	71.1	52.4	42.8	64.3
1988	41.8	51.9	56.4	63.9	73.2	84.5	86.9	81.9	77.3	73.1	53.5	45.4	65.8
1989	41.6	49.1	63.4	73.2	78.8	85.6	89.5	84.9	81.8	66.7	57.8	50.0	68.5
1990	46.3	48.2	57.1	66.7	73.4	89.2	85.0	83.5	78.6	69.1	53.8	37.1	65.7
1991	38.5	49.0	50.4	63.9	74.1	80.6	86.0	84.2	79.7	71.5	51.2	40.0	64.1
1992	40.4	48.7	55.5	70.2	71.9	82.0	85.5	85.7	81.8	72.0	48.5	36.1	64.9
1993	45.2	47.4	59.7	67.3	75.9	84.6	88.9	83.7	80.1	67.5	52.5	47.6	66.7
1994	49.8	47.0	59.2	64.9	75.0	89.6	90.9	88.9	79.6	65.4	49.3	47.8	67.3
1995	43.8	57.7	57.1	61.2	69.0	82.6	89.6	88.5	80.8	71.8	61.7	47.5	67.6
1996	47.9	54.9	57.3	68.1	80.7	86.4	90.9	86.8	74.2	65.2	54.1	47.8	67.9
1997	41.0	49.3	62.6	61.1	76.8	81.9	87.2	85.7	81.9	67.2	55.5	41.5	66.0
1998	46.9	44.2	54.2	60.8	74.0	83.0	88.5	88.2	83.3	66.7	57.2	49.2	66.3
1999	52.5	56.1	63.7	61.1	73.0	85.0	85.8	82.6	77.0	73.4	65.8	46.9	68.6
2000	51.4	56.3	56.9	70.5	81.8	88.5	92.0	89.3	83.8	63.6	44.3	47.7	68.8
2001	38.2	45.8	56.7	64.9	76.5	86.7	87.7	84.5	82.4	71.9	55.8	44.2	66.3
2002	45.4	50.9	57.5	70.5	77.2	89.5	88.4	86.0	76.5	63.1	54.0	40.1	66.6
2003	52.0	47.3	54.6	63.6	76.5	84.9	92.9	85.0	79.9	72.4	52.8	46.6	67.4
2004	42.1	44.1	63.7	61.8	76.9	85.1	87.6	83.5	76.3	64.3	50.8	44.8	65.1
2005	47.3	46.3	52.1	64.2	75.5	82.6	91.7	83.1	80.5	68.6	58.4	49.0	66.6
2006	49.6	54.4	53.0	68.7	79.3	88.9	87.5	81.2	73.5	63.1	57.6	44.7	66.8
2007	39.7	48.1	59.2	65.1	73.2	86.3	89.0	86.9	80.5	69.5	60.8	40.1	66.5
2008	38.0	45.0	56.9	64.5	70.7	85.8	85.7	86.4	80.5	70.0	58.1	43.7	65.5
<b>Average</b>	<b>44.2</b>	<b>49.0</b>	<b>56.0</b>	<b>64.7</b>	<b>74.2</b>	<b>84.9</b>	<b>87.7</b>	<b>84.9</b>	<b>78.7</b>	<b>67.7</b>	<b>54.4</b>	<b>45.2</b>	<b>66.0</b>
1991-2005 Av	45.5	49.7	57.4	64.9	75.7	84.9	88.9	85.7	79.8	68.3	54.1	45.1	66.7

## Appendix A

### Gallup, NM NOAA Weather Station (293422)

#### Average of Minimum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1973	13.6	18.3	22.8	28.2	36.7	45.0	51.7	49.4	38.4	25.7	20.1	9.8	30.0
1974	14.1	11.4	24.7	23.1	36.4	46.9	54.9	50.5	43.2	37.8	20.9	8.8	31.1
1975	10.1	15.7	24.1	25.3	31.7	41.0	54.2	49.4	45.1	28.5	13.9	9.2	29.0
1976	10.2	20.9	18.5	26.4	38.7	43.8	56.0	50.3	45.5	29.5	14.7	7.6	30.2
1977	6.9	16.4	19.2	28.4	35.8	48.0	56.7	56.5	49.3	35.8	23.8	19.3	33.0
1978	21.2	23.1	28.8	30.9	37.2	47.3	54.5	52.0	47.3	33.9	29.6	12.3	34.8
1979	12.7	16.4	25.0	29.4	38.7	45.1	52.6	49.9	44.9	32.9	18.3	14.6	31.7
1980	24.8	22.4	23.2	27.7	35.2	44.5	54.5	53.8	44.5	28.2	18.2	19.7	33.1
1981	15.3	16.7	24.6	31.9	38.8	50.4	57.7	53.9	46.6	34.0	20.6	15.6	33.8
1982	12.9	19.9	26.8	30.9	36.1	43.2	52.5	55.2	47.3	26.5	24.3	15.7	32.6
1983	14.2	23.0	26.9	25.8	33.2	44.1	53.1	55.2	48.1	35.1	21.2	22.9	33.6
1984	13.1	13.0	19.3	24.2	40.7	47.6	55.4	54.3	46.8	32.9	20.4	20.3	32.3
1985	18.7	16.6	27.4	30.1	39.9	46.8	53.5	53.1	41.0	33.4	24.7	13.0	33.2
1986	12.0	20.1	25.3	31.4	37.8	49.5	54.6	55.4	43.4	30.9	24.4	18.5	33.6
1987	9.9	21.1	20.6	29.5	38.9	46.0	51.5	52.1	41.0	32.7	22.0	12.3	31.5
1988	12.6	20.8	16.1	29.3	35.6	49.1	54.8	55.6	41.1	33.6	20.8	13.5	31.9
1989	9.4	19.1	26.1	31.3	38.8	45.5	55.7	52.4	44.1	31.7	18.3	8.1	31.7
1990	8.2	14.7	25.3	33.0	39.9	49.5	55.6	52.3	49.3	31.5	22.1	4.3	32.1
1991	9.6	18.3	23.8	27.6	35.8	44.4	54.0	53.7	44.2	25.9	19.7	16.1	31.1
1992	8.3	22.0	22.5	28.0	40.0	39.5	48.6	48.5	38.2	28.1	14.4	4.5	28.5
1993	22.6	21.9	18.6	20.7	34.7	38.3	48.6	50.4	34.9	25.9	14.3	8.1	28.3
1994	4.4	15.0	21.2	26.3	33.5	43.7	50.2	53.7	41.8	26.8	17.9	14.8	29.1
1995	19.1	20.3	23.2	24.6	32.7	36.3	46.6	53.2	41.8	21.3	17.3	9.5	28.8
1996	14.9	19.6	17.7	24.6	35.4	45.2	52.7	52.5	42.2	30.1	21.2	15.7	31.0
1997	13.1	17.7	19.6	27.0	36.8	42.7	48.7	51.6	48.3	26.3	20.4	12.4	30.4
1998	18.0	19.8	22.9	24.0	31.8	39.3	54.3	51.3	43.7	29.9	20.2	12.6	30.6
1999	10.1	12.3	19.2	23.3	32.9	39.4	54.6	52.2	41.4	23.8	14.8	5.6	27.5
2000	13.4	19.1	22.0	28.2	35.2	47.6	52.7	52.5	43.3	34.7	17.6	12.2	31.5
2001	9.1	17.8	23.7	31.0	36.6	45.0	56.4	51.8	42.3	31.9	23.7	9.8	31.6
2002	12.4	10.1	16.3	32.2	35.3	46.0	55.1	50.8	44.8	33.2	20.7	14.5	30.9
2003	18.6	18.9	21.0	26.4	37.2	44.6	55.5	55.6	43.4	35.1	22.6	13.9	32.7
2004	16.9	16.2	25.7	30.8	35.1	44.5	50.5	49.2	42.2	32.3	21.5	15.1	31.7
2005	23.9	26.0	23.7	28.4	38.4	41.7	53.1	52.5	45.2	33.0	17.3	8.7	32.7
2006	10.0	10.7	21.7	30.2	37.5	46.8	57.3	54.2	39.9	33.3	17.6	12.4	31.0
2007	14.1	22.3	27.0	33.8	42.9	51.0	59.2	58.9	49.9	35.4	27.4	19.3	36.8
2008	12.2	19.7	25.3	30.5	38.4	50.8	57.8	57.1	41.3	28.2	19.1	15.7	33.0
<b>Average</b>	<b>13.6</b>	<b>18.3</b>	<b>22.8</b>	<b>28.2</b>	<b>36.7</b>	<b>45.0</b>	<b>53.8</b>	<b>52.8</b>	<b>43.8</b>	<b>30.8</b>	<b>20.2</b>	<b>13.0</b>	<b>31.6</b>
1991-2005 Av	14.3	18.3	21.4	26.9	35.4	42.5	52.1	52.0	42.5	29.2	18.9	11.6	30.4



## Appendix A

### Gallup, NM NOAA Weather Station (293422) Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1973	28.9	33.6	39.4	46.4	55.4	65.0	68.9	67.3	58.1	47.8	37.8	28.9	48.1
1974	27.3	28.8	42.5	43.2	57.1	67.6	69.5	67.1	60.0	51.3	37.5	25.8	48.1
1975	26.9	30.3	37.5	41.2	50.2	61.7	69.0	66.8	59.7	48.3	34.1	26.0	46.0
1976	27.5	36.9	36.1	45.2	55.9	63.7	70.9	66.8	60.6	46.7	35.2	26.9	47.7
1977	22.8	33.3	35.6	46.9	53.5	66.4	71.0	70.8	63.8	52.8	40.2	35.0	49.3
1978	32.6	34.3	42.7	48.1	54.0	66.5	72.0	68.5	62.4	52.3	40.7	25.8	50.0
1979	24.1	30.9	37.9	46.9	53.5	63.4	70.9	66.8	63.8	52.4	33.1	31.3	47.9
1980	33.4	35.9	37.1	44.7	52.6	65.9	72.4	69.6	62.1	47.3	37.8	36.7	49.6
1981	33.2	35.1	38.0	50.1	55.5	68.4	72.3	69.3	62.5	49.5	39.9	33.1	50.6
1982	26.7	32.3	40.0	47.5	54.0	63.2	69.4	69.2	62.4	45.5	37.2	28.8	48.0
1983	29.1	35.7	39.6	40.9	52.4	62.3	69.6	69.9	64.4	50.8	36.5	33.7	48.7
1984	28.9	31.7	37.7	42.2	60.3	65.1	71.2	68.8	62.7	45.0	37.2	32.0	48.5
1985	29.9	30.8	40.3	48.2	56.2	66.5	70.5	69.8	57.7	49.9	38.3	31.2	49.1
1986	33.4	35.5	42.3	47.9	55.6	65.9	69.4	70.5	58.7	47.4	38.7	31.5	49.7
1987	26.1	33.3	35.8	48.0	54.8	65.2	68.8	66.9	59.4	51.9	37.2	27.5	47.9
1988	27.2	36.3	36.2	46.6	54.4	66.8	70.9	68.8	59.2	53.4	37.1	29.5	48.9
1989	25.5	34.1	44.7	52.2	58.8	65.6	72.6	68.7	63.0	49.2	38.1	29.0	50.1
1990	27.2	31.4	41.2	49.9	56.7	69.4	70.3	67.9	64.0	50.3	37.9	20.7	48.9
1991	24.0	33.6	37.1	45.8	54.9	62.5	70.0	69.0	62.0	48.7	35.5	28.1	47.6
1992	24.3	35.3	39.0	49.1	55.9	60.7	67.1	67.1	60.0	50.1	31.5	20.3	46.7
1993	33.9	34.6	39.2	44.0	55.3	61.5	68.8	67.1	57.5	46.7	33.4	27.8	47.5
1994	27.1	31.0	40.2	45.6	54.2	66.7	70.5	71.3	60.7	46.1	33.6	31.3	48.2
1995	31.5	39.0	40.2	42.9	50.9	59.4	68.1	70.9	61.3	46.5	39.5	28.5	48.2
1996	31.4	37.2	37.5	46.4	58.0	65.8	71.8	69.6	58.2	47.6	37.7	31.8	49.4
1997	27.0	33.5	41.1	44.0	56.8	62.3	67.9	68.7	65.1	46.7	38.0	26.9	48.2
1998	32.5	32.0	38.5	42.4	52.9	61.1	71.4	69.7	63.5	48.3	38.7	30.9	48.5
1999	31.3	34.2	41.5	42.2	53.0	62.2	70.2	67.4	59.2	48.6	40.3	26.2	48.0
2000	32.4	37.7	39.5	49.4	58.5	68.1	72.4	70.9	63.5	49.2	30.9	30.0	50.2
2001	23.6	31.8	40.2	47.9	56.6	65.9	72.0	68.1	62.3	51.9	39.7	27.0	48.9
2002	28.9	30.5	36.9	51.3	56.2	67.8	71.7	68.4	60.7	48.1	37.3	27.3	48.8
2003	35.3	33.1	37.8	45.0	56.9	64.7	74.2	70.3	61.7	53.8	37.7	30.3	50.1
2004	29.5	30.2	44.7	46.3	56.0	64.8	69.1	66.4	59.2	48.3	36.2	29.9	48.4
2005	35.6	36.1	37.9	46.3	57.0	62.2	72.4	67.8	62.8	50.8	37.9	28.9	49.6
2006	29.8	32.6	37.4	49.5	58.4	67.9	72.4	67.7	56.7	48.2	37.6	28.5	48.9
2007	26.9	35.2	43.1	49.5	58.0	68.6	74.1	72.9	65.2	52.4	44.1	29.7	51.6
2008	25.1	32.3	41.1	47.5	54.5	68.3	71.8	71.7	60.9	49.1	38.6	29.7	49.2
<b>Average</b>	<b>28.9</b>	<b>33.6</b>	<b>39.4</b>	<b>46.4</b>	<b>55.4</b>	<b>65.0</b>	<b>70.7</b>	<b>68.8</b>	<b>61.2</b>	<b>49.2</b>	<b>37.3</b>	<b>29.1</b>	<b>48.8</b>
1991-2005 Av	29.9	34.0	39.4	45.9	55.5	63.7	70.5	68.8	61.2	48.8	36.5	28.3	48.5

## Appendix A

### Gallup, NM NOAA Weather Station (293422) Total Monthly Precipitation

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1973	0.86	1.32	2.24	0.76	0.95	0.30	0.96	1.20	0.63	0.28	0.33	0.11	9.92
1974	1.65	0.37	0.34	0.38	0.00	0.06	1.98	1.43	0.84	3.69	0.32	0.07	11.13
1975	0.58	0.78	1.20	0.47	0.32	0.00	2.39	2.18	2.88	0.00	0.69	0.26	11.75
1976	0.02	0.09	0.35	0.04	0.58	0.26	2.13	1.86	1.15	0.37	0.54	0.25	7.64
1977	0.59	0.24	0.17	0.04	0.24	0.43	3.14	1.43	0.79	0.84	1.07	0.08	9.06
1978	0.65	0.78	0.97	0.23	1.28	0.00	0.10	0.68	0.56	2.15	2.67	2.26	12.33
1979	1.41	0.53	1.45	0.08	1.98	0.58	0.33	0.79	0.11	1.26	1.40	0.49	10.41
1980	2.43	2.22	1.38	0.45	0.13	0.00	0.36	1.01	0.82	0.72	0.11	0.51	10.14
1981	0.08	0.31	1.82	0.35	0.53	0.83	3.59	1.05	1.34	0.73	0.36	0.06	11.05
1982	0.90	0.82	1.49	0.18	1.09	0.05	1.08	4.59	0.75	0.21	1.25	1.29	13.70
1983	1.02	0.50	1.43	0.37	0.42	0.13	3.13	1.44	0.98	1.01	1.08	1.54	13.05
1984	0.16	0.11	1.01	0.55	0.13	0.02	1.82	2.91	1.79	1.63	0.30	1.41	11.84
1985	0.94	0.40	1.37	2.00	0.58	0.60	1.90	1.57	1.29	1.13	0.71	0.16	12.65
1986	0.09	0.82	1.00	0.72	1.21	1.06	2.28	2.07	1.59	1.11	2.04	0.79	14.78
1987	0.75	1.25	0.66	0.65	0.92	0.36	2.40	2.19	0.15	1.16	1.74	0.82	13.05
1988	1.87	0.28	0.07	3.18	0.20	1.33	0.68	2.97	1.07	0.08	1.01	0.34	13.08
1989	0.76	1.05	0.11	0.00	0.06	0.07	1.42	1.06	0.05	0.79	0.02	0.05	5.44
1990	0.06	0.42	0.67	0.68	0.83	0.73	2.32	2.08	1.62	1.17	1.38	1.88	13.84
1991	1.29	0.27	1.48	0.20	0.05	1.76	0.95	1.86	0.55	0.39	2.40	1.39	12.59
1992	0.88	0.46	1.12	0.33	2.22	0.32	1.56	3.23	0.24	1.40	0.62	1.70	14.08
1993	2.60	0.88	0.29	0.05	0.59	0.01	0.05	3.27	0.82	1.12	1.05	0.37	11.10
1994	0.23	1.24	0.90	0.65	0.98	1.21	0.33	1.89	2.22	1.23	1.14	0.61	12.63
1995	1.07	1.33	0.92	0.49	1.02	0.12	0.56	2.29	1.67	0.01	0.38	1.05	10.91
1996	0.11	0.59	0.28	0.11	0.00	0.83	0.65	0.80	2.06	1.71	1.26	0.06	8.46
1997	1.97	0.73	0.01	0.95	0.93	1.21	1.32	2.90	2.59	1.01	0.90	1.31	15.83
1998	0.42	1.56	1.97	0.32	0.02	0.00	3.27	0.68	0.81	2.15	0.92	0.29	12.41
1999	0.26	0.35	0.08	0.89	0.88	0.13	2.13	6.09	1.53	0.00	0.00	0.12	12.46
2000	0.45	0.40	2.05	0.07	0.05	0.55	0.60	0.90	0.52	2.99	0.98	0.25	9.81
2001	1.37	0.95	0.56	0.44	0.64	0.39	1.27	2.54	1.03	0.15	0.22	0.37	9.93
2002	0.17	0.13	0.17	0.64	0.06	0.00	3.20	1.73	2.13	1.80	0.55	0.62	11.20
2003	0.01	0.97	0.41	0.10	0.07	0.01	1.70	2.50	1.12	0.79	1.37	0.44	9.49
2004	0.37	0.50	0.44	1.22	0.00	0.18	1.29	0.53	1.49	0.38	0.75	0.66	7.81
2005	1.22	2.05	1.10	0.86	0.16	0.27	1.01	2.32	0.39	0.28	0.14	0.13	9.93
2006	0.26	0.00	0.85	0.18	0.01	0.37	2.49	3.02	0.92	2.55	0.06	0.36	11.07
2007	0.57	0.84	0.20	0.70	0.97	0.27	3.73	2.72	0.35	0.80	0.40	2.20	13.75
2008	2.28	1.27	0.10	0.20	0.97	0.38	2.67	1.24	0.55	0.31	0.51	1.66	12.14
<b>Average</b>	<b>0.84</b>	<b>0.74</b>	<b>0.85</b>	<b>0.54</b>	<b>0.59</b>	<b>0.41</b>	<b>1.69</b>	<b>2.03</b>	<b>1.09</b>	<b>1.04</b>	<b>0.85</b>	<b>0.72</b>	<b>11.40</b>
1991-2005 Av	0.83	0.83	0.79	0.49	0.51	0.47	1.33	2.24	1.28	1.03	0.85	0.62	11.24

## Appendix A

### Gallup, NM NOAA Weather Station (293422) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1973	3/31	4/30	9/3	9/27
1974	6/9	6/10	9/28	9/28
1975	5/24	6/26	9/26	10/9
1976	5/1	6/16	10/5	10/5
1977	5/21	5/22	10/11	10/24
1978	5/6	5/28	10/6	10/15
1979	5/13	5/14	10/6	10/21
1980	5/26	5/30	10/4	10/16
1981	5/18	5/18	10/16	10/17
1982	5/7	5/21	9/29	10/2
1983	5/18	5/21	9/21	9/21
1984	5/9	5/9	9/30	10/16
1985	5/14	5/22	9/23	9/29
1986	5/10	5/18	9/30	10/4
1987	4/23	5/30	9/19	10/5
1988	6/1	6/1	9/23	9/29
1989	5/12	6/1	9/14	10/18
1990	4/27	5/10	10/8	10/8
1991	5/12	6/1	9/25	10/2
1992	6/2	6/18	9/26	9/26
1993	6/7	6/25	9/9	9/19
1994	5/21	5/22	9/15	9/25
1995	6/18	6/23	9/25	9/30
1996	6/3	6/3	9/19	9/28
1997	5/3	7/2	10/8	10/9
1998	6/18	6/19	9/24	9/27
1999	6/5	6/12	9/29	9/29
2000	5/14	5/21	9/24	9/24
2001	6/14	6/15	9/9	9/9
2002	5/22	5/25	10/3	10/4
2003	5/11	5/16	9/21	10/14
2004	5/14	5/30	9/22	9/22
2005	5/13	6/4	9/15	10/12
2006	5/10	5/31	9/18	9/18
2007	4/22	5/7	10/7	10/7
2008	5/3	5/23	10/7	10/12
<b>Average</b>	<b>5/16</b>	<b>5/30</b>	<b>9/26</b>	<b>10/3</b>
1991-2005 Av	5/26	6/7	9/22	9/28

## Appendix A

### McGaffey, NM NOAA Weather Station (295560)

#### Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948													
1949	37.2	39.3	48.8	58.7	66.1	75.8	79.8	79.3	74.8	60.5	58.6	41.2	60.0
1950	40.4	46.1	50.0	61.4	67.1	79.8	78.5	79.7	69.6	70.4	56.5	48.6	62.3
1951	39.2	43.6	48.4	54.9	67.3	76.9	83.4	78.7	75.6	60.5	46.3	38.4	59.4
1952	39.2	38.3	40.1	56.0	66.9	78.1	80.8	79.4	74.7	70.1	44.1	38.1	58.8
1953	43.9	41.5	49.1	56.0	60.2	78.9	81.5	77.7	78.2	65.7	46.7	35.5	59.6
1954	41.8	49.5	46.3	64.0	66.9	79.2	80.3	78.0	70.5	58.1	54.2	43.3	61.0
1955	33.9	36.0	49.0	57.3	69.4	77.5	77.4	75.9	76.3	66.4	50.5	41.5	59.3
1956	40.0	42.3	47.8	56.5	70.4	80.7	79.4	77.8	75.0	65.4	50.4	42.9	60.7
1957	39.1	49.5	47.1	53.8	60.1	76.7	80.8	76.3	74.6	59.9	43.8	47.1	59.1
1958	40.0	44.5	41.2	54.2	71.5	80.7	84.4	80.2	71.2	65.0	51.5	49.2	61.1
1959	45.3	41.9	51.6	60.6	70.2	81.4	84.1	77.0	76.6	62.1	53.0	45.0	62.4
1960	36.6	36.2	50.1	59.4	67.9	78.6	86.3	85.6	81.0	60.4	53.1	39.3	61.2
1961	44.6	45.7	48.4	58.4	71.4	82.7	83.7	79.7	74.3	65.3	46.5	39.9	61.7
1962	40.0	44.4	44.0	60.7	68.4	80.6	83.3	82.5	73.9	66.9	55.9	43.3	62.0
1963	38.2	46.2	49.4	56.1	72.8	77.7	84.8	76.0	75.7	69.8	53.9	47.9	62.4
1964	40.8	37.5	41.6	54.0	69.1	79.7	82.8	77.9	70.9	68.3	50.8	41.4	59.6
1965	43.5	41.2	44.0	54.2	62.4	70.2	79.5	78.8	71.0	69.5	56.4	42.6	59.4
1966	37.2	39.8	51.7	59.9	70.7	78.2	84.2	80.5	73.5	64.6	56.9	44.1	61.8
1967	41.3	47.6	54.2	56.6	66.0	73.4	79.3	77.2	71.6	66.7	56.8	36.2	60.6
1968	40.5	43.9	47.5	52.1	65.3	79.5	80.2	73.4	72.3	66.8	47.8	39.9	59.1
1969	43.1	40.5	43.5	58.3	65.1	78.0	82.1	79.7	70.3	56.7	45.7	44.0	58.9
1970	37.7	46.9	41.8	51.9	67.4	75.9	80.8	77.7	70.2	55.3	49.9	43.5	58.2
1971	39.6	41.4	49.0	55.8	63.7	76.9	82.7	77.1	70.3	55.3	50.5	36.1	58.2
1972	40.5	46.7	57.9	59.1	67.2	74.3	81.5	77.2	70.5	57.0	40.2	36.5	59.0
1973	35.0	37.7	40.5	47.4	61.9	74.1	78.5	78.2	70.6	64.3	51.0	41.0	56.7
1974	35.5	39.9	52.2	54.7	70.4	82.3	77.5	75.9	71.7	60.0	48.5	38.4	58.9
1975	37.2	38.4	42.8	49.1	62.0	74.9	76.9	78.2	68.9	62.5	50.6	39.3	56.7
1976	38.7	45.2	45.5	55.7	64.8	76.7	78.4	75.2	69.3	58.7	50.7	42.3	58.4
1977	35.4	41.6	43.2	57.7	63.3	78.4	79.3	78.0	71.8	63.6	50.6	42.8	58.8
1978	36.8	39.3	46.4	55.4	62.7	78.4	82.6	78.1	71.2	64.4	46.3	34.2	58.0
1979	31.9	40.4	43.0	53.6	60.2	73.2	81.7	76.3	76.7	66.2	41.3	44.4	57.4
1980	37.4	41.6	43.1	53.3	61.8	79.7	82.5	78.3	73.5	61.3	51.7	49.7	59.5
1981	46.1	46.6	43.2	58.4	64.7	79.6	78.0	77.1	70.7	59.8	55.2	45.6	60.4
1982	37.5	40.6	44.2	55.6	62.8	75.6	78.7	75.0	70.7	60.2	44.8	37.8	57.0
1983	41.7	40.2	43.4	48.5	62.0	73.7	79.5	76.8	74.6	60.8	48.2	38.6	57.3
1984	41.5	42.9	49.7	52.8	72.1	75.0	79.4	75.3	72.7	51.6	49.6	41.0	58.6
1985	38.6	38.4	47.0	57.6	65.2	78.8	80.1	78.7	68.7	61.6	45.9	43.5	58.7
1986	49.3	44.6	53.1	56.6	65.1	74.7	75.8	77.8	67.3	60.1	48.7	40.5	59.5
1987	39.1	39.9	45.9	58.0	62.5	76.7	78.9	73.1	71.2	67.1	49.7	38.1	58.3
1988	38.4	44.7	48.8	54.7	64.9	75.4	78.1	75.1	70.7	69.0	49.1	40.1	59.1
1989	37.6	42.3	54.9	65.7	71.5	78.5	83.9	77.5	75.1	61.9	52.5	44.0	62.1
1990	38.7	40.2	48.1	57.4	64.5	81.6	76.9	74.5	72.7	63.2	52.0	38.3	59.0
1991	37.6	47.9	43.5	55.4	67.3	73.1	79.1	77.2	72.9	66.1	44.5	38.5	58.6
1992	37.5	41.2	48.2	61.6	63.8	74.2	78.0	76.1	75.0	66.8	43.7	36.2	58.5
1993	39.0	39.4	47.9	56.9	66.8	76.4	81.4	76.6	73.0	61.4	47.2	42.4	59.0
1994	44.1	40.7	50.7	54.8	65.7	82.5	84.6	80.4	72.2	60.6	45.1	43.3	60.4
1995	38.4	48.4	48.6	51.8	60.5	74.1	80.6	80.1	72.8	66.5	56.2	45.8	60.3
1996	42.5	48.8	49.3	61.6	74.8	80.8	82.7	79.1	67.2	60.7	49.7	41.8	61.6
1997	36.2	42.8	54.7	51.6	67.5	74.4	81.7	75.4	73.5	62.7	50.5	38.2	59.1
1998	41.5	37.6	45.5	50.5	66.4	75.6	80.9	78.8	76.8	62.8	52.0	44.5	59.4
1999	44.8	49.6	55.9	53.9	66.5	76.3	76.5	75.5	71.2	69.0	63.3	40.6	61.9
2000	44.7	46.7	50.7	63.7	75.5	79.8	82.9	80.9	77.5	59.8	40.4	45.1	62.3
2001	38.9	43.5	50.5	59.2	71.2	82.1	82.4	76.1	77.7	70.6	55.6	40.6	62.4
2002	38.6	42.3	48.9	64.2	70.4	84.0	82.1	81.0	72.5	62.2	51.3	36.5	61.2
2003	46.2	38.5	47.2	55.4	69.2	80.0	89.0	80.4	75.7	70.3	50.3	43.9	62.2
2004	38.6	38.1	55.6	53.7	70.3	79.8	80.7	77.9	72.6	61.7	44.4	44.4	59.8
2005	42.7	39.3	44.7	56.2	66.7	73.7	85.7	75.5	73.3	63.1	58.7	44.1	60.3
2006	45.7	47.1	45.2	63.4	73.5	83.1	79.2	72.9	68.9	61.2	56.0	43.0	61.6
2007	38.3	41.5	53.0	55.8	67.6	82.8	84.2	80.6	75.7	67.1	60.2	39.1	62.2
2008	36.5	42.0	50.6	58.6	65.6	79.5	80.8	82.0	76.1	66.5	56.2	39.4	61.2
<b>Average</b>	<b>39.9</b>	<b>42.5</b>	<b>47.8</b>	<b>56.5</b>	<b>66.8</b>	<b>77.8</b>	<b>81.0</b>	<b>77.8</b>	<b>72.9</b>	<b>63.4</b>	<b>50.5</b>	<b>41.5</b>	<b>59.9</b>
1991-2005 Av	40.8	43.0	49.5	56.7	68.2	77.8	81.9	78.1	73.6	64.3	50.2	41.7	60.5

## Appendix A

### McGaffey, NM NOAA Weather Station (295560)

#### Average of Minimum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948													
1949	8.8	5.2	18.3	25.6	29.6	38.5	47.2	44.1	41.2	25.2	18.6	4.4	25.6
1950	11.4	12.6	18.3	22.0	25.7	37.7	48.1	42.0	34.6	32.0	18.2	15.3	26.5
1951	11.8	15.2	19.5	25.0	32.0	36.9	49.6	45.9	34.4	27.5	18.7	10.4	27.3
1952	13.1	12.4	14.9	27.7	32.8	41.2	47.1	46.8	38.7	26.3	13.6	8.6	26.9
1953	14.8	10.1	19.5	25.7	29.1	40.4	47.2	43.8	33.9	29.9	19.5	6.5	26.7
1954	9.9	19.2	19.9	29.2	37.4	39.7	47.1	43.4	39.5	27.5	18.5	9.7	28.4
1955	6.5	5.8	16.7	21.8	35.7	41.2	45.5	49.4	39.0	27.5	17.3	9.6	26.3
1956	8.6	11.7	17.7	24.1	33.3	42.2	46.4	45.5	37.5	29.1	14.4	8.8	26.6
1957	18.9	23.3	23.3	25.4	33.2	38.8	47.2	45.9	34.8	32.3	17.9	16.3	29.8
1958	11.0	18.0	19.2	26.4	34.5	41.2	45.0	47.6	39.7	30.0	18.0	15.5	28.8
1959	12.4	14.1	17.4	26.0	29.4	41.2	47.3	45.2	35.9	29.0	17.3	12.5	27.3
1960	3.7	6.3	21.0	25.0	30.0	39.4	44.1	45.1	40.2	26.8	17.6	10.0	25.8
1961	10.3	13.5	18.7	25.3	30.0	39.8	46.8	46.9	34.4	26.5	18.1	8.7	26.6
1962	6.4	16.7	10.9	29.2	29.3	36.0	43.1	42.3	39.9	29.8	22.1	10.2	26.3
1963	4.9	15.6	18.6	24.1	33.3	38.3	46.2	46.5	40.6	29.7	20.1	10.1	27.3
1964	2.4	2.1	12.2	20.3	31.2	34.5	45.4	43.3	38.0	27.8	15.4	9.3	23.5
1965	12.4	7.2	14.5	22.1	29.6	34.1	44.1	41.9	34.1	26.0	21.5	10.9	24.9
1966	5.1	5.2	18.6	25.4	33.3	38.7	47.3	46.5	37.8	26.1	23.1	12.9	26.7
1967	7.4	14.1	23.4	24.4	29.7	37.5	50.2	44.6	37.2	25.2	19.5	7.1	26.7
1968	6.4	19.0	16.8	23.0	29.6	39.2	43.8	41.2	35.3	27.1	18.5	7.7	25.6
1969	15.7	8.1	8.7	27.0	31.3	38.2	48.0	47.7	38.7	24.0	16.8	12.5	26.4
1970	7.8	18.8	16.3	16.3	30.0	38.8	48.0	47.8	37.7	24.4	18.9	9.3	26.2
1971	9.7	12.2	17.0	22.9	28.4	37.3	47.0	45.1	36.6	27.3	17.3	12.2	26.1
1972	10.4	14.8	22.9	23.2	28.7	38.7	47.7	44.9	37.5	33.9	14.0	6.8	27.0
1973	6.0	12.1	18.8	19.8	33.7	40.8	46.6	44.8	36.5	26.3	19.5	10.7	26.3
1974	7.2	6.6	22.4	22.9	32.3	42.4	47.3	43.8	37.5	32.6	19.4	5.9	26.7
1975	7.3	6.9	16.6	21.6	29.4	36.5	46.7	42.7	40.1	26.2	14.4	9.3	24.8
1976	6.2	19.3	15.7	24.9	32.8	38.4	46.3	44.8	39.7	25.6	16.5	8.5	26.6
1977	5.7	10.8	13.7	25.7	30.0	41.3	47.0	47.9	42.6	30.8	20.3	18.2	27.8
1978	14.1	10.8	22.9	25.7	30.5	39.7	46.6	42.3	39.2	31.1	23.9	8.5	27.9
1979	4.1	8.3	16.6	25.2	34.5	40.3	44.5	43.3	39.3	29.6	15.3	13.5	26.2
1980	17.7	14.3	16.5	23.1	29.9	39.3	47.7	46.0	37.8	25.0	17.9	17.8	27.7
1981	15.2	13.5	19.3	27.5	33.2	42.3	48.5	44.7	39.4	27.2	20.9	12.2	28.6
1982	7.1	12.4	19.3	24.4	31.1	35.8	45.1	48.5	40.6	22.9	19.6	7.5	26.2
1983	9.4	12.0	19.4	20.6	29.5	37.5	46.5	46.7	41.1	32.5	17.6	14.7	27.3
1984	7.7	7.1	14.4	21.9	34.9	40.5	47.8	45.9	39.6	27.8	17.0	10.7	26.3
1985	1.5	4.7	18.9	25.8	33.2	39.7	47.0	45.3	32.0	22.5	12.9	10.0	24.5
1986	14.3	14.3	16.8	20.0	27.0	39.8	45.4	45.5	36.5	27.2	20.4	13.6	26.7
1987	6.3	9.6	9.6	24.8	32.3	39.2	42.4	43.9	35.7	29.4	16.7	9.2	24.9
1988	3.3	10.8	13.7	23.2	29.1	40.9	46.5	48.0	34.2	29.8	13.6	5.1	24.8
1989	4.8	14.2	18.8	22.7	29.8	36.8	46.4	43.7	35.3	24.3	13.4	4.9	24.6
1990	4.4	8.3	20.1	26.2	29.1	42.0	45.9	42.5	40.6	25.1	17.4	3.8	25.5
1991	2.6	15.6	16.4	22.7	28.7	37.1	45.7	45.5	38.1	28.5	15.4	8.9	25.4
1992	1.6	16.0	21.9	28.6	36.2	37.0	44.5	44.6	36.8	28.6	9.1	5.9	25.9
1993	13.6	15.7	19.2	24.0	32.5	37.1	44.0	45.7	35.2	27.0	14.0	8.7	26.4
1994	8.8	10.2	21.8	24.5	31.3	41.9	44.6	47.7	38.9	23.6	13.7	13.6	26.7
1995	10.7	18.5	22.2	22.7	30.2	35.4	42.7	48.6	39.6	23.8	18.7	9.0	26.8
1996	7.6	19.5	16.3	22.4	32.4	42.5	48.1	46.7	37.6	27.4	18.8	14.2	27.8
1997	9.8	10.3	16.5	23.4	34.9	38.0	42.7	46.0	42.9	25.5	16.7	5.7	26.0
1998	9.5	7.7	16.1	22.3	29.3	34.1	47.4	46.4	41.5	28.2	18.4	11.1	26.0
1999	11.0	13.4	22.2	22.9	29.3	37.3	47.9	46.8	38.5	25.0	17.0	4.7	26.3
2000	12.1	16.7	19.5	25.5	33.4	41.4	43.2	46.5	39.6	29.0	9.1	8.1	27.0
2001	3.5	6.6	19.0	23.5	32.9	37.9	47.2	46.3	39.3	26.8	15.2	4.0	25.2
2002	2.1	11.7	13.6	28.1	29.0	40.9	48.7	44.7	39.8	28.4	16.4	3.9	25.6
2003	11.7	10.0	11.8	19.2	30.9	38.8	47.8	47.5	37.8	31.2	14.8	5.8	25.6
2004	5.1	3.9	22.8	25.1	31.0	37.5	44.0	43.1	37.4	27.8	16.7	9.4	25.3
2005	15.3	12.4	13.8	24.2	31.3	33.1	46.5	47.1	39.4	29.3	14.5	5.8	26.1
2006	5.8	7.1	12.9	23.3	33.7	42.7	48.7	47.0	36.1	26.3	15.6	1.1	25.0
2007	1.5	8.2	17.6	23.9	32.4	41.1	49.5	47.1	41.5	28.2	23.4	10.8	27.1
2008	8.8	14.2	19.4	25.5	30.8	40.3	48.2	47.4	38.6	28.9	21.6	14.7	28.2
<b>Average</b>	<b>8.5</b>	<b>11.9</b>	<b>17.7</b>	<b>24.1</b>	<b>31.3</b>	<b>38.9</b>	<b>46.4</b>	<b>45.5</b>	<b>38.1</b>	<b>27.7</b>	<b>17.3</b>	<b>9.6</b>	<b>26.4</b>
1991-2005 Av	8.3	12.5	18.2	23.9	31.6	38.0	45.7	46.2	38.8	27.3	15.2	7.9	26.1

## Appendix A

### McGaffey, NM NOAA Weather Station (295560)

#### Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948													
1949	23.0	22.3	33.5	42.1	47.9	57.2	63.5	61.7	58.0	42.8	38.6	22.8	42.8
1950	25.9	29.4	34.1	41.7	46.4	58.8	63.3	60.8	52.1	51.2	37.3	32.0	44.4
1951	25.5	29.4	33.9	40.0	49.7	56.9	66.5	62.3	55.0	44.0	32.5	24.4	43.3
1952	26.1	25.3	27.5	41.9	49.8	59.6	64.0	63.1	56.7	48.2	28.8	23.3	42.9
1953	29.3	25.8	34.3	40.8	44.6	59.7	64.4	60.8	56.1	47.8	33.1	21.0	43.1
1954	25.8	34.4	33.1	46.6	52.1	59.4	63.7	60.7	55.0	42.8	36.4	26.5	44.7
1955	20.2	20.9	32.8	39.5	52.5	59.4	61.5	62.6	57.6	46.9	33.9	25.6	42.8
1956	24.3	27.0	32.8	40.3	51.8	61.4	62.9	61.7	56.3	47.2	32.4	25.9	43.7
1957	29.0	36.4	35.2	39.6	46.7	57.8	64.0	61.1	54.7	46.1	30.8	31.7	44.4
1958	25.5	31.3	30.2	40.3	53.0	61.0	64.7	63.9	55.4	47.5	34.8	32.3	45.0
1959	28.9	28.0	34.5	43.3	49.8	61.3	65.7	61.1	56.2	45.5	35.1	28.8	44.9
1960	20.2	21.3	35.5	42.2	48.9	59.0	65.2	65.4	60.6	43.6	35.4	24.6	43.5
1961	27.5	29.6	33.6	41.8	50.7	61.3	65.3	63.3	54.3	45.9	32.3	24.3	44.2
1962	23.2	30.6	27.4	45.0	48.8	58.3	63.2	62.4	56.9	48.3	39.0	26.8	44.2
1963	21.6	30.9	34.0	40.1	53.1	58.0	65.5	61.3	58.2	49.8	37.0	29.0	44.9
1964	21.6	19.8	26.9	37.2	50.1	57.1	64.1	60.6	54.5	48.1	33.1	25.4	41.5
1965	27.9	24.2	29.2	38.2	46.0	52.2	61.8	60.4	52.6	47.7	38.9	26.8	42.2
1966	21.1	22.5	35.2	42.7	52.0	58.5	65.8	63.5	55.7	45.3	40.0	28.5	44.2
1967	24.3	30.8	38.8	40.5	47.8	55.5	64.7	60.9	54.4	46.0	38.1	21.7	43.6
1968	23.5	31.4	32.1	37.5	47.5	59.4	62.0	57.3	53.8	47.0	33.2	23.8	42.4
1969	29.4	24.3	26.1	42.7	48.2	58.1	65.0	63.7	54.5	40.4	31.3	28.2	42.7
1970	22.7	32.9	29.0	34.1	48.7	57.4	64.4	62.7	54.0	39.8	34.4	26.4	42.2
1971	24.7	26.8	33.0	39.4	46.1	57.1	64.9	61.1	53.5	41.3	33.9	24.1	42.1
1972	25.4	30.8	40.4	41.2	48.0	56.5	64.6	61.0	54.0	45.5	27.1	21.6	43.0
1973	20.5	24.9	29.6	33.6	47.8	57.5	62.5	61.5	53.6	45.3	35.3	25.8	41.5
1974	21.4	23.3	37.3	38.8	51.3	62.4	62.4	59.9	54.6	46.3	34.0	22.2	42.8
1975	22.2	22.6	29.7	35.3	45.7	55.7	61.8	60.5	54.5	44.4	32.5	24.3	40.8
1976	22.4	32.2	30.6	40.3	48.8	57.6	62.4	60.0	54.5	42.2	33.6	25.4	42.5
1977	20.5	26.2	28.5	41.7	46.7	59.9	63.2	62.9	57.2	47.2	35.4	30.5	43.3
1978	25.5	25.0	34.6	40.6	46.6	59.1	64.6	60.2	55.2	47.8	35.1	21.4	43.0
1979	18.0	24.3	29.8	39.4	47.3	56.8	63.1	59.8	58.0	47.9	28.3	28.9	41.8
1980	27.5	28.0	29.8	38.2	45.8	59.5	65.1	62.2	55.7	43.2	34.8	33.7	43.6
1981	30.7	30.0	31.3	42.9	49.0	60.9	63.2	60.9	55.1	43.5	38.0	28.9	44.5
1982	22.3	26.5	31.7	40.0	47.0	55.7	61.9	61.8	55.7	41.6	32.2	22.6	41.6
1983	25.5	26.1	31.4	34.5	45.8	55.6	63.0	61.7	57.9	46.6	32.9	26.7	42.3
1984	24.6	25.0	32.1	37.4	53.5	57.7	63.6	60.6	56.2	39.7	33.3	25.9	42.5
1985	20.0	21.6	32.9	41.7	49.2	59.3	63.6	62.0	50.3	42.1	29.4	26.8	41.6
1986	31.8	29.4	35.0	38.3	46.0	57.2	60.6	61.7	51.9	43.6	34.6	27.0	43.1
1987	22.7	24.8	27.8	41.4	47.4	57.9	60.6	58.5	53.5	48.2	33.2	23.6	41.6
1988	20.8	27.8	31.3	38.9	47.0	58.1	62.3	61.5	52.4	49.4	31.3	22.6	42.0
1989	21.2	28.3	36.8	44.2	50.6	57.7	65.1	60.6	55.2	43.1	33.0	24.4	43.4
1990	21.6	24.3	34.1	41.8	46.8	61.8	61.4	58.5	56.6	44.1	34.7	21.0	42.2
1991	20.1	31.8	29.9	39.1	48.0	55.1	62.4	61.3	55.5	47.3	30.0	23.7	42.0
1992	19.5	28.6	35.0	45.1	50.0	55.6	61.2	60.4	55.9	47.7	26.4	21.0	42.2
1993	26.3	27.5	33.6	40.5	49.6	56.8	62.7	61.2	54.1	44.2	30.6	25.5	42.7
1994	26.5	25.4	36.3	39.6	48.5	62.2	64.6	64.0	55.5	42.1	29.4	28.5	43.5
1995	24.6	33.4	35.4	37.2	45.3	54.8	61.7	64.3	56.2	45.1	37.5	27.4	43.6
1996	25.1	34.1	32.8	42.0	53.6	61.6	65.4	62.9	52.4	44.0	34.2	28.0	44.7
1997	23.0	26.5	35.6	37.5	51.2	56.2	62.2	60.7	58.2	44.1	33.6	21.9	42.6
1998	25.5	22.6	30.8	36.4	47.9	54.9	64.1	62.6	59.1	45.5	35.2	27.8	42.7
1999	27.9	31.5	39.0	38.4	47.9	56.8	62.2	61.1	54.8	47.0	40.1	22.6	44.1
2000	28.4	31.7	35.1	44.6	54.4	60.6	63.0	63.7	58.5	44.4	24.8	26.6	44.7
2001	21.2	25.1	34.8	41.3	52.0	60.0	64.8	61.2	58.5	48.7	35.4	22.3	43.8
2002	20.4	27.0	31.3	46.1	49.7	62.4	65.4	62.9	56.2	45.3	33.9	20.2	43.4
2003	28.9	24.2	29.5	37.3	50.1	59.4	68.4	64.0	56.8	50.7	32.6	24.9	43.9
2004	21.9	21.0	39.2	39.4	50.6	58.7	62.4	60.5	55.0	44.8	30.5	26.9	42.6
2005	29.0	25.9	29.2	40.2	49.0	53.4	66.1	61.3	56.4	46.2	36.6	24.9	43.2
2006	25.7	27.1	29.1	43.3	53.6	62.9	64.0	59.9	52.5	43.8	35.8	22.0	43.3
2007	19.9	24.9	35.3	39.9	50.0	62.0	66.9	63.9	58.6	47.6	41.8	25.0	44.6
2008	22.6	28.1	35.0	42.1	48.2	59.9	64.5	64.7	57.4	47.7	38.9	27.0	44.7
<b>Average</b>	<b>24.2</b>	<b>27.2</b>	<b>32.7</b>	<b>40.3</b>	<b>49.0</b>	<b>58.4</b>	<b>63.7</b>	<b>61.6</b>	<b>55.5</b>	<b>45.5</b>	<b>33.9</b>	<b>25.6</b>	<b>43.1</b>
1991-2005 Av	24.5	27.8	33.8	40.3	49.9	57.9	63.8	62.1	56.2	45.8	32.7	24.8	43.3

## Appendix A

### McGaffey, NM NOAA Weather Station (295560) Total Monthly Precipitation

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1948	0.24	1.29	2.33	0.06	0.58	1.29	2.01	2.20	2.10	1.55	0.08	0.63	14.36
1949	2.76	1.25	1.21	0.99	0.85	2.07	4.93	3.21	1.44	0.92	0.15	1.07	20.85
1950	1.48	1.34	0.77	0.00	0.04	0.42	2.30	0.63	1.36	0.15	0.16	0.15	8.80
1951	1.73	0.53	0.36	1.03	0.54	0.00	1.14	1.98	0.75	1.69	0.92	2.04	12.71
1952	2.65	0.56	1.70	1.97	0.12	1.79	3.65	2.08	0.89	0.00	2.64	0.89	18.94
1953	0.35	0.46	1.32	0.71	0.43	0.25	3.49	1.35	0.06	1.14	0.90	1.25	11.71
1954	0.77	0.36	4.04	0.26	1.23	0.00	1.76	2.55	1.82	1.87	0.00	0.84	15.50
1955	1.44	1.34	0.22	0.47	0.49	0.68	3.43	3.01	0.00	0.00	0.38	0.80	12.26
1956	2.77	0.51	0.07	0.49	0.52	0.09	2.25	1.23	0.00	1.65	0.29	0.46	10.33
1957	5.64	1.32	1.54	1.19	0.95	0.58	3.80	4.07	0.00	2.57	1.09	1.19	23.94
1958	1.12	1.22	2.52	1.30	0.34	1.25	1.60	4.08	4.30	1.46	0.99	0.20	20.38
1959	0.53	1.28	0.13	1.50	0.00	1.27	1.39	3.10	0.35	3.53	0.27	2.53	15.88
1960	1.67	2.09	0.83	0.33	0.79	0.81	0.56	0.43	1.35	2.07	0.15	0.92	12.00
1961	1.30	0.71	2.68	0.91	0.06	0.00	2.93	3.79	0.93	2.56	0.49	2.17	18.53
1962	1.80	2.35	1.52	0.20	0.33	0.00	1.29	1.21	3.52	3.42	1.94	0.55	18.13
1963	1.60	1.48	1.20	0.21	0.00	0.07	1.52	4.77	2.15	1.45	1.56	0.25	16.26
1964	0.99	1.54	1.27	2.29	0.25	0.04	2.46	4.19	1.35	0.30	1.25	1.71	17.64
1965	2.30	1.57	1.59	1.82	1.17	1.63	3.79	2.47	1.23	0.75	2.70	3.27	24.29
1966	0.54	1.39	1.30	0.95	0.24	0.50	2.07	1.80	2.49	0.00	0.82	2.35	14.45
1967	0.70	0.23	0.93	0.33	0.30	2.50	3.89	3.56	2.48	0.25	0.32	2.58	18.07
1968	0.31	1.25	2.13	1.77	0.48	0.25	3.47	4.04	0.57	0.30	0.96	1.96	17.49
1969	2.71	1.50	1.65	0.82	0.94	0.27	2.92	3.56	2.29	2.00	0.95	0.65	20.26
1970	0.48	0.46	3.12	1.40	0.29	0.46	3.78	3.68	1.50	1.81	0.57	1.57	19.12
1971	0.31	1.18	0.88	1.00	0.05	0.00	1.40	3.66	4.25	2.29	0.51	1.44	16.97
1972	0.10	0.06	0.00	0.30	0.12	1.82	2.59	0.94	0.48	6.79	1.71	1.97	16.88
1973	0.87	1.27	4.17	0.39	2.12	0.79	1.74	1.32	1.52	0.58	0.85	0.45	16.07
1974	3.30	0.67	0.26	0.73	0.35	0.00	3.30	2.01	0.47	3.94	0.40	0.56	15.99
1975	0.60	2.38	2.61	1.14	0.88	0.00	3.61	0.77	1.87	0.18	1.30	0.93	16.27
1976	0.46	0.57	1.25	0.56	0.60	0.12	1.54	2.30	1.16	0.81	0.71	0.00	10.08
1977	2.30	1.07	0.64	1.11	0.35	0.58	1.81	1.38	1.67	0.78	1.65	0.80	14.14
1978	3.29	2.83	2.49	0.44	1.26	0.16	1.09	0.57	1.30	0.81	2.98	3.77	20.99
1979	5.88	2.08	1.86	0.87	2.47	0.37	0.30	1.64	0.44	1.84	2.21	1.73	21.69
1980	4.35	4.18	1.97	1.32	0.20	0.05	1.05	1.51	0.97	0.97	0.68	0.90	18.15
1981	0.43	0.97	3.72	1.81	1.09	0.18	4.13	2.45	1.92	1.18	1.13	0.07	19.08
1982	3.75	3.20	3.33	0.26	1.49	0.00	1.98	3.39	2.13	0.86	3.74	2.63	26.76
1983	1.31	1.40	4.77	1.14	0.90	0.00	2.02	2.28	2.01	2.46	2.17	4.21	24.67
1984	0.76	0.00	2.62	1.33	0.30	0.47	2.30	3.68	2.99	2.31	0.76	3.22	20.74
1985	2.31	1.26	3.58	2.36	0.96	0.59	2.50	1.80	1.84	1.35	2.32	0.18	21.05
1986	0.22	2.33	1.61	1.86	0.97	2.67	1.91	1.93	2.29	2.49	2.65	1.48	22.41
1987	2.17	3.33	1.66	0.61	2.03	0.41	2.42	4.73	1.18	0.92	2.54	2.02	24.02
1988	2.18	1.05	0.12	3.06	0.36	3.35	2.95	3.08	1.14	0.00	1.90	0.97	20.16
1989	1.63	1.00	0.50	0.00	0.00	0.00	3.30	1.30	0.84	1.58	0.12	0.03	10.30
1990	0.70	1.24	1.67	0.74	1.42	0.87	3.91	3.82	2.15	0.73	1.95	4.13	23.33
1991	2.00	0.27	5.12	0.10	0.00	1.07	3.00	1.86	3.12	1.47	3.37	3.04	24.42
1992	1.31	1.27	2.20	1.26	3.19	0.15	1.51	3.94	0.79	1.82	1.41	3.60	22.45
1993	6.13	3.75	2.41	0.25	2.55	0.05	0.26	3.75	1.02	1.08	3.28	0.20	24.73
1994	0.49	2.02	1.54	2.52	2.71	1.09	0.49	1.98	2.66	2.31	4.42	0.70	22.93
1995	3.19	2.16	1.86	2.63	2.30	0.16	1.36	6.29	2.26	0.00	1.00	0.71	23.92
1996	0.62	1.49	0.75	0.45	0.00	1.14	2.93	5.22	3.63	1.44	2.42	0.10	20.19
1997	3.54	1.30	0.12	2.60	1.21	1.47	3.77	4.43	1.57	1.52	3.25	2.95	27.73
1998	0.70	3.80	3.31	2.41	0.20	0.00	3.44	1.56	0.76	4.14	2.80	0.27	23.39
1999	0.40	0.10	0.81	2.15	1.01	1.59	5.70	5.71	3.67	0.00	0.00	0.55	21.69
2000	1.70	0.93	3.43	0.15	0.00	1.81	1.11	2.34	1.44	3.09	3.15	0.80	19.95
2001	3.00	2.09	1.10	1.44	0.45	0.47	1.66	5.69	0.98	0.68	1.29	1.93	20.78
2002	0.75	0.23	0.82	0.77	0.15	0.11	5.80	2.70	2.74	2.87	2.28	1.80	21.01
2003	0.12	2.41	2.81	0.31	0.00	0.56	1.29	2.62	0.83	0.93	1.12	0.78	13.78
2004	1.35	2.08	1.07	2.46	0.00	0.35	0.98	2.36	1.60	0.54	1.15	1.62	15.56
2005	2.90	3.49	2.77	2.13	0.27	0.27	0.60	5.78	1.41	1.25	0.12	0.20	21.19
2006	0.43	0.00	2.33	0.14	0.25	0.40	5.28	5.62	2.90	1.89	0.68	1.14	21.06
2007	1.86	1.88	0.60	1.14	1.40	0.52	4.01	2.33	1.77	0.64	0.63	4.40	21.18
2008	3.21	2.65	0.22	0.56	1.61	0.37	2.40	2.38	0.33	1.58	0.92	4.62	20.85
<b>Average</b>	<b>1.75</b>	<b>1.48</b>	<b>1.76</b>	<b>1.07</b>	<b>0.76</b>	<b>0.66</b>	<b>2.49</b>	<b>2.85</b>	<b>1.62</b>	<b>1.50</b>	<b>1.40</b>	<b>1.49</b>	<b>18.83</b>
1991-2005 Av	1.88	1.83	2.01	1.44	0.94	0.69	2.26	3.75	1.90	1.54	2.07	1.28	21.58

## Appendix A

### McGaffey, NM NOAA Weather Station (295560) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1948				
1949	6/5	6/28	9/21	10/1
1950	6/18	6/18	9/9	9/11
1951	6/9	6/13	9/9	9/12
1952	5/23	5/24	9/13	9/13
1953	6/3	6/4	9/14	9/14
1954	6/13	6/14	8/25	10/14
1955	5/17	7/1	9/21	9/21
1956	5/13	5/29	9/19	10/14
1957	5/25	5/25	8/5	8/5
1958	5/15	6/14	9/14	10/5
1959	5/31	6/1	9/18	9/25
1960	5/29	5/29	9/25	9/26
1961	5/24	6/10	9/3	9/4
1962	6/15	6/18	8/30	10/5
1963	6/8	6/14	10/7	10/15
1964	6/23	6/24	9/18	10/8
1965	6/2	6/30	9/19	9/21
1966	5/15	6/9	10/4	10/9
1967	6/13	6/15	9/14	9/14
1968	6/10	6/11	8/22	9/17
1969	5/4	6/9	9/26	10/5
1970	6/2	6/16	9/6	9/23
1971	6/5	6/12	9/5	9/19
1972	5/24	6/26	9/20	9/20
1973	5/28	6/18	9/24	9/24
1974	5/21	6/10	9/28	9/28
1975	5/24	6/26	9/22	9/23
1976	6/25	6/25	9/28	10/5
1977	5/27	5/29	9/21	10/1
1978	5/26	6/6	9/20	9/20
1979	6/19	6/20	10/6	10/15
1980	6/2	6/15	9/22	9/22
1981	5/22	6/16	10/4	10/5
1982	6/6	6/9	9/29	9/29
1983	6/14	6/15	9/21	9/21
1984	5/9	6/17	9/28	9/30
1985	6/27	6/28	9/8	9/12
1986	6/10	6/10	9/11	9/11
1987	5/29	6/18	9/15	10/15
1988	6/1	6/13	9/14	9/20
1989	6/7	6/9	9/9	9/10
1990	5/30	6/17	10/1	10/8
1991	6/1	6/21	9/14	9/16
1992	7/2	7/2	8/27	9/27
1993	6/18	6/25	9/9	9/19
1994	5/21	5/22	9/15	9/23
1995	6/22	7/5	9/19	9/30
1996	5/29	6/3	9/19	9/19
1997	5/3	7/3	9/22	10/8
1998	6/18	6/19	9/26	9/27
1999	6/6	6/12	9/15	9/29
2000	5/19	5/21	9/24	9/25
2001	6/16	6/16	9/7	9/9
2002	5/25	5/29	9/19	9/20
2003	5/16	6/23	9/11	9/19
2004	6/12	7/1	9/5	9/22
2005	6/30	6/30	9/13	9/15
2006	5/31	5/31	9/17	9/17
2007	6/8	6/8	9/25	9/25
2008	6/13	6/14	9/5	10/7
<b>Average</b>	<b>6/2</b>	<b>6/14</b>	<b>9/16</b>	<b>9/24</b>
1991-2005 Av	6/5	6/17	9/14	9/22



## Appendix A

### Zuni, NM NOAA Weather Station (299897) Average of Maximum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1949	37.0	44.7	55.6	66.3	73.8	82.0	85.4	85.7	82.0	66.2	65.5	45.2	65.8
1950	46.2	53.6	58.2	69.2	74.5	85.7	85.8	87.3	77.4	78.9	63.3	55.9	69.7
1951	46.2	49.1	55.2	62.7	74.5	83.2	90.9	85.4	82.4	67.8	53.7	42.9	66.2
1952	46.5	47.6	47.7	63.7	74.7	83.9	87.2	87.3	81.9	76.9	48.7	43.6	65.8
1953	50.2	49.7	56.5	63.6	68.5	86.0	89.3	86.4	85.3	70.8	58.2	40.4	67.1
1954	49.5	57.9	53.0	71.7	75.4	85.0	89.4	84.7	81.6	73.1	62.7	46.8	69.2
1955	40.5	41.9	56.5	63.4	71.9	82.5	86.4	84.2	83.5	74.4	57.8	52.3	66.3
1956	50.8	42.2	61.0	62.8	78.2	88.3	87.7	84.2	85.7	71.0	54.2	47.8	67.8
1957	45.5	56.0	54.5	61.4	67.8	83.5	86.0	82.3	81.3	64.6	49.6	51.5	65.3
1958	45.7	51.6	47.3	61.8	78.7	87.3	88.6	87.3	78.2	68.8	56.6	55.8	67.3
1959	50.3	49.3	57.1	66.9	74.3	86.6	90.2	83.1	79.6	67.5	56.8	47.2	67.4
1960	39.9	41.8	59.4	67.2	73.5	86.1	88.5	88.5	83.0	65.0	58.2	43.8	66.2
1961	48.9	49.7	55.0	65.0	75.5	88.3	88.7	83.4	76.4	67.9	51.2	41.7	66.0
1962	41.2	48.4	50.3	70.3	73.7	84.2	87.8	89.2	79.1	69.6	59.0	50.1	66.9
1963	40.9	51.8	55.9	65.1	77.5	84.2	89.3	81.1	81.6	72.2	56.6	49.5	67.1
1964	43.6	42.0	49.6	60.0	75.1	83.7	88.4	83.3	77.1	74.4	53.5	44.9	64.6
1965	47.1	46.1	51.9	63.2	70.5	78.5	84.8	84.8	74.4	73.1	58.6	47.6	65.1
1966	43.6	43.9	60.0	67.3	78.6	84.0	90.7	86.3	78.6	70.7	61.2	45.6	67.5
1967	46.0	53.8	61.4	64.0	73.1	81.2	87.2	82.5	77.6	71.8	60.6	39.0	66.5
1968	42.9	53.3	55.9	60.6	72.8	84.7	86.1	80.8	79.3	70.7	52.7	43.0	65.2
1969	47.2	48.1	50.4	66.5	75.6	82.9	87.9	87.6	80.4	64.4	53.8	50.3	66.3
1970	45.6	53.3	51.3	58.7	75.8	82.8	87.9	86.6	76.2	62.9	58.5	48.7	65.7
1971	49.0	49.2	59.5	63.6	71.0	85.0	89.5	82.9	77.0	62.6	54.4	42.6	65.5
1972	49.5	56.4	65.8	67.5	75.4	81.5	90.0	83.9	78.7	63.1	49.0	44.6	67.1
1973	46.9	51.0	48.2	58.8	73.8	80.8	86.9	85.3	77.8	69.8	55.6	48.1	65.2
1974	40.4	46.3	60.3	63.2	77.9	88.3	84.1	83.7	76.7	64.7	54.2	44.4	65.4
1975	45.8	45.0	53.2	59.4	70.7	82.8	83.8	85.4	75.3	71.4	56.2	46.5	64.6
1976	46.3	52.9	53.6	65.6	74.5	85.2	86.9	83.7	78.2	63.9	58.4	46.1	66.3
1977	40.0	51.7	53.9	65.7	72.0	83.7	85.1	84.2	78.1	70.7	58.3	51.5	66.2
1978	44.1	46.7	57.5	66.0	71.1	84.2	88.5	80.5	73.3	71.6	53.5	40.5	64.8
1979	40.2	47.3	53.2	65.5	69.7	81.5	87.5	83.1	82.4	73.3	50.6	50.5	65.4
1980	43.8	50.2	53.1	64.4	69.7	85.1	89.6	83.5	80.6	70.8	58.8	57.0	67.2
1981	52.6	55.4	52.3	69.1	72.1	85.0	85.5	84.6	76.8	66.2	61.6	51.5	67.7
1982	43.0	47.6	54.6	63.3	70.4	82.1	84.7	82.6	77.3	66.7	52.3	44.7	64.1
1983	45.8	48.0	52.8	59.3	73.7	82.3	87.2	79.5	75.3	62.8	49.5	43.0	63.3
1984	44.1	53.6	59.5	63.5	81.7	83.8	88.4	84.8	79.9	59.2	56.4	48.0	66.9
1985	43.5	46.4	56.6	69.0	75.5	87.9	89.6	88.1	76.9	70.8	55.0	50.9	67.5
1986	58.8	53.3	61.7	67.0	76.8	85.4	86.1	88.1	78.2	68.3	55.9	47.1	68.9
1987	46.1	48.6	53.8	69.6	73.3	86.4	87.5	84.0	81.0	73.7	55.9	46.8	67.2
1988	43.8	54.7	60.8	66.9	76.5	86.9	90.0	84.4	78.7	75.8	56.7	49.8	68.7
1989	46.5	53.5	66.1	75.6	79.9	87.6	91.7	86.0	84.8	69.5	59.6	49.5	70.9
1990	46.7	48.8	56.4	67.2	72.6	91.0	88.3	85.3	81.5	71.6	58.7	43.3	67.6
1991	43.5	57.0	53.6	67.3	77.8	83.3	89.4	86.2	81.2	73.2	54.7	46.6	67.8
1992	42.6	51.5	58.4	71.7	71.9	83.4	86.0	85.7	82.4	72.5	51.1	45.2	66.9
1993	48.0	50.9	60.2	68.8	76.9	87.2	90.5	85.6	81.9	69.2	54.2	51.4	68.7
1994	52.0	51.4	61.4	67.9	77.1	90.9	92.1	90.0	82.8	67.5	53.5	51.3	69.8
1995	46.6	58.6	60.5	63.2	71.3	85.2	91.5	90.7	82.6	74.8	63.4	51.8	70.0
1996	52.0	58.2	61.5	71.5	82.8	89.1	92.3	89.1	76.3	68.5	58.9	50.9	70.9
1997	44.5	52.2	65.4	64.1	79.2	84.7	90.5	88.5	83.7	70.2	58.5	44.2	68.8
1998	48.4	45.5	57.3	62.2	76.2	85.1	89.6	89.3	85.1	70.6	59.7	52.7	68.5
1999	54.6	59.3	65.9	64.2	76.0	86.1	87.1	85.1	81.9	75.3	68.7	49.7	71.2
2000	53.3	60.4	59.4	73.4	84.2	89.7	93.4	89.9	86.4	68.4	50.3	52.8	71.8
2001	46.1	52.6	61.3	68.9	81.2	90.5	90.2	87.7	85.3	75.2	59.4	48.6	70.6
2002	48.8	55.6	62.0	73.5	80.5	92.2	91.6	89.2	81.0	68.5	59.2	44.6	70.6
2003	55.4	50.0	58.1	67.8	80.5	88.8	97.0	89.3	85.3	76.9	58.1	53.0	71.7
2004	49.2	49.0	67.3	66.8	81.5	89.2	91.3	87.5	81.8	69.9	55.6	50.5	70.0
2005	51.9	49.9	56.1	69.1	79.2	86.8	95.6	87.5	85.0	73.7	63.3	51.9	70.8
2006	54.8	58.4	56.8	72.8	84.0	92.2	91.0	84.2	77.6	68.5	62.0	49.9	71.0
2007	46.3	51.4	64.6	69.6	77.5	90.6	92.9	88.9	84.0	75.3	66.3	46.3	71.2
2008	44.9	50.4	62.2	70.6	76.0	89.3	89.3	89.8	83.9	73.9	62.3	48.7	70.1
<b>Average</b>	<b>46.6</b>	<b>50.7</b>	<b>57.1</b>	<b>66.1</b>	<b>75.4</b>	<b>85.6</b>	<b>88.8</b>	<b>85.7</b>	<b>80.3</b>	<b>70.0</b>	<b>57.0</b>	<b>47.8</b>	<b>67.6</b>
1949-2004 Av	46.4	50.6	56.9	65.8	75.2	85.3	88.5	85.5	80.2	69.8	56.5	47.7	67.4
1991-2005 Av	49.1	53.5	60.6	68.0	78.4	87.5	91.2	88.1	82.8	71.6	57.9	49.7	69.9

## Appendix A

### Zuni, NM NOAA Weather Station (299897) Average of Minimum Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1949	12.2	14.9	26.9	33.7	40.4	49.1	56.9	53.4	50.8	34.7	26.8	12.6	34.4
1950	16.9	24.3	26.4	34.0	37.7	46.0	56.4	50.7	44.0	39.4	23.2	17.7	34.7
1951	13.2	20.1	22.8	31.5	39.5	42.1	56.1	54.0	44.8	34.8	23.1	15.2	33.1
1952	21.8	18.6	21.2	33.9	40.7	47.9	53.3	53.8	45.3	33.2	17.6	14.2	33.4
1953	19.4	16.3	23.2	29.7	33.3	46.6	55.7	51.1	43.8	35.1	24.1	8.3	32.2
1954	18.9	22.2	24.3	35.5	41.1	45.3	55.4	51.6	47.4	37.0	23.5	14.2	34.7
1955	10.3	10.1	23.9	28.9	39.2	45.2	51.6	56.2	46.4	36.7	24.3	22.6	32.9
1956	24.0	11.1	24.7	29.4	38.2	49.7	50.5	51.3	46.1	35.9	16.1	12.1	32.4
1957	25.1	30.0	27.5	30.3	39.0	47.6	54.2	54.1	44.0	37.5	22.7	21.4	36.1
1958	19.0	25.8	26.3	30.9	41.5	50.2	52.8	56.1	49.0	37.4	22.7	17.5	35.8
1959	15.2	19.7	20.7	33.3	36.9	50.5	54.5	53.7	43.6	34.3	23.0	19.8	33.8
1960	8.4	16.5	27.7	31.4	38.8	51.5	57.1	55.7	49.2	35.7	26.4	18.3	34.7
1961	16.6	23.4	27.3	31.5	39.0	51.0	56.4	56.5	45.9	34.9	26.5	14.4	35.3
1962	12.4	23.9	23.1	35.2	37.4	47.3	57.0	54.5	50.5	38.1	30.3	19.9	35.8
1963	10.4	21.9	26.2	31.7	41.7	46.5	58.0	56.0	52.0	41.5	29.9	15.9	36.0
1964	10.6	9.9	21.6	30.0	40.9	47.4	58.6	55.6	49.4	36.8	24.8	19.2	33.7
1965	21.8	17.3	24.7	32.2	38.4	45.2	57.0	53.2	45.1	34.7	30.2	22.5	35.2
1966	14.9	14.5	26.7	34.2	43.6	49.7	57.6	55.9	49.3	36.3	28.8	17.5	35.8
1967	10.1	21.4	27.8	31.1	38.5	48.7	58.5	55.2	49.9	35.4	28.1	12.9	34.8
1968	12.1	27.4	28.4	32.4	39.4	47.9	55.2	51.3	44.7	35.6	25.9	10.7	34.3
1969	23.4	23.8	21.1	32.4	41.2	47.3	58.1	58.4	49.5	35.2	26.4	23.0	36.7
1970	16.6	24.8	25.1	26.9	39.3	48.4	57.6	55.8	45.8	32.0	24.3	15.1	34.3
1971	12.4	18.3	23.1	29.2	36.4	47.2	55.8	53.9	44.6	34.1	24.9	18.6	33.2
1972	16.8	19.1	27.2	28.8	36.9	48.0	55.9	54.3	46.6	41.3	24.7	14.9	34.5
1973	16.4	20.1	32.4	26.3	34.7	42.4	51.8	49.4	38.4	25.7	20.1	9.8	30.6
1974	14.1	11.4	24.7	23.1	36.4	46.9	54.9	50.5	43.2	37.8	20.9	10.8	31.2
1975	15.4	17.5	24.9	26.3	33.2	42.5	54.2	49.4	46.1	33.4	13.9	9.2	30.5
1976	10.2	20.9	18.5	30.5	39.1	44.2	53.7	51.5	47.0	29.5	17.1	7.6	30.8
1977	12.9	20.7	22.7	31.7	38.4	50.6	55.1	55.1	48.8	38.7	25.2	20.9	35.1
1978	21.2	22.4	29.6	30.4	35.9	48.4	55.1	50.4	44.6	35.5	30.7	16.8	35.1
1979	19.2	17.5	26.1	32.7	42.8	47.7	52.3	49.7	46.9	36.2	21.3	17.3	34.1
1980	24.9	26.3	26.3	31.4	35.7	45.6	51.5	51.0	46.0	32.1	22.4	27.8	35.1
1981	15.3	16.7	25.9	33.9	38.7	49.3	53.4	51.9	46.2	33.9	22.3	16.3	33.7
1982	12.6	20.0	26.0	28.9	36.1	41.8	50.4	53.9	46.6	28.8	25.6	16.9	32.3
1983	15.4	21.2	26.7	25.6	34.3	40.9	52.1	52.9	47.3	36.5	22.1	21.6	33.1
1984	14.0	12.5	21.0	27.9	38.5	46.3	54.9	53.2	46.4	32.7	23.4	22.0	32.7
1985	18.5	18.3	26.2	30.8	39.3	44.7	53.2	51.2	41.7	35.5	23.6	16.2	33.3
1986	17.8	21.8	25.7	30.4	35.5	47.9	54.0	54.0	42.6	32.7	25.9	19.8	34.0
1987	14.1	21.6	21.5	29.6	36.7	43.9	47.3	50.4	40.0	34.7	23.0	15.1	31.5
1988	13.5	19.3	16.7	27.3	34.9	44.9	53.0	53.7	40.0	33.6	19.0	14.0	30.8
1989	11.9	18.8	21.8	32.0	36.9	42.1	53.3	50.0	42.2	31.3	19.4	11.5	30.9
1990	12.3	17.8	27.3	33.8	37.3	46.0	52.4	49.6	49.6	31.7	24.4	10.3	32.7
1991	17.5	22.3	23.6	24.8	31.7	42.7	53.2	54.5	45.0	33.5	23.8	21.0	32.8
1992	13.5	24.7	28.0	31.7	42.5	43.1	50.4	50.4	43.3	35.2	18.7	15.4	33.1
1993	24.6	23.3	24.7	27.1	38.5	42.3	48.6	53.7	42.9	33.4	20.8	15.8	33.0
1994	12.6	18.3	26.5	31.0	38.1	46.9	55.8	62.4	45.7	33.6	23.6	21.7	34.7
1995	20.9	25.6	27.3	27.6	34.7	42.0	50.6	57.4	46.4	30.8	28.0	19.2	34.2
1996	16.9	25.5	22.8	29.3	37.5	47.6	55.7	54.0	44.5	35.5	25.4	18.1	34.4
1997	19.1	20.5	23.5	30.1	39.2	45.3	51.5	55.1	52.2	33.6	24.1	16.9	34.3
1998	21.3	21.4	24.4	27.8	34.9	40.1	56.7	55.4	49.2	35.3	26.2	17.8	34.2
1999	15.2	17.3	24.4	28.0	36.7	44.4	56.3	54.2	46.6	31.7	24.1	10.4	32.4
2000	18.7	21.5	25.4	31.0	38.2	49.2	55.8	53.9	48.0	38.0	21.2	16.8	34.8
2001	15.6	18.5	24.9	31.5	38.4	45.2	55.9	54.3	46.9	35.5	28.4	15.3	34.2
2002	15.3	16.3	21.1	32.9	34.8	46.1	56.3	50.3	44.6	34.5	25.0	18.9	33.0
2003	22.6	23.1	25.1	26.2	39.4	45.5	54.2	54.0	44.6	36.5	22.7	15.5	34.1
2004	18.9	18.9	30.7	32.2	35.5	45.6	50.3	51.0	43.6	33.9	26.2	14.0	33.4
2005	24.6	26.6	24.8	27.7	37.9	41.1	50.5	50.2	44.7	33.8	19.4	10.8	32.7
2006	11.9	12.2	19.7	28.2	35.0	45.1	52.2	50.2	37.8	28.9	16.6	9.9	29.0
2007	9.3	13.1	17.2	23.8	35.2	40.1	49.5	48.8	40.6	27.2	20.9	18.6	28.7
2008	16.4	20.3	21.9	23.2	32.0	41.6	49.8	47.4	37.7	25.7	24.9	18.7	30.0
<b>Average</b>	<b>16.3</b>	<b>19.8</b>	<b>24.6</b>	<b>30.1</b>	<b>37.7</b>	<b>45.9</b>	<b>54.1</b>	<b>53.1</b>	<b>45.6</b>	<b>34.4</b>	<b>23.6</b>	<b>16.3</b>	<b>33.5</b>
1949-2004 Av	16.3	19.9	24.9	30.4	37.9	46.2	54.4	53.4	46.0	34.8	23.9	16.4	33.7
1991-2005 Av	18.5	21.6	25.1	29.3	37.2	44.5	53.5	54.0	45.9	34.3	23.8	16.5	33.7

## Appendix A

### Zuni, NM NOAA Weather Station (299897) Average Monthly Temperature

Year	Values in Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1949	24.6	29.8	41.3	50.0	57.1	65.5	71.2	69.6	66.4	50.4	46.2	28.9	50.1
1950	31.5	39.0	42.3	51.6	56.1	65.9	71.1	69.0	60.7	59.1	43.3	36.8	52.2
1951	29.7	34.6	39.0	47.1	57.0	62.6	73.5	69.7	63.6	51.3	38.4	29.0	49.6
1952	34.1	33.1	34.4	48.8	57.7	65.9	70.3	70.5	63.6	55.0	33.2	28.9	49.6
1953	34.8	33.0	39.8	46.7	50.9	66.3	72.5	68.7	64.6	52.9	41.2	24.3	49.6
1954	34.2	40.1	38.6	53.6	58.3	65.1	72.4	68.2	64.5	55.1	43.1	30.5	52.0
1955	25.4	26.0	40.2	46.1	55.5	63.9	69.0	70.2	64.9	55.5	41.0	37.5	49.6
1956	37.4	26.7	42.8	46.1	58.2	69.0	69.1	67.8	65.9	53.4	35.2	30.0	50.1
1957	35.3	43.0	41.0	45.9	53.4	65.6	70.1	68.2	62.6	51.0	36.1	36.5	50.7
1958	32.4	38.7	36.8	46.3	60.1	68.8	70.7	71.7	63.6	53.1	39.7	36.6	51.6
1959	32.7	34.5	38.9	50.1	55.6	68.6	72.3	68.4	61.6	50.9	39.9	33.5	50.6
1960	24.1	29.1	43.5	49.3	56.2	68.8	72.8	72.1	66.1	50.4	42.3	31.0	50.5
1961	32.7	36.6	41.2	48.3	57.3	69.7	72.5	69.9	61.2	51.4	38.8	28.0	50.6
1962	26.8	36.2	36.7	52.8	55.5	65.7	72.4	71.8	64.8	53.8	44.7	35.0	51.4
1963	25.6	36.8	41.0	48.4	59.6	65.3	73.6	68.5	66.8	56.8	43.3	32.7	51.6
1964	27.1	26.0	35.6	45.0	58.0	65.6	73.5	69.4	63.3	55.6	39.2	32.0	49.2
1965	34.5	31.7	38.3	47.7	54.4	61.8	70.9	69.0	59.8	53.9	44.4	35.1	50.1
1966	29.2	29.2	43.4	50.7	61.1	66.9	74.1	71.1	64.0	53.5	45.0	31.5	51.6
1967	28.0	37.6	44.6	47.6	55.8	65.0	72.9	68.9	63.8	53.6	44.4	26.0	50.7
1968	27.5	40.4	42.1	46.5	56.1	66.3	70.6	66.1	62.0	53.1	39.3	26.9	49.7
1969	35.3	35.9	35.7	49.5	58.4	65.1	73.0	73.0	65.0	49.8	40.1	36.7	51.5
1970	31.1	39.1	38.2	42.8	57.5	65.6	72.8	71.2	61.0	47.4	41.4	31.9	50.0
1971	30.7	33.7	41.3	46.4	53.7	66.1	72.7	68.4	60.8	48.4	39.6	30.6	49.4
1972	33.2	37.7	46.5	48.2	56.2	64.7	72.9	69.1	62.7	52.2	36.9	29.7	50.8
1973	31.7	35.6	40.3	42.6	54.3	61.6	69.3	67.3	58.1	47.8	37.8	28.9	47.9
1974	27.3	28.8	42.5	43.2	57.1	67.6	69.5	67.1	60.0	51.3	37.5	27.6	48.3
1975	30.6	31.2	39.0	42.8	52.0	62.7	69.0	67.4	60.7	52.4	35.1	27.8	47.6
1976	28.2	36.9	36.1	48.1	57.3	64.7	70.3	67.6	62.6	46.7	37.8	26.9	48.6
1977	26.4	36.2	38.3	48.7	55.2	67.2	70.1	69.7	63.5	54.7	41.8	36.2	50.7
1978	32.6	34.6	43.5	48.2	53.5	66.3	71.8	65.5	59.0	53.6	42.1	28.7	49.9
1979	29.7	32.4	39.6	49.1	56.3	64.6	69.9	66.4	64.7	54.7	36.0	33.9	49.8
1980	34.4	38.2	39.7	47.9	52.7	65.3	70.5	67.3	63.3	51.5	40.6	42.4	51.2
1981	34.0	36.1	39.1	51.5	55.4	67.2	69.5	68.3	61.5	50.0	41.9	33.9	50.7
1982	27.8	33.8	40.3	46.1	53.3	61.9	67.6	68.3	61.9	47.7	39.0	30.8	48.2
1983	30.6	34.6	39.7	42.4	54.0	61.6	69.6	66.2	61.3	49.7	35.8	32.3	48.2
1984	29.1	33.1	40.3	45.7	60.1	65.1	71.7	69.0	63.2	46.0	39.9	35.0	49.8
1985	31.0	32.4	41.4	49.9	57.4	66.3	71.4	69.6	59.3	53.1	39.3	33.5	50.4
1986	38.3	37.5	43.7	48.7	56.2	66.7	70.0	71.1	60.4	50.5	40.9	33.5	51.5
1987	30.1	35.1	37.6	49.6	55.0	65.2	67.4	67.2	60.5	54.2	39.4	31.0	49.4
1988	28.6	37.0	38.7	47.1	55.7	65.9	71.5	69.1	59.3	54.7	37.9	31.9	49.8
1989	29.2	36.2	44.0	53.8	58.4	64.9	72.5	68.0	63.5	50.4	39.5	30.5	50.9
1990	29.5	33.3	41.9	50.5	55.0	68.5	70.3	67.5	65.5	51.7	41.6	26.8	50.2
1991	30.5	39.6	38.6	46.1	54.8	63.0	71.3	70.3	63.1	53.3	39.3	33.8	50.3
1992	28.0	38.1	43.2	51.7	57.2	63.3	68.2	68.0	62.8	53.9	34.9	30.3	50.0
1993	36.3	37.1	42.5	48.0	57.7	64.8	69.5	69.6	62.4	51.3	37.5	33.6	50.8
1994	32.3	34.8	43.9	49.4	57.6	68.9	73.9	76.2	64.2	50.6	38.6	36.5	52.2
1995	33.8	42.1	43.9	45.4	53.0	63.6	71.0	74.0	64.5	52.8	45.7	35.5	52.1
1996	34.5	41.9	42.2	50.4	60.2	68.3	74.0	71.6	60.4	52.0	42.2	34.5	52.7
1997	31.8	36.3	44.5	47.1	59.2	65.0	71.0	71.8	68.0	51.9	41.3	30.5	51.5
1998	34.8	33.4	40.8	45.0	55.5	62.6	73.2	72.4	67.1	52.9	43.0	35.3	51.3
1999	34.9	38.3	45.1	46.1	56.3	65.2	71.7	69.7	64.2	53.5	46.4	30.1	51.8
2000	36.0	40.9	42.4	52.2	61.2	69.5	74.6	71.9	67.2	53.2	35.7	34.8	53.3
2001	30.9	35.6	43.1	50.2	59.8	67.9	73.1	71.0	66.1	55.4	43.9	32.0	52.4
2002	32.0	35.9	41.5	53.2	57.7	69.1	74.0	69.8	62.8	51.5	42.1	31.8	51.8
2003	39.0	36.6	41.6	47.0	60.0	67.1	75.6	71.6	64.9	56.7	40.4	34.2	52.9
2004	34.1	33.9	49.0	49.5	58.5	67.4	70.8	69.3	62.7	51.9	40.9	32.3	51.7
2005	38.2	38.3	40.5	48.4	58.5	64.0	73.1	68.8	64.9	53.8	41.4	31.3	51.8
2006	33.3	35.3	38.3	50.5	59.5	68.7	71.6	67.2	57.7	48.7	39.3	29.9	50.0
2007	27.8	32.3	40.9	46.7	56.4	65.4	71.2	68.9	62.3	51.2	43.6	32.5	49.9
2008	30.6	35.4	42.0	46.9	54.0	65.5	69.6	68.6	60.8	49.8	43.6	33.7	50.0
<b>Average</b>	<b>31.4</b>	<b>35.3</b>	<b>40.9</b>	<b>48.1</b>	<b>56.6</b>	<b>65.8</b>	<b>71.4</b>	<b>69.4</b>	<b>63.0</b>	<b>52.2</b>	<b>40.3</b>	<b>32.1</b>	<b>50.5</b>
1949-2004 Av	31.4	35.3	40.9	48.1	56.6	65.8	71.4	69.5	63.1	52.3	40.2	32.1	50.5
1991-2005 Av	33.8	37.5	42.9	48.6	57.8	66.0	72.3	71.1	64.4	53.0	40.9	33.1	51.8

## Appendix A

### Zuni, NM NOAA Weather Station (299897) Total Monthly Precipitation

Year	Values in Inches												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1949	1.63	0.39	0.46	0.28	0.06	1.31	2.14	1.22	1.42	1.05	0.12	0.62	10.70
1950	0.86	0.56	0.42	0.02	0.00	0.18	1.39	0.07	0.74	0.00	0.06	0.11	4.41
1951	1.29	0.17	0.08	0.83	0.12	0.00	0.88	1.70	0.40	0.60	0.56	1.04	7.67
1952	0.99	0.61	0.59	2.01	0.17	1.16	1.54	2.67	0.88	0.00	1.84	0.19	12.65
1953	0.16	0.24	0.77	0.63	0.35	0.31	0.57	0.73	0.00	0.59	0.44	0.45	5.24
1954	0.23	0.29	2.57	0.30	0.88	0.09	2.12	0.63	1.48	0.44	0.17	0.56	9.76
1955	1.44	0.79	0.03	0.26	0.20	0.74	2.68	2.64	0.02	0.04	0.11	0.36	9.31
1956	2.31	0.56	0.04	0.44	0.05	0.01	3.30	0.82	0.02	0.42	0.05	0.44	8.46
1957	1.68	1.35	1.17	0.63	1.22	0.72	3.73	1.86	0.00	2.62	0.83	0.50	16.31
1958	0.33	0.68	1.09	0.60	0.16	0.29	0.92	2.33	2.54	0.77	0.71	0.09	10.51
1959	0.19	0.26	0.08	0.54	0.08	0.13	1.62	2.42	0.26	2.75	0.32	1.59	10.24
1960	0.68	0.60	0.63	0.27	0.48	0.62	0.79	0.35	0.86	3.14	0.41	0.39	9.22
1961	0.95	0.27	1.46	0.26	0.09	0.14	1.90	3.02	0.73	2.46	0.34	0.81	12.43
1962	0.98	0.85	0.35	0.48	0.03	0.01	0.57	0.58	2.19	3.24	1.54	0.37	11.19
1963	0.25	1.43	0.58	0.15	0.06	0.00	0.59	5.53	1.60	2.02	1.31	0.17	13.69
1964	0.43	0.73	0.62	0.93	0.03	0.00	3.19	2.77	1.30	0.11	0.82	1.13	12.06
1965	1.09	0.98	0.59	0.85	0.61	1.40	3.57	1.78	0.59	0.64	1.03	1.90	15.03
1966	0.33	0.58	0.40	0.83	0.00	0.06	1.47	2.75	3.21	0.11	0.58	1.59	11.91
1967	0.45	0.08	0.52	0.24	0.26	0.72	3.17	4.09	2.33	0.53	0.56	1.95	14.90
1968	0.70	0.82	2.21	1.53	0.63	0.25	2.57	3.11	0.32	0.76	1.30	1.74	15.94
1969	1.89	0.97	2.57	0.35	1.38	0.11	2.75	1.77	2.06	1.75	0.96	0.47	17.03
1970	0.64	0.78	1.54	0.79	0.11	0.82	1.77	1.57	1.84	0.91	0.32	1.11	12.20
1971	0.22	0.62	0.19	0.41	0.02	0.00	0.97	3.71	3.54	1.80	0.70	1.11	13.29
1972	0.06	0.02	0.00	0.18	0.47	1.51	0.93	0.82	0.72	6.65	1.31	1.21	13.88
1973	0.86	1.32	2.35	0.01	0.95	0.30	3.17	1.17	0.70	0.10	0.87	0.34	12.13
1974	1.38	0.39	0.13	0.25	0.00	0.02	1.45	2.54	0.73	4.15	0.19	0.10	11.32
1975	0.36	0.98	0.59	0.82	0.09	0.00	1.89	0.92	2.79	0.18	0.12	0.66	9.40
1976	0.10	0.39	0.77	0.27	0.42	0.04	3.57	1.08	0.71	0.71	0.10	0.67	8.83
1977	0.87	0.08	0.10	0.16	0.15	0.21	1.66	4.13	1.27	0.51	0.85	0.41	10.40
1978	1.11	1.49	2.21	0.13	0.67	0.00	0.56	0.61	0.44	0.47	1.15	1.48	10.32
1979	1.85	0.63	0.88	0.18	1.94	0.14	1.32	1.43	0.03	0.90	1.18	1.24	11.72
1980	2.55	2.74	0.65	0.17	0.25	0.00	0.68	1.01	0.48	0.34	0.00	1.03	9.90
1981	0.31	0.79	3.27	0.70	0.97	0.32	2.99	2.28	1.39	0.93	0.10	0.00	14.05
1982	0.64	1.32	0.64	0.00	0.71	0.00	2.30	5.22	1.93	0.30	0.99	1.54	15.59
1983	1.21	0.67	1.50	1.27	0.43	0.26	3.53	2.79	1.26	1.19	1.01	1.19	16.31
1984	0.06	0.01	1.05	1.11	0.07	0.11	1.74	1.95	4.64	1.82	0.44	1.85	14.85
1985	1.29	0.52	1.59	2.04	0.09	0.15	2.29	0.17	1.24	0.65	1.14	0.09	11.26
1986	0.00	0.72	1.37	0.91	0.38	0.78	2.68	3.34	1.35	1.72	2.54	1.91	17.70
1987	1.08	1.40	0.30	0.66	0.66	1.64	2.98	1.91	0.34	0.98	1.93	0.88	14.76
1988	0.81	0.70	0.00	2.48	0.35	1.52	1.13	5.90	1.37	0.07	0.63	0.08	15.04
1989	1.09	0.42	0.03	0.00	0.19	0.00	2.95	1.75	0.11	1.25	0.07	0.03	7.89
1990	0.31	0.42	1.06	0.51	1.12	0.23	0.72	2.36	2.26	0.97	0.94	2.03	12.93
1991	1.23	0.36	2.00	0.01	0.00	0.89	0.53	2.42	0.96	0.77	1.72	1.41	12.30
1992	1.23	0.44	1.84	0.10	3.29	0.28	4.52	2.75	0.58	1.23	0.47	1.69	18.42
1993	3.63	0.51	1.21	0.02	0.46	0.00	0.05	3.49	0.04	1.11	1.37	0.19	12.08
1994	0.02	0.90	0.81	1.43	1.10	0.69	1.98	1.72	1.71	2.62	0.55	0.89	14.42
1995	1.67	1.16	1.08	0.75	0.76	0.00	0.41	2.35	0.23	0.00	1.42	0.42	10.25
1996	0.63	0.80	0.36	0.21	0.00	0.41	3.01	1.94	2.74	1.24	1.25	0.00	12.59
1997	2.07	0.57	0.00	2.07	0.85	1.61	1.04	3.97	1.06	1.05	1.15	1.46	16.90
1998	0.64	2.02	1.98	0.74	0.00	0.00	3.57	1.83	1.40	3.22	1.50	0.68	17.58
1999	0.05	0.10	0.21	0.55	0.70	0.42	3.08	3.60	1.19	0.00	0.00	0.04	9.94
2000	0.59	0.50	1.79	0.00	0.00	1.09	0.12	2.13	0.45	2.12	0.65	0.18	9.62
2001	0.60	0.69	0.10	0.92	0.23	0.11	1.69	3.68	0.93	0.33	0.47	0.64	10.39
2002	0.85	0.18	0.56	0.79	0.00	0.33	1.15	1.92	2.83	1.63	0.31	1.68	12.23
2003	0.10	1.04	0.67	0.04	0.00	0.05	0.91	0.78	0.58	0.89	0.78	0.25	6.09
2004	0.42	0.51	0.92	0.62	0.00	0.20	0.39	1.34	1.16	0.57	0.72	0.92	7.77
2005	1.55	2.56	1.58	1.05	0.22	0.23	0.69	1.05	0.36	0.76	0.12	0.19	10.36
2006	0.11	0.00	1.08	0.28	0.00	0.52	1.83	1.92	1.49	1.75	0.42	1.12	10.52
2007	0.81	0.91	0.06	0.64	1.41	0.14	2.03	3.86	0.35	0.38	0.09	2.08	12.76
2008	1.48	1.36	0.14	0.16	1.68	0.07	2.04	1.32	0.39	1.38	0.69	1.74	12.45
<b>Average</b>	<b>0.89</b>	<b>0.74</b>	<b>0.90</b>	<b>0.60</b>	<b>0.46</b>	<b>0.39</b>	<b>1.86</b>	<b>2.19</b>	<b>1.18</b>	<b>1.19</b>	<b>0.74</b>	<b>0.85</b>	<b>11.98</b>
1949-2004 Av	0.88	0.70	0.91	0.60	0.43	0.40	1.88	2.20	1.21	1.20	0.77	0.82	12.02
1991-2005 Av	1.02	0.82	1.01	0.62	0.51	0.42	1.54	2.33	1.08	1.17	0.83	0.71	12.06

## Appendix A

### Zuni, NM NOAA Weather Station (299897) Frost Dates

Year	Spring 28	Spring 32	Fall 32	Fall 28
1949	4/12	5/7	10/9	10/10
1950	5/9	5/9	10/29	11/4
1951	5/2	6/2	10/6	10/13
1952	4/4	4/28	9/13	10/16
1953	5/29	5/31	10/14	10/25
1954	4/2	6/7	10/15	10/25
1955	5/16	5/16	10/7	10/7
1956	5/15	5/15	10/19	10/20
1957	4/28	5/21	10/8	10/22
1958	4/14	5/3	10/21	10/22
1959	5/10	5/27	9/25	11/5
1960	4/26	5/20	10/18	10/19
1961	5/8	5/13	10/10	10/24
1962	5/18	5/22	10/28	11/8
1963	5/12	5/12	11/1	11/16
1964	5/8	5/9	10/12	10/26
1965	5/9	5/10	9/21	10/1
1966	4/20	4/21	10/14	10/14
1967	5/6	5/15	10/7	10/16
1968	4/24	5/15	10/16	10/17
1969	4/27	5/7	10/5	10/5
1970	5/2	5/8	10/7	10/8
1971	5/19	6/4	9/19	10/18
1972	4/28	5/22	10/29	10/31
1973	5/8	6/1	9/3	9/27
1974	6/9	6/10	9/28	9/28
1975	5/23	5/24	10/4	10/14
1976	6/12	6/12	10/5	10/5
1977	5/27	5/27	10/25	11/1
1978	5/18	5/18	10/15	10/26
1979	5/13	5/13	10/21	10/21
1980	5/12	5/26	10/15	10/16
1981	5/27	5/27	10/16	10/16
1982	5/7	5/16	9/28	10/2
1983	5/18	6/5	10/12	10/12
1984	5/8	5/9	10/13	10/16
1985	5/14	5/22	9/23	10/23
1986	5/14	5/17	9/30	10/13
1987	5/27	5/29	9/15	10/17
1988	5/31	6/1	9/19	9/29
1989	5/12	6/1	9/14	10/18
1990	5/20	5/20	10/9	10/9
1991	5/15	5/31	10/5	10/26
1992	4/23	4/23	10/7	10/7
1993	6/7	6/8	9/25	10/20
1994	4/28	5/21	10/6	10/6
1995	5/9	6/9	9/30	10/5
1996	5/27	5/27	9/28	10/21
1997	5/4	5/4	10/8	10/13
1998	5/15	5/24	10/6	10/6
1999	6/5	6/5	10/8	10/17
2000	4/21	5/18	9/24	11/1
2001	6/14	6/14	10/11	10/11
2002	5/22	5/23	10/4	10/4
2003	5/11	5/12	10/14	10/24
2004	5/14	5/31	9/22	9/22
2005	5/12	6/5	10/10	10/20
2006	5/6	5/31	9/17	9/17
2007	6/8	6/9	9/24	9/25
2008	5/14	6/10	9/14	10/6
<b>Average</b>	<b>5/11</b>	<b>5/22</b>	<b>10/5</b>	<b>10/15</b>
1949-2004 Av	5/11	5/21	10/6	10/16
1991-2005 Av	5/15	5/25	10/3	10/13

Appendix A  
NOAA/NWS Weather Stations near Zuni Pueblo, NM  
Monthly Total of Missing Days

Sum of Year	Maximum Temperature Albuquerque(29034)												Grand Total
	1	2	3	4	5	6	7	8	9	10	11	12	
1914	31	28	31	30	31	30	31	31	30	31	30	31	365
1915	31	28	31	30	31	30	31	31	30	31	30	31	365
1916	31	29	31	30	31	30	31	31	30	31	30	31	366
1917	31	28	31	30	31	30	31	31	30	31	30	31	365
1918	31	28	31	30	31	30	31	31	30	31	30	31	365
1919	31	28	31	0	0	0	0	0	0	0	0	0	90
1920	0	0	0	0	0	0	0	0	0	0	0	0	0
1921	0	0	0	0	0	0	0	0	0	0	0	0	0
1922	0	0	0	0	0	0	0	31	0	0	0	0	31
1923	0	0	0	0	0	0	0	0	0	0	0	0	0
1924	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	0	0	0	0	0	0	0	0	0
1926	0	0	0	0	0	0	0	0	0	0	0	0	0
1927	0	0	0	0	0	0	0	0	0	0	0	0	0
1928	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	<b>186</b>	<b>169</b>	<b>186</b>	<b>150</b>	<b>155</b>	<b>150</b>	<b>155</b>	<b>186</b>	<b>150</b>	<b>155</b>	<b>150</b>	<b>155</b>	<b>1947</b>

# Appendix A

NOAA/NWS Weather Stations near Zuni Pueblo, NM  
Monthly Total of Missing Days

Sum of Year	month	Minimum Temperature Albuquerque(29034)												Grand Total
		1	2	3	4	5	6	7	8	9	10	11	12	
1914	31	28	31	30	31	30	31	31	30	31	30	31	31	365
1915	31	28	31	30	31	30	31	31	30	31	30	31	31	365
1916	31	29	31	30	31	30	31	31	30	31	30	31	31	366
1917	31	28	31	30	31	30	31	31	30	31	30	31	31	365
1918	31	28	31	30	31	30	31	31	30	31	30	31	31	365
1919	31	28	31	0	0	0	0	0	0	0	0	0	0	90
1920	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1921	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1922	0	0	0	0	0	0	0	31	0	0	0	0	0	31
1923	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1924	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1926	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1927	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1928	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	31	0	0	0	0	0	31
1948	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	186	169	186	150	155	150	155	217	150	155	150	155	155	1978

**Appendix A**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Monthly Total of Missing Days

Sum of Year	Daily Precipitation Albuquerque(29034)												Grand Total	
	month	1	2	3	4	5	6	7	8	9	10	11		12
1914	0	0	0	0	0	0	0	0	0	0	0	30	0	30
1915	0	0	0	0	31	30	0	0	30	31	30	31	0	183
1916	0	29	0	30	0	30	31	0	0	0	0	0	0	120
1917	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1918	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1919	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1920	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1921	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1922	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1923	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1924	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1926	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1927	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1928	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>30</b>	<b>31</b>	<b>60</b>	<b>31</b>	<b>0</b>	<b>30</b>	<b>31</b>	<b>60</b>	<b>31</b>	<b>333</b>	









**Appendix A**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Monthly Total of Missing Days

Maximum Temperature El Morro (292785)													
Sum of month													
Year	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
1914	31	28	31	30	31	30	31	31	30	31	30	31	365
1915	31	28	31	30	31	30	31	31	30	31	30	31	365
1916	31	29	31	30	31	30	31	31	30	31	30	31	366
1917	31	28	31	30	31	30	31	31	30	31	30	31	365
1918	31	28	31	30	31	30	31	31	30	31	30	31	365
1919	31	28	31	30	31	30	31	31	30	31	30	31	365
1920	31	29	31	30	31	30	31	31	30	31	30	31	366
1921	31	28	31	30	31	30	31	31	30	31	30	31	365
1922	31	28	31	30	31	30	31	31	30	31	30	31	365
1923	31	28	31	30	31	30	31	31	30	31	30	31	365
1924	31	29	31	30	31	30	31	31	30	31	30	31	366
1925	31	28	31	30	31	30	31	31	30	31	30	31	365
1926	31	28	31	30	31	30	31	31	30	31	30	31	365
1927	31	28	31	30	31	30	31	31	30	31	30	31	365
1928	31	29	31	30	31	30	31	31	30	31	30	31	366
1929	31	28	31	30	31	30	31	31	30	31	30	31	365
1930	31	28	31	30	31	30	31	31	30	31	30	31	365
1931	31	28	31	30	31	30	31	31	30	31	30	31	365
1932	31	29	31	30	31	30	31	31	30	31	30	31	366
1933	31	28	31	30	31	30	31	31	30	31	30	31	365
1934	31	28	31	30	31	30	31	31	30	31	30	31	365
1935	31	28	31	30	31	30	31	31	30	31	30	31	365
1936	31	29	31	30	31	30	31	31	30	31	30	31	366
1937	31	28	31	30	31	30	31	31	30	31	30	31	365
1938	31	28	1	0	0	0	0	0	0	0	0	0	60
1939	0	0	0	0	0	0	0	0	0	0	1	0	1
1940	1	0	1	1	2	0	0	0	0	0	2	2	9
1941	0	0	0	1	0	0	0	3	0	0	2	26	32
1942	9	7	10	30	0	0	0	0	0	0	0	0	56
1943	0	8	0	0	2	0	0	0	0	0	0	0	10
1944	0	0	3	0	0	0	0	0	0	0	0	0	3
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	2	0	0	30	3	35
1947	18	0	0	0	0	1	2	1	2	2	0	6	32
1948	3	0	3	12	3	1	15	1	2	8	0	3	51
1949	2	1	9	3	0	0	0	0	0	0	0	2	17
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	24	24
1955	2	0	0	0	0	0	0	0	0	0	0	1	3
1956	0	0	0	0	0	0	0	0	1	0	0	1	2
1957	1	0	0	0	0	0	0	0	0	0	0	0	1
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	12	0	0	0	0	12
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	1	0	0	1	2
1970	0	0	1	0	0	0	1	0	0	0	0	0	2
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	1	0	0	0	0	0	1
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	1	0	0	0	0	0	1
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	30	0	0	30
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	20	0	0	0	0	0	0	0	0	0	0	20
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand T	811	742	772	767	751	722	764	763	724	756	785	813	9170

**Appendix A**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Monthly Total of Missing Days

Minimum Temperature  
 El Morro (292785)

Year	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
1914	31	28	31	30	31	30	31	31	30	31	30	31	365
1915	31	28	31	30	31	30	31	31	30	31	30	31	365
1916	31	29	31	30	31	30	31	31	30	31	30	31	366
1917	31	28	31	30	31	30	31	31	30	31	30	31	365
1918	31	28	31	30	31	30	31	31	30	31	30	31	365
1919	31	28	31	30	31	30	31	31	30	31	30	31	365
1920	31	29	31	30	31	30	31	31	30	31	30	31	366
1921	31	28	31	30	31	30	31	31	30	31	30	31	365
1922	31	28	31	30	31	30	31	31	30	31	30	31	365
1923	31	28	31	30	31	30	31	31	30	31	30	31	365
1924	31	29	31	30	31	30	31	31	30	31	30	31	366
1925	31	28	31	30	31	30	31	31	30	31	30	31	365
1926	31	28	31	30	31	30	31	31	30	31	30	31	365
1927	31	28	31	30	31	30	31	31	30	31	30	31	365
1928	31	29	31	30	31	30	31	31	30	31	30	31	366
1929	31	28	31	30	31	30	31	31	30	31	30	31	365
1930	31	28	31	30	31	30	31	31	30	31	30	31	365
1931	31	28	31	30	31	30	31	31	30	31	30	31	365
1932	31	29	31	30	31	30	31	31	30	31	30	31	366
1933	31	28	31	30	31	30	31	31	30	31	30	31	365
1934	31	28	31	30	31	30	31	31	30	31	30	31	365
1935	31	28	31	30	31	30	31	31	30	31	30	31	365
1936	31	29	31	30	31	30	31	31	30	31	30	31	366
1937	31	28	31	30	31	30	31	31	30	31	30	31	365
1938	31	28	0	0	0	0	0	0	0	0	0	0	59
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	31	31
1942	0	0	0	30	0	0	0	0	0	0	0	0	30
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	30	0	0	30
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	7	0	0	7	0	0	7	0	0	21
1949	0	7	0	0	0	0	0	0	0	0	0	0	7
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	13	0	0	0	0	13
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	31	31
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	1	0	0	0	0	0	0	0	0	0	0	0	1
1979	0	2	0	0	0	0	0	0	0	0	0	0	2
1980	0	0	0	5	0	0	0	0	0	0	0	0	5
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	1	1
1984	0	0	0	0	0	0	0	0	0	1	0	0	1
1985	0	2	1	0	0	0	0	0	0	0	0	0	3
1986	0	0	0	1	0	0	0	0	0	0	0	0	1
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	1	1
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	1	0	0	0	1	2
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	1	0	0	0	0	0	0	0	0	0	0	0	1
1996	2	0	0	0	0	0	0	0	0	0	0	0	2
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	1	1
1999	0	0	0	0	3	0	0	0	0	30	0	0	33
2000	0	0	1	0	0	0	0	0	0	0	0	1	2
2001	0	0	0	0	0	0	0	0	0	1	0	0	1
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	1	1	0	0	0	0	0	0	0	0	0	1	3
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	1	0	0	0	0	0	0	0	0	0	0	1	2
2006	1	0	0	0	0	0	0	0	0	0	0	1	2
2007	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	2	2
<b>Grand T</b>	<b>782</b>	<b>711</b>	<b>753</b>	<b>757</b>	<b>753</b>	<b>720</b>	<b>751</b>	<b>758</b>	<b>720</b>	<b>752</b>	<b>781</b>	<b>816</b>	<b>9054</b>

**Appendix A**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Monthly Total of Missing Days

Daily Precipitation El Morro (292785)													
Sum of month													
Year	1	2	3	4	5	6	7	8	9	10	11	12	Grand Total
1914	31	28	31	30	31	30	31	31	30	31	30	31	365
1915	31	28	31	30	31	30	31	31	30	31	30	31	365
1916	31	29	31	30	31	30	31	31	30	31	30	31	366
1917	31	28	31	30	31	30	31	31	30	31	30	31	365
1918	31	28	31	30	31	30	31	31	30	31	30	31	365
1919	31	28	31	30	31	30	31	31	30	31	30	31	365
1920	31	29	31	30	31	30	31	31	30	31	30	31	366
1921	31	28	31	30	31	30	31	31	30	31	30	31	365
1922	31	28	31	30	31	30	31	31	30	31	30	31	365
1923	31	28	31	30	31	30	31	31	30	31	30	31	365
1924	31	29	31	30	31	30	31	31	30	31	30	31	366
1925	31	28	31	30	31	30	31	31	30	31	30	31	365
1926	31	28	31	30	31	30	31	31	30	31	30	31	365
1927	31	28	31	30	31	30	31	31	30	31	30	31	365
1928	31	29	31	30	31	30	31	31	30	31	30	31	366
1929	31	28	31	30	31	30	31	31	30	31	30	31	365
1930	31	28	31	30	31	30	31	31	30	31	30	31	365
1931	31	28	31	30	31	30	31	31	30	31	30	31	365
1932	31	29	31	30	31	30	31	31	30	31	30	31	366
1933	31	28	31	30	31	30	31	31	30	31	30	31	365
1934	31	28	31	30	31	30	31	31	30	31	30	31	365
1935	31	28	31	30	31	30	31	31	30	31	30	31	365
1936	31	29	31	30	31	30	31	31	30	31	30	31	366
1937	31	28	31	30	31	30	31	31	30	31	30	31	365
1938	31	28	0	0	0	0	0	0	0	0	0	0	59
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	31	31
1942	0	0	0	30	0	0	0	0	0	0	0	0	30
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	30	0	0	30
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	7	0	0	7	0	0	7	0	0	21
1949	0	0	7	0	0	0	0	0	0	0	0	0	7
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	13	0	0	0	0	13
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	31	31
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	1	0	0	0	0	0	0	0	0	0	0	0	1
1979	0	2	0	0	0	0	0	0	0	0	0	0	2
1980	0	0	0	0	5	0	0	0	0	0	0	0	5
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	1	1
1984	0	0	0	0	0	0	0	0	0	1	0	0	1
1985	0	2	1	0	0	0	0	0	0	0	0	0	3
1986	0	0	0	0	1	0	0	0	0	0	0	0	1
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	1	1
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	1	0	0	0	1	2
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	1	0	0	0	0	0	0	0	0	0	0	0	1
1996	2	0	0	0	0	0	0	0	0	0	0	0	2
1997	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	1	1
1999	0	0	0	0	3	0	0	0	0	0	30	0	33
2000	0	0	1	0	0	0	0	0	0	0	0	1	2
2001	0	0	0	0	0	0	0	0	0	0	1	0	1
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	1	1	0	0	0	0	0	0	0	0	0	1	3
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	1	0	0	0	0	0	0	0	0	0	0	1	2
2006	1	0	0	0	0	0	0	0	0	0	0	1	2
2007	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	2	2
Grand T	782	711	753	757	753	720	751	758	720	752	781	816	9054







**Appendix A**  
 NOAA/NWS Weather Stations near Zuni Pueblo, NM  
 Monthly Total of Missing Days

Sum of Year	Daily Precipitation Fence Lake (293180)												Grand Total
	month 1	2	3	4	5	6	7	8	9	10	11	12	
1914	31	28	31	30	31	30	31	31	30	31	30	31	365
1915	31	28	31	30	31	30	31	31	30	31	30	31	365
1916	31	29	31	30	31	30	31	31	30	31	30	31	366
1917	31	28	31	30	31	30	31	31	30	31	30	31	365
1918	31	28	31	30	31	30	31	31	30	31	30	31	365
1919	31	28	31	30	31	30	31	31	30	31	30	31	365
1920	31	29	31	30	31	30	31	31	30	31	30	31	366
1921	31	28	31	30	31	30	31	31	30	31	30	31	365
1922	31	28	31	30	31	30	31	31	30	31	30	31	365
1923	31	28	31	30	31	30	31	31	30	31	30	31	365
1924	31	29	31	30	31	30	31	31	30	31	30	31	366
1925	31	28	31	30	31	30	31	31	30	31	30	31	365
1926	31	28	31	30	31	30	31	31	30	31	30	31	365
1927	31	28	31	30	31	30	31	31	30	31	30	31	365
1928	31	29	31	30	31	30	31	31	30	31	30	31	366
1929	31	28	31	30	31	30	31	31	30	31	30	31	365
1930	31	28	31	30	31	30	31	31	30	31	30	31	365
1931	31	28	31	30	31	30	31	31	30	31	30	31	365
1932	31	29	31	30	31	30	31	31	30	31	30	31	366
1933	31	28	31	30	31	30	31	31	30	31	0	0	304
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	31	28	31	0	0	0	0	0	0	0	0	31	121
1938	0	0	31	30	0	0	31	31	30	31	30	31	245
1939	0	0	0	0	0	0	0	0	30	31	30	31	122
1940	31	29	31	30	31	30	31	31	0	0	0	0	244
1941	0	0	0	0	0	0	31	30	31	30	31	31	153
1942	0	28	0	0	31	30	31	31	30	31	30	31	273
1943	31	28	31	30	31	30	31	31	30	31	30	31	365
1944	31	29	31	30	31	0	0	0	30	31	30	31	274
1945	31	28	31	30	31	30	31	31	30	31	30	31	365
1946	31	28	31	30	31	30	31	31	30	31	30	31	365
1947	31	28	31	30	31	30	31	31	30	31	30	31	365
1948	31	29	31	30	31	30	31	31	30	31	30	31	366
1949	31	28	31	30	31	30	31	31	30	31	30	31	365
1950	31	28	31	30	31	30	31	31	30	31	30	31	365
1951	31	28	31	30	31	30	31	31	30	31	30	31	365
1952	31	29	31	30	31	30	31	31	30	31	30	31	366
1953	31	28	31	30	31	30	31	31	30	31	30	31	365
1954	31	28	31	30	31	30	31	31	30	31	30	31	365
1955	31	28	31	30	31	30	31	31	30	31	30	31	365
1956	31	29	31	30	31	30	31	31	30	31	30	31	366
1957	31	28	31	30	31	30	31	31	30	31	30	31	365
1958	31	28	31	30	31	30	31	31	30	31	30	31	365
1959	31	28	31	30	31	30	31	31	30	31	30	31	365
1960	31	29	31	30	31	30	31	31	30	31	30	31	366
1961	31	28	31	30	31	30	31	31	30	31	30	31	365
1962	31	28	31	30	31	30	31	31	30	31	30	31	365
1963	31	28	31	30	31	30	31	31	30	31	30	31	365
1964	31	29	31	30	0	0	0	0	0	0	0	0	121
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	31	30	0	61
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	30	31	61
1969	31	28	31	30	20	0	0	0	30	0	0	0	170
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	1	0	0	0	0	0	10	0	0	0	0	0	11
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	2	0	0	0	0	0	0	0	0	0	0	0	2
1978	0	1	0	0	0	0	0	0	0	0	0	0	1
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	1	0	1
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	1	0	0	0	0	0	0	0	0	0	0	0	1
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	1	0	1
2002	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	5	0	0	0	0	0	5
2005	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	31	30	31	92
2008	31	29	31	30	31	30	31	31	30	31	30	31	366
Grand Total	1430	1330	1457	1380	1384	1290	1379	1395	1410	1488	1442	1488	16873





















**Climate Data Assessment, Zuni Pueblo  
Appendix B**

**MODIFIED B-C GROSS CONSUMPTIVE USE  
Black Rock Weather Station**

Alfalfa													
Crop Potential Evapotranspiration (inches)													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
14	0	0	0	0.61	4.09	6.01	6.36	6.01	4.11	2.09	0.52	0	29.8
15	0	0	0	0.72	3.32	5.27	6.56	5.91	3.68	0.99	0	0	26.45
16	0	0	0	1.1	3.56	5.69	6.88	5.85	3.94	1.51	0	0	28.53
17	0	0	0	0.32	3.47	6.03	7.52	6.03	4.2	1.48	0	0	29.05
18	0	0	0	0	3.11	6.54	6.76	5.57	3.97	1.87	0	0	27.81
19	0	0	0	0.11	3.65	5.88	6.74	5.77	3.67	0.15	0	0	25.96
20	0	0	0	0	2.49	5.48	7.06	5.18	3.95	0.86	0	0	25.03
21	0	0	0	0.08	3.75	5.9	6.97	5.99	4.28	2.25	0	0	29.21
22	0	0	0	0.19	3.94	6.67	7.45	6.41	4.28	1.24	0	0	30.17
23	0	0	0	0.57	4	5.5	7.33	5.69	3.58	1.24	0	0	27.91
24	0	0	0	0.39	4.02	6.43	7.18	6.32	4.19	0.28	0	0	28.82
25	0	0	0	1.73	4.4	5.75	7.33	5.73	3.88	1.85	0	0	30.65
26	0	0	0	0.78	3.85	6.2	6.79	6.36	4.28	2.05	0	0	30.32
27	0	0	0	0.88	3.95	5.71	7.54	6.01	4.03	2.24	0.15	0	30.51
28	0	0	0	0.64	4.32	5.86	7.45	6.16	3.85	1.32	0	0	29.58
29	0	0	0	0.4	4.04	6.09	7.14	6.05	4.15	1.91	0	0	29.79
30	0	0	0	1.94	3.43	6.47	7.23	6.32	3.97	1.03	0	0	30.39
31	0	0	0	1.48	4.09	6.27	7.69	6.28	4.38	2.19	0	0	32.37
32	0	0	0	1.11	3.97	5.69	7.11	6.3	4	1.46	0	0	29.64
33	0	0	0	0	2.7	6.27	7.57	5.99	4.28	2.16	0.08	0	29.05
34	0	0	0	1.54	4.75	5.39	6.97	5.83	3.54	2.05	0	0	30.06
35	0	0	0	0.22	3.23	6.01	7.25	6.3	3.91	1.57	0	0	28.49
36	0	0	0	1.58	4.38	6.38	7.18	6.11	3.7	2.07	0.09	0	31.49
37	0	0	0	0.43	3.99	5.5	6.76	6.39	4.34	1.63	0	0	29.04
38	0	0	0	0.46	3.52	5.96	6.85	5.97	3.95	0.89	0	0	27.61
39	0	0	0	1.66	4.31	5.86	6.92	6.09	4.2	0.42	0	0	29.46
40	0	0	0	0.59	4	5.94	6.97	5.47	3.65	1.98	0	0	28.61
41	0	0	0	0	3.11	4.72	6.05	5.22	3.35	1.45	0	0	23.89
42	0	0	0	0.71	3.56	5.54	6.95	5.39	3.77	1.08	0	0	27
43	0	0	0	2.02	4.16	5.66	7.06	6.34	4	1.07	0	0	30.33
44	0	0	0	0	3.71	5.6	6.69	6.05	3.83	2.42	0.35	0	28.67
45	0	0	0	0.16	3.78	5.01	7.04	6.39	3.88	0	0	0	26.26
46	0	0	0	2.61	3.78	6.34	6.85	5.61	4.12	0.59	0	0	29.9
47	0	0	0	0.51	4.23	5.41	7.25	5.41	4.19	1.73	0	0	28.74
48	0	0	0	0.86	3.97	6.05	7.28	6.3	4.25	0.65	0	0	29.36
AV	0	0	0	0.75	3.79	5.86	7.05	5.96	3.98	1.42	0.03	0	28.86

EFFECTIVE PRECIPITATION, Inches

Black Rock Weather Station

YR	Alfalfa												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
14	0	0	0	0.09	0.74	0.49	3.84	2.82	0.52	1.11	0	0	9.61
15	0	0	0	0.36	1.5	1.03	2.84	1.94	1.01	0	0	0	8.68
16	0	0	0	0.01	0.26	0	2.69	1.66	1.23	1.51	0	0	7.36
17	0	0	0	0	0.86	0	1.42	0.1	0.6	0	0	0	2.98
18	0	0	0	0	0	0.41	1.81	1.56	0	0.61	0	0	4.39
19	0	0	0	0	0.59	0	3.98	0.74	2.36	0	0	0	7.67
20	0	0	0	0	0.15	0.39	1.69	0.55	0.59	0.11	0	0	3.48
21	0	0	0	0	0.09	0.83	4.29	2.02	0.19	0.27	0	0	7.69
22	0	0	0	0	0.28	0	0.91	2.07	0.19	0	0	0	3.45
23	0	0	0	0.03	0.35	0	1.49	2.39	2.23	0.19	0	0	6.68
24	0	0	0	0	0	0	1.14	0.67	0.45	0	0	0	2.26
25	0	0	0	0.17	0	0.66	2.25	1.5	1.42	0.63	0	0	6.63
26	0	0	0	0.21	1.29	0.1	1.67	0.4	1.38	0.17	0	0	5.22
27	0	0	0	0.04	0.09	1.06	1.89	1.22	2.41	0.09	0	0	6.8
28	0	0	0	0.01	1.18	0	1.73	1.24	0.36	0.43	0	0	4.95
29	0	0	0	0	0.09	0	4.65	2.02	2.06	0.67	0	0	9.49
30	0	0	0	0.55	0.57	0.5	1.47	1.4	0	0	0	0	4.49
31	0	0	0	0.37	0	0.67	2.74	1.47	1.59	0.76	0	0	7.6
32	0	0	0	0.29	0	0	2.86	1.62	0.18	0.25	0	0	5.2
33	0	0	0	0	0.11	0.67	2.43	0.75	1.25	1.4	0	0	6.61
34	0	0	0	0.38	1.28	0.2	1.05	2.73	0.73	0.04	0	0	6.41
35	0	0	0	0	0.92	0	1.06	1.69	0.44	0	0	0	4.11
36	0	0	0	0	0.53	0.41	0.97	3.09	0.8	0.8	0	0	6.6
37	0	0	0	0	0.6	0.73	2.53	0.5	0.9	0.39	0	0	5.65
38	0	0	0	0.02	0.27	1.14	0.31	0.66	0.95	0	0	0	3.35
39	0	0	0	0.33	0	0	0.69	0.58	1.04	0	0	0	2.64
40	0	0	0	0.05	0.35	0.57	0.88	1.62	1.95	0.92	0	0	6.34
41	0	0	0	0	0.72	0.29	0.92	0.95	2.15	1.07	0	0	6.1
42	0	0	0	0.07	0	0	0.88	1.26	0.94	0.39	0	0	3.54
43	0	0	0	0.21	0.36	0.97	0.88	1.32	0.36	0.33	0	0	4.43
44	0	0	0	0	0.35	0	1.35	1.53	1.08	0.54	0.15	0	5
45	0	0	0	0	0	0	1.3	1.85	0	0	0	0	3.15
46	0	0	0	0.06	0	0	0.95	3.44	1.3	0.01	0	0	5.76
47	0	0	0	0	1.04	0.38	1.23	1.75	0.28	0.56	0	0	5.24
48	0	0	0	0	0.18	0.49	1.15	0.59	1.11	0.2	0	0	3.72
AV	0	0	0	0.0929	0.4214	0.3426	1.8269	1.4771	0.9728571	0.3842857	0.0042857	0	5.5223

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER  
Black Rock Weather Station**

Alfalfa													
Crop Irrigation Requirement (inches)													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
14	0	0	0	0.52	3.35	5.52	2.52	3.19	3.59	0.98	0.52	0	20.18
15	0	0	0	0.36	1.82	4.24	3.72	3.97	2.67	0.99	0	0	17.77
16	0	0	0	1.09	3.3	5.69	4.19	4.19	2.71	0	0	0	21.17
17	0	0	0	0.32	2.61	6.03	6.1	5.93	3.6	1.48	0	0	26.07
18	0	0	0	0	3.11	6.13	4.95	4.01	3.97	1.26	0	0	23.42
19	0	0	0	0.11	3.06	5.88	2.76	5.03	1.31	0.15	0	0	18.29
20	0	0	0	0	2.34	5.09	5.37	4.63	3.36	0.75	0	0	21.54
21	0	0	0	0.08	3.66	5.07	2.68	3.97	4.09	1.98	0	0	21.54
22	0	0	0	0.19	3.66	6.67	6.54	4.34	4.09	1.24	0	0	26.75
23	0	0	0	0.54	3.65	5.5	5.84	3.3	1.35	1.05	0	0	21.22
24	0	0	0	0.39	4.02	6.43	6.04	5.65	3.74	0.28	0	0	26.56
25	0	0	0	1.56	4.4	5.09	5.08	4.23	2.46	1.22	0	0	24.03
26	0	0	0	0.57	2.56	6.1	5.12	5.96	2.9	1.88	0	0	25.09
27	0	0	0	0.84	3.86	4.65	5.65	4.79	1.62	2.15	0.15	0	23.71
28	0	0	0	0.63	3.14	5.86	5.72	4.92	3.49	0.89	0	0	24.65
29	0	0	0	0.4	3.95	6.09	2.49	4.03	2.09	1.24	0	0	20.29
30	0	0	0	1.39	2.86	5.97	5.76	4.92	3.97	1.03	0	0	25.89
31	0	0	0	1.11	4.09	5.6	4.95	4.81	2.79	1.43	0	0	24.77
32	0	0	0	0.82	3.97	5.69	4.25	4.68	3.82	1.21	0	0	24.42
33	0	0	0	0	2.59	5.6	5.14	5.24	3.03	0.76	0.08	0	22.44
34	0	0	0	1.16	3.47	5.19	5.92	3.1	2.81	2.01	0	0	23.67
35	0	0	0	0.22	2.31	6.01	6.19	4.61	3.47	1.57	0	0	24.38
36	0	0	0	1.58	3.85	5.97	6.21	3.02	2.9	1.27	0.09	0	24.88
37	0	0	0	0.43	3.39	4.77	4.23	5.89	3.44	1.24	0	0	23.39
38	0	0	0	0.44	3.25	4.82	6.54	5.31	3	0.89	0	0	24.23
39	0	0	0	1.33	4.31	5.86	6.23	5.51	3.16	0.42	0	0	26.81
40	0	0	0	0.54	3.65	5.37	6.09	3.85	1.7	1.06	0	0	22.26
41	0	0	0	0	2.39	4.43	5.13	4.27	1.2	0.38	0	0	17.81
42	0	0	0	0.64	3.56	5.54	6.07	4.13	2.83	0.69	0	0	23.47
43	0	0	0	1.81	3.8	4.69	6.18	5.02	3.64	0.74	0	0	25.89
44	0	0	0	0	3.36	5.6	5.34	4.52	2.75	1.88	0.2	0	23.66
45	0	0	0	0.16	3.78	5.01	5.74	4.54	3.88	0	0	0	23.11
46	0	0	0	2.55	3.78	6.34	5.9	2.17	2.82	0.58	0	0	24.14
47	0	0	0	0.51	3.19	5.03	6.02	3.66	3.91	1.17	0	0	23.5
48	0	0	0	0.86	3.79	5.56	6.13	5.71	3.14	0.45	0	0	25.64
AV	0	0	0	0.66	3.37	5.52	5.22	4.49	3.01	1.04	0.03	0	23.33
													23.338

**MODIFIED B-C GROSS CONSUMPTIVE USE  
Black Rock Weather Station**

Year	Crop Potential Evapotranspiration (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
14	0	0	0	0	1.42	3.58	5.91	5.99	3.29	0	0	0	20.18	
15	0	0	0	0	0.46	2.66	5.64	5.94	3.08	0	0	0	17.79	
16	0	0	0	0	0.77	2.97	5.87	5.91	3.8	0.36	0	0	19.68	
17	0	0	0	0	0.71	3.13	6.53	6.07	3.62	0	0	0	20.06	
18	0	0	0	0	0.64	3.38	5.9	5.59	3.17	0	0	0	18.68	
19	0	0	0	0	0.87	3.13	5.86	5.81	3.49	0.07	0	0	19.23	
20	0	0	0	0	0.47	2.69	5.66	5.27	3.91	0.7	0	0	18.7	
21	0	0	0	0	0.99	3.22	6.13	6.03	4.06	0.11	0	0	20.54	
22	0	0	0	0	1.23	3.81	6.73	6.42	3.82	0	0	0	22.02	
23	0	0	0	0	1.3	3.23	6.75	5.69	3.01	0	0	0	19.97	
24	0	0	0	0	1.32	3.72	6.55	6.33	3.55	0	0	0	21.48	
25	0	0	0	0	2.02	3.92	7.01	5.52	2.18	0	0	0	20.65	
26	0	0	0	0	1.18	3.54	6.13	6.38	3.84	0	0	0	21.08	
27	0	0	0	0	1.3	3.35	6.94	6.01	3.37	0	0	0	20.98	
28	0	0	0	0	1.62	3.58	7.04	6.08	2.85	0	0	0	21.18	
29	0	0	0	0	1.33	3.58	6.57	6.05	3.48	0	0	0	21.02	
30	0	0	0	0	0.73	3.35	6.17	6.39	3.81	0.25	0	0	20.7	
31	0	0	0	0	1.6	3.89	7.29	6.18	3.1	0	0	0	22.05	
32	0	0	0	0	1.36	3.39	6.61	6.28	3.25	0	0	0	20.88	
33	0	0	0	0	0.56	3.11	6.17	6.09	4.22	0.68	0	0	20.82	
34	0	0	0	0.08	2.24	3.82	6.7	5.57	1.83	0	0	0	20.23	
35	0	0	0	0	0.52	2.95	5.82	6.41	3.87	0.7	0	0	20.27	
36	0	0	0	0	1.97	4.26	6.86	5.92	2.22	0	0	0	21.23	
37	0	0	0	0	1.26	3.18	6.17	6.39	3.72	0	0	0	20.73	
38	0	0	0	0	0.75	3.06	5.8	6.04	3.83	0.42	0	0	19.9	
39	0	0	0	0	1.92	3.91	6.62	5.9	2.46	0	0	0	20.81	
40	0	0	0	0	1.32	3.49	6.42	5.47	3.06	0	0	0	19.76	
41	0	0	0	0	0.61	2.45	5.32	5.23	2.51	0	0	0	16.11	
42	0	0	0	0	0.75	2.85	5.89	5.45	3.65	0.3	0	0	18.89	
43	0	0	0	0	1.88	3.78	6.75	6.14	2.34	0	0	0	20.9	
44	0	0	0	0	0.92	3.02	5.85	6.1	3.64	0.09	0	0	19.62	
45	0	0	0	0	0.99	2.83	6.4	6.39	3.12	0	0	0	19.73	
46	0	0	0	0	1.5	3.93	6.5	5.52	2.88	0	0	0	20.32	
47	0	0	0	0	1.5	3.27	6.8	5.37	3.18	0	0	0	20.11	
48	0	0	0	0	1.33	3.55	6.7	6.3	3.52	0	0	0	21.41	
AV	0	0	0	0	1.18	3.36	6.34	5.95	3.28	0.11	0	0	20.22	

**EFFECTIVE PRECIPITATION, Inches**

**Black Rock Weather Station**

Corn Grain													
YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
14	0	0	0	0	0.47	0.43	3.75	2.82	0.41	0	0	0	7.88
15	0	0	0	0	0.36	0.89	2.7	1.94	0.85	0	0	0	6.74
16	0	0	0	0	0.06	0	2.54	1.66	1.22	0.33	0	0	5.81
17	0	0	0	0	0.28	0	1.34	0.11	0.52	0	0	0	2.25
18	0	0	0	0	0	0.35	1.73	1.56	0	0	0	0	3.64
19	0	0	0	0	0.22	0	3.79	0.74	2.34	0	0	0	7.09
20	0	0	0	0	0	0.34	1.56	0.56	0.59	0.09	0	0	3.14
21	0	0	0	0	0	0.71	4.09	2.02	0.18	0	0	0	7
22	0	0	0	0	0.13	0	0.86	2.06	0.16	0	0	0	3.21
23	0	0	0	0	0.2	0	1.44	2.39	1.93	0	0	0	5.96
24	0	0	0	0	0	0	1.1	0.68	0.37	0	0	0	2.15
25	0	0	0	0	0	0.59	2.21	1.48	0.77	0	0	0	5.05
26	0	0	0	0	0.72	0.09	1.6	0.41	1.28	0	0	0	4.1
27	0	0	0	0	0.03	0.92	1.83	1.22	2.07	0	0	0	6.07
28	0	0	0	0	0.83	0	1.69	1.23	0.24	0	0	0	3.99
29	0	0	0	0	0.02	0	4.5	2.02	1.78	0	0	0	8.32
30	0	0	0	0	0.17	0.42	1.38	1.41	0	0	0	0	3.38
31	0	0	0	0	0	0.59	2.68	1.46	1.12	0	0	0	5.85
32	0	0	0	0	0	0	2.78	1.62	0.13	0	0	0	4.53
33	0	0	0	0	0	0.56	2.25	0.75	1.25	0.34	0	0	5.15
34	0	0	0	0	1.11	0.18	1.03	2.69	0.33	0	0	0	5.34
35	0	0	0	0	0.22	0	0.99	1.7	0.44	0	0	0	3.35
36	0	0	0	0	0.45	0.36	0.95	3.07	0.44	0	0	0	5.27
37	0	0	0	0	0.34	0.64	2.45	0.5	0.79	0	0	0	4.72
38	0	0	0	0	0.05	0.97	0.3	0.66	0.94	0	0	0	2.92
39	0	0	0	0	0	0	0.69	0.58	0.58	0	0	0	1.85
40	0	0	0	0	0.19	0.5	0.85	1.62	1.68	0	0	0	4.84
41	0	0	0	0	0.26	0.25	0.88	0.95	1.62	0	0	0	3.96
42	0	0	0	0	0	0	0.83	1.26	0.94	0.05	0	0	3.08
43	0	0	0	0	0.31	0.87	0.87	1.31	0.16	0	0	0	3.52
44	0	0	0	0	0.13	0	1.29	1.54	1.07	0	0	0	4.03
45	0	0	0	0	0	0	1.25	1.85	0	0	0	0	3.1
46	0	0	0	0	0	0	0.94	3.43	0.91	0	0	0	5.28
47	0	0	0	0	0.7	0.34	1.2	1.75	0.19	0	0	0	4.18
48	0	0	0	0	0.09	0.42	1.11	0.59	0.93	0	0	0	3.14
AV	0	0	0	0	0.20971	0.29771	1.75571	1.47543	0.80657	0.02314	0	0	4.56829



**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER  
Black Rock Weather Station**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
14	0	0	0	0	0.95	3.15	2.16	3.17	2.88	0	0	0	12.31	
15	0	0	0	0	0.1	1.77	2.94	4	2.23	0	0	0	11.04	
16	0	0	0	0	0.71	2.97	3.33	4.25	2.58	0.03	0	0	13.88	
17	0	0	0	0	0.43	3.13	5.19	5.96	3.1	0	0	0	17.81	
18	0	0	0	0	0.64	3.03	4.17	4.03	3.17	0	0	0	15.05	
19	0	0	0	0	0.65	3.13	2.07	5.07	1.15	0.07	0	0	12.14	
20	0	0	0	0	0.47	2.35	4.1	4.71	3.32	0.61	0	0	15.57	
21	0	0	0	0	0.99	2.51	2.04	4.01	3.88	0.11	0	0	13.53	
22	0	0	0	0	1.1	3.81	5.87	4.36	3.66	0	0	0	18.8	
23	0	0	0	0	1.1	3.23	5.31	3.3	1.08	0	0	0	14.03	
24	0	0	0	0	1.32	3.72	5.45	5.65	3.18	0	0	0	19.33	
25	0	0	0	0	2.02	3.33	4.8	4.04	1.41	0	0	0	15.59	
26	0	0	0	0	0.46	3.45	4.53	5.97	2.56	0	0	0	16.97	
27	0	0	0	0	1.27	2.43	5.11	4.79	1.3	0	0	0	14.9	
28	0	0	0	0	0.79	3.58	5.35	4.85	2.61	0	0	0	17.18	
29	0	0	0	0	1.31	3.58	2.07	4.03	1.7	0	0	0	12.68	
30	0	0	0	0	0.56	2.93	4.79	4.98	3.81	0.25	0	0	17.32	
31	0	0	0	0	1.6	3.3	4.61	4.72	1.98	0	0	0	16.2	
32	0	0	0	0	1.36	3.39	3.83	4.66	3.12	0	0	0	16.34	
33	0	0	0	0	0.56	2.55	3.92	5.34	2.97	0.34	0	0	15.68	
34	0	0	0	0.08	1.13	3.64	5.67	2.88	1.5	0	0	0	14.89	
35	0	0	0	0	0.3	2.95	4.83	4.71	3.43	0.7	0	0	16.92	
36	0	0	0	0	1.52	3.9	5.91	2.85	1.78	0	0	0	15.96	
37	0	0	0	0	0.92	2.54	3.72	5.89	2.93	0	0	0	16.01	
38	0	0	0	0	0.7	2.09	5.5	5.38	2.89	0.42	0	0	16.96	
39	0	0	0	0	1.92	3.91	5.93	5.32	1.88	0	0	0	18.97	
40	0	0	0	0	1.13	2.99	5.57	3.85	1.38	0	0	0	14.91	
41	0	0	0	0	0.35	2.2	4.44	4.28	0.89	0	0	0	12.16	
42	0	0	0	0	0.75	2.85	5.06	4.19	2.71	0.25	0	0	15.82	
43	0	0	0	0	1.57	2.91	5.88	4.83	2.18	0	0	0	17.37	
44	0	0	0	0	0.79	3.02	4.56	4.56	2.57	0.09	0	0	15.6	
45	0	0	0	0	0.99	2.83	5.15	4.54	3.12	0	0	0	16.63	
46	0	0	0	0	1.5	3.93	5.56	2.09	1.97	0	0	0	15.05	
47	0	0	0	0	0.8	2.93	5.6	3.62	2.99	0	0	0	15.94	
48	0	0	0	0	1.24	3.13	5.59	5.71	2.59	0	0	0	18.26	
AV	0	0	0	0	0.97	3.06	4.59	4.47	2.47	0.08	0	0	15.65	

**MODIFIED B-C GROSS CONSUMPTIVE USE**

**Black Rock Weather Station**

**Pasture Grass/Hay**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
14	0	0	0	1.56	3.41	4.89	5.27	5.16	3.61	1.81	0.39	0	26.11
15	0	0	0	1.78	2.77	4.29	5.43	5.07	3.24	1.88	0.07	0	24.53
16	0	0	0.66	2.02	2.97	4.63	5.7	5.02	3.46	1.7	0	0	26.17
17	0	0	0	1.64	2.89	4.91	6.23	5.18	3.69	1.93	0.22	0	26.69
18	0	0	0	1.4	2.74	5.32	5.61	4.78	3.49	1.71	0	0	25.04
19	0	0	0	1.13	3.04	4.79	5.59	4.95	3.22	0.81	0	0	23.53
20	0	0	0	0.1	2.73	4.46	5.86	4.44	3.47	1.55	0	0	22.61
21	0	0	0.37	1.6	3.12	4.8	5.78	5.14	3.76	2.24	0.38	0	27.2
22	0	0	0	1.02	3.28	5.43	6.17	5.5	3.76	1.52	0	0	26.69
23	0	0	0	1.43	3.34	4.48	6.07	4.88	3.15	1.52	0	0	24.86
24	0	0	0	1.21	3.35	5.23	5.95	5.43	3.68	1.84	0.22	0	26.92
25	0	0	0.46	2.15	3.66	4.68	6.07	4.92	3.41	1.86	0	0	27.21
26	0	0	0.01	1.9	3.21	5.05	5.62	5.46	3.76	2.17	0.31	0	27.5
27	0	0	0	1.84	3.29	4.65	6.25	5.16	3.54	1.94	0.47	0	27.14
28	0	0	0.16	1.74	3.6	4.77	6.17	5.28	3.38	2.09	0.22	0	27.42
29	0	0	0	1.31	3.37	4.96	5.91	5.2	3.65	1.97	0	0	26.37
30	0	0	0.15	2.32	2.86	5.27	5.99	5.43	3.49	1.85	0	0	27.35
31	0	0	0.11	2.1	3.41	5.1	6.37	5.39	3.85	2.11	0.25	0	28.69
32	0	0	0	1.99	3.31	4.63	5.89	5.41	3.51	1.82	0.17	0	26.74
33	0	0	0	0.58	2.69	5.1	6.27	5.14	3.76	1.84	0	0	25.39
34	0	0	0.54	2.09	3.96	4.39	5.78	5	3.11	2.22	0.16	0	27.24
35	0	0	0	1.83	2.69	4.89	6.01	5.41	3.43	1.9	0.03	0	26.2
36	0	0	0.19	2.12	3.65	5.2	5.95	5.25	3.25	1.79	0.06	0	27.46
37	0	0	0	1.34	3.32	4.48	5.61	5.48	3.82	2.05	0.2	0	26.29
38	0	0	0	1.76	2.93	4.86	5.68	5.12	3.47	1.8	0	0	25.63
39	0	0	0.08	2.16	3.59	4.77	5.74	5.23	3.69	1.38	0	0	26.63
40	0	0	0	1.76	3.34	4.84	5.78	4.69	3.21	1.68	0	0	25.3
41	0	0	0	0.46	2.97	3.84	5.01	4.48	2.95	1.1	0	0	20.81
42	0	0	0	1.66	2.97	4.51	5.76	4.63	3.32	1.53	0	0	24.37
43	0	0	0.34	2.28	3.47	4.61	5.86	5.45	3.51	1.82	0.12	0	27.46
44	0	0	0	0.92	3.08	4.56	5.55	5.2	3.37	2.1	0.09	0	24.87
45	0	0	0	1.12	3.15	4.08	5.84	5.48	3.41	1.98	0.07	0	25.13
46	0	0	0.52	2.51	3.15	5.16	5.68	4.81	3.62	1.47	0	0	26.93
47	0	0	0	1.41	3.53	4.41	6.01	4.64	3.68	1.73	0	0	25.41
48	0	0	0	1.48	3.31	4.93	6.03	5.41	3.73	1.76	0	0	26.66
AV	0	0	0.1	1.59	3.2	4.77	5.84	5.12	3.5	1.79	0.1	0	26.02

EFFECTIVE PRECIPITATION, Inches

Black Rock Weather Station

Pasture Grass/Hay													
YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
14	0	0	0	0.53	0.72	0.46	3.61	2.69	0.51	1.09	0	0	9.61
15	0	0	0	1.22	1.45	0.97	2.66	1.85	0.99	0	0	0	9.14
16	0	0	0.45	0.16	0.26	0	2.52	1.58	1.19	1.7	0	0	7.86
17	0	0	0	0.38	0.83	0	1.32	0.1	0.58	0	0	0	3.21
18	0	0	0	0.11	0	0.38	1.71	1.49	0	0.65	0	0	4.34
19	0	0	0	0.25	0.56	0	3.74	0.71	2.3	0.07	0	0	7.63
20	0	0	0	0	0.26	0.37	1.59	0.53	0.57	0.42	0	0	3.74
21	0	0	0	0.24	0.08	0.77	4.02	1.92	0.18	0.32	0	0	7.53
22	0	0	0	0.25	0.26	0	0.84	1.96	0.18	0.05	0	0	3.54
23	0	0	0	0.32	0.35	0	1.38	2.28	2.19	0.35	0	0	6.87
24	0	0	0	0.26	0	0	1.06	0.64	0.43	0.32	0	0	2.71
25	0	0	0.23	0.32	0	0.62	2.1	1.44	1.38	0.78	0	0	6.87
26	0	0	0	0.85	1.24	0.1	1.56	0.38	1.34	0.24	0	0	5.71
27	0	0	0	0.29	0.08	1	1.76	1.17	2.34	0.08	0	0	6.72
28	0	0	0	0.31	1.13	0	1.61	1.17	0.34	0.92	0	0	5.48
29	0	0	0	0.24	0.09	0	4.34	1.94	2.01	0.84	0	0	9.46
30	0	0	0	0.81	0.56	0.47	1.37	1.33	0	0.08	0	0	4.62
31	0	0	0	0.74	0	0.63	2.54	1.4	1.55	0.86	0.25	0	7.97
32	0	0	0	0.79	0	0	2.67	1.54	0.17	0.46	0	0	5.63
33	0	0	0	0.12	0.17	0.63	2.26	0.71	1.21	1.36	0	0	6.46
34	0	0	0	0.74	1.23	0.19	0.98	2.6	0.71	0.08	0.02	0	6.55
35	0	0	0	0.29	0.89	0	0.99	1.61	0.42	0	0	0	4.2
36	0	0	0	0	0.51	0.39	0.91	2.95	0.78	0.78	0	0	6.32
37	0	0	0	0.09	0.57	0.69	2.38	0.47	0.88	0.67	0	0	5.75
38	0	0	0	0.48	0.26	1.08	0.3	0.63	0.92	0.07	0	0	3.74
39	0	0	0	0.6	0	0	0.66	0.55	1.01	0.26	0	0	3.08
40	0	0	0	0.51	0.35	0.54	0.82	1.55	1.9	0.87	0	0	6.54
41	0	0	0	0.28	0.84	0.27	0.86	0.91	2.11	0.87	0	0	6.14
42	0	0	0	0.37	0	0	0.82	1.21	0.93	0.8	0	0	4.13
43	0	0	0.1	0.32	0.35	0.92	0.83	1.26	0.34	0.85	0	0	4.97
44	0	0	0	0.03	0.34	0	1.27	1.46	1.06	0.53	0	0	4.69
45	0	0	0	0.01	0	0	1.22	1.76	0	0.66	0	0	3.65
46	0	0	0.02	0.08	0	0	0.89	3.29	1.27	0.27	0	0	5.82
47	0	0	0	0	1	0.37	1.15	1.67	0.27	0.68	0	0	5.14
48	0	0	0	0.09	0.18	0.47	1.07	0.56	1.07	0.94	0	0	4.38
AV	0	0	0.02286	0.34514	0.416	0.32343	1.70886	1.40886	0.94657	0.54057	0.00771	0	5.72

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Black Rock Weather Station**

**Pasture Grass/Hay**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
14	0	0	0	1.03	2.69	4.43	1.66	2.47	3.1	0.72	0.39	0	16.5
15	0	0	0	0.56	1.32	3.32	2.77	3.22	2.25	1.88	0.07	0	15.38
16	0	0	0.21	1.86	2.71	4.63	3.18	3.44	2.27	0	0	0	18.31
17	0	0	0	1.26	2.06	4.91	4.91	5.08	3.11	1.93	0.22	0	23.47
18	0	0	0	1.29	2.74	4.94	3.9	3.29	3.49	1.06	0	0	20.71
19	0	0	0	0.88	2.48	4.79	1.85	4.24	0.92	0.74	0	0	15.91
20	0	0	0	0.1	2.47	4.09	4.27	3.91	2.9	1.13	0	0	18.88
21	0	0	0.37	1.36	3.04	4.03	1.76	3.22	3.58	1.92	0.38	0	19.65
22	0	0	0	0.77	3.02	5.43	5.33	3.54	3.58	1.47	0	0	23.14
23	0	0	0	1.11	2.99	4.48	4.69	2.6	0.96	1.17	0	0	18
24	0	0	0	0.95	3.35	5.23	4.89	4.79	3.25	1.52	0.22	0	24.2
25	0	0	0.23	1.83	3.66	4.06	3.97	3.48	2.03	1.08	0	0	20.36
26	0	0	0.01	1.05	1.97	4.95	4.06	5.08	2.42	1.93	0.31	0	21.78
27	0	0	0	1.55	3.21	3.65	4.49	3.99	1.2	1.86	0.47	0	20.41
28	0	0	0.16	1.43	2.47	4.77	4.56	4.11	3.04	1.17	0.22	0	21.92
29	0	0	0	1.07	3.28	4.96	1.57	3.26	1.64	1.13	0	0	16.91
30	0	0	0.15	1.51	2.3	4.8	4.62	4.1	3.49	1.77	0	0	22.74
31	0	0	0.11	1.36	3.41	4.47	3.83	3.99	2.3	1.25	0	0	20.73
32	0	0	0	1.2	3.31	4.63	3.22	3.87	3.34	1.36	0.17	0	21.09
33	0	0	0	0.46	2.52	4.47	4.01	4.43	2.55	0.48	0	0	18.92
34	0	0	0.54	1.35	2.73	4.2	4.8	2.4	2.4	2.14	0.14	0	20.7
35	0	0	0	1.54	1.8	4.89	5.02	3.8	3.01	1.9	0.03	0	21.99
36	0	0	0.19	2.12	3.14	4.81	5.04	2.3	2.47	1.01	0.06	0	21.15
37	0	0	0	1.25	2.75	3.79	3.23	5.01	2.94	1.38	0.2	0	20.55
38	0	0	0	1.28	2.67	3.78	5.38	4.49	2.55	1.73	0	0	21.88
39	0	0	0.08	1.56	3.59	4.77	5.08	4.68	2.68	1.12	0	0	23.56
40	0	0	0	1.25	2.99	4.3	4.96	3.14	1.31	0.81	0	0	18.75
41	0	0	0	0.18	2.13	3.57	4.15	3.57	0.84	0.23	0	0	14.67
42	0	0	0	1.29	2.97	4.51	4.94	3.42	2.39	0.73	0	0	20.26
43	0	0	0.24	1.96	3.12	3.69	5.03	4.19	3.17	0.97	0.12	0	22.5
44	0	0	0	0.89	2.74	4.56	4.28	3.74	2.31	1.57	0.09	0	20.19
45	0	0	0	1.11	3.15	4.08	4.62	3.72	3.41	1.32	0.07	0	21.49
46	0	0	0.5	2.43	3.15	5.16	4.79	1.52	2.35	1.2	0	0	21.11
47	0	0	0	1.41	2.53	4.04	4.86	2.97	3.41	1.05	0	0	20.27
48	0	0	0	1.39	3.13	4.46	4.96	4.85	2.66	0.82	0	0	22.28
AV	0	0	0.08	1.25	2.79	4.45	4.13	3.71	2.55	1.24	0.09	0	20.3

**MODIFIED B-C GROSS CONSUMPTIVE USE  
Black Rock Weather Station**

Year	Crop Potential Evapotranspiration (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
14	0	0	0	0.83	3.62	6.87	4.41	0.36	0	0	0	0	16.09	
15	0	0	0	0.96	2.99	6.01	4.39	0.29	0	0	0	0	14.64	
16	0	0	0.32	1.45	4.06	5.32	1.41	0	0	0	0	0	12.57	
17	0	0	0	0.89	3.12	6.87	5.04	0.32	0	0	0	0	16.24	
18	0	0	0	0.73	2.86	7.49	4.86	0.41	0	0	0	0	16.35	
19	0	0	0	0.53	2.5	6.75	5.82	0.83	0	0	0	0	16.44	
20	0	0	0	0.04	1.44	5.23	8.08	2.64	0.04	0	0	0	17.47	
21	0	0	0.16	0.94	4	6.08	2.34	0	0	0	0	0	13.51	
22	0	0	0	0.46	2.46	7.51	6.79	1.1	0	0	0	0	18.33	
23	0	0	0	0.72	3.24	6.33	5.62	0.54	0	0	0	0	16.45	
24	0	0	0	0.58	2.88	7.45	6.03	0.82	0	0	0	0	17.77	
25	0	0	0.21	1.28	4.8	5.74	2.15	0	0	0	0	0	14.18	
26	0	0	0	1.05	3.73	6.99	3.67	0.1	0	0	0	0	15.55	
27	0	0	0	1	3.67	6.48	4.69	0.22	0	0	0	0	16.05	
28	0	0	0.06	0.99	4.38	6.4	3.42	0.04	0	0	0	0	15.29	
29	0	0	0	0.65	3.14	7.03	5.65	0.64	0	0	0	0	17.11	
30	0	0	0.06	1.31	3.43	7.17	3.52	0.05	0	0	0	0	15.54	
31	0	0	0.04	1.17	4.03	7.05	3.95	0.08	0	0	0	0	16.32	
32	0	0	0	1.1	3.79	6.42	4.04	0.15	0	0	0	0	15.49	
33	0	0	0	0.24	1.51	6.62	7.69	1.71	0	0	0	0	17.76	
34	0	0	0.25	1.25	5.24	5.3	1.82	0	0	0	0	0	13.87	
35	0	0	0	1	3.04	6.8	4.31	0.19	0	0	0	0	15.35	
36	0	0	0.08	1.2	4.43	6.97	3.3	0.03	0	0	0	0	16.02	
37	0	0	0	0.66	3.1	6.34	5.35	0.65	0	0	0	0	16.11	
38	0	0	0	0.96	3.26	6.77	4.26	0.22	0	0	0	0	15.47	
39	0	0	0.03	1.21	4.24	6.58	3.56	0.08	0	0	0	0	15.7	
40	0	0	0	0.96	3.77	6.73	4.14	0.16	0	0	0	0	15.77	
41	0	0	0	0.18	1.65	4.87	6.34	1.73	0	0	0	0	14.77	
42	0	0	0	0.88	3.15	6.33	4.82	0.35	0	0	0	0	15.53	
43	0	0	0.14	1.33	4.39	5.92	2.67	0	0	0	0	0	14.47	
44	0	0	0	0.41	2.2	6.23	6.27	1.15	0	0	0	0	16.26	
45	0	0	0	0.53	2.6	5.75	6.08	0.91	0	0	0	0	15.87	
46	0	0	0.24	1.51	4.17	6.23	1.86	0	0	0	0	0	14.01	
47	0	0	0	0.72	3.56	6.22	5.39	0.47	0	0	0	0	16.35	
48	0	0	0	0.74	3.09	6.98	5.76	0.64	0	0	0	0	17.2	
AV	0	0	0.05	0.87	3.36	6.45	4.56	0.48	0	0	0	0		

EFFECTIVE PRECIPITATION, Inches

Black Rock Weather Station

YR	Spring Grain												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
14	0	0	0	0.51	0.73	0.52	3.44	0.36	0	0	0	0	5.56
15	0	0	0	0.96	1.47	1.07	2.51	0.29	0	0	0	0	6.3
16	0	0	0.32	0.16	0.27	0	1.41	0	0	0	0	0	2.16
17	0	0	0	0.38	0.85	0	1.23	0	0	0	0	0	2.46
18	0	0	0	0.11	0	0.43	1.63	0.41	0	0	0	0	2.58
19	0	0	0	0.24	0.54	0	3.78	0.36	0	0	0	0	4.92
20	0	0	0	0	0.24	0.39	1.79	0.48	0.02	0	0	0	2.92
21	0	0	0	0.23	0.09	0.84	2.34	0	0	0	0	0	3.5
22	0	0	0	0.24	0.25	0	0.86	1.1	0	0	0	0	2.45
23	0	0	0	0.3	0.34	0	1.35	0.54	0	0	0	0	2.53
24	0	0	0	0.25	0	0	1.07	0.29	0	0	0	0	1.61
25	0	0	0.21	0.31	0	0.65	1.6	0	0	0	0	0	2.77
26	0	0	0	0.81	1.27	0.11	1.4	0.01	0	0	0	0	3.6
27	0	0	0	0.28	0.09	1.1	1.62	0.22	0	0	0	0	3.31
28	0	0	0	0.3	1.19	0	1.38	0.04	0	0	0	0	2.91
29	0	0	0	0.24	0.08	0	4.28	0.64	0	0	0	0	5.24
30	0	0	0	0.77	0.58	0.52	1.2	0.05	0	0	0	0	3.12
31	0	0	0	0.69	0	0.71	2.22	0.08	0	0	0	0	3.7
32	0	0	0	0.76	0	0	2.41	0.15	0	0	0	0	3.32
33	0	0	0	0.12	0.16	0.69	2.44	0.54	0	0	0	0	3.95
34	0	0	0	0.7	1.31	0.2	0.7	0	0	0	0	0	2.91
35	0	0	0	0.28	0.91	0	0.9	0.19	0	0	0	0	2.28
36	0	0	0	0	0.52	0.42	0.78	0.03	0	0	0	0	1.75
37	0	0	0	0.08	0.56	0.76	2.34	0.18	0	0	0	0	3.92
38	0	0	0	0.46	0.26	1.2	0.28	0.12	0	0	0	0	2.32
39	0	0	0	0.57	0	0	0.58	0.02	0	0	0	0	1.17
40	0	0	0	0.48	0.35	0.61	0.74	0.16	0	0	0	0	2.34
41	0	0	0	0.18	0.78	0.29	0.93	0.76	0	0	0	0	2.94
42	0	0	0	0.35	0	0	0.77	0.35	0	0	0	0	1.47
43	0	0	0.09	0.31	0.36	0.98	0.69	0	0	0	0	0	2.43
44	0	0	0	0.03	0.32	0	1.32	0.9	0	0	0	0	2.57
45	0	0	0	0.01	0	0	1.23	0.91	0	0	0	0	2.15
46	0	0	0.02	0.08	0	0	0.66	0	0	0	0	0	0.76
47	0	0	0	0	1.01	0.41	1.11	0.47	0	0	0	0	3
48	0	0	0	0.09	0.17	0.52	1.06	0.21	0	0	0	0	2.05
AV	0	0	0.01829	0.32229	0.42	0.35486	1.54429	0.28171	0.00057	0	0	0	2.942

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER  
Black Rock Weather Station**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
14	0	0	0	0.32	2.89	6.35	0.97	0	0	0	0	0	0	10.53
15	0	0	0	0	1.52	4.94	1.88	0	0	0	0	0	0	8.33
16	0	0	0	1.29	3.79	5.32	0	0	0	0	0	0	0	10.4
17	0	0	0	0.51	2.27	6.87	3.81	0.32	0	0	0	0	0	13.79
18	0	0	0	0.62	2.86	7.06	3.23	0	0	0	0	0	0	13.77
19	0	0	0	0.29	1.96	6.75	2.04	0.47	0	0	0	0	0	11.51
20	0	0	0	0.04	1.2	4.84	6.29	2.16	0.02	0	0	0	0	14.55
21	0	0	0.16	0.71	3.91	5.24	0	0	0	0	0	0	0	10.02
22	0	0	0	0.22	2.21	7.51	5.93	0	0	0	0	0	0	15.86
23	0	0	0	0.42	2.9	6.33	4.27	0	0	0	0	0	0	13.92
24	0	0	0	0.33	2.88	7.45	4.96	0.53	0	0	0	0	0	16.15
25	0	0	0	0.97	4.8	5.09	0.55	0	0	0	0	0	0	11.41
26	0	0	0	0.24	2.46	6.88	2.27	0.09	0	0	0	0	0	11.95
27	0	0	0	0.72	3.58	5.38	3.07	0	0	0	0	0	0	12.75
28	0	0	0.06	0.69	3.19	6.4	2.04	0	0	0	0	0	0	12.38
29	0	0	0	0.41	3.06	7.03	1.37	0	0	0	0	0	0	11.87
30	0	0	0.06	0.54	2.85	6.65	2.32	0	0	0	0	0	0	12.43
31	0	0	0.04	0.48	4.03	6.34	1.73	0	0	0	0	0	0	12.61
32	0	0	0	0.34	3.79	6.42	1.63	0	0	0	0	0	0	12.18
33	0	0	0	0.12	1.35	5.93	5.25	1.17	0	0	0	0	0	13.82
34	0	0	0.25	0.55	3.93	5.1	1.12	0	0	0	0	0	0	10.95
35	0	0	0	0.72	2.13	6.8	3.41	0	0	0	0	0	0	13.06
36	0	0	0.08	1.2	3.91	6.55	2.52	0	0	0	0	0	0	14.25
37	0	0	0	0.58	2.54	5.58	3.01	0.47	0	0	0	0	0	12.19
38	0	0	0	0.5	3	5.57	3.98	0.1	0	0	0	0	0	13.15
39	0	0	0.03	0.64	4.24	6.58	2.98	0.06	0	0	0	0	0	14.52
40	0	0	0	0.48	3.42	6.12	3.4	0	0	0	0	0	0	13.41
41	0	0	0	0	0.87	4.58	5.41	0.97	0	0	0	0	0	11.83
42	0	0	0	0.53	3.15	6.33	4.05	0	0	0	0	0	0	14.06
43	0	0	0.05	1.02	4.03	4.94	1.98	0	0	0	0	0	0	12.02
44	0	0	0	0.38	1.88	6.23	4.95	0.25	0	0	0	0	0	13.7
45	0	0	0	0.52	2.6	5.75	4.85	0	0	0	0	0	0	13.72
46	0	0	0.22	1.43	4.17	6.23	1.2	0	0	0	0	0	0	13.25
47	0	0	0	0.72	2.55	5.81	4.28	0	0	0	0	0	0	13.37
48	0	0	0	0.65	2.92	6.46	4.7	0.43	0	0	0	0	0	15.16
AV	0	0	0.03	0.55	2.94	6.1	3.01	0.2	0	0	0	0	0	12.83

**MODIFIED B-C GROSS CONSUMPTIVE USE**

**Black Rock Weather Station**

**Small Vegetables/Misc. Crops**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
14	0	0	0	0.19	1.65	3.69	4.64	4.61	2.78	0.56	0	0	18.13
15	0	0	0	0.22	1.44	3.4	4.86	4.32	1.81	0	0	0	16.06
16	0	0	0	0.35	1.56	3.56	5.04	4.49	2.71	0.64	0	0	18.36
17	0	0	0	0.09	1.38	3.8	5.57	4.45	2.14	0	0	0	17.43
18	0	0	0	0	1.11	3.97	5	4.12	1.88	0	0	0	16.08
19	0	0	0	0.03	1.33	3.6	4.97	4.36	2.17	0.03	0	0	16.5
20	0	0	0	0	0.82	2.92	5.03	4.01	2.71	0.42	0	0	15.92
21	0	0	0	0.02	1.33	3.42	5.02	4.64	3.06	0.87	0	0	18.37
22	0	0	0	0.06	1.42	3.93	5.38	4.95	3	0.63	0	0	19.37
23	0	0	0	0.17	1.66	3.49	5.43	4.21	1.92	0	0	0	16.88
24	0	0	0	0.12	1.6	4.05	5.32	4.68	2.17	0	0	0	17.93
25	0	0	0	0.58	2.13	3.72	5.42	4.36	2.59	0.57	0	0	19.37
26	0	0	0	0.24	1.57	3.77	4.92	4.93	3.13	1.08	0	0	19.64
27	0	0	0	0.28	1.75	3.67	5.59	4.49	2.37	0.08	0	0	18.22
28	0	0	0	0.19	1.74	3.59	5.43	4.73	2.64	0.66	0	0	18.98
29	0	0	0	0.12	1.5	3.57	5.13	4.71	3.05	0.98	0	0	19.06
30	0	0	0	0.68	1.8	4.36	5.37	4.66	2.33	0.12	0	0	19.3
31	0	0	0	0.49	1.94	4.04	5.69	4.78	2.87	0.54	0	0	20.34
32	0	0	0	0.36	1.8	3.66	5.26	4.76	2.45	0.2	0	0	18.48
33	0	0	0	0	0.9	3.35	5.37	4.67	3.11	0.73	0	0	18.13
34	0	0	0	0.51	2.19	3.41	5.12	4.48	2.5	0.92	0	0	19.13
35	0	0	0	0.06	1.16	3.52	5.23	4.88	2.78	0.72	0	0	18.35
36	0	0	0	0.53	2.16	4.21	5.33	4.55	2.21	0.15	0	0	19.14
37	0	0	0	0.13	1.53	3.31	4.91	4.93	3.05	0.76	0	0	18.6
38	0	0	0	0.14	1.38	3.67	5.03	4.56	2.57	0.37	0	0	17.7
39	0	0	0	0.56	2.16	3.89	5.14	4.52	2.5	0.14	0	0	18.91
40	0	0	0	0.18	1.52	3.46	4.99	4.28	2.76	1.17	0	0	18.36
41	0	0	0	0	1.1	2.83	4.47	3.85	1.49	0	0	0	13.73
42	0	0	0	0.22	1.51	3.5	5.14	4.07	2.29	0.14	0	0	16.87
43	0	0	0	0.7	2.16	3.79	5.24	4.72	2.42	0.2	0	0	19.24
44	0	0	0	0	1.34	3.41	4.93	4.57	2.26	0.04	0	0	16.56
45	0	0	0	0.05	1.45	3.14	5.21	4.69	1.85	0	0	0	16.38
46	0	0	0	0.94	2.05	4.3	5.09	4.17	2.53	0.26	0	0	19.36
47	0	0	0	0.15	1.67	3.3	5.29	4.16	2.87	0.63	0	0	18.07
48	0	0	0	0.27	1.69	3.81	5.38	4.78	2.68	0.29	0	0	18.91
AV	0	0	0	0.25	1.59	3.63	5.17	4.52	2.5	0.4	0	0	18.05



EFFECTIVE PRECIPITATION, Inches

Black Rock Weather Station

Small Vegetables/Misc. Crops													
YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
14	0	0	0	0.1	0.65	0.43	3.48	2.61	0.48	0.47	0	0	8.22
15	0	0	0	0.22	1.35	0.92	2.58	1.78	0.79	0	0	0	7.64
16	0	0	0	0.01	0.24	0	2.42	1.54	1.14	0.64	0	0	5.99
17	0	0	0	0	0.77	0	1.27	0.09	0.48	0	0	0	2.61
18	0	0	0	0	0	0.35	1.65	1.43	0	0	0	0	3.43
19	0	0	0	0	0.51	0	3.61	0.68	2.17	0	0	0	6.97
20	0	0	0	0	0.14	0.33	1.51	0.51	0.55	0.11	0	0	3.15
21	0	0	0	0	0.08	0.72	3.85	1.87	0.17	0.15	0	0	6.84
22	0	0	0	0	0.24	0	0.8	1.9	0.17	0	0	0	3.11
23	0	0	0	0.03	0.32	0	1.34	2.19	1.92	0	0	0	5.8
24	0	0	0	0	0	0	1.03	0.62	0.35	0	0	0	2
25	0	0	0	0.16	0	0.59	2.02	1.39	1.32	0.32	0	0	5.8
26	0	0	0	0.2	1.13	0.09	1.51	0.37	1.3	0.15	0	0	4.75
27	0	0	0	0.05	0.08	0.94	1.7	1.13	2.2	0	0	0	6.1
28	0	0	0	0	1.03	0	1.54	1.14	0.33	0.42	0	0	4.46
29	0	0	0	0	0.08	0	4.15	1.88	1.94	0.57	0	0	8.62
30	0	0	0	0.52	0.53	0.45	1.32	1.28	0	0	0	0	4.1
31	0	0	0	0.35	0	0.59	2.45	1.36	1.46	0.29	0	0	6.5
32	0	0	0	0.29	0	0	2.58	1.49	0.17	0.01	0	0	4.54
33	0	0	0	0	0.1	0.57	2.15	0.69	1.17	0.73	0	0	5.41
34	0	0	0	0.36	1.11	0.17	0.95	2.53	0.68	0.02	0	0	5.82
35	0	0	0	0	0.82	0	0.95	1.57	0.41	0	0	0	3.75
36	0	0	0	0	0.47	0.36	0.88	2.84	0.74	0.04	0	0	5.33
37	0	0	0	0	0.52	0.65	2.29	0.46	0.84	0.33	0	0	5.09
38	0	0	0	0.03	0.24	1.01	0.29	0.62	0.89	0	0	0	3.08
39	0	0	0	0.31	0	0	0.63	0.53	0.95	0	0	0	2.42
40	0	0	0	0.06	0.31	0.5	0.79	1.51	1.85	0.88	0	0	5.9
41	0	0	0	0	0.65	0.26	0.84	0.88	1.49	0	0	0	4.12
42	0	0	0	0.06	0	0	0.79	1.17	0.87	0.05	0	0	2.94
43	0	0	0	0.19	0.32	0.88	0.79	1.21	0.33	0.08	0	0	3.8
44	0	0	0	0	0.3	0	1.22	1.4	0.99	0	0	0	3.91
45	0	0	0	0	0	0	1.17	1.68	0	0	0	0	2.85
46	0	0	0	0.05	0	0	0.86	3.17	1.19	0	0	0	5.27
47	0	0	0	0	0.9	0.34	1.11	1.64	0.26	0.35	0	0	4.6
48	0	0	0	0	0.16	0.43	1.04	0.54	1.01	0.19	0	0	3.37
AV	0	0	0	0.08543	0.37286	0.30229	1.64457	1.36286	0.87457	0.16571	0	0	4.80829

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Black Rock Weather Station**

**Small Vegetables/Misc. Crops**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
14	0	0	0	0.09	1	3.26	1.16	2	2.3	0.09	0	0	9.91
15	0	0	0	0	0.09	2.48	2.28	2.54	1.02	0	0	0	8.41
16	0	0	0	0.34	1.32	3.56	2.62	2.95	1.57	0	0	0	12.37
17	0	0	0	0.09	0.61	3.8	4.3	4.36	1.66	0	0	0	14.82
18	0	0	0	0	1.11	3.62	3.35	2.69	1.88	0	0	0	12.64
19	0	0	0	0.03	0.82	3.6	1.36	3.68	0	0.03	0	0	9.53
20	0	0	0	0	0.68	2.59	3.52	3.5	2.16	0.31	0	0	12.76
21	0	0	0	0.02	1.25	2.7	1.17	2.77	2.89	0.72	0	0	11.53
22	0	0	0	0.06	1.18	3.93	4.58	3.05	2.83	0.63	0	0	16.25
23	0	0	0	0.14	1.34	3.49	4.09	2.02	0	0	0	0	11.09
24	0	0	0	0.12	1.6	4.05	4.29	4.06	1.82	0	0	0	15.93
25	0	0	0	0.42	2.13	3.13	3.4	2.97	1.27	0.25	0	0	13.58
26	0	0	0	0.04	0.44	3.68	3.41	4.56	1.83	0.93	0	0	14.89
27	0	0	0	0.23	1.67	2.73	3.89	3.36	0.17	0.08	0	0	12.13
28	0	0	0	0.19	0.71	3.59	3.89	3.59	2.31	0.24	0	0	14.52
29	0	0	0	0.12	1.42	3.57	0.98	2.83	1.11	0.41	0	0	10.42
30	0	0	0	0.16	1.27	3.91	4.05	3.38	2.33	0.12	0	0	15.22
31	0	0	0	0.14	1.94	3.45	3.24	3.42	1.41	0.25	0	0	13.84
32	0	0	0	0.07	1.8	3.66	2.68	3.27	2.28	0.19	0	0	13.96
33	0	0	0	0	0.8	2.78	3.22	3.98	1.94	0	0	0	12.72
34	0	0	0	0.15	1.08	3.24	4.17	1.95	1.82	0.9	0	0	13.31
35	0	0	0	0.06	0.34	3.52	4.28	3.31	2.37	0.72	0	0	14.61
36	0	0	0	0.53	1.69	3.85	4.45	1.71	1.47	0.11	0	0	13.82
37	0	0	0	0.13	1.01	2.66	2.62	4.47	2.21	0.43	0	0	13.53
38	0	0	0	0.11	1.14	2.66	4.74	3.94	1.68	0.37	0	0	14.65
39	0	0	0	0.25	2.16	3.89	4.51	3.99	1.55	0.14	0	0	16.49
40	0	0	0	0.12	1.21	2.96	4.2	2.77	0.91	0.29	0	0	12.46
41	0	0	0	0	0.45	2.57	3.63	2.97	0	0	0	0	9.63
42	0	0	0	0.16	1.51	3.5	4.35	2.9	1.42	0.09	0	0	13.93
43	0	0	0	0.51	1.84	2.91	4.45	3.51	2.09	0.12	0	0	15.43
44	0	0	0	0	1.04	3.41	3.71	3.17	1.27	0.04	0	0	12.63
45	0	0	0	0.05	1.45	3.14	4.04	3.01	1.85	0	0	0	13.53
46	0	0	0	0.89	2.05	4.3	4.23	1	1.34	0.26	0	0	14.07
47	0	0	0	0.15	0.77	2.96	4.18	2.52	2.61	0.28	0	0	13.49
48	0	0	0	0.27	1.53	3.38	4.34	4.24	1.67	0.1	0	0	15.53
AV	0	0	0	0.16	1.21	3.33	3.53	3.16	1.63	0.23	0	0	13.25

MODIFIED B-C GROSS CONSUMPTIVE USE

Zuni Weather Station

Alfalfa

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	1.38	4.06	5.92	7.21	6.15	4.59	0.88	0	0	30.19
50	0	0	0	1.89	3.88	6.01	7.18	6.03	3.7	3	0.22	0	31.92
51	0	0	0	0.57	4.04	5.31	7.76	6.18	4.14	1.09	0	0	29.08
52	0	0	0	1.01	4.16	6.01	6.99	6.34	4.14	1.47	0	0	30.13
53	0	0	0	0	2.49	6.09	7.52	5.97	4.3	1.95	0	0	28.31
54	0	0	0	2.26	4.27	5.83	7.49	5.87	4.28	2.14	0	0	32.14
55	0	0	0	0.23	3.78	5.58	6.69	6.28	4.34	0.72	0	0	27.62
56	0	0	0	0.49	4.25	6.7	6.72	5.79	4.51	1.7	0	0	30.14
57	0	0	0	0	3.36	5.94	6.95	5.87	3.98	1.62	0	0	27.72
58	0	0	0	0.65	4.6	6.65	7.09	6.6	4.14	1.78	0	0	31.51
59	0	0	0	1.38	3.8	6.61	7.47	5.91	3.83	2.07	0.2	0	31.27
60	0	0	0	1.09	3.9	6.65	7.59	6.69	4.54	1.46	0	0	31.92
61	0	0	0	0.86	4.09	6.86	7.52	6.22	3.77	1.75	0	0	31.06
62	0	0	0	1.98	3.78	5.96	7.49	6.62	4.33	2.38	0.4	0	32.94
63	0	0	0	1.01	4.51	5.88	7.79	5.93	4.65	2.72	0.7	0	33.18
64	0	0	0	0.31	4.22	5.94	7.76	6.11	4.09	2.24	0	0	30.68
65	0	0	0	0.42	3.6	5.15	7.13	6.03	3.57	0.09	0	0	25.99
66	0	0	0	1.72	4.79	6.23	7.91	6.47	4.2	1.25	0	0	32.57
67	0	0	0	0.56	3.83	5.81	7.61	6.01	4.17	1.4	0	0	29.4
68	0	0	0	0.37	3.88	6.09	7.06	5.45	3.89	1.43	0	0	28.17
69	0	0	0	1.24	4.29	5.83	7.64	6.88	4.36	0.45	0	0	30.7
70	0	0	0	0.03	4.13	5.94	7.59	6.49	3.74	0.61	0	0	28.53
71	0	0	0	0.02	3.48	6.05	7.57	5.91	3.71	1.24	0	0	27.97
72	0	0	0	0.75	3.9	5.75	7.61	6.05	4	2.18	0	0	30.24
73	0	0	0	0	3.22	5.11	6.76	5.69	3.08	0	0	0	23.85
74	0	0	0	0.03	4.06	6.38	6.81	5.65	3.41	0	0	0	26.33
75	0	0	0	0	2.54	5.33	6.69	5.71	3.7	1.16	0	0	25.13
76	0	0	0	0.81	4.09	5.75	6.99	5.75	3.98	0.4	0	0	27.77
77	0	0	0	0.81	3.73	6.29	6.95	6.18	4.12	2.48	0.05	0	30.61
78	0	0	0	0.43	3.45	6.09	7.35	5.33	3.45	2.03	0	0	28.13
79	0	0	0	1.03	3.92	5.73	6.9	5.51	4.31	1.84	0	0	29.23
80	0	0	0	0.17	3.32	5.88	7.04	5.69	4.09	1.3	0	0	27.48
81	0	0	0	1.74	3.76	6.29	6.81	5.89	3.82	1.21	0	0	29.52
82	0	0	0	0	3.33	5.17	6.38	5.89	3.88	0.17	0	0	24.81
83	0	0	0	0	3.11	5.11	6.83	5.47	3.79	0.93	0	0	25.24
84	0	0	0	0.56	4.6	5.83	7.32	6.03	4.08	1.06	0	0	29.48
85	0	0	0	1.35	4.11	6.09	7.25	6.15	3.49	1.8	0	0	30.25
86	0	0	0	0.89	3.9	6.18	6.92	6.47	3.65	1.02	0	0	29.04
87	0	0	0	1.15	3.7	5.86	6.33	5.67	3.67	1.46	0	0	27.83
88	0	0	0	0.44	3.82	6.01	7.28	6.05	3.41	0	0	0	27
89	0	0	0	2.66	4.29	5.79	7.52	5.83	4.12	1.37	0	0	31.58
90	0	0	0	1.52	3.7	6.58	6.99	5.73	4.44	0.82	0	0	29.78
91	0	0	0	0.14	3.66	5.39	7.23	6.3	4.06	2.03	0	0	28.82
92	0	0	0	1.98	4.07	5.46	6.51	5.83	4.01	0.66	0	0	28.53
93	0	0	0	0.81	4.16	5.77	6.81	6.15	3.95	1.53	0	0	29.19
94	0	0	0	1.19	4.14	6.67	7.86	7.6	4.23	0.54	0	0	32.24
95	0	0	0	0	3.14	5.52	7.16	7.1	4.28	0.48	0	0	27.68
96	0	0	0	1.57	4.62	6.54	7.88	6.58	3.65	1.61	0	0	32.45
97	0	0	0	0.73	4.43	5.81	7.16	6.62	4.85	1.17	0	0	30.78
98	0	0	0	0.06	3.78	5.31	7.69	6.75	4.7	0.6	0	0	28.9
99	0	0	0	0.32	3.92	5.86	7.32	6.18	4.23	1.48	0	0	29.3
0	0	0	0	2.14	4.81	6.81	8.03	6.64	4.72	2.31	0.04	0	35.5
1	0	0	0	1.51	4.54	6.45	7.66	6.45	4.54	1.1	0	0	32.25
2	0	0	0	2.3	4.16	6.72	7.88	6.2	4.01	0.37	0	0	31.65
3	0	0	0	0.76	4.58	6.27	8.29	6.58	4.34	2.21	0	0	33.02
4	0	0	0	1.25	4.31	6.34	7.11	6.09	3.11	0	0	0	28.2
5	0	0	0	0.96	4.31	5.6	7.66	5.99	4.34	1.71	0	0	30.57
6	0	0	0	1.55	4.49	6.63	7.3	5.67	2.09	0	0	0	27.73
7	0	0	0	0.43	3.94	5.9	7.21	6.01	3.4	0	0	0	26.88
8	0	0	0	0.17	3.53	5.92	6.83	5.95	3.71	0.5	0	0	26.61
AV	0	0	0	0.86	3.94	5.99	7.27	6.12	4	1.25	0.03	0	29.45

EFFECTIVE PRECIPITATION, Inches

Zuni Weather Station

Alfalfa													
YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUA L
49	0	0	0	0.03	0	1.07	1.79	1	1.06	0.2	0	0	5.15
50	0	0	0	0	0	0.11	1.22	0	0.51	0	0	0	1.84
51	0	0	0	0.05	0	0	0.82	1.39	0.28	0.12	0	0	2.66
52	0	0	0	0.45	0.09	1	1.29	2.13	0.68	0	0	0	5.64
53	0	0	0	0	0.16	0.2	0.54	0.58	0	0.31	0	0	1.79
54	0	0	0	0.1	0.68	0	1.81	0.49	1.11	0.19	0	0	4.38
55	0	0	0	0	0.09	0.56	2.17	2.05	0	0	0	0	4.87
56	0	0	0	0	0	0	2.6	0.66	0	0.13	0	0	3.39
57	0	0	0	0	0.82	0.57	2.91	1.51	0	1.16	0	0	6.97
58	0	0	0	0.02	0.1	0.21	0.8	1.87	1.76	0.37	0	0	5.13
59	0	0	0	0.12	0	0	1.41	1.87	0.18	1.73	0	0	5.31
60	0	0	0	0.01	0.35	0.51	0.73	0.32	0.69	1.18	0	0	3.79
61	0	0	0	0	0	0	1.66	2.32	0.51	1.22	0	0	5.71
62	0	0	0	0.2	0	0	0.53	0.51	1.59	1.98	0.23	0	5.04
63	0	0	0	0	0	0	0.55	3.87	1.2	1.33	0.42	0	7.37
64	0	0	0	0	0	0	2.68	2.17	0.96	0	0	0	5.81
65	0	0	0	0.03	0.43	1.1	2.86	1.45	0.43	0	0	0	6.3
66	0	0	0	0.3	0	0	1.36	2.21	2.19	0	0	0	6.06
67	0	0	0	0	0.18	0.57	2.65	3.01	1.63	0.12	0	0	8.16
68	0	0	0	0.08	0.43	0.2	2.14	2.29	0.18	0.27	0	0	5.59
69	0	0	0	0.05	1.05	0	2.36	1.52	1.52	0.14	0	0	6.64
70	0	0	0	0	0	0.66	1.58	1.33	1.27	0.1	0	0	4.94
71	0	0	0	0	0	0	0.91	2.74	2.31	0.67	0	0	6.63
72	0	0	0	0	0.35	1.21	0.81	0.66	0.52	2.18	0	0	5.73
73	0	0	0	0	0.56	0.2	2.53	0.98	0.44	0	0	0	4.71
74	0	0	0	0	0	0	1.28	1.92	0.47	0	0	0	3.67
75	0	0	0	0	0	0	1.58	0.74	1.9	0	0	0	4.22
76	0	0	0	0	0.27	0	2.84	0.9	0.51	0	0	0	4.52
77	0	0	0	0	0.09	0.1	1.45	3.05	0.96	0.33	0	0	5.98
78	0	0	0	0	0.5	0	0.53	0.47	0.26	0.26	0	0	2.02
79	0	0	0	0	1.36	0	1.12	1.12	0	0.4	0	0	4
80	0	0	0	0	0.18	0	0.61	0.82	0.36	0.04	0	0	2.01
81	0	0	0	0.26	0.73	0.21	2.4	1.8	1.02	0.28	0	0	6.7
82	0	0	0	0	0.47	0	1.85	3.68	1.35	0	0	0	7.35
83	0	0	0	0	0.21	0.2	2.75	2.1	0.95	0.27	0	0	6.48
84	0	0	0	0.09	0	0	1.48	1.6	2.99	0.59	0	0	6.75
85	0	0	0	0.62	0	0.1	1.94	0.1	0.86	0.33	0	0	3.95
86	0	0	0	0.15	0.27	0.67	2.19	2.56	1	0.45	0	0	7.29
87	0	0	0	0.16	0.51	1.29	2.33	1.5	0.18	0.34	0	0	6.31
88	0	0	0	0.23	0.27	1.23	0.98	4.13	0.96	0	0	0	7.8
89	0	0	0	0	0.09	0	2.5	1.44	0	0.48	0	0	4.51
90	0	0	0	0.15	0.8	0.1	0.61	1.86	1.66	0.14	0	0	5.32
91	0	0	0	0	0	0.72	0.43	1.91	0.74	0.44	0	0	4.24
92	0	0	0	0	2.23	0.2	3.36	2.14	0.43	0.13	0	0	8.49
93	0	0	0	0	0.36	0	0	2.64	0	0.46	0	0	3.46
94	0	0	0	0.38	0.82	0.6	1.77	1.5	1.24	0.3	0	0	6.61
95	0	0	0	0	0.51	0	0.33	2	0.09	0	0	0	2.93
96	0	0	0	0	0	0.32	2.54	1.57	1.83	0.53	0	0	6.79
97	0	0	0	0.33	0.68	1.28	0.89	3.05	0.85	0.27	0	0	7.35
98	0	0	0	0	0	0	2.96	1.51	1.06	0.37	0	0	5.9
99	0	0	0	0	0.52	0.31	2.54	2.72	0.9	0	0	0	6.99
0	0	0	0	0	0	0.95	0	1.73	0.37	1.35	0	0	4.4
1	0	0	0	0.3	0.09	0	1.51	2.83	0.69	0	0	0	5.42
2	0	0	0	0.41	0	0.21	1.1	1.54	1.93	0.08	0	0	5.27
3	0	0	0	0	0	0	0.85	0.69	0.44	0.47	0	0	2.45
4	0	0	0	0.13	0	0.11	0.32	1.07	0.63	0	0	0	2.26
5	0	0	0	0.19	0.1	0.1	0.63	0.91	0.27	0.32	0	0	2.52
6	0	0	0	0.05	0	0.41	1.56	1.5	0.56	0	0	0	4.08
7	0	0	0	0	1.03	0	1.71	2.89	0.21	0	0	0	5.84
8	0	0	0	0	1.2	0	1.67	1.07	0.27	0.13	0	0	4.34
AV	0	0	0	0.0815	0.30967	0.288	1.55533	1.69983	0.816	0.36933	0.01083	0	5.1305

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Zuni Weather Station**

**Alfalfa**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	1.35	4.06	4.85	5.42	5.15	3.53	0.68	0	0	25.04
50	0	0	0	1.89	3.88	5.9	5.96	6.03	3.19	3	0.22	0	30.08
51	0	0	0	0.52	4.04	5.31	6.94	4.79	3.86	0.97	0	0	26.43
52	0	0	0	0.56	4.07	5.01	5.7	4.21	3.46	1.47	0	0	24.49
53	0	0	0	0	2.33	5.89	6.98	5.39	4.3	1.64	0	0	26.53
54	0	0	0	2.16	3.59	5.83	5.68	5.38	3.17	1.95	0	0	27.76
55	0	0	0	0.23	3.69	5.02	4.52	4.23	4.34	0.72	0	0	22.75
56	0	0	0	0.49	4.25	6.7	4.12	5.13	4.51	1.57	0	0	26.77
57	0	0	0	0	2.54	5.37	4.04	4.36	3.98	0.46	0	0	20.75
58	0	0	0	0.63	4.5	6.44	6.29	4.73	2.38	1.41	0	0	26.39
59	0	0	0	1.26	3.8	6.61	6.06	4.04	3.65	0.34	0.2	0	25.95
60	0	0	0	1.08	3.55	6.14	6.86	6.37	3.85	0.28	0	0	28.13
61	0	0	0	0.86	4.09	6.86	5.86	3.9	3.26	0.53	0	0	25.35
62	0	0	0	1.78	3.78	5.96	6.96	6.11	2.74	0.4	0.17	0	27.92
63	0	0	0	1.01	4.51	5.88	7.24	2.06	3.45	1.39	0.28	0	25.82
64	0	0	0	0.31	4.22	5.94	5.08	3.94	3.13	2.24	0	0	24.87
65	0	0	0	0.39	3.17	4.05	4.27	4.58	3.14	0.09	0	0	19.7
66	0	0	0	1.42	4.79	6.23	6.55	4.26	2.01	1.25	0	0	26.5
67	0	0	0	0.56	3.65	5.24	4.96	3	2.54	1.28	0	0	21.22
68	0	0	0	0.29	3.45	5.89	4.92	3.16	3.71	1.16	0	0	22.58
69	0	0	0	1.19	3.24	5.83	5.28	5.36	2.84	0.31	0	0	24.05
70	0	0	0	0.03	4.13	5.28	6.01	5.16	2.47	0.51	0	0	23.57
71	0	0	0	0.02	3.48	6.05	6.66	3.17	1.4	0.57	0	0	21.35
72	0	0	0	0.75	3.55	4.54	6.8	5.39	3.48	0	0	0	24.5
73	0	0	0	0	2.66	4.91	4.23	4.71	2.64	0	0	0	19.15
74	0	0	0	0.03	4.06	6.38	5.53	3.73	2.94	0	0	0	22.67
75	0	0	0	0	2.54	5.33	5.11	4.97	1.8	1.16	0	0	20.91
76	0	0	0	0.81	3.82	5.75	4.15	4.85	3.47	0.4	0	0	23.24
77	0	0	0	0.81	3.64	6.19	5.5	3.13	3.16	2.15	0.05	0	24.63
78	0	0	0	0.43	2.95	6.09	6.82	4.86	3.19	1.77	0	0	26.11
79	0	0	0	1.03	2.56	5.73	5.78	4.39	4.31	1.44	0	0	25.24
80	0	0	0	0.17	3.14	5.88	6.43	4.87	3.73	1.26	0	0	25.48
81	0	0	0	1.48	3.03	6.08	4.41	4.09	2.8	0.93	0	0	22.81
82	0	0	0	0	2.86	5.17	4.53	2.21	2.53	0.17	0	0	17.46
83	0	0	0	0	2.9	4.91	4.08	3.37	2.84	0.66	0	0	18.77
84	0	0	0	0.47	4.6	5.83	5.84	4.43	1.09	0.47	0	0	22.74
85	0	0	0	0.73	4.11	5.99	5.31	6.05	2.63	1.47	0	0	26.29
86	0	0	0	0.74	3.63	5.51	4.73	3.91	2.65	0.57	0	0	21.74
87	0	0	0	0.99	3.19	4.57	4	4.17	3.49	1.12	0	0	21.52
88	0	0	0	0.21	3.55	4.78	6.3	1.92	2.45	0	0	0	19.2
89	0	0	0	2.66	4.2	5.79	5.02	4.39	4.12	0.89	0	0	27.08
90	0	0	0	1.37	2.9	6.48	6.38	3.87	2.78	0.68	0	0	24.46
91	0	0	0	0.14	3.66	4.67	6.8	4.39	3.32	1.59	0	0	24.57
92	0	0	0	1.98	1.84	5.26	3.15	3.69	3.58	0.53	0	0	20.03
93	0	0	0	0.81	3.8	5.77	6.81	3.51	3.95	1.07	0	0	25.72
94	0	0	0	0.81	3.32	6.07	6.09	6.1	2.99	0.24	0	0	25.63
95	0	0	0	0	2.63	5.52	6.83	5.1	4.19	0.48	0	0	24.76
96	0	0	0	1.57	4.62	6.22	5.34	5.01	1.82	1.08	0	0	25.66
97	0	0	0	0.4	3.75	4.53	6.27	3.57	4	0.9	0	0	23.41
98	0	0	0	0.06	3.78	5.31	4.73	5.24	3.64	0.23	0	0	22.99
99	0	0	0	0.32	3.4	5.55	4.78	3.46	3.33	1.48	0	0	22.33
0	0	0	0	2.14	4.81	5.86	8.03	4.91	4.35	0.96	0.04	0	31.09
1	0	0	0	1.21	4.45	6.45	6.15	3.62	3.85	1.1	0	0	26.84
2	0	0	0	1.89	4.16	6.51	6.78	4.66	2.08	0.29	0	0	26.37
3	0	0	0	0.76	4.58	6.27	7.44	5.89	3.9	1.74	0	0	30.58
4	0	0	0	1.12	4.31	6.23	6.79	5.02	2.48	0	0	0	25.94
5	0	0	0	0.77	4.21	5.5	7.03	5.08	4.07	1.39	0	0	28.04
6	0	0	0	1.5	4.49	6.22	5.74	4.17	1.53	0	0	0	23.65
7	0	0	0	0.43	2.91	5.9	5.5	3.12	3.19	0	0	0	21.06
8	0	0	0	0.17	2.33	5.92	5.16	4.88	3.44	0.37	0	0	22.28
AV	0	0	0	0.78	3.63	5.7	5.71	4.42	3.18	0.88	0.02	0	24.32

MODIFIED B-C GROSS CONSUMPTIVE USE

Zuni Weather Station

Corn Grain

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	1.52	3.62	6.82	6.08	3.36	0	0	0	21.4
50	0	0	0	0	1.38	3.58	6.67	6.01	2.94	0	0	0	20.58
51	0	0	0	0	1.33	3.12	7.15	6.18	3.42	0	0	0	21.19
52	0	0	0	0	1.58	3.86	6.69	6.07	1.79	0	0	0	19.98
53	0	0	0	0	0.42	2.95	5.93	6.08	4.27	0.89	0	0	20.54
54	0	0	0	0.3	2.12	4.44	7.26	5.51	1.5	0	0	0	21.13
55	0	0	0	0	1.02	3.09	5.94	6.31	4.1	0.04	0	0	20.51
56	0	0	0	0	1.56	4.04	6.3	5.74	3.41	0	0	0	21.05
57	0	0	0	0	0.67	3.02	5.82	5.95	3.88	0.49	0	0	19.83
58	0	0	0	0	1.87	4.18	6.73	6.47	2.82	0	0	0	22.07
59	0	0	0	0	1.17	3.77	6.8	5.91	3.08	0	0	0	20.72
60	0	0	0	0	1.3	3.85	6.93	6.69	3.86	0	0	0	22.63
61	0	0	0	0	1.5	4.14	7.05	6.17	2.96	0	0	0	21.81
62	0	0	0	0	1.26	3.5	6.9	6.62	3.64	0	0	0	21.92
63	0	0	0	0	1.89	3.77	7.41	5.78	2.88	0	0	0	21.74
64	0	0	0	0	1.45	3.54	7.21	6.09	3.27	0	0	0	21.57
65	0	0	0	0	0.75	2.77	6.4	6.02	2.49	0	0	0	18.42
66	0	0	0	0.13	2.29	4.49	7.62	6.16	2	0	0	0	22.67
67	0	0	0	0	1.12	3.27	6.82	6.03	3.82	0	0	0	21.07
68	0	0	0	0	1.17	3.43	6.33	5.47	3.51	0	0	0	19.91
69	0	0	0	0	1.75	3.67	7.25	6.74	2.92	0	0	0	22.34
70	0	0	0	0	1.32	3.44	6.93	6.5	3.23	0	0	0	21.41
71	0	0	0	0	0.73	3.29	6.88	5.84	2.33	0	0	0	19.07
72	0	0	0	0	1.22	3.33	6.95	6.06	3.47	0	0	0	21.03
73	0	0	0	0	0.72	2.97	6.46	5.27	0.36	0	0	0	15.79
74	0	0	0	0	1.29	3.69	6.21	5.65	3.13	0	0	0	19.98
75	0	0	0	0	0.39	2.59	5.42	5.79	3.59	0.33	0	0	18.11
76	0	0	0	0	1.44	3.42	6.5	5.72	3.12	0	0	0	20.21
77	0	0	0	0	1.01	3.44	6.11	6.22	3.91	0.1	0	0	20.78
78	0	0	0	0	0.71	3.09	6.15	5.4	3.36	0.46	0	0	19.18
79	0	0	0	0	1.27	3.32	6.3	5.51	3.61	0	0	0	20.01
80	0	0	0	0	0.57	2.92	5.74	5.78	4.03	0.63	0	0	19.67
81	0	0	0	0	1.13	3.54	6.1	5.91	3.49	0	0	0	20.17
82	0	0	0	0	0.53	2.62	5.46	5.93	3.46	0	0	0	18
83	0	0	0	0	0.65	2.59	5.72	5.54	3.69	0.47	0	0	18.66
84	0	0	0	0	1.82	3.67	6.96	5.91	2.8	0	0	0	21.15
85	0	0	0	0	1.59	3.78	6.87	6.06	2.57	0	0	0	20.87
86	0	0	0	0	1.26	3.58	6.32	6.48	3.18	0	0	0	20.81
87	0	0	0	0	0.94	3.36	5.96	5.51	1.83	0	0	0	17.59
88	0	0	0	0	1.1	3.46	6.77	5.96	2.23	0	0	0	19.53
89	0	0	0	0.36	2.15	4.48	7.3	5.44	1.32	0	0	0	21.05
90	0	0	0	0	0.96	3.54	6.09	5.77	4.24	0.18	0	0	20.78
91	0	0	0	0	0.86	2.86	6.23	6.36	3.9	0.24	0	0	20.45
92	0	0	0	0	1.7	3.5	6.2	5.68	2.58	0	0	0	19.66
93	0	0	0	0	1.52	3.48	6.38	6.1	3.01	0	0	0	20.5
94	0	0	0	0	1.61	4.14	7.45	7.48	3.13	0	0	0	23.81
95	0	0	0	0	0.56	2.78	6.07	7.17	4.07	0	0	0	20.64
96	0	0	0	0.04	2.15	4.54	7.56	6.31	2.01	0	0	0	22.62
97	0	0	0	0	1.74	3.6	6.78	6.51	3.33	0	0	0	21.97
98	0	0	0	0	1	2.9	6.76	6.8	4.47	0.06	0	0	21.97
99	0	0	0	0	1.19	3.34	6.62	6.19	3.77	0	0	0	21.12
0	0	0	0	0.29	2.38	5.18	7.79	6.24	1.73	0	0	0	23.6
1	0	0	0	0	2.11	4.39	7.34	6.21	2.48	0	0	0	22.54
2	0	0	0	0.15	1.99	4.85	7.59	5.9	1.86	0	0	0	22.33
3	0	0	0	0	1.88	4.02	7.89	6.42	2.87	0	0	0	23.08
4	0	0	0	0	1.79	4.07	6.77	5.94	2.63	0	0	0	21.2
5	0	0	0	0	1.69	3.47	7.26	5.89	2.99	0	0	0	21.3
6	0	0	0	0	2.09	4.52	6.99	5.46	1.87	0	0	0	20.93
7	0	0	0	0	1.23	3.41	6.62	6	3.04	0	0	0	20.3
8	0	0	0	0	0.77	3.27	6.35	5.79	1.76	0	0	0	17.94
AV	0	0	0	0.02	1.34	3.58	6.66	6.05	3.01	0.06	0	0	20.71

EFFECTIVE PRECIPITATION, Inches

Zuni Weather Station

YR	Corn Grain													ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
49	0	0	0	0	0	0.93	1.75	1	0.78	0	0	0	4.46	
50	0	0	0	0	0	0.09	1.19	0	0.39	0	0	0	1.67	
51	0	0	0	0	0	0	0.8	1.39	0.22	0	0	0	2.41	
52	0	0	0	0	0.04	0.88	1.27	2.1	0.24	0	0	0	4.53	
53	0	0	0	0	0	0.17	0.49	0.58	0	0.08	0	0	1.32	
54	0	0	0	0	0.61	0	1.79	0.48	0.34	0	0	0	3.22	
55	0	0	0	0	0	0.49	2.08	2.05	0	0	0	0	4.62	
56	0	0	0	0	0	0	2.54	0.66	0	0	0	0	3.2	
57	0	0	0	0	0.27	0.49	2.73	1.52	0	0.3	0	0	5.31	
58	0	0	0	0	0.06	0.19	0.78	1.86	1.18	0	0	0	4.07	
59	0	0	0	0	0	0	1.36	1.87	0.13	0	0	0	3.36	
60	0	0	0	0	0.19	0.43	0.7	0.31	0.59	0	0	0	2.22	
61	0	0	0	0	0	0	1.62	2.32	0.39	0	0	0	4.33	
62	0	0	0	0	0	0	0.52	0.51	1.36	0	0	0	2.39	
63	0	0	0	0	0	0	0.53	3.83	0.73	0	0	0	5.09	
64	0	0	0	0	0	0	2.59	2.17	0.77	0	0	0	5.53	
65	0	0	0	0	0.13	0.96	2.75	1.45	0.27	0	0	0	5.56	
66	0	0	0	0	0	0	1.34	2.18	1.01	0	0	0	4.53	
67	0	0	0	0	0.07	0.5	2.54	3.01	1.55	0	0	0	7.67	
68	0	0	0	0	0.22	0.18	2.06	2.29	0.16	0	0	0	4.91	
69	0	0	0	0	0.8	0	2.31	1.51	0.99	0	0	0	5.61	
70	0	0	0	0	0	0.58	1.53	1.34	1.13	0	0	0	4.58	
71	0	0	0	0	0	0	0.87	2.73	1.43	0	0	0	5.03	
72	0	0	0	0	0.18	1.06	0.79	0.67	0.45	0	0	0	3.15	
73	0	0	0	0	0.21	0.17	2.49	0.95	0	0	0	0	3.82	
74	0	0	0	0	0	0	1.24	1.91	0.44	0	0	0	3.59	
75	0	0	0	0	0	0	1.47	0.74	1.88	0	0	0	4.09	
76	0	0	0	0	0.16	0	2.77	0.9	0.39	0	0	0	4.22	
77	0	0	0	0	0	0.09	1.39	3.05	0.95	0	0	0	5.48	
78	0	0	0	0	0.14	0	0.49	0.47	0.26	0	0	0	1.36	
79	0	0	0	0	0.83	0	1.09	1.11	0	0	0	0	3.03	
80	0	0	0	0	0	0	0.57	0.82	0.36	0	0	0	1.75	
81	0	0	0	0	0.38	0.18	2.31	1.8	0.96	0	0	0	5.63	
82	0	0	0	0	0.09	0	1.76	3.69	1.24	0	0	0	6.78	
83	0	0	0	0	0.04	0.17	2.58	2.1	0.94	0.11	0	0	5.94	
84	0	0	0	0	0	0	1.45	1.59	2.07	0	0	0	5.11	
85	0	0	0	0	0	0.09	1.9	0.11	0.62	0	0	0	2.72	
86	0	0	0	0	0.14	0.58	2.13	2.56	0.89	0	0	0	6.3	
87	0	0	0	0	0.2	1.13	2.29	1.48	0.04	0	0	0	5.14	
88	0	0	0	0	0.11	1.06	0.95	4.11	0.59	0	0	0	6.82	
89	0	0	0	0	0.08	0	2.47	1.4	0	0	0	0	3.95	
90	0	0	0	0	0.34	0.09	0.58	1.85	1.64	0	0	0	4.5	
91	0	0	0	0	0	0.63	0.4	1.92	0.74	0	0	0	3.69	
92	0	0	0	0	1.7	0.18	3.3	2.11	0.25	0	0	0	7.54	
93	0	0	0	0	0.23	0	0	2.63	0	0	0	0	2.86	
94	0	0	0	0	0.58	0.52	1.73	1.49	0.89	0	0	0	5.21	
95	0	0	0	0	0.13	0	0.31	2.01	0.1	0	0	0	2.55	
96	0	0	0	0	0	0.28	2.5	1.55	0.95	0	0	0	5.28	
97	0	0	0	0	0.5	1.13	0.86	3.03	0.56	0	0	0	6.08	
98	0	0	0	0	0	0	2.81	1.52	1.06	0	0	0	5.39	
99	0	0	0	0	0.27	0.26	2.44	2.72	0.82	0	0	0	6.51	
0	0	0	0	0	0	0.87	0	1.69	0.07	0	0	0	2.63	
1	0	0	0	0	0.08	0	1.48	2.78	0.33	0	0	0	4.67	
2	0	0	0	0	0	0.2	1.08	1.52	0.85	0	0	0	3.65	
3	0	0	0	0	0	0	0.84	0.68	0.26	0	0	0	1.78	
4	0	0	0	0	0	0.1	0.32	1.06	0.56	0	0	0	2.04	
5	0	0	0	0	0.06	0.09	0.62	0.9	0.16	0	0	0	1.83	
6	0	0	0	0	0	0.37	1.53	1.48	0.56	0	0	0	3.94	
7	0	0	0	0	0.59	0	1.65	2.89	0.19	0	0	0	5.32	
8	0	0	0	0	0.46	0	1.63	1.05	0.07	0	0	0	3.21	
AV	0	0	0	0	0.16483	0.25233	1.506	1.69167	0.59667	0.00817	0	0	4.21967	

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Zuni Weather Station**

**Corn Grain**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
49	0	0	0	0	1.52	2.69	5.07	5.08	2.58	0	0	0	16.95	
50	0	0	0	0	1.38	3.49	5.48	6.01	2.55	0	0	0	18.9	
51	0	0	0	0	1.33	3.12	6.35	4.79	3.2	0	0	0	18.78	
52	0	0	0	0	1.54	2.98	5.42	3.97	1.55	0	0	0	15.46	
53	0	0	0	0	0.42	2.78	5.44	5.5	4.27	0.81	0	0	19.23	
54	0	0	0	0.3	1.51	4.44	5.47	5.03	1.16	0	0	0	17.92	
55	0	0	0	0	1.02	2.6	3.86	4.26	4.1	0.04	0	0	15.88	
56	0	0	0	0	1.56	4.04	3.76	5.08	3.41	0	0	0	17.86	
57	0	0	0	0	0.4	2.53	3.09	4.43	3.88	0.19	0	0	14.53	
58	0	0	0	0	1.81	3.99	5.95	4.61	1.64	0	0	0	18.01	
59	0	0	0	0	1.17	3.77	5.44	4.04	2.95	0	0	0	17.36	
60	0	0	0	0	1.11	3.42	6.23	6.38	3.27	0	0	0	20.4	
61	0	0	0	0	1.5	4.14	5.43	3.85	2.57	0	0	0	17.5	
62	0	0	0	0	1.26	3.5	6.38	6.11	2.28	0	0	0	19.54	
63	0	0	0	0	1.89	3.77	6.88	1.95	2.15	0	0	0	16.64	
64	0	0	0	0	1.45	3.54	4.62	3.92	2.5	0	0	0	16.03	
65	0	0	0	0	0.62	1.81	3.65	4.57	2.22	0	0	0	12.87	
66	0	0	0	0.13	2.29	4.49	6.28	3.98	0.99	0	0	0	18.16	
67	0	0	0	0	1.05	2.77	4.28	3.02	2.27	0	0	0	13.39	
68	0	0	0	0	0.95	3.25	4.27	3.18	3.35	0	0	0	15	
69	0	0	0	0	0.95	3.67	4.94	5.23	1.93	0	0	0	16.72	
70	0	0	0	0	1.32	2.86	5.4	5.16	2.1	0	0	0	16.85	
71	0	0	0	0	0.73	3.29	6.01	3.11	0.9	0	0	0	14.04	
72	0	0	0	0	1.04	2.27	6.16	5.39	3.02	0	0	0	17.88	
73	0	0	0	0	0.51	2.8	3.97	4.32	0.36	0	0	0	11.96	
74	0	0	0	0	1.29	3.69	4.97	3.74	2.69	0	0	0	16.38	
75	0	0	0	0	0.39	2.59	3.95	5.05	1.71	0.33	0	0	14.01	
76	0	0	0	0	1.28	3.42	3.73	4.82	2.73	0	0	0	15.99	
77	0	0	0	0	1.01	3.35	4.72	3.17	2.96	0.1	0	0	15.31	
78	0	0	0	0	0.57	3.09	5.66	4.93	3.1	0.46	0	0	17.81	
79	0	0	0	0	0.44	3.32	5.21	4.4	3.61	0	0	0	16.98	
80	0	0	0	0	0.57	2.92	5.17	4.96	3.67	0.63	0	0	17.92	
81	0	0	0	0	0.75	3.36	3.79	4.11	2.53	0	0	0	14.54	
82	0	0	0	0	0.44	2.62	3.7	2.24	2.22	0	0	0	11.23	
83	0	0	0	0	0.61	2.42	3.14	3.44	2.75	0.36	0	0	12.72	
84	0	0	0	0	1.82	3.67	5.51	4.32	0.73	0	0	0	16.04	
85	0	0	0	0	1.59	3.69	4.97	5.95	1.95	0	0	0	18.16	
86	0	0	0	0	1.12	3	4.19	3.92	2.29	0	0	0	14.52	
87	0	0	0	0	0.74	2.23	3.67	4.03	1.79	0	0	0	12.46	
88	0	0	0	0	0.99	2.4	5.82	1.85	1.64	0	0	0	12.69	
89	0	0	0	0.36	2.07	4.48	4.83	4.04	1.32	0	0	0	17.1	
90	0	0	0	0	0.62	3.45	5.51	3.92	2.6	0.18	0	0	16.27	
91	0	0	0	0	0.86	2.23	5.83	4.44	3.16	0.24	0	0	16.76	
92	0	0	0	0	0	3.32	2.9	3.57	2.33	0	0	0	12.11	
93	0	0	0	0	1.29	3.48	6.38	3.47	3.01	0	0	0	17.63	
94	0	0	0	0	1.03	3.62	5.72	5.99	2.24	0	0	0	18.59	
95	0	0	0	0	0.43	2.78	5.76	5.16	3.97	0	0	0	18.12	
96	0	0	0	0.04	2.15	4.26	5.06	4.76	1.06	0	0	0	17.34	
97	0	0	0	0	1.24	2.47	5.92	3.48	2.77	0	0	0	15.87	
98	0	0	0	0	1	2.9	3.95	5.28	3.41	0.06	0	0	16.6	
99	0	0	0	0	0.92	3.08	4.18	3.47	2.95	0	0	0	14.6	
0	0	0	0	0.29	2.38	4.31	7.79	4.55	1.66	0	0	0	20.97	
1	0	0	0	0	2.03	4.39	5.86	3.43	2.15	0	0	0	17.85	
2	0	0	0	0.15	1.99	4.65	6.51	4.38	1.01	0	0	0	18.69	
3	0	0	0	0	1.88	4.02	7.05	5.74	2.61	0	0	0	21.31	
4	0	0	0	0	1.79	3.97	6.45	4.88	2.07	0	0	0	19.16	
5	0	0	0	0	1.63	3.38	6.64	4.99	2.83	0	0	0	19.47	
6	0	0	0	0	2.09	4.15	5.46	3.98	1.31	0	0	0	16.99	
7	0	0	0	0	0.64	3.41	4.97	3.11	2.85	0	0	0	14.99	
8	0	0	0	0	0.31	3.27	4.72	4.74	1.69	0	0	0	14.74	
AV	0	0	0	0.02	1.17	3.32	5.16	4.35	2.41	0.06	0	0	16.5	



**MODIFIED B-C GROSS CONSUMPTIVE USE**

**Zuni Weather Station**

**Pasture Grass/Hay**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0.13	2.07	3.38	4.82	5.97	5.28	4.03	1.75	0.67	0	28.1
50	0	0	0.33	2.24	3.24	4.89	5.95	5.18	3.25	2.61	0.49	0	28.18
51	0	0	0	1.47	3.37	4.32	6.43	5.3	3.64	1.78	0	0	26.31
52	0	0	0	1.61	3.47	4.89	5.8	5.45	3.64	2.07	0	0	26.92
53	0	0	0	1.37	2.53	4.96	6.23	5.12	3.78	1.98	0.19	0	26.17
54	0	0	0.13	2.46	3.56	4.75	6.21	5.04	3.76	2.19	0.41	0	28.51
55	0	0	0	1.29	3.15	4.54	5.55	5.39	3.82	2.23	0.26	0	26.23
56	0	0	0	1.51	3.54	5.45	5.57	4.97	3.96	1.93	0	0	26.93
57	0	0	0	1.25	2.86	4.84	5.76	5.04	3.5	1.65	0	0	24.89
58	0	0	0	1.28	3.83	5.42	5.87	5.67	3.64	2	0.11	0	27.81
59	0	0	0	2.03	3.17	5.38	6.19	5.07	3.37	1.79	0.02	0	27.02
60	0	0	0.37	1.99	3.25	5.42	6.29	5.74	3.99	1.75	0.18	0	28.98
61	0	0	0	1.86	3.41	5.58	6.23	5.34	3.32	1.81	0	0	27.55
62	0	0	0	2.37	3.15	4.85	6.21	5.68	3.8	2.07	0.55	0	28.7
63	0	0	0	1.87	3.76	4.78	6.45	5.09	4.09	2.36	0.45	0	28.86
64	0	0	0	0.98	3.51	4.84	6.43	5.25	3.6	2.24	0.16	0	27.01
65	0	0	0	1.54	3	4.19	5.91	5.18	3.13	2.07	0.52	0	25.54
66	0	0	0.44	2.14	3.99	5.07	6.56	5.55	3.69	2.04	0.59	0	30.06
67	0	0	0.54	1.82	3.19	4.73	6.31	5.16	3.66	2.05	0.51	0	27.98
68	0	0	0	1.54	3.24	4.96	5.85	4.68	3.42	2	0.08	0	25.77
69	0	0	0	1.77	3.57	4.75	6.33	5.91	3.83	1.65	0	0	27.82
70	0	0	0	0.67	3.44	4.84	6.29	5.57	3.29	1.37	0	0	25.47
71	0	0	0	1.42	2.9	4.93	6.27	5.07	3.26	1.43	0	0	25.28
72	0	0	0.91	1.88	3.25	4.68	6.31	5.19	3.51	1.83	0	0	27.58
73	0	0	0	0.54	2.98	4.16	5.6	4.88	2.92	1.26	0	0	22.35
74	0	0	0	0.71	3.38	5.19	5.64	4.85	3.16	1.74	0	0	24.67
75	0	0	0	0.47	2.68	4.34	5.55	4.9	3.25	1.79	0	0	22.97
76	0	0	0	1.55	3.41	4.68	5.8	4.93	3.5	1.13	0	0	25
77	0	0	0	1.73	3.11	5.12	5.76	5.3	3.62	2.15	0.29	0	27.09
78	0	0	0.28	1.88	2.87	4.96	6.09	4.58	3.03	2.05	0.28	0	26.02
79	0	0	0	1.89	3.26	4.66	5.72	4.73	3.79	2.15	0	0	26.21
80	0	0	0	1.65	2.77	4.78	5.84	4.88	3.6	1.85	0.09	0	25.45
81	0	0	0.06	2.23	3.14	5.12	5.64	5.05	3.35	1.71	0.12	0	26.43
82	0	0	0	1.27	2.85	4.21	5.29	5.05	3.41	1.31	0	0	23.38
83	0	0	0	0.5	2.94	4.16	5.66	4.69	3.33	1.47	0	0	22.76
84	0	0	0	1.24	3.83	4.75	6.07	5.18	3.58	1.07	0	0	25.72
85	0	0	0.13	2.06	3.42	4.96	6.01	5.28	3.07	2	0.08	0	27.02
86	0	0	0.37	1.93	3.25	5.03	5.74	5.55	3.21	1.76	0.07	0	26.91
87	0	0	0	1.86	3.08	4.77	5.25	4.86	3.22	2.1	0.13	0	25.27
88	0	0	0	1.45	3.18	4.89	6.03	5.19	3.07	2.15	0.07	0	26.04
89	0	0	0.63	2.49	3.57	4.72	6.23	5	3.62	1.71	0	0	27.97
90	0	0	0.23	2.12	3.08	5.36	5.8	4.92	3.9	1.87	0.18	0	27.44
91	0	0	0	1.22	3.05	4.39	5.99	5.41	3.57	2.02	0.09	0	25.74
92	0	0	0.45	2.25	3.4	4.44	5.4	5	3.53	1.98	0	0	26.45
93	0	0	0.09	1.86	3.47	4.7	5.64	5.28	3.47	1.74	0	0	26.25
94	0	0	0.46	2	3.45	5.43	6.51	6.53	3.72	1.69	0	0	29.8
95	0	0	0	1.33	2.81	4.49	5.93	6.1	3.76	1.97	0.67	0	27.07
96	0	0	0.25	2.11	3.85	5.32	6.53	5.65	3.21	1.9	0.24	0	29.06
97	0	0	0.46	1.77	3.69	4.73	5.93	5.68	4.27	1.89	0.16	0	28.58
98	0	0	0	0.95	3.15	4.32	6.37	5.8	4.13	1.98	0.34	0	27.04
99	0	0	0.65	1.67	3.26	4.77	6.07	5.3	3.72	2.04	0.71	0	28.19
0	0	0	0.37	2.31	4	5.55	6.66	5.7	4.15	1.92	0	0	30.66
1	0	0	0.36	2.09	3.79	5.25	6.35	5.54	3.99	2.22	0.49	0	30.07
2	0	0	0.32	2.42	3.47	5.47	6.53	5.32	3.53	1.85	0.21	0	29.12
3	0	0	0	1.64	3.82	5.1	6.87	5.65	3.82	2.35	0.25	0	29.49
4	0	0	1.17	2.01	3.59	5.16	5.89	5.23	3.51	1.89	0.13	0	28.59
5	0	0	0	1.83	3.59	4.56	6.35	5.14	3.82	2.07	0.24	0	27.59
6	0	0	0	2.07	3.74	5.4	6.05	4.86	2.87	1.45	0	0	26.44
7	0	0	0	1.49	3.28	4.8	5.97	5.16	3.46	1.82	0.36	0	26.34
8	0	0	0	1.62	2.94	4.82	5.66	5.11	3.26	1.7	0.3	0	25.41
AV	0	0	0.15	1.68	3.32	4.87	6.02	5.25	3.56	1.87	0.18	0	26.9

EFFECTIVE PRECIPITATION, Inches

Zuni Weather Station

YR	Pasture Grass/Hay												ANNUA L
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0.17	0	1	1.66	0.95	1.03	0.72	0	0	5.53
50	0	0	0	0	0	0.1	1.14	0	0.5	0	0	0	1.74
51	0	0	0	0.39	0	0	0.76	1.32	0.27	0.38	0	0	3.12
52	0	0	0	0.98	0.09	0.93	1.21	2.03	0.66	0	0	0	5.9
53	0	0	0	0.27	0.25	0.19	0.5	0.55	0	0.39	0	0	2.15
54	0	0	0.1	0.16	0.65	0	1.69	0.47	1.08	0.24	0	0	4.39
55	0	0	0	0.09	0.09	0.53	2.04	1.95	0	0	0	0	4.7
56	0	0	0	0.19	0	0	2.44	0.63	0	0.22	0	0	3.48
57	0	0	0	0.24	0.83	0.54	2.72	1.45	0	1.42	0	0	7.2
58	0	0	0	0.22	0.09	0.2	0.74	1.78	1.71	0.53	0	0	5.27
59	0	0	0	0.31	0	0	1.31	1.78	0.18	1.7	0	0	5.28
60	0	0	0.03	0.16	0.34	0.48	0.67	0.3	0.67	1.75	0	0	4.4
61	0	0	0	0.16	0	0	1.54	2.21	0.5	1.53	0	0	5.94
62	0	0	0	0.32	0	0	0.5	0.48	1.53	1.95	0.42	0	5.2
63	0	0	0	0.08	0	0	0.5	3.69	1.17	1.3	0.27	0	7.01
64	0	0	0	0.26	0	0	2.48	2.07	0.94	0	0	0	5.75
65	0	0	0	0.46	0.42	1.04	2.67	1.39	0.41	0.39	0.25	0	7.03
66	0	0	0.01	0.53	0	0	1.27	2.1	2.13	0	0.15	0	6.19
67	0	0	0.07	0.08	0.17	0.54	2.47	2.87	1.58	0.32	0.12	0	8.22
68	0	0	0	0.83	0.42	0.19	2	2.19	0.18	0.53	0	0	6.34
69	0	0	0	0.19	1	0	2.2	1.44	1.48	1.11	0	0	7.42
70	0	0	0	0.14	0	0.62	1.47	1.27	1.25	0.51	0	0	5.26
71	0	0	0	0.17	0	0	0.84	2.61	2.25	0.99	0	0	6.86
72	0	0	0	0.08	0.34	1.14	0.76	0.63	0.5	1.83	0	0	5.28
73	0	0	0	0	0.63	0.19	2.37	0.93	0.49	0	0	0	4.61
74	0	0	0	0	0	0	1.2	1.83	0.49	1.74	0	0	5.26
75	0	0	0	0.09	0	0	1.49	0.71	1.85	0.06	0	0	4.2
76	0	0	0	0.11	0.26	0	2.66	0.86	0.5	0.28	0	0	4.67
77	0	0	0	0.06	0.09	0.09	1.36	2.9	0.93	0.32	0.09	0	5.84
78	0	0	0.24	0	0.48	0	0.49	0.46	0.26	0.32	0.14	0	2.39
79	0	0	0	0.07	1.3	0	1.05	1.07	0	0.6	0	0	4.09
80	0	0	0	0.06	0.17	0	0.58	0.78	0.35	0.16	0	0	2.1
81	0	0	0.02	0.47	0.71	0.19	2.24	1.71	0.99	0.58	0	0	6.91
82	0	0	0	0	0.49	0	1.74	3.5	1.32	0.11	0	0	7.16
83	0	0	0	0.19	0.25	0.19	2.57	2	0.92	0.64	0	0	6.76
84	0	0	0	0.44	0	0	1.38	1.53	2.91	0.73	0	0	6.99
85	0	0	0.03	1.28	0	0.09	1.81	0.09	0.84	0.46	0	0	4.6
86	0	0	0.19	0.6	0.26	0.63	2.06	2.43	0.98	1.09	0.03	0	8.27
87	0	0	0	0.41	0.49	1.22	2.2	1.43	0.17	0.66	0.08	0	6.66
88	0	0	0	1.18	0.26	1.15	0.91	3.94	0.97	0	0	0	8.41
89	0	0	0	0	0.09	0	2.32	1.37	0	0.83	0	0	4.61
90	0	0	0.05	0.32	0.77	0.1	0.57	1.77	1.61	0.66	0.03	0	5.88
91	0	0	0	0	0	0.68	0.4	1.82	0.73	0.53	0.02	0	4.18
92	0	0	0.32	0	2.16	0.19	3.16	2.04	0.43	0.75	0	0	9.05
93	0	0	0	0	0.35	0	0	2.52	0	0.68	0	0	3.55
94	0	0	0.12	0.92	0.79	0.56	1.64	1.42	1.21	1.51	0	0	8.17
95	0	0	0	0.39	0.56	0	0.3	1.89	0.09	0	0.49	0	3.72
96	0	0	0	0.08	0	0.29	2.36	1.5	1.79	0.79	0.13	0	6.94
97	0	0	0	1.32	0.65	1.21	0.82	2.89	0.83	0.73	0.05	0	8.5
98	0	0	0	0.19	0	0	2.75	1.44	1.03	1.94	0.25	0	7.6
99	0	0	0	0.38	0.49	0.29	2.37	2.59	0.87	0	0	0	6.99
0	0	0	0.25	0	0	0.89	0	1.64	0.36	1.27	0	0	4.41
1	0	0	0	0.6	0.09	0	1.4	2.69	0.67	0.17	0.08	0	5.7
2	0	0	0.01	0.54	0	0.2	1.02	1.47	1.88	1.03	0	0	6.15
3	0	0	0	0	0	0	0.79	0.65	0.44	0.61	0.05	0	2.54
4	0	0	0.39	0.39	0	0.1	0.3	1.02	0.86	0.39	0	0	3.45
5	0	0	0	0.62	0.09	0.09	0.59	0.87	0.27	0.54	0	0	3.07
6	0	0	0	0.16	0	0.39	1.45	1.43	1.03	1	0	0	5.46
7	0	0	0	0.3	0.99	0	1.59	2.75	0.26	0.24	0	0	6.13
8	0	0	0	0.06	1.16	0	1.56	1.02	0.26	0.91	0.06	0	5.03
AV	0	0	0.0305	0.29517	0.3045	0.27067	1.45133	1.61867	0.81017	0.669	0.04517	0	5.49517

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Zuni Weather Station**

**Pasture Grass/Hay**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0.13	1.9	3.38	3.82	4.31	4.33	3	1.03	0.67	0	22.57
50	0	0	0.33	2.24	3.24	4.79	4.81	5.18	2.75	2.61	0.49	0	26.44
51	0	0	0	1.08	3.37	4.32	5.67	3.98	3.37	1.4	0	0	23.19
52	0	0	0	0.63	3.38	3.96	4.59	3.42	2.98	2.07	0	0	21.03
53	0	0	0	1.1	2.28	4.77	5.73	4.57	3.78	1.59	0.19	0	24.01
54	0	0	0.03	2.3	2.91	4.75	4.52	4.57	2.68	1.95	0.41	0	24.11
55	0	0	0	1.2	3.06	4.01	3.51	3.44	3.82	2.23	0.26	0	21.54
56	0	0	0	1.32	3.54	5.45	3.13	4.34	3.96	1.71	0	0	23.45
57	0	0	0	1.01	2.03	4.3	3.04	3.59	3.5	0.23	0	0	17.69
58	0	0	0	1.06	3.74	5.22	5.13	3.89	1.93	1.47	0.11	0	22.54
59	0	0	0	1.72	3.17	5.38	4.88	3.29	3.19	0.09	0.02	0	21.73
60	0	0	0.34	1.83	2.91	4.94	5.62	5.44	3.32	0	0.18	0	24.57
61	0	0	0	1.7	3.41	5.58	4.69	3.13	2.82	0.28	0	0	21.61
62	0	0	0	2.05	3.15	4.85	5.71	5.2	2.27	0.12	0.13	0	23.48
63	0	0	0	1.79	3.76	4.78	5.95	1.4	2.92	1.06	0.18	0	21.84
64	0	0	0	0.72	3.51	4.84	3.95	3.18	2.66	2.24	0.16	0	21.25
65	0	0	0	1.08	2.58	3.15	3.24	3.79	2.72	1.68	0.27	0	18.51
66	0	0	0.43	1.61	3.99	5.07	5.29	3.45	1.56	2.04	0.44	0	23.87
67	0	0	0.47	1.74	3.02	4.19	3.84	2.29	2.08	1.73	0.39	0	19.74
68	0	0	0	0.71	2.82	4.77	3.85	2.49	3.24	1.47	0.08	0	19.43
69	0	0	0	1.58	2.57	4.75	4.13	4.47	2.35	0.54	0	0	20.4
70	0	0	0	0.53	3.44	4.22	4.82	4.3	2.04	0.86	0	0	20.22
71	0	0	0	1.25	2.9	4.93	5.43	2.46	1.01	0.44	0	0	18.41
72	0	0	0.91	1.8	2.91	3.54	5.55	4.56	3.01	0	0	0	22.29
73	0	0	0	0.54	2.35	3.97	3.23	3.95	2.43	1.26	0	0	17.74
74	0	0	0	0.71	3.38	5.19	4.44	3.02	2.67	0	0	0	19.41
75	0	0	0	0.38	2.68	4.34	4.06	4.19	1.4	1.73	0	0	18.78
76	0	0	0	1.44	3.15	4.68	3.14	4.07	3	0.85	0	0	20.33
77	0	0	0	1.67	3.02	5.03	4.4	2.4	2.69	1.83	0.2	0	21.25
78	0	0	0.04	1.88	2.39	4.96	5.6	4.12	2.77	1.73	0.14	0	23.63
79	0	0	0	1.82	1.96	4.66	4.67	3.66	3.79	1.55	0	0	22.11
80	0	0	0	1.59	2.6	4.78	5.26	4.1	3.25	1.69	0.09	0	23.36
81	0	0	0.04	1.76	2.43	4.93	3.4	3.34	2.36	1.13	0.12	0	19.5
82	0	0	0	1.27	2.36	4.21	3.55	1.55	2.09	1.2	0	0	16.22
83	0	0	0	0.31	2.69	3.97	3.09	2.69	2.41	0.83	0	0	15.98
84	0	0	0	0.8	3.83	4.75	4.69	3.65	0.67	0.34	0	0	18.74
85	0	0	0.1	0.78	3.42	4.87	4.2	5.19	2.23	1.54	0.08	0	22.4
86	0	0	0.18	1.33	2.99	4.4	3.68	3.12	2.23	0.67	0.04	0	18.65
87	0	0	0	1.45	2.59	3.55	3.05	3.43	3.05	1.44	0.05	0	18.61
88	0	0	0	0.27	2.92	3.74	5.12	1.25	2.1	2.15	0.07	0	17.62
89	0	0	0.63	2.49	3.48	4.72	3.91	3.63	3.62	0.88	0	0	23.36
90	0	0	0.18	1.8	2.31	5.26	5.23	3.15	2.29	1.21	0.15	0	21.57
91	0	0	0	1.22	3.05	3.71	5.59	3.59	2.84	1.49	0.07	0	21.56
92	0	0	0.13	2.25	1.24	4.25	2.24	2.96	3.1	1.23	0	0	17.4
93	0	0	0.09	1.86	3.12	4.7	5.64	2.76	3.47	1.06	0	0	22.71
94	0	0	0.34	1.08	2.66	4.87	4.87	5.11	2.51	0.18	0	0	21.63
95	0	0	0	0.94	2.25	4.49	5.63	4.21	3.67	1.97	0.18	0	23.34
96	0	0	0.25	2.03	3.85	5.03	4.17	4.15	1.42	1.11	0.11	0	22.13
97	0	0	0.46	0.45	3.04	3.52	5.11	2.79	3.44	1.16	0.11	0	20.07
98	0	0	0	0.76	3.15	4.32	3.62	4.36	3.1	0.04	0.09	0	19.45
99	0	0	0.65	1.29	2.77	4.48	3.7	2.71	2.85	2.04	0.71	0	21.2
0	0	0	0.12	2.31	4	4.66	6.66	4.06	3.79	0.65	0	0	26.25
1	0	0	0.36	1.49	3.7	5.25	4.95	2.85	3.32	2.05	0.41	0	24.38
2	0	0	0.31	1.88	3.47	5.27	5.51	3.85	1.65	0.82	0.21	0	22.97
3	0	0	0	1.64	3.82	5.1	6.08	5	3.38	1.74	0.2	0	26.97
4	0	0	0.78	1.62	3.59	5.06	5.59	4.21	2.65	1.5	0.13	0	25.12
5	0	0	0	1.21	3.5	4.47	5.76	4.27	3.55	1.53	0.24	0	24.52
6	0	0	0	1.91	3.74	5.01	4.6	3.43	1.84	0.45	0	0	20.99
7	0	0	0	1.19	2.29	4.8	4.38	2.41	3.2	1.58	0.36	0	20.21
8	0	0	0	1.56	1.78	4.82	4.1	4.09	3	0.79	0.24	0	20.38
AV	0	0	0.12	1.38	3.01	4.6	4.57	3.64	2.75	1.2	0.13	0	21.41

MODIFIED B-C GROSS CONSUMPTIVE USE

Zuni Weather Station

Spring Grain

Year	Crop Potential Evapotranspiration (inches)												
	January	February	March	April	May	June	July	August	September	October	November	December	Total
49	0	0	0.05	1.16	4.05	6.56	3.51	0.06	0	0	0	0	15.39
50	0	0	0.14	1.3	4.1	6.28	2.72	0	0	0	0	0	14.54
51	0	0	0	0.76	3.39	6.1	5.77	0.51	0	0	0	0	16.52
52	0	0	0	0.83	3.5	6.9	5.2	0.5	0	0	0	0	16.92
53	0	0	0	0.7	2.55	7	5.58	0.51	0	0	0	0	16.34
54	0	0	0.05	1.39	4.26	6.47	3.65	0.06	0	0	0	0	15.87
55	0	0	0	0.64	2.94	6.44	5.3	0.65	0	0	0	0	15.97
56	0	0	0	0.8	3.76	7.65	4.66	0.34	0	0	0	0	17.22
57	0	0	0	0.62	2.67	6.86	5.5	0.62	0	0	0	0	16.27
58	0	0	0	0.61	3.3	7.71	5.95	0.83	0	0	0	0	18.41
59	0	0	0	1.11	3.58	7.48	4.44	0.18	0	0	0	0	16.78
60	0	0	0.16	1.17	4.16	6.85	2.67	0	0	0	0	0	15.01
61	0	0	0	1.02	3.85	7.76	4.47	0.18	0	0	0	0	17.28
62	0	0	0	1.32	3.67	6.72	4.05	0.11	0	0	0	0	15.87
63	0	0	0	1.02	4.24	6.65	4.63	0.18	0	0	0	0	16.73
64	0	0	0	0.44	2.51	6.61	7.27	1.16	0	0	0	0	17.99
65	0	0	0	0.8	3.13	5.9	5.13	0.43	0	0	0	0	15.39
66	0	0	0.19	1.27	5.17	6.31	2.46	0	0	0	0	0	15.4
67	0	0	0.26	1.16	4.28	5.62	1.87	0	0	0	0	0	13.18
68	0	0	0	0.83	3.49	6.95	4.73	0.3	0	0	0	0	16.3
69	0	0	0	0.94	3.79	6.67	5.3	0.41	0	0	0	0	17.12
70	0	0	0	0.28	1.95	6.34	7.59	1.72	0	0	0	0	17.88
71	0	0	0	0.74	3.03	6.93	5.44	0.44	0	0	0	0	16.58
72	0	0	0.5	1.71	4.68	4.74	0.97	0	0	0	0	0	12.61
73	0	0	0	0.21	1.67	5.33	6.98	1.74	0	0	0	0	15.94
74	0	0	0	0.29	1.92	6.81	6.81	1.47	0	0	0	0	17.29
75	0	0	0	0.18	1.48	5.5	7.02	1.89	0	0	0	0	16.07
76	0	0	0	0.79	3.44	6.6	5.2	0.47	0	0	0	0	16.5
77	0	0	0	0.93	3.35	7.17	4.66	0.32	0	0	0	0	16.43
78	0	0	0.12	1.08	3.59	6.47	2.98	0.01	0	0	0	0	14.25
79	0	0	0	1.03	3.63	6.5	4.29	0.2	0	0	0	0	15.65
80	0	0	0	0.89	2.99	6.7	4.72	0.3	0	0	0	0	15.59
81	0	0	0.02	1.24	3.65	7.09	3.68	0.1	0	0	0	0	15.78
82	0	0	0	0.63	2.66	5.96	5.05	0.61	0	0	0	0	14.91
83	0	0	0	0.19	1.63	5.27	7.16	1.78	0	0	0	0	16.04
84	0	0	0	0.59	3.3	6.76	6.15	0.78	0	0	0	0	17.59
85	0	0	0.05	1.16	4.1	6.75	3.53	0.06	0	0	0	0	15.65
86	0	0	0.16	1.13	4.16	6.37	2.43	0	0	0	0	0	14.25
87	0	0	0	1.01	3.38	6.66	4.09	0.25	0	0	0	0	15.38
88	0	0	0	0.74	3.2	6.9	5.41	0.5	0	0	0	0	16.75
89	0	0	0.31	1.69	4.84	5.51	1.69	0	0	0	0	0	14.03
90	0	0	0.09	1.21	3.8	7.09	3.02	0.02	0	0	0	0	15.24
91	0	0	0	0.59	2.74	6.24	5.9	0.75	0	0	0	0	16.22
92	0	0	0.2	1.33	4.4	5.53	2.01	0	0	0	0	0	13.47
93	0	0	0.03	1.04	4.1	6.48	3.5	0.08	0	0	0	0	15.23
94	0	0	0.21	1.19	4.53	6.67	2.3	0	0	0	0	0	14.89
95	0	0	0	0.68	2.83	6.34	5.32	0.55	0	0	0	0	15.71
96	0	0	0.1	1.21	4.74	7.04	3.41	0.02	0	0	0	0	16.52
97	0	0	0.21	1.05	4.84	5.8	2.07	0	0	0	0	0	13.98
98	0	0	0	0.42	2.25	5.91	7.2	1.27	0	0	0	0	17.05
99	0	0	0.32	1.2	4.47	5.48	1.48	0	0	0	0	0	12.94
0	0	0	0.16	1.35	5.13	7.02	2.82	0	0	0	0	0	16.48
1	0	0	0.16	1.22	4.85	6.64	2.69	0	0	0	0	0	15.56
2	0	0	0.14	1.41	4.39	7.03	2.98	0	0	0	0	0	15.95
3	0	0	0	0.88	4.12	7.15	5.55	0.34	0	0	0	0	18.04
4	0	0	0.68	2.07	5.2	4.77	0.67	0	0	0	0	0	13.39
5	0	0	0	1	3.99	6.36	4.76	0.22	0	0	0	0	16.33
6	0	0	0	1.13	4.23	7.5	4.34	0.17	0	0	0	0	17.38
7	0	0	0	0.78	3.42	6.76	5.18	0.43	0	0	0	0	16.56
8	0	0	0	0.88	3.22	6.73	4.41	0.26	0	0	0	0	15.51
AV	0	0	0.07	0.95	3.6	6.51	4.34	0.4	0	0	0	0	15.87

EFFECTIVE PRECIPITATION, Inches

Zuni Weather Station

YR	Spring Grain												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0.15	0	1.1	1.45	0.06	0	0	0	0	2.76
50	0	0	0	0	0	0.1	0.96	0	0	0	0	0	1.06
51	0	0	0	0.38	0	0	0.74	0.5	0	0	0	0	1.62
52	0	0	0	0.83	0.09	1.04	1.17	0.5	0	0	0	0	3.63
53	0	0	0	0.26	0.25	0.22	0.47	0.19	0	0	0	0	1.39
54	0	0	0.05	0.16	0.68	0	1.47	0	0	0	0	0	2.36
55	0	0	0	0.08	0.08	0.59	2.01	0.65	0	0	0	0	3.41
56	0	0	0	0.18	0	0	2.31	0.17	0	0	0	0	2.66
57	0	0	0	0.24	0.82	0.61	2.68	0.62	0	0	0	0	4.97
58	0	0	0	0.21	0.09	0.23	0.74	0.83	0	0	0	0	2.1
59	0	0	0	0.29	0	0	1.19	0.18	0	0	0	0	1.66
60	0	0	0.04	0.16	0.36	0.51	0.55	0	0	0	0	0	1.62
61	0	0	0	0.15	0	0	1.4	0.18	0	0	0	0	1.73
62	0	0	0	0.31	0	0	0.44	0.03	0	0	0	0	0.78
63	0	0	0	0.07	0	0	0.45	0.18	0	0	0	0	0.7
64	0	0	0	0.26	0	0	2.6	1.16	0	0	0	0	4.02
65	0	0	0	0.44	0.42	1.14	2.56	0.43	0	0	0	0	4.99
66	0	0	0	0.51	0	0	0.96	0	0	0	0	0	1.47
67	0	0	0.07	0.08	0.19	0.56	1.72	0	0	0	0	0	2.62
68	0	0	0	0.79	0.42	0.22	1.88	0.3	0	0	0	0	3.61
69	0	0	0	0.18	1.01	0	2.07	0.41	0	0	0	0	3.67
70	0	0	0	0.14	0	0.68	1.58	0.92	0	0	0	0	3.32
71	0	0	0	0.16	0	0	0.81	0.44	0	0	0	0	1.41
72	0	0	0	0.08	0.37	1.14	0.36	0	0	0	0	0	1.95
73	0	0	0	0	0.59	0.2	2.56	0.73	0	0	0	0	4.08
74	0	0	0	0	0	0	1.28	1.34	0	0	0	0	2.62
75	0	0	0	0.08	0	0	1.61	0.58	0	0	0	0	2.27
76	0	0	0	0.1	0.27	0	2.58	0.31	0	0	0	0	3.26
77	0	0	0	0.05	0.08	0.1	1.28	0.32	0	0	0	0	1.83
78	0	0	0.12	0	0.5	0	0.41	0	0	0	0	0	1.03
79	0	0	0	0.07	1.33	0	0.97	0.2	0	0	0	0	2.57
80	0	0	0	0.06	0.18	0	0.54	0.21	0	0	0	0	0.99
81	0	0	0.02	0.45	0.73	0.22	2.01	0.1	0	0	0	0	3.53
82	0	0	0	0	0.48	0	1.72	0.61	0	0	0	0	2.81
83	0	0	0	0.19	0.24	0.2	2.8	1.64	0	0	0	0	5.07
84	0	0	0	0.42	0	0	1.38	0.75	0	0	0	0	2.55
85	0	0	0.03	1.16	0	0.1	1.58	0	0	0	0	0	2.87
86	0	0	0.16	0.57	0.27	0.68	1.71	0	0	0	0	0	3.39
87	0	0	0	0.39	0.5	1.35	2.06	0.25	0	0	0	0	4.55
88	0	0	0	0.74	0.26	1.29	0.89	0.5	0	0	0	0	3.68
89	0	0	0	0	0.1	0	1.55	0	0	0	0	0	1.65
90	0	0	0.05	0.3	0.81	0.11	0.49	0.02	0	0	0	0	1.78
91	0	0	0	0	0	0.76	0.4	0.75	0	0	0	0	1.91
92	0	0	0.2	0	2.28	0.2	2.01	0	0	0	0	0	4.69
93	0	0	0	0	0.36	0	0	0.08	0	0	0	0	0.44
94	0	0	0.12	0.87	0.84	0.6	1.23	0	0	0	0	0	3.66
95	0	0	0	0.37	0.56	0	0.3	0.55	0	0	0	0	1.78
96	0	0	0	0.08	0	0.32	1.98	0.02	0	0	0	0	2.4
97	0	0	0	1.05	0.7	1.28	0.62	0	0	0	0	0	3.65
98	0	0	0	0.19	0	0	2.87	0.85	0	0	0	0	3.91
99	0	0	0	0.38	0.53	0.3	1.48	0	0	0	0	0	2.69
0	0	0	0.16	0	0	0.97	0	0	0	0	0	0	1.13
1	0	0	0	0.57	0.09	0	1.14	0	0	0	0	0	1.8
2	0	0	0.02	0.52	0	0.22	0.83	0	0	0	0	0	1.59
3	0	0	0	0	0	0	0.73	0.15	0	0	0	0	0.88
4	0	0	0.39	0.39	0	0.09	0.09	0	0	0	0	0	0.96
5	0	0	0	0.6	0.09	0.11	0.54	0.18	0	0	0	0	1.52
6	0	0	0	0.15	0	0.43	1.32	0.17	0	0	0	0	2.07
7	0	0	0	0.29	0.99	0	1.53	0.43	0	0	0	0	3.24
8	0	0	0	0.06	1.17	0	1.46	0.26	0	0	0	0	2.95
AV	0	0	0.02383	0.27017	0.31217	0.2945	1.30867	0.3125	0	0	0	0	2.52183

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Zuni Weather Station**

**Spring Grain**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
49	0	0	0.05	1.01	4.05	5.46	2.06	0	0	0	0	0	12.62	
50	0	0	0.14	1.3	4.1	6.18	1.76	0	0	0	0	0	13.48	
51	0	0	0	0.38	3.39	6.1	5.03	0.01	0	0	0	0	14.91	
52	0	0	0	0	3.41	5.86	4.03	0	0	0	0	0	13.29	
53	0	0	0	0.44	2.3	6.78	5.11	0.32	0	0	0	0	14.95	
54	0	0	0	1.23	3.58	6.47	2.18	0.06	0	0	0	0	13.52	
55	0	0	0	0.56	2.86	5.85	3.29	0	0	0	0	0	12.55	
56	0	0	0	0.62	3.76	7.65	2.35	0.17	0	0	0	0	14.56	
57	0	0	0	0.38	1.85	6.25	2.82	0	0	0	0	0	11.3	
58	0	0	0	0.4	3.21	7.48	5.21	0	0	0	0	0	16.3	
59	0	0	0	0.82	3.58	7.48	3.25	0	0	0	0	0	15.12	
60	0	0	0.12	1.01	3.8	6.34	2.12	0	0	0	0	0	13.39	
61	0	0	0	0.87	3.85	7.76	3.07	0	0	0	0	0	15.56	
62	0	0	0	1.01	3.67	6.72	3.61	0.08	0	0	0	0	15.08	
63	0	0	0	0.95	4.24	6.65	4.18	0	0	0	0	0	16.02	
64	0	0	0	0.18	2.51	6.61	4.67	0	0	0	0	0	13.97	
65	0	0	0	0.36	2.71	4.76	2.57	0	0	0	0	0	10.4	
66	0	0	0.19	0.76	5.17	6.31	1.5	0	0	0	0	0	13.92	
67	0	0	0.19	1.08	4.09	5.06	0.15	0	0	0	0	0	10.57	
68	0	0	0	0.04	3.07	6.73	2.85	0	0	0	0	0	12.69	
69	0	0	0	0.76	2.78	6.67	3.23	0	0	0	0	0	13.43	
70	0	0	0	0.14	1.95	5.66	6.01	0.8	0	0	0	0	14.57	
71	0	0	0	0.58	3.03	6.93	4.63	0	0	0	0	0	15.17	
72	0	0	0.5	1.63	4.31	3.6	0.61	0	0	0	0	0	10.66	
73	0	0	0	0.21	1.08	5.13	4.42	1.01	0	0	0	0	11.85	
74	0	0	0	0.29	1.92	6.81	5.53	0.13	0	0	0	0	14.68	
75	0	0	0	0.1	1.48	5.5	5.41	1.31	0	0	0	0	13.8	
76	0	0	0	0.69	3.17	6.6	2.62	0.16	0	0	0	0	13.25	
77	0	0	0	0.88	3.27	7.07	3.38	0	0	0	0	0	14.59	
78	0	0	0	1.08	3.09	6.47	2.57	0.01	0	0	0	0	13.21	
79	0	0	0	0.96	2.3	6.5	3.32	0	0	0	0	0	13.08	
80	0	0	0	0.83	2.81	6.7	4.18	0.09	0	0	0	0	14.62	
81	0	0	0	0.79	2.92	6.87	1.67	0	0	0	0	0	12.25	
82	0	0	0	0.63	2.18	5.96	3.33	0	0	0	0	0	12.11	
83	0	0	0	0	1.39	5.07	4.36	0.14	0	0	0	0	10.97	
84	0	0	0	0.17	3.3	6.76	4.77	0.03	0	0	0	0	15.02	
85	0	0	0.02	0	4.1	6.65	1.95	0.06	0	0	0	0	12.78	
86	0	0	0	0.56	3.89	5.69	0.72	0	0	0	0	0	10.86	
87	0	0	0	0.62	2.88	5.31	2.03	0	0	0	0	0	10.83	
88	0	0	0	0	2.94	5.61	4.52	0	0	0	0	0	13.08	
89	0	0	0.31	1.69	4.74	5.51	0.14	0	0	0	0	0	12.38	
90	0	0	0.04	0.91	2.99	6.98	2.53	0	0	0	0	0	13.46	
91	0	0	0	0.59	2.74	5.48	5.5	0	0	0	0	0	14.31	
92	0	0	0	1.33	2.12	5.33	0	0	0	0	0	0	8.78	
93	0	0	0.03	1.04	3.74	6.48	3.5	0	0	0	0	0	14.79	
94	0	0	0.09	0.32	3.69	6.07	1.07	0	0	0	0	0	11.23	
95	0	0	0	0.31	2.27	6.34	5.02	0	0	0	0	0	13.94	
96	0	0	0.1	1.13	4.74	6.72	1.43	0	0	0	0	0	14.12	
97	0	0	0.21	0	4.14	4.52	1.45	0	0	0	0	0	10.31	
98	0	0	0	0.23	2.25	5.91	4.33	0.42	0	0	0	0	13.14	
99	0	0	0.32	0.82	3.94	5.18	0	0	0	0	0	0	10.26	
0	0	0	0	1.35	5.13	6.05	2.82	0	0	0	0	0	15.36	
1	0	0	0.16	0.65	4.76	6.64	1.55	0	0	0	0	0	13.75	
2	0	0	0.12	0.89	4.39	6.81	2.15	0	0	0	0	0	14.36	
3	0	0	0	0.88	4.12	7.15	4.82	0.19	0	0	0	0	17.16	
4	0	0	0.29	1.68	5.2	4.68	0.58	0	0	0	0	0	12.42	
5	0	0	0	0.4	3.9	6.25	4.22	0.04	0	0	0	0	14.82	
6	0	0	0	0.98	4.23	7.07	3.02	0	0	0	0	0	15.3	
7	0	0	0	0.49	2.43	6.76	3.65	0	0	0	0	0	13.33	
8	0	0	0	0.82	2.05	6.73	2.95	0	0	0	0	0	12.55	
AV	0	0	0.05	0.68	3.29	6.21	3.03	0.08	0	0	0	0	13.35	

**MODIFIED B-C GROSS CONSUMPTIVE USE**

**Zuni Weather Station**

**Small Vegetables/Misc. Crops**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0.45	1.91	3.83	5.33	4.66	2.92	0.37	0	0	19.47
50	0	0	0	0.64	1.86	3.81	5.25	4.66	2.72	1.47	0	0	20.42
51	0	0	0	0.17	1.63	3.31	5.72	4.69	2.59	0.24	0	0	18.35
52	0	0	0	0.33	2.01	4.09	5.22	4.28	0.94	0	0	0	16.87
53	0	0	0	0	0.82	3.25	5.34	4.64	3.04	0.63	0	0	17.73
54	0	0	0	0.79	2.18	3.83	5.54	4.47	2.87	0.7	0	0	20.37
55	0	0	0	0.07	1.43	3.41	4.91	4.78	2.75	0.32	0	0	17.66
56	0	0	0	0.14	1.62	3.99	4.86	4.48	3.24	0.87	0	0	19.2
57	0	0	0	0	1.19	3.5	5.06	4.49	2.57	0.31	0	0	17.12
58	0	0	0	0.2	1.82	4.01	5.13	5.11	3	0.92	0	0	20.19
59	0	0	0	0.46	1.87	4.42	5.56	4.25	1.79	0	0	0	18.34
60	0	0	0	0.35	1.7	4.15	5.55	5.14	3.17	0.73	0	0	20.79
61	0	0	0	0.27	1.73	4.29	5.53	4.74	2.46	0.4	0	0	19.42
62	0	0	0	0.67	1.81	3.78	5.48	5.12	3.18	1.19	0	0	21.24
63	0	0	0	0.32	1.86	3.53	5.6	4.64	3.53	1.65	0.03	0	21.14
64	0	0	0	0.09	1.57	3.57	5.65	4.7	2.76	0.56	0	0	18.89
65	0	0	0	0.13	1.49	3.32	5.3	4.31	1.4	0	0	0	15.95
66	0	0	0	0.58	2.32	4.03	5.85	4.93	2.8	0.61	0	0	21.11
67	0	0	0	0.17	1.54	3.61	5.61	4.57	2.64	0.3	0	0	18.44
68	0	0	0	0.11	1.46	3.64	5.12	4.2	2.72	0.69	0	0	17.94
69	0	0	0	0.4	1.98	3.77	5.66	5.19	2.67	0.2	0	0	19.86
70	0	0	0	0.01	1.49	3.58	5.55	4.95	2.37	0.24	0	0	18.18
71	0	0	0	0.01	1.33	3.84	5.62	4.19	1.29	0	0	0	16.27
72	0	0	0	0.23	1.54	3.4	5.46	4.73	3.01	1.22	0	0	19.6
73	0	0	0	0	1.21	3.3	5.05	3.53	0.17	0	0	0	13.26
74	0	0	0	0.01	1.5	3.95	5.03	4.2	1.91	0	0	0	16.61
75	0	0	0	0	0.86	2.98	4.84	4.36	2.3	0.15	0	0	15.49
76	0	0	0	0.25	1.76	3.65	5.17	4.34	2.44	0.17	0	0	17.79
77	0	0	0	0.25	1.51	3.8	5.02	4.8	3.05	1.17	0	0	19.6
78	0	0	0	0.13	1.33	3.69	5.35	4.1	2.38	0.63	0	0	17.6
79	0	0	0	0.32	1.66	3.53	5.02	4.25	3.11	0.99	0	0	18.89
80	0	0	0	0.05	1.2	3.47	5.1	4.38	2.84	0.62	0	0	17.65
81	0	0	0	0.59	1.84	4.07	5.03	4.49	2.58	0.6	0	0	19.21
82	0	0	0	0	1.2	3.16	4.71	4.41	2.09	0	0	0	15.57
83	0	0	0	0	1.06	2.86	4.91	4.23	2.6	0.46	0	0	16.11
84	0	0	0	0.17	1.82	3.57	5.35	4.63	2.75	0.44	0	0	18.73
85	0	0	0	0.45	2.05	4.11	5.4	4.37	1.49	0	0	0	17.86
86	0	0	0	0.28	1.74	3.99	5.13	4.79	2.07	0	0	0	18.01
87	0	0	0	0.38	1.83	4	4.73	3.87	0.97	0	0	0	15.78
88	0	0	0	0.13	1.59	3.89	5.41	4.28	1.24	0	0	0	16.55
89	0	0	0	1	2.51	4.09	5.56	3.83	0.97	0	0	0	17.97
90	0	0	0	0.51	1.79	4.29	5.18	4.33	2.81	0.38	0	0	19.29
91	0	0	0	0.04	1.36	3.3	5.31	4.79	2.51	0.21	0	0	17.51
92	0	0	0	0.69	2.1	3.63	4.83	4.37	2.48	0.3	0	0	18.4
93	0	0	0	0.25	1.85	3.76	5.06	4.46	1.85	0	0	0	17.22
94	0	0	0	0.38	1.91	4.31	5.82	5.74	2.61	0.24	0	0	21
95	0	0	0	0	1.11	3.29	5.25	5.37	2.5	0	0	0	17.52
96	0	0	0	0.53	2.33	4.39	5.86	4.76	1.9	0	0	0	19.78
97	0	0	0	0.22	1.85	3.64	5.28	5.03	3.08	0.35	0	0	19.47
98	0	0	0	0.02	1.37	3.21	5.63	5.14	2.95	0.26	0	0	18.58
99	0	0	0	0.09	1.51	3.59	5.37	4.71	2.7	0.34	0	0	18.32
0	0	0	0	0.76	2.6	4.71	5.99	4.69	2.04	0	0	0	20.8
1	0	0	0	0.5	2.16	4.17	5.67	4.9	2.94	0.52	0	0	20.85
2	0	0	0	0.82	2.21	4.54	5.86	4.58	2.4	0.16	0	0	20.57
3	0	0	0	0.23	1.88	3.87	6.06	5.04	2.95	0.69	0	0	20.73
4	0	0	0	0.41	2.08	4.24	5.29	4.33	1.63	0	0	0	17.97
5	0	0	0	0.3	1.86	3.52	5.65	4.56	2.83	0.45	0	0	19.16
6	0	0	0	0.52	2.32	4.56	5.45	3.9	1.03	0	0	0	17.78
7	0	0	0	0.13	1.62	3.77	5.34	4.36	1.77	0	0	0	16.99
8	0	0	0	0.05	1.4	3.83	5.08	4.11	0.94	0	0	0	15.41
AV	0	0	0	0.28	1.7	3.78	5.35	4.57	2.35	0.38	0	0	18.41

EFFECTIVE PRECIPITATION, Inches

Zuni Weather Station

YR	Small Vegetables/Misc. Crops												ANNUA L
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0.03	0	0.95	1.6	0.92	0.97	0.17	0	0	4.64
50	0	0	0	0	0	0.09	1.1	0	0.48	0	0	0	1.67
51	0	0	0	0.05	0	0	0.73	1.28	0.25	0	0	0	2.31
52	0	0	0	0.33	0.08	0.89	1.17	1.89	0.22	0	0	0	4.58
53	0	0	0	0	0.14	0.17	0.47	0.53	0	0.13	0	0	1.44
54	0	0	0	0.1	0.61	0	1.62	0.45	1.03	0.07	0	0	3.88
55	0	0	0	0	0.08	0.5	1.96	1.89	0	0	0	0	4.43
56	0	0	0	0	0	0	2.34	0.61	0	0.12	0	0	3.07
57	0	0	0	0	0.72	0.5	2.62	1.4	0	0.31	0	0	5.55
58	0	0	0	0.03	0.08	0.19	0.71	1.72	1.65	0.33	0	0	4.71
59	0	0	0	0.12	0	0	1.27	1.71	0.13	0	0	0	3.23
60	0	0	0	0.01	0.31	0.44	0.64	0.29	0.64	0.73	0	0	3.06
61	0	0	0	0	0	0	1.48	2.14	0.47	0.4	0	0	4.49
62	0	0	0	0.18	0	0	0.47	0.47	1.48	1.19	0	0	3.79
63	0	0	0	0	0	0	0.48	3.6	1.13	1.25	0	0	6.46
64	0	0	0	0	0	0	2.38	2.01	0.89	0	0	0	5.28
65	0	0	0	0.03	0.38	0.99	2.59	1.32	0.25	0	0	0	5.56
66	0	0	0	0.28	0	0	1.22	2.03	2.03	0	0	0	5.56
67	0	0	0	0	0.16	0.51	2.38	2.78	1.5	0	0	0	7.33
68	0	0	0	0.08	0.38	0.18	1.92	2.13	0.17	0.24	0	0	5.1
69	0	0	0	0.05	0.92	0	2.12	1.38	1.39	0.14	0	0	6
70	0	0	0	0	0	0.58	1.41	1.23	1.19	0.08	0	0	4.49
71	0	0	0	0	0	0	0.82	2.49	1.29	0	0	0	4.6
72	0	0	0	0	0.31	1.06	0.72	0.62	0.49	1.22	0	0	4.42
73	0	0	0	0	0.5	0.18	2.3	0.86	0	0	0	0	3.84
74	0	0	0	0	0	0	1.16	1.76	0.43	0	0	0	3.35
75	0	0	0	0	0	0	1.42	0.68	1.76	0	0	0	3.86
76	0	0	0	0	0.24	0	2.57	0.83	0.47	0	0	0	4.11
77	0	0	0	0	0.08	0.09	1.3	2.82	0.91	0.23	0	0	5.43
78	0	0	0	0	0.44	0	0.48	0.44	0.25	0.11	0	0	1.72
79	0	0	0	0	1.19	0	1.01	1.04	0	0.38	0	0	3.62
80	0	0	0	0	0.16	0	0.55	0.75	0.34	0.03	0	0	1.83
81	0	0	0	0.25	0.66	0.18	2.17	1.66	0.95	0.27	0	0	6.14
82	0	0	0	0	0.42	0	1.68	3.39	1.15	0	0	0	6.64
83	0	0	0	0	0.18	0.17	2.47	1.96	0.89	0.27	0	0	5.94
84	0	0	0	0.09	0	0	1.33	1.48	2.75	0.44	0	0	6.09
85	0	0	0	0.45	0	0.09	1.75	0.09	0.59	0	0	0	2.97
86	0	0	0	0.14	0.24	0.59	1.99	2.33	0.92	0	0	0	6.21
87	0	0	0	0.15	0.45	1.16	2.14	1.36	0.04	0	0	0	5.3
88	0	0	0	0.13	0.23	1.08	0.88	3.74	0.56	0	0	0	6.62
89	0	0	0	0	0.08	0	2.23	1.29	0	0	0	0	3.6
90	0	0	0	0.14	0.72	0.09	0.55	1.71	1.51	0.15	0	0	4.87
91	0	0	0	0	0	0.65	0.38	1.76	0.68	0.02	0	0	3.49
92	0	0	0	0	2	0.18	3.06	1.97	0.4	0.13	0	0	7.74
93	0	0	0	0	0.32	0	0	2.41	0	0	0	0	2.73
94	0	0	0	0.35	0.73	0.53	1.58	1.35	1.14	0.24	0	0	5.92
95	0	0	0	0	0.45	0	0.29	1.81	0.08	0	0	0	2.63
96	0	0	0	0	0	0.28	2.27	1.42	1.56	0	0	0	5.53
97	0	0	0	0.22	0.59	1.14	0.8	2.79	0.77	0.14	0	0	6.45
98	0	0	0	0	0	0	2.64	1.38	0.97	0.26	0	0	5.25
99	0	0	0	0	0.45	0.26	2.27	2.51	0.82	0	0	0	6.31
0	0	0	0	0	0	0.85	0	1.55	0.24	0	0	0	2.64
1	0	0	0	0.28	0.08	0	1.35	2.59	0.63	0	0	0	4.93
2	0	0	0	0.39	0	0.19	0.98	1.4	1.77	0.08	0	0	4.81
3	0	0	0	0	0	0	0.75	0.62	0.41	0.23	0	0	2.01
4	0	0	0	0.13	0	0.1	0.29	0.97	0.58	0	0	0	2.07
5	0	0	0	0.18	0.09	0.08	0.57	0.84	0.26	0.12	0	0	2.14
6	0	0	0	0.04	0	0.37	1.4	1.35	0.54	0	0	0	3.7
7	0	0	0	0	0.9	0	1.53	2.63	0.18	0	0	0	5.24
8	0	0	0	0	1.06	0	1.51	0.96	0.07	0	0	0	3.6
AV	0	0	0	0.0705	0.27383	0.25517	1.39783	1.5565	0.7045	0.158	0	0	4.41633



**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**Zuni Weather Station**

**Small Vegetables/Misc. Crops**

**Crop Irrigation Requirement (inches)**

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
49	0	0	0	0.42	1.91	2.88	3.73	3.74	1.95	0.2	0	0	14.83
50	0	0	0	0.64	1.86	3.72	4.15	4.66	2.24	1.47	0	0	18.75
51	0	0	0	0.12	1.63	3.31	4.99	3.41	2.34	0.24	0	0	16.03
52	0	0	0	0	1.93	3.2	4.05	2.39	0.72	0	0	0	12.28
53	0	0	0	0	0.68	3.08	4.87	4.11	3.04	0.5	0	0	16.27
54	0	0	0	0.69	1.57	3.83	3.92	4.02	1.84	0.63	0	0	16.5
55	0	0	0	0.07	1.35	2.91	2.95	2.89	2.75	0.32	0	0	13.24
56	0	0	0	0.14	1.62	3.99	2.52	3.87	3.24	0.75	0	0	16.14
57	0	0	0	0	0.47	3	2.44	3.09	2.57	0	0	0	11.57
58	0	0	0	0.17	1.74	3.82	4.42	3.39	1.35	0.59	0	0	15.48
59	0	0	0	0.34	1.87	4.42	4.29	2.54	1.66	0	0	0	15.13
60	0	0	0	0.34	1.39	3.71	4.91	4.85	2.53	0	0	0	17.73
61	0	0	0	0.27	1.73	4.29	4.05	2.6	1.99	0	0	0	14.93
62	0	0	0	0.49	1.81	3.78	5.01	4.65	1.7	0	0	0	17.44
63	0	0	0	0.32	1.86	3.53	5.12	1.04	2.4	0.4	0.03	0	14.68
64	0	0	0	0.09	1.57	3.57	3.27	2.69	1.87	0.56	0	0	13.62
65	0	0	0	0.1	1.11	2.33	2.71	2.99	1.15	0	0	0	10.4
66	0	0	0	0.3	2.32	4.03	4.63	2.9	0.77	0.61	0	0	15.56
67	0	0	0	0.17	1.38	3.1	3.23	1.79	1.14	0.3	0	0	11.12
68	0	0	0	0.03	1.08	3.46	3.2	2.07	2.55	0.45	0	0	12.84
69	0	0	0	0.35	1.06	3.77	3.54	3.81	1.28	0.06	0	0	13.86
70	0	0	0	0.01	1.49	3	4.14	3.72	1.18	0.16	0	0	13.71
71	0	0	0	0.01	1.33	3.84	4.8	1.7	0	0	0	0	11.68
72	0	0	0	0.23	1.23	2.34	4.74	4.11	2.52	0	0	0	15.17
73	0	0	0	0	0.71	3.12	2.75	2.67	0.17	0	0	0	9.42
74	0	0	0	0.01	1.5	3.95	3.87	2.44	1.48	0	0	0	13.26
75	0	0	0	0	0.86	2.98	3.42	3.68	0.54	0.15	0	0	11.63
76	0	0	0	0.25	1.52	3.65	2.6	3.51	1.97	0.17	0	0	13.67
77	0	0	0	0.25	1.43	3.71	3.72	1.98	2.14	0.94	0	0	14.17
78	0	0	0	0.13	0.89	3.69	4.87	3.66	2.13	0.52	0	0	15.88
79	0	0	0	0.32	0.47	3.53	4.01	3.21	3.11	0.61	0	0	15.27
80	0	0	0	0.05	1.04	3.47	4.55	3.63	2.5	0.59	0	0	15.82
81	0	0	0	0.34	1.18	3.89	2.86	2.83	1.63	0.33	0	0	13.06
82	0	0	0	0	0.78	3.16	3.03	1.02	0.94	0	0	0	8.93
83	0	0	0	0	0.88	2.69	2.44	2.27	1.71	0.19	0	0	10.18
84	0	0	0	0.08	1.82	3.57	4.02	3.15	0	0	0	0	12.64
85	0	0	0	0	2.05	4.02	3.65	4.28	0.9	0	0	0	14.88
86	0	0	0	0.14	1.5	3.4	3.14	2.46	1.15	0	0	0	11.79
87	0	0	0	0.23	1.38	2.84	2.59	2.51	0.93	0	0	0	10.48
88	0	0	0	0	1.36	2.81	4.53	0.54	0.68	0	0	0	9.9
89	0	0	0	1	2.43	4.09	3.33	2.54	0.97	0	0	0	14.36
90	0	0	0	0.37	1.07	4.2	4.63	2.62	1.3	0.23	0	0	14.42
91	0	0	0	0.04	1.36	2.65	4.93	3.03	1.83	0.19	0	0	14.03
92	0	0	0	0.69	0.1	3.45	1.77	2.4	2.08	0.17	0	0	10.66
93	0	0	0	0.25	1.53	3.76	5.06	2.05	1.85	0	0	0	14.5
94	0	0	0	0.03	1.18	3.78	4.24	4.39	1.47	0	0	0	15.08
95	0	0	0	0	0.66	3.29	4.96	3.56	2.42	0	0	0	14.88
96	0	0	0	0.53	2.33	4.11	3.59	3.34	0.34	0	0	0	14.24
97	0	0	0	0	1.26	2.5	4.48	2.24	2.31	0.21	0	0	13.01
98	0	0	0	0.02	1.37	3.21	2.99	3.76	1.98	0	0	0	13.33
99	0	0	0	0.09	1.06	3.33	3.1	2.2	1.88	0.34	0	0	12
0	0	0	0	0.76	2.6	3.86	5.99	3.14	1.8	0	0	0	18.16
1	0	0	0	0.22	2.08	4.17	4.32	2.31	2.31	0.52	0	0	15.92
2	0	0	0	0.43	2.21	4.35	4.88	3.18	0.63	0.08	0	0	15.76
3	0	0	0	0.23	1.88	3.87	5.31	4.42	2.54	0.46	0	0	18.71
4	0	0	0	0.28	2.08	4.14	5	3.36	1.05	0	0	0	15.91
5	0	0	0	0.12	1.77	3.44	5.08	3.72	2.57	0.33	0	0	17.03
6	0	0	0	0.48	2.32	4.19	4.05	2.55	0.49	0	0	0	14.07
7	0	0	0	0.13	0.72	3.77	3.81	1.73	1.59	0	0	0	11.75
8	0	0	0	0.05	0.34	3.83	3.57	3.15	0.87	0	0	0	11.8
AV	0	0	0	0.21	1.43	3.52	3.95	3.01	1.65	0.22	0	0	13.99

**MODIFIED B-C GROSS CONSUMPTIVE USE  
El Morro Weather Station**

**Alfalfa**

Year	Crop Potential Evapotranspiration (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
38	0	0	0	0	2.71	5.58	6.31	5.53	3.44	0.72	0	0	24.28	
39	0	0	0	0.58	3.61	5.41	6.72	5.75	3.82	0.4	0	0	26.28	
40	0	0	0	0.29	3.81	5.75	6.81	5.51	3.48	1.61	0	0	27.26	
41	0	0	0	0	3.05	4.58	6	5.23	1.19	0	0	0	20.06	
42	0	0	0	0.64	3.48	5.07	6.76	5.43	3.64	0.33	0	0	25.35	
43	0	0	0	0.75	3.51	5.29	6.65	5.68	3.6	0.95	0	0	26.43	
44	0	0	0	0	2.74	5.05	6.33	5.72	3.49	0.26	0	0	23.61	
45	0	0	0	0	2.89	4.56	6.67	6.01	3.58	0	0	0	23.71	
46	0	0	0	1.47	3.21	5.68	6.42	5.61	4.26	0.57	0	0	27.22	
47	0	0	0	0.22	4.04	5.01	6.95	5.37	3.88	1.26	0	0	26.73	
48	0	0	0	0.68	3.81	5.39	6.95	5.64	3.79	0.58	0	0	26.84	
49	0	0	0	0	3	5.25	6.4	5.31	3.91	0.68	0	0	24.54	
50	0	0	0	0.27	3.32	5.33	6.18	5.14	1.77	0	0	0	22	
51	0	0	0	0	3.57	4.93	7.16	5.62	3.68	0.49	0	0	25.45	
52	0	0	0	0.27	3.8	5.62	6.27	5.75	1.87	0	0	0	23.58	
53	0	0	0	0	1.79	5.88	6.9	5.39	3.83	0	0	0	23.78	
54	0	0	0	1.32	3.85	5.5	6.9	5.31	3.79	1.2	0	0	27.86	
55	0	0	0	0	3.01	5.21	6.35	5.53	3.74	0	0	0	23.84	
56	0	0	0	0.01	3.88	6.01	6.29	5.02	3.95	1.13	0	0	26.29	
57	0	0	0	0	2.34	5.52	6.49	5.21	2.38	0	0	0	21.95	
58	0	0	0	0.11	4.04	5.98	6.44	5.81	3.7	1.36	0	0	27.44	
59	0	0	0	0.17	3.47	6.11	6.9	5.31	2.94	0	0	0	24.9	
60	0	0	0	0	3.25	5.62	6.58	5.89	3.88	0.91	0	0	26.13	
61	0	0	0	0	3.46	6.03	6.69	5.51	0.54	0	0	0	22.22	
62	0	0	0	0.41	3.23	5.03	6.31	5.57	3.6	0.55	0	0	24.69	
63	0	0	0	0.17	3.88	5.07	6.95	5.12	3.85	1.17	0	0	26.21	
64	0	0	0	0	2.77	5.03	6.69	5.18	3.37	0.56	0	0	23.59	
65	0	0	0	0	2.14	4.45	6.29	5.55	2.37	0	0	0	20.79	
66	0	0	0	0.23	3.88	5.21	6.83	5.47	3.49	1.02	0	0	26.13	
67	0	0	0	0	2.81	5.03	6.81	5.08	3.49	0.63	0	0	23.85	
68	0	0	0	0	2.43	5.23	6.2	4.82	2.65	0	0	0	21.32	
69	0	0	0	0.35	3.71	5.01	6.88	6.03	3.74	0.39	0	0	26.11	
70	0	0	0	0	2.95	5.31	6.83	5.66	2.78	0	0	0	23.53	
71	0	0	0	0	2.24	5.39	6.97	5.16	2.27	0	0	0	22.03	
72	0	0	0	0	3.2	5.33	6.81	5.35	3.38	0	0	0	24.07	
73	0	0	0	0	2.57	5.05	6.24	5.49	3.1	0	0	0	22.46	
74	0	0	0	0.15	3.88	6.31	6.38	5.12	3.36	0	0	0	25.2	
75	0	0	0	0	1.89	4.75	6.44	5.33	3.27	0.68	0	0	22.36	
76	0	0	0	0.04	3.63	5.29	6.62	5.41	3.67	0.46	0	0	25.13	
77	0	0	0	0	2.97	5.62	6.47	5.87	3.77	0.91	0	0	25.61	
78	0	0	0	0	2.99	5.41	6.62	5.14	2.63	0	0	0	22.79	
79	0	0	0	0	2.93	5.23	6.56	5.08	4	1.24	0	0	25.03	
80	0	0	0	0	2.49	5.71	7.02	5.61	3.77	1.13	0	0	25.72	
81	0	0	0	0.74	3.45	6.07	6.56	5.66	3.65	1.2	0	0	27.34	
82	0	0	0	0	2.84	4.89	6.22	5.51	3.66	0	0	0	23.11	
83	0	0	0	0	2.51	4.71	6.29	5.59	2.92	0	0	0	22.01	
84	0	0	0	0.06	4.18	5.45	6.69	5.33	3.6	0.78	0	0	26.1	
85	0	0	0	0.71	3.66	5.79	6.85	5.61	3.13	0	0	0	25.75	
86	0	0	0	0.14	3.47	5.35	6.02	5.72	1.41	0	0	0	22.12	
87	0	0	0	0	3.15	5.25	5.81	5.29	3.23	1.19	0	0	23.92	
88	0	0	0	0	3.54	5.6	6.38	5.31	2.63	0	0	0	23.45	
89	0	0	0	1.41	3.95	5.27	6.6	5.16	2.65	0	0	0	25.04	
90	0	0	0	0.31	3.35	6.03	6.22	4.95	3.91	0.7	0	0	25.47	
91	0	0	0	0	3.06	4.71	6.24	5.45	3.57	0.41	0	0	23.44	
92	0	0	0	0.72	3.53	4.79	5.74	5.12	3.55	0.64	0	0	24.1	
93	0	0	0	0	3.59	5.13	6.13	5.18	2.95	0	0	0	22.97	
94	0	0	0	0.05	3.56	5.79	6.6	5.89	3.47	0.15	0	0	25.51	
95	0	0	0	0	2.02	4.75	6.2	6.13	3.57	0.24	0	0	22.91	
96	0	0	0	0.48	4.02	5.77	6.65	5.53	2.88	0	0	0	25.33	
97	0	0	0	0	3.67	4.93	6.11	5.49	4.09	0.7	0	0	24.98	
98	0	0	0	0	2.88	4.75	6.58	5.55	4.14	0.52	0	0	24.42	
99	0	0	0	0	2.99	5.07	6.13	5.39	3.48	0.69	0	0	23.75	
0	0	0	0	0.93	3.92	5.81	6.62	5.77	3.15	0	0	0	26.2	
1	0	0	0	0.58	3.9	5.66	6.6	5.51	1.3	0	0	0	23.55	
2	0	0	0	1.37	3.66	5.98	6.6	5.47	3.51	0.31	0	0	26.9	
3	0	0	0	0.05	3.87	5.58	7.35	5.79	3.7	1.2	0	0	27.52	
4	0	0	0	0.1	3.73	5.35	6.2	4.99	2.58	0	0	0	22.95	
5	0	0	0	0.17	3.75	5.03	6.6	5.29	3.77	0.96	0	0	25.57	
6	0	0	0	0.99	4.09	6.18	6.69	4.95	1.64	0	0	0	24.55	
7	0	0	0	0	2.35	5.52	6.69	5.75	3.23	0	0	0	23.54	
8	0	0	0	0	2.62	5.48	6.4	5.51	3.44	0.87	0	0	24.3	
AV	0	0	0	0.24	3.26	5.36	6.53	5.45	3.23	0.45	0	0	24.52	

EFFECTIVE PRECIPITATION, Inches

El Morro Weather Station

YR	Alfalfa													ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
38	0	0	0	0	0.26	0.81	0.85	1.49	1.32	0	0	0	4.73	
39	0	0	0	0.06	0	0	1.04	0.82	0.95	0.03	0	0	2.9	
40	0	0	0	0.01	0.26	0.39	2.33	2.36	1.51	0.45	0	0	7.31	
41	0	0	0	0	0.88	0.45	1.15	1.66	0.59	0	0	0	4.73	
42	0	0	0	0.05	0	0	0.87	1.89	0.51	0.03	0	0	3.35	
43	0	0	0	0.03	0.26	0.56	2.17	2.31	0.59	0.39	0	0	6.31	
44	0	0	0	0	0.31	0.63	1.09	0.89	0.79	0.05	0	0	3.76	
45	0	0	0	0	0	0	1.43	2.36	0.35	0	0	0	4.14	
46	0	0	0	0	0.09	0.1	1.48	3.44	0.97	0.01	0	0	6.09	
47	0	0	0	0	0.96	0.46	1.84	5.37	0.67	0.59	0	0	9.89	
48	0	0	0	0	0.43	1.03	1.69	1.7	1.48	0.2	0	0	6.53	
49	0	0	0	0	0	0.72	1.48	0.8	1.23	0.13	0	0	4.36	
50	0	0	0	0	0	0	2.18	0.63	0.42	0	0	0	3.23	
51	0	0	0	0	0.26	0	0.8	2.37	0.26	0	0	0	3.69	
52	0	0	0	0.01	0.09	0.89	1.4	2.33	0.23	0	0	0	4.95	
53	0	0	0	0	0.04	0.1	2.05	1.18	0	0	0	0	3.37	
54	0	0	0	0	0.95	0.48	1.9	2.07	2.09	0.18	0	0	7.67	
55	0	0	0	0	0.21	0.72	3.13	2.43	0	0	0	0	6.49	
56	0	0	0	0	0.43	0.31	1.25	0.93	0	0.14	0	0	3.06	
57	0	0	0	0	0.54	0.57	2.43	1.99	0	0	0	0	5.53	
58	0	0	0	0	0	0.39	1.09	1.51	1.15	0.26	0	0	4.4	
59	0	0	0	0	0	0.49	0.79	3.32	0	0	0	0	4.6	
60	0	0	0	0	0.39	0.39	0.77	0.49	0.19	0.47	0	0	2.7	
61	0	0	0	0	0.17	0.21	1.5	2.49	0	0	0	0	4.37	
62	0	0	0	0	0	0.2	0.93	0.39	2.3	0.21	0	0	4.03	
63	0	0	0	0	0	0	1.29	2.62	2.09	0.39	0	0	6.39	
64	0	0	0	0	0.04	0.1	1.66	2.82	1.32	0	0	0	5.94	
65	0	0	0	0	0.34	1.05	2.74	1.2	0.32	0	0	0	5.65	
66	0	0	0	0	0.09	0.55	1.59	1.62	1.38	0	0	0	5.23	
67	0	0	0	0	0.05	1.16	3.09	1.85	0.5	0.02	0	0	6.67	
68	0	0	0	0	0.21	0	1.76	1.36	0	0	0	0	3.33	
69	0	0	0	0	0.87	0	1.98	2.69	0.8	0.14	0	0	6.48	
70	0	0	0	0	0.19	0.64	0.95	1.91	0.42	0	0	0	4.11	
71	0	0	0	0	0	0	1.45	3.12	0.89	0	0	0	5.46	
72	0	0	0	0	0.15	0.95	1.28	2.78	0.86	0	0	0	6.02	
73	0	0	0	0	0.49	0.29	1.24	1.48	0.59	0	0	0	4.09	
74	0	0	0	0	0	0	1.02	2.56	0.63	0	0	0	4.21	
75	0	0	0	0	0	0	1.09	1.4	2.2	0	0	0	4.69	
76	0	0	0	0	0.8	0.2	1.57	1.47	0.73	0.07	0	0	4.84	
77	0	0	0	0	0.35	0.3	2.83	2.08	1.78	0.15	0	0	7.49	
78	0	0	0	0	0.94	0.2	0.86	0.71	0.03	0	0	0	2.74	
79	0	0	0	0	1.51	0.47	0.94	2.18	0	0.26	0	0	5.36	
80	0	0	0	0	0.16	0	0.33	1.2	1.96	0.13	0	0	3.78	
81	0	0	0	0.26	0.26	1.07	2.02	1.12	1.33	0.26	0	0	6.32	
82	0	0	0	0	0.53	0	1.76	2.62	1.17	0	0	0	6.08	
83	0	0	0	0	0.39	0.28	1.62	1.98	1.78	0	0	0	6.05	
84	0	0	0	0	0.09	0.47	1.73	2.96	2.3	0.6	0	0	8.15	
85	0	0	0	0.21	0.43	0	2.47	1.28	0.98	0	0	0	5.37	
86	0	0	0	0	0.58	1.25	2.82	1.49	0.24	0	0	0	6.38	
87	0	0	0	0	0.93	0.95	1.72	2.65	0.18	0.2	0	0	6.63	
88	0	0	0	0	0.34	2.04	1.18	2.4	0.12	0	0	0	6.08	
89	0	0	0	0	0	0	2.44	1.24	0.68	0	0	0	4.36	
90	0	0	0	0.04	0.99	0.75	1.76	1.3	1.61	0.12	0	0	6.57	
91	0	0	0	0	0	0.69	1	1.76	1.07	0.06	0	0	4.58	
92	0	0	0	0	2.46	0.28	1.42	2.18	0.43	0.1	0	0	6.87	
93	0	0	0	0	0.79	0.1	0	4.95	0.22	0	0	0	6.06	
94	0	0	0	0	1.13	0.57	1.34	1.14	1.26	0.06	0	0	5.5	
95	0	0	0	0	0.17	0.09	0.5	2.17	1.46	0	0	0	4.39	
96	0	0	0	0.04	0	0.74	1.73	2.24	1.81	0	0	0	6.56	
97	0	0	0	0	0.34	1.3	1.75	2.23	1.56	0.15	0	0	7.33	
98	0	0	0	0	0	0	3.31	2.24	0.36	0.39	0	0	6.3	
99	0	0	0	0	0.77	0.38	2.1	2.73	0.5	0	0	0	6.48	
0	0	0	0	0	0	0.65	0.41	2	0.51	0	0	0	3.57	
1	0	0	0	0.03	0.59	0.3	1.57	2.3	0.2	0	0	0	4.99	
2	0	0	0	0.13	0	0	1.87	1.26	2.51	0.12	0	0	5.89	
3	0	0	0	0	0	0	0.9	2	0.59	0.24	0	0	3.73	
4	0	0	0	0	0	0.38	0.92	1.71	0.55	0	0	0	3.56	
5	0	0	0	0	0.09	0.29	0.41	1.6	0.94	0.13	0	0	3.46	
6	0	0	0	0	0.09	0.84	3.78	3.26	0.28	0	0	0	8.25	
7	0	0	0	0	0.6	0.39	1.43	3.16	0.34	0	0	0	5.92	
8	0	0	0	0	0.67	0.2	2.82	1.48	0.5	0.25	0	0	5.92	

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER  
El Morro Weather Station**

Alfalfa													
Crop Irrigation Requirement (inches)													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
38	0	0	0	0	2.45	4.77	5.46	4.04	2.12	0.72	0	0	19.57
39	0	0	0	0.52	3.61	5.41	5.68	4.93	2.87	0.37	0	0	23.4
40	0	0	0	0.28	3.55	5.36	4.48	3.15	1.97	1.16	0	0	19.93
41	0	0	0	0	2.17	4.13	4.85	3.57	0.6	0	0	0	15.33
42	0	0	0	0.59	3.48	5.07	5.89	3.54	3.13	0.3	0	0	22.01
43	0	0	0	0.72	3.25	4.73	4.48	3.37	3.01	0.56	0	0	20.13
44	0	0	0	0	2.43	4.42	5.24	4.83	2.7	0.21	0	0	19.83
45	0	0	0	0	2.89	4.56	5.24	3.65	3.23	0	0	0	19.58
46	0	0	0	1.47	3.12	5.58	4.94	2.17	3.29	0.56	0	0	21.14
47	0	0	0	0.22	3.08	4.55	5.11	0	3.21	0.67	0	0	16.84
48	0	0	0	0.68	3.38	4.36	5.26	3.94	2.31	0.38	0	0	20.32
49	0	0	0	0	3	4.53	4.92	4.51	2.68	0.55	0	0	20.2
50	0	0	0	0.27	3.32	5.33	4	4.51	1.35	0	0	0	18.77
51	0	0	0	0	3.31	4.93	6.36	3.25	3.42	0.49	0	0	21.75
52	0	0	0	0.26	3.71	4.73	4.87	3.42	1.64	0	0	0	18.62
53	0	0	0	0	1.75	5.78	4.85	4.21	3.83	0	0	0	20.41
54	0	0	0	1.32	2.9	5.02	5	3.24	1.7	1.02	0	0	20.19
55	0	0	0	0	2.8	4.49	3.22	3.1	3.74	0	0	0	17.35
56	0	0	0	0.01	3.45	5.7	5.04	4.09	3.95	0.99	0	0	23.23
57	0	0	0	0	1.8	4.95	4.06	3.22	2.38	0	0	0	16.41
58	0	0	0	0.11	4.04	5.59	5.35	4.3	2.55	1.1	0	0	23.04
59	0	0	0	0.17	3.47	5.62	6.11	1.99	2.94	0	0	0	20.29
60	0	0	0	0	2.86	5.23	5.81	5.4	3.69	0.44	0	0	23.43
61	0	0	0	0	3.29	5.82	5.19	3.02	0.54	0	0	0	17.86
62	0	0	0	0.41	3.23	4.83	5.38	5.18	1.3	0.34	0	0	20.67
63	0	0	0	0.17	3.88	5.07	5.66	2.5	1.76	0.78	0	0	19.81
64	0	0	0	0	2.73	4.93	5.03	2.36	2.05	0.56	0	0	17.66
65	0	0	0	0	1.8	3.4	3.55	4.35	2.05	0	0	0	15.16
66	0	0	0	0.23	3.79	4.66	5.24	3.85	2.11	1.02	0	0	20.89
67	0	0	0	0	2.76	3.87	3.72	3.23	2.99	0.61	0	0	17.18
68	0	0	0	0	2.22	5.23	4.44	3.46	2.65	0	0	0	18
69	0	0	0	0.35	2.84	5.01	4.9	3.34	2.94	0.25	0	0	19.63
70	0	0	0	0	2.76	4.67	5.88	3.75	2.36	0	0	0	19.42
71	0	0	0	0	2.24	5.39	5.52	2.04	1.38	0	0	0	16.58
72	0	0	0	0	3.05	4.38	5.53	2.57	2.52	0	0	0	18.04
73	0	0	0	0	2.08	4.76	5	4.01	2.51	0	0	0	18.36
74	0	0	0	0.15	3.88	6.31	5.36	2.56	2.73	0	0	0	21
75	0	0	0	0	1.89	4.75	5.35	3.93	1.07	0.68	0	0	17.67
76	0	0	0	0.04	2.83	5.09	5.05	3.94	2.94	0.39	0	0	20.28
77	0	0	0	0	2.62	5.32	3.64	3.79	1.99	0.76	0	0	18.12
78	0	0	0	0	2.05	5.21	5.76	4.43	2.6	0	0	0	20.05
79	0	0	0	0	1.42	4.76	5.62	2.9	4	0.98	0	0	19.68
80	0	0	0	0	2.33	5.71	6.69	4.41	1.81	1	0	0	21.95
81	0	0	0	0.48	3.19	5	4.54	4.54	2.32	0.94	0	0	21.01
82	0	0	0	0	2.31	4.89	4.46	2.89	2.49	0	0	0	17.04
83	0	0	0	0	2.12	4.43	4.67	3.61	1.14	0	0	0	15.97
84	0	0	0	0.06	4.09	4.98	4.96	2.37	1.3	0.18	0	0	17.94
85	0	0	0	0.5	3.23	5.79	4.38	4.33	2.15	0	0	0	20.39
86	0	0	0	0.14	2.89	4.1	3.2	4.23	1.17	0	0	0	15.73
87	0	0	0	0	2.22	4.3	4.09	2.64	3.05	0.99	0	0	17.29
88	0	0	0	0	3.2	3.56	5.2	2.91	2.51	0	0	0	17.39
89	0	0	0	1.41	3.95	5.27	4.16	3.92	1.97	0	0	0	20.68
90	0	0	0	0.27	2.36	5.28	4.46	3.65	2.3	0.58	0	0	18.9
91	0	0	0	0	3.06	4.02	5.24	3.69	2.5	0.35	0	0	18.86
92	0	0	0	0.72	1.07	4.51	4.32	2.94	3.12	0.54	0	0	17.22
93	0	0	0	0	2.8	5.03	6.13	0.23	2.73	0	0	0	16.93
94	0	0	0	0.05	2.43	5.22	5.26	4.75	2.21	0.09	0	0	20
95	0	0	0	0	1.85	4.66	5.7	3.96	2.11	0.24	0	0	18.53
96	0	0	0	0.44	4.02	5.03	4.92	3.29	1.07	0	0	0	18.77
97	0	0	0	0	3.33	3.63	4.36	3.26	2.53	0.55	0	0	17.67
98	0	0	0	0	2.88	4.75	3.27	3.31	3.78	0.13	0	0	18.13
99	0	0	0	0	2.22	4.69	4.03	2.66	2.98	0.69	0	0	17.27
0	0	0	0	0.93	3.92	5.16	6.21	3.77	2.64	0	0	0	22.63
1	0	0	0	0.55	3.31	5.36	5.03	3.21	1.1	0	0	0	18.56
2	0	0	0	1.24	3.66	5.98	4.73	4.21	1	0.19	0	0	21.02
3	0	0	0	0.05	3.87	5.58	6.45	3.79	3.11	0.96	0	0	23.81
4	0	0	0	0.1	3.73	4.97	5.28	3.28	2.03	0	0	0	19.38
5	0	0	0	0.17	3.66	4.74	6.19	3.69	2.83	0.83	0	0	22.1
6	0	0	0	0.99	4	5.34	2.91	1.69	1.36	0	0	0	16.3
7	0	0	0	0	1.75	5.13	5.26	2.59	2.89	0	0	0	17.63
8	0	0	0	0	1.95	5.28	3.58	4.03	2.94	0.62	0	0	18.38

AV	0	0	0	0.23	2.91	4.94	4.95	3.46	2.39	0.35	0	0	19.23
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**MODIFIED B-C GROSS CONSUMPTIVE USE  
El Morro Weather Station**

**Corn Grain**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
38	0	0	0	0	0.4	2.69	4.97	5.63	3.4	0.61	0	0	17.68
39	0	0	0	0	0.8	2.87	5.85	5.78	3.51	0	0	0	18.81
40	0	0	0	0	1.07	3.19	6.04	5.54	3.27	0	0	0	19.1
41	0	0	0	0	0.57	2.52	5.68	5	1.04	0	0	0	14.81
42	0	0	0	0	0.58	2.63	5.93	5.44	2.81	0	0	0	17.4
43	0	0	0	0	0.66	2.69	5.59	5.76	3.49	0.37	0	0	18.55
44	0	0	0	0	0.39	2.46	5.2	5.8	3.36	0.16	0	0	17.37
45	0	0	0	0	0.27	2.27	5.91	5.92	1.72	0	0	0	16.09
46	0	0	0	0	0.46	2.77	5.15	5.7	4.2	0.53	0	0	18.8
47	0	0	0	0	1.25	2.9	6.34	5.38	3.31	0	0	0	19.17
48	0	0	0	0	1.08	3.03	6.22	5.67	3.49	0	0	0	19.5
49	0	0	0	0	0.44	2.55	5.07	5.41	3.88	0.64	0	0	17.98
50	0	0	0	0	0.48	2.81	5.69	4.98	1.28	0	0	0	15.25
51	0	0	0	0	0.74	2.78	6.75	5.44	1.59	0	0	0	17.3
52	0	0	0	0	1.05	3.33	5.95	5.53	1.66	0	0	0	17.52
53	0	0	0	0	0.3	2.88	5.82	5.43	3.26	0	0	0	17.68
54	0	0	0	0	1.2	3.18	6.3	5.32	3.28	0	0	0	19.27
55	0	0	0	0	0.49	2.66	5.58	5.53	2.56	0	0	0	16.82
56	0	0	0	0	1.13	3.38	5.63	5.04	3.64	0	0	0	18.82
57	0	0	0	0	0.36	2.8	5.81	5.13	1.73	0	0	0	15.83
58	0	0	0	0	1.28	3.5	5.94	5.79	2.96	0	0	0	19.46
59	0	0	0	0	0.73	3.34	6.31	5.23	2.01	0	0	0	17.62
60	0	0	0	0	0.55	2.89	5.76	5.9	2.89	0	0	0	17.99
61	0	0	0	0	0.8	3.54	6.4	5.12	0.46	0	0	0	16.31
62	0	0	0	0	0.32	2.43	5.17	5.63	3.44	0.08	0	0	17.07
63	0	0	0	0	1.1	2.85	6.22	5.14	3.51	0	0	0	18.82
64	0	0	0	0	0.46	2.48	5.45	5.26	3.3	0.52	0	0	17.46
65	0	0	0	0	0	1.96	5.14	5.57	2.19	0	0	0	14.86
66	0	0	0	0	1.11	2.93	6.12	5.49	3.19	0	0	0	18.84
67	0	0	0	0	0.32	2.53	6.08	4.99	1.61	0	0	0	15.53
68	0	0	0	0	0.33	2.61	5.45	4.79	1.79	0	0	0	14.96
69	0	0	0	0	0.91	2.69	5.99	6.08	3.57	0.12	0	0	19.36
70	0	0	0	0	0.67	2.89	6.29	5.54	1.74	0	0	0	17.12
71	0	0	0	0	0.29	2.75	6.49	4.89	0.57	0	0	0	14.99
72	0	0	0	0	0.52	2.72	5.89	5.38	2.82	0	0	0	17.33
73	0	0	0	0	0.39	2.5	5.33	5.52	2.57	0	0	0	16.31
74	0	0	0	0	1.16	3.56	5.74	5.13	3.06	0	0	0	18.65
75	0	0	0	0	0.05	2.2	5.3	5.37	2.47	0	0	0	15.39
76	0	0	0	0	0.8	2.76	5.66	5.47	3.54	0.26	0	0	18.48
77	0	0	0	0	0.46	2.81	5.44	5.93	3.59	0.08	0	0	18.31
78	0	0	0	0	0.4	2.71	5.77	5.14	2.31	0	0	0	16.33
79	0	0	0	0	0.36	2.53	5.25	5.16	3.91	0.5	0	0	17.72
80	0	0	0	0	0.4	2.77	5.68	5.69	3.67	0.3	0	0	18.5
81	0	0	0	0	0.7	3.09	5.53	5.73	3.54	0.3	0	0	18.89
82	0	0	0	0	0.29	2.38	5.18	5.56	3.46	0	0	0	16.86
83	0	0	0	0	0.25	2.31	5.39	5.6	2.68	0	0	0	16.22
84	0	0	0	0	1.35	3.2	6.16	5.33	3.01	0	0	0	19.05
85	0	0	0	0	0.89	3.31	6.49	5.41	1.32	0	0	0	17.43
86	0	0	0	0	0.62	2.92	5.63	5.53	1.24	0	0	0	15.94
87	0	0	0	0	0.41	2.7	5.24	5.19	1.63	0	0	0	15.17
88	0	0	0	0	0.78	3.13	5.95	5.17	1.63	0	0	0	16.67
89	0	0	0	0	1.37	3.28	6.29	4.96	1.63	0	0	0	17.53
90	0	0	0	0	0.62	3.03	5.16	5.02	3.83	0.52	0	0	18.17
91	0	0	0	0	0.42	2.32	5.16	5.52	3.44	0.23	0	0	17.08
92	0	0	0	0	0.58	2.47	4.99	5.14	2.95	0	0	0	16.13
93	0	0	0	0	0.74	2.84	5.7	5.04	1.55	0	0	0	15.87
94	0	0	0	0	0.78	3.14	5.92	5.89	2.61	0	0	0	18.35
95	0	0	0	0	0.07	2.17	4.82	6.22	3.41	0	0	0	16.69
96	0	0	0	0	1.32	3.49	6.3	5.4	1.94	0	0	0	18.45
97	0	0	0	0	0.97	2.69	5.37	5.52	3.89	0.06	0	0	18.5
98	0	0	0	0	0.37	2.35	5.57	5.58	3.43	0	0	0	17.31
99	0	0	0	0	0.49	2.53	5.17	5.44	3.31	0	0	0	16.94
0	0	0	0	0	1.27	3.4	6.12	5.74	2.91	0	0	0	19.44
1	0	0	0	0	1.21	3.49	6.31	5.22	1.13	0	0	0	17.36
2	0	0	0	0	0.9	3.17	5.69	5.52	3.37	0.19	0	0	18.83
3	0	0	0	0	1.1	3.24	6.83	5.71	2.53	0	0	0	19.41
4	0	0	0	0	0.96	3.23	5.93	4.67	0.67	0	0	0	15.46
5	0	0	0	0	0.96	2.93	6.25	5.12	1.71	0	0	0	16.97
6	0	0	0	0	1.5	3.83	6.36	4.81	1.47	0	0	0	17.98
7	0	0	0	0	0.36	2.73	5.71	5.78	3.02	0	0	0	17.59
8	0	0	0	0	0.42	2.7	5.34	5.57	3.28	0.07	0	0	17.39
AV	0	0	0	0	0.69	2.85	5.76	5.42	2.65	0.08	0	0	17.45

EFFECTIVE PRECIPITATION, Inches

El Morro Weather Station

YR	Corn Grain												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
38	0	0	0	0	0.01	0.69	0.78	1.49	1.32	0	0	0	4.29
39	0	0	0	0	0	0	0.98	0.82	0.9	0	0	0	2.7
40	0	0	0	0	0.11	0.34	2.23	2.37	1.49	0	0	0	6.54
41	0	0	0	0	0.31	0.4	1.13	1.64	0.59	0	0	0	4.07
42	0	0	0	0	0	0	0.82	1.89	0.38	0	0	0	3.09
43	0	0	0	0	0.04	0.48	2.04	2.33	0.58	0.11	0	0	5.58
44	0	0	0	0	0.03	0.54	1.03	0.9	0.78	0	0	0	3.28
45	0	0	0	0	0	0	1.37	2.35	0.11	0	0	0	3.83
46	0	0	0	0	0	0.09	1.39	3.46	0.97	0.01	0	0	5.92
47	0	0	0	0	0.56	0.41	1.77	5.38	0.58	0	0	0	8.7
48	0	0	0	0	0.2	0.9	1.61	1.71	1.41	0	0	0	5.83
49	0	0	0	0	0	0.62	1.38	0.81	1.22	0.13	0	0	4.16
50	0	0	0	0	0	0	2.12	0.62	0.32	0	0	0	3.06
51	0	0	0	0	0.05	0	0.78	2.36	0.06	0	0	0	3.25
52	0	0	0	0	0	0.79	1.37	2.29	0.24	0	0	0	4.69
53	0	0	0	0	0	0.09	1.93	1.19	0	0	0	0	3.21
54	0	0	0	0	0.55	0.42	1.84	2.08	1.88	0	0	0	6.77
55	0	0	0	0	0	0.62	3.01	2.43	0	0	0	0	6.06
56	0	0	0	0	0.21	0.26	1.2	0.94	0	0	0	0	2.61
57	0	0	0	0	0.12	0.48	2.33	1.99	0	0	0	0	4.92
58	0	0	0	0	0	0.35	1.07	1.5	0.92	0	0	0	3.84
59	0	0	0	0	0	0.42	0.76	3.31	0	0	0	0	4.49
60	0	0	0	0	0.07	0.34	0.74	0.49	0.11	0	0	0	1.75
61	0	0	0	0	0.02	0.18	1.48	2.44	0	0	0	0	4.12
62	0	0	0	0	0	0.17	0.87	0.39	2.27	0	0	0	3.7
63	0	0	0	0	0	0	1.24	2.63	1.99	0	0	0	5.86
64	0	0	0	0	0	0.09	1.55	2.83	1.31	0	0	0	5.78
65	0	0	0	0	0	0.88	2.56	1.19	0.32	0	0	0	4.95
66	0	0	0	0	0.01	0.49	1.53	1.62	1.32	0	0	0	4.97
67	0	0	0	0	0	1.01	2.96	1.84	0.18	0	0	0	5.99
68	0	0	0	0	0	0	1.69	1.36	0	0	0	0	3.05
69	0	0	0	0	0.39	0	1.88	2.7	0.79	0	0	0	5.76
70	0	0	0	0	0.04	0.56	0.93	1.9	0.24	0	0	0	3.67
71	0	0	0	0	0	0	1.41	3.07	0.19	0	0	0	4.67
72	0	0	0	0	0	0.83	1.22	2.79	0.72	0	0	0	5.56
73	0	0	0	0	0.1	0.25	1.18	1.49	0.49	0	0	0	3.51
74	0	0	0	0	0	0	0.98	2.56	0.59	0	0	0	4.13
75	0	0	0	0	0	0	1.03	1.4	1.66	0	0	0	4.09
76	0	0	0	0	0.3	0.17	1.5	1.48	0.73	0.01	0	0	4.19
77	0	0	0	0	0.04	0.26	2.67	2.08	1.76	0	0	0	6.81
78	0	0	0	0	0.2	0.17	0.82	0.71	0.02	0	0	0	1.92
79	0	0	0	0	0.34	0.4	0.87	2.19	0	0.05	0	0	3.85
80	0	0	0	0	0	0	0.3	1.21	1.96	0	0	0	3.47
81	0	0	0	0	0.04	0.91	1.9	1.13	1.33	0	0	0	5.31
82	0	0	0	0	0.05	0	1.66	2.62	1.16	0	0	0	5.49
83	0	0	0	0	0.02	0.25	1.54	1.98	1.75	0	0	0	5.54
84	0	0	0	0	0.03	0.42	1.68	2.96	1.98	0	0	0	7.07
85	0	0	0	0	0.15	0	2.43	1.26	0.35	0	0	0	4.19
86	0	0	0	0	0.14	1.1	2.76	1.49	0.23	0	0	0	5.72
87	0	0	0	0	0.19	0.83	1.67	2.63	0.03	0	0	0	5.35
88	0	0	0	0	0.09	1.78	1.15	2.38	0.03	0	0	0	5.43
89	0	0	0	0	0	0	2.4	1.23	0.42	0	0	0	4.05
90	0	0	0	0	0.29	0.64	1.66	1.3	1.6	0.08	0	0	5.57
91	0	0	0	0	0	0.61	0.95	1.76	1.06	0	0	0	4.38
92	0	0	0	0	0.58	0.25	1.37	2.18	0.35	0	0	0	4.73
93	0	0	0	0	0.28	0.09	0	4.9	0.07	0	0	0	5.34
94	0	0	0	0	0.43	0.49	1.29	1.14	0.94	0	0	0	4.29
95	0	0	0	0	0	0.08	0.46	2.18	1.44	0	0	0	4.16
96	0	0	0	0	0	0.65	1.7	2.21	1.21	0	0	0	5.77
97	0	0	0	0	0.14	1.14	1.68	2.23	1.55	0	0	0	6.74
98	0	0	0	0	0	0	3.13	2.24	0.29	0	0	0	5.66
99	0	0	0	0	0.21	0.33	2	2.73	0.5	0	0	0	5.77
0	0	0	0	0	0	0.57	0.4	1.99	0.5	0	0	0	3.46
1	0	0	0	0	0.32	0.27	1.55	2.26	0.2	0	0	0	4.6
2	0	0	0	0	0	0	1.78	1.27	2.49	0.05	0	0	5.59
3	0	0	0	0	0	0	0.87	1.98	0.38	0	0	0	3.23
4	0	0	0	0	0	0.34	0.91	1.68	0.09	0	0	0	3.02
5	0	0	0	0	0	0.26	0.4	1.58	0.39	0	0	0	2.63
6	0	0	0	0	0.04	0.73	3.71	3.23	0.27	0	0	0	7.98
7	0	0	0	0	0.14	0.33	1.36	3.17	0.34	0	0	0	5.34
8	0	0	0	0	0.17	0.17	2.65	1.49	0.5	0	0	0	4.98

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER  
El Morro Weather Station**

**Corn Grain**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
38	0	0	0	0	0.39	2	4.19	4.14	2.08	0.61	0	0	0	13.4
39	0	0	0	0	0.8	2.87	4.87	4.96	2.61	0	0	0	0	16.1
40	0	0	0	0	0.96	2.85	3.81	3.17	1.78	0	0	0	0	12.58
41	0	0	0	0	0.26	2.12	4.55	3.36	0.45	0	0	0	0	10.74
42	0	0	0	0	0.58	2.63	5.11	3.55	2.43	0	0	0	0	14.3
43	0	0	0	0	0.62	2.21	3.55	3.43	2.91	0.26	0	0	0	12.98
44	0	0	0	0	0.36	1.92	4.17	4.9	2.58	0.16	0	0	0	14.08
45	0	0	0	0	0.27	2.27	4.54	3.57	1.61	0	0	0	0	12.26
46	0	0	0	0	0.46	2.68	3.76	2.24	3.23	0.52	0	0	0	12.91
47	0	0	0	0	0.69	2.49	4.57	0	2.73	0	0	0	0	10.47
48	0	0	0	0	0.88	2.13	4.61	3.96	2.08	0	0	0	0	13.65
49	0	0	0	0	0.44	1.93	3.69	4.6	2.66	0.51	0	0	0	13.84
50	0	0	0	0	0.48	2.81	3.57	4.36	0.96	0	0	0	0	12.18
51	0	0	0	0	0.69	2.78	5.97	3.08	1.53	0	0	0	0	14.06
52	0	0	0	0	1.05	2.54	4.58	3.24	1.42	0	0	0	0	12.83
53	0	0	0	0	0.3	2.79	3.89	4.24	3.26	0	0	0	0	14.48
54	0	0	0	0	0.65	2.76	4.46	3.24	1.4	0	0	0	0	12.51
55	0	0	0	0	0.49	2.04	2.57	3.1	2.56	0	0	0	0	10.76
56	0	0	0	0	0.92	3.12	4.43	4.1	3.64	0	0	0	0	16.22
57	0	0	0	0	0.24	2.32	3.48	3.14	1.73	0	0	0	0	10.9
58	0	0	0	0	1.28	3.15	4.87	4.29	2.04	0	0	0	0	15.62
59	0	0	0	0	0.73	2.92	5.55	1.92	2.01	0	0	0	0	13.13
60	0	0	0	0	0.48	2.55	5.02	5.41	2.78	0	0	0	0	16.24
61	0	0	0	0	0.78	3.36	4.92	2.68	0.46	0	0	0	0	12.2
62	0	0	0	0	0.32	2.26	4.3	5.24	1.17	0.08	0	0	0	13.36
63	0	0	0	0	1.1	2.85	4.98	2.51	1.52	0	0	0	0	12.97
64	0	0	0	0	0.46	2.39	3.9	2.43	1.99	0.52	0	0	0	11.69
65	0	0	0	0	0	1.08	2.58	4.38	1.87	0	0	0	0	9.91
66	0	0	0	0	1.1	2.44	4.59	3.87	1.87	0	0	0	0	13.87
67	0	0	0	0	0.32	1.52	3.12	3.15	1.43	0	0	0	0	9.53
68	0	0	0	0	0.33	2.61	3.76	3.43	1.79	0	0	0	0	11.92
69	0	0	0	0	0.52	2.69	4.11	3.38	2.78	0.12	0	0	0	13.6
70	0	0	0	0	0.63	2.33	5.36	3.64	1.5	0	0	0	0	13.46
71	0	0	0	0	0.29	2.75	5.08	1.82	0.38	0	0	0	0	10.32
72	0	0	0	0	0.52	1.89	4.67	2.59	2.1	0	0	0	0	11.78
73	0	0	0	0	0.29	2.25	4.15	4.03	2.08	0	0	0	0	12.81
74	0	0	0	0	1.16	3.56	4.76	2.57	2.47	0	0	0	0	14.52
75	0	0	0	0	0.05	2.2	4.27	3.97	0.81	0	0	0	0	11.3
76	0	0	0	0	0.5	2.59	4.16	3.99	2.81	0.25	0	0	0	14.3
77	0	0	0	0	0.42	2.55	2.77	3.85	1.83	0.08	0	0	0	11.49
78	0	0	0	0	0.2	2.54	4.95	4.43	2.29	0	0	0	0	14.41
79	0	0	0	0	0.02	2.13	4.38	2.97	3.91	0.45	0	0	0	13.86
80	0	0	0	0	0.4	2.77	5.38	4.48	1.71	0.3	0	0	0	15.05
81	0	0	0	0	0.66	2.18	3.63	4.6	2.21	0.3	0	0	0	13.58
82	0	0	0	0	0.24	2.38	3.52	2.94	2.3	0	0	0	0	11.38
83	0	0	0	0	0.23	2.06	3.85	3.62	0.93	0	0	0	0	10.7
84	0	0	0	0	1.32	2.78	4.48	2.37	1.03	0	0	0	0	11.98
85	0	0	0	0	0.74	3.31	4.06	4.15	0.97	0	0	0	0	13.24
86	0	0	0	0	0.48	1.82	2.87	4.04	1.01	0	0	0	0	10.22
87	0	0	0	0	0.22	1.87	3.57	2.56	1.6	0	0	0	0	9.83
88	0	0	0	0	0.69	1.35	4.8	2.79	1.6	0	0	0	0	11.24
89	0	0	0	0	1.37	3.28	3.89	3.73	1.21	0	0	0	0	13.49
90	0	0	0	0	0.33	2.39	3.5	3.72	2.23	0.44	0	0	0	12.6
91	0	0	0	0	0.42	1.71	4.21	3.76	2.38	0.23	0	0	0	12.7
92	0	0	0	0	0	2.22	3.62	2.96	2.6	0	0	0	0	11.4
93	0	0	0	0	0.46	2.75	5.7	0.14	1.48	0	0	0	0	10.53
94	0	0	0	0	0.35	2.65	4.63	4.75	1.67	0	0	0	0	14.05
95	0	0	0	0	0.07	2.09	4.36	4.04	1.97	0	0	0	0	12.53
96	0	0	0	0	1.32	2.84	4.6	3.19	0.73	0	0	0	0	12.67
97	0	0	0	0	0.83	1.55	3.69	3.29	2.34	0.06	0	0	0	11.76
98	0	0	0	0	0.37	2.35	2.44	3.34	3.14	0	0	0	0	11.65
99	0	0	0	0	0.28	2.2	3.17	2.71	2.81	0	0	0	0	11.17
0	0	0	0	0	1.27	2.83	5.72	3.75	2.41	0	0	0	0	15.97
1	0	0	0	0	0.89	3.22	4.76	2.96	0.93	0	0	0	0	12.76
2	0	0	0	0	0.9	3.17	3.91	4.25	0.88	0.14	0	0	0	13.25
3	0	0	0	0	1.1	3.24	5.96	3.73	2.15	0	0	0	0	16.18
4	0	0	0	0	0.96	2.89	5.02	2.99	0.58	0	0	0	0	12.44
5	0	0	0	0	0.96	2.67	5.85	3.54	1.32	0	0	0	0	14.34
6	0	0	0	0	1.46	3.1	2.65	1.58	1.2	0	0	0	0	9.99
7	0	0	0	0	0.22	2.4	4.35	2.61	2.68	0	0	0	0	12.27
8	0	0	0	0	0.25	2.53	2.69	4.08	2.78	0.07	0	0	0	12.4



AV	0	0	0	0	0.59	2.49	4.25	3.43	1.92	0.07	0	0	12.75
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**MODIFIED B-C GROSS CONSUMPTIVE USE  
El Morro Weather Station**

**Pasture Grass/Hay**

Year	Crop Potential Evapotranspiration (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
38	0	0	0	1.18	2.62	4.54	5.23	4.74	3.02	1.51	0	0	22.85	
39	0	0	0	1.59	3.01	4.41	5.57	4.93	3.35	1.32	0	0	24.18	
40	0	0	0	1.34	3.18	4.68	5.64	4.73	3.06	1.75	0	0	24.37	
41	0	0	0	0.4	2.97	3.73	4.97	4.49	3.01	1.34	0	0	20.91	
42	0	0	0	1.58	2.9	4.13	5.6	4.66	3.2	1.58	0	0	23.65	
43	0	0	0	1.83	2.93	4.31	5.51	4.88	3.16	1.4	0	0	24.02	
44	0	0	0	0.56	2.75	4.11	5.25	4.91	3.07	1.75	0	0	22.4	
45	0	0	0	0.67	2.81	3.71	5.53	5.16	3.15	1.63	0	0	22.66	
46	0	0	0.06	2.13	2.68	4.63	5.32	4.81	3.75	1.19	0	0	24.57	
47	0	0	0	0.97	3.37	4.08	5.76	4.61	3.41	1.57	0	0	23.75	
48	0	0	0	1.42	3.18	4.39	5.76	4.85	3.33	1.36	0	0	24.27	
49	0	0	0	1.04	2.75	4.27	5.3	4.56	3.43	1.34	0	0	22.7	
50	0	0	0	1.67	2.77	4.34	5.12	4.41	2.74	2.26	0.25	0	23.56	
51	0	0	0	0.96	3.01	4.01	5.93	4.83	3.24	1.43	0	0	23.41	
52	0	0	0	1.16	3.16	4.58	5.19	4.93	3.39	1.63	0	0	24.05	
53	0	0	0	0.84	2.4	4.78	5.72	4.63	3.46	1.62	0	0	23.44	
54	0	0	0	1.83	3.21	4.47	5.72	4.56	3.33	1.85	0.08	0	25.05	
55	0	0	0	0.81	2.81	4.24	5.27	4.74	3.29	1.81	0	0	22.97	
56	0	0	0	0.79	3.24	4.89	5.21	4.31	3.47	1.54	0	0	23.45	
57	0	0	0	0.51	2.58	4.49	5.38	4.48	3.07	1.2	0	0	21.71	
58	0	0	0	0.83	3.37	4.87	5.34	4.98	3.25	1.48	0	0	24.12	
59	0	0	0	1.36	2.89	4.98	5.72	4.56	2.98	1.19	0	0	23.68	
60	0	0	0	1.38	2.78	4.58	5.45	5.05	3.41	1.15	0	0	23.8	
61	0	0	0	0.93	2.96	4.91	5.55	4.73	2.8	1.12	0	0	22.98	
62	0	0	0	1.53	2.69	4.09	5.23	4.78	3.16	1.53	0	0	23.01	
63	0	0	0	1.03	3.24	4.13	5.76	4.39	3.38	1.93	0.04	0	23.89	
64	0	0	0	0.35	2.82	4.09	5.55	4.44	2.96	1.56	0	0	21.78	
65	0	0	0	0.75	2.53	3.62	5.21	4.76	2.71	1.6	0	0	21.19	
66	0	0	0	1.12	3.24	4.24	5.66	4.69	3.07	1.61	0	0	23.64	
67	0	0	0	1.19	2.69	4.09	5.64	4.36	3.07	1.63	0	0	22.68	
68	0	0	0	0.45	2.64	4.26	5.14	4.14	2.79	1.44	0	0	20.84	
69	0	0	0	1.26	3.09	4.08	5.7	5.18	3.29	1.19	0	0	23.79	
70	0	0	0	0.28	2.93	4.32	5.66	4.86	3	0.68	0	0	21.74	
71	0	0	0	0.78	2.53	4.39	5.78	4.43	2.9	1.12	0	0	21.92	
72	0	0	0.02	1.65	2.81	4.34	5.64	4.59	2.97	1.51	0	0	23.54	
73	0	0	0	0.23	2.75	4.11	5.17	4.71	2.87	1.6	0	0	21.46	
74	0	0	0	1.02	3.24	5.14	5.28	4.39	3.03	1.63	0	0	23.74	
75	0	0	0	0.1	2.48	3.87	5.34	4.58	2.87	1.41	0	0	20.65	
76	0	0	0	1.1	3.02	4.31	5.49	4.64	3.22	1.15	0	0	22.95	
77	0	0	0	1.19	2.69	4.58	5.36	5.04	3.32	1.78	0	0	23.95	
78	0	0	0	1.62	2.66	4.41	5.49	4.41	3.12	1.88	0.03	0	23.62	
79	0	0	0	1.22	2.68	4.26	5.43	4.36	3.51	1.69	0	0	23.15	
80	0	0	0	0.82	2.6	4.65	5.82	4.81	3.32	1.33	0	0	23.34	
81	0	0	0	1.71	2.87	4.94	5.43	4.86	3.21	1.55	0	0	24.58	
82	0	0	0	1.07	2.7	3.98	5.16	4.73	3.3	1.14	0	0	22.08	
83	0	0	0	0.27	2.73	3.84	5.21	4.79	3.47	1.59	0	0	21.91	
84	0	0	0	0.69	3.48	4.44	5.55	4.58	3.16	0.64	0	0	22.54	
85	0	0	0	1.73	3.05	4.71	5.68	4.81	2.75	1.51	0	0	24.25	
86	0	0	0	1.65	2.89	4.36	4.99	4.91	2.8	1.23	0	0	22.83	
87	0	0	0	1.27	2.71	4.27	4.81	4.54	2.83	1.66	0	0	22.11	
88	0	0	0	0.99	2.98	4.56	5.28	4.56	2.83	1.73	0	0	22.93	
89	0	0	0.27	2.08	3.29	4.29	5.47	4.43	3.15	1.31	0	0	24.28	
90	0	0	0	1.73	2.79	4.91	5.16	4.25	3.43	1.34	0	0	23.62	
91	0	0	0	0.72	2.86	3.84	5.17	4.68	3.13	1.47	0	0	21.88	
92	0	0	0	1.87	2.94	3.9	4.76	4.39	3.12	1.39	0	0	22.38	
93	0	0	0	1.07	3	4.18	5.08	4.44	2.9	1.13	0	0	21.8	
94	0	0	0	1.31	2.97	4.71	5.47	5.05	3.05	0.98	0	0	23.54	
95	0	0	0	0.41	2.51	3.87	5.14	5.27	3.13	1.5	0	0	21.82	
96	0	0	0	1.37	3.35	4.7	5.51	4.74	2.66	1.26	0	0	23.59	
97	0	0	0	0.7	3.15	4.01	5.06	4.71	3.6	1.21	0	0	22.45	
98	0	0	0	0.58	2.82	3.87	5.45	4.76	3.64	1.58	0	0	22.7	
99	0	0	0	0.68	2.83	4.13	5.08	4.63	3.06	1.64	0.67	0	22.72	
0	0	0	0	1.81	3.26	4.73	5.49	4.95	3.32	1.24	0	0	24.8	
1	0	0	0	1.6	3.25	4.61	5.47	4.73	3.37	1.78	0	0	24.8	
2	0	0	0	1.96	3.05	4.87	5.47	4.69	3.08	1.28	0	0	24.41	
3	0	0	0	0.85	3.22	4.54	6.09	4.97	3.25	2.02	0.02	0	24.96	
4	0	0	0	1.44	3.11	4.36	5.14	4.28	2.93	1.23	0	0	22.49	
5	0	0	0	1.16	3.12	4.09	5.47	4.54	3.32	1.68	0	0	23.39	
6	0	0	0	1.72	3.41	5.03	5.55	4.25	2.17	0.5	0	0	22.63	
7	0	0	0	0.53	2.58	4.49	5.55	4.93	3.29	1.71	0.11	0	23.19	
8	0	0	0	0.62	2.68	4.46	5.3	4.73	3.02	1.41	0	0	22.21	
AV	0	0	0.01	1.11	2.92	4.36	5.41	4.68	3.14	1.45	0.02	0	23.1	

EFFECTIVE PRECIPITATION, Inches

El Morro Weather Station

YR	Pasture Grass/Hay												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
38	0	0	0	0.32	0.33	0.76	0.8	1.42	1.29	0	0	0	4.92
39	0	0	0	0.41	0	0	0.97	0.78	0.92	0.47	0	0	3.55
40	0	0	0	0.51	0.26	0.37	2.18	2.26	1.48	0.62	0	0	7.68
41	0	0	0	0.22	1.03	0.43	1.08	1.6	2	0.62	0	0	6.98
42	0	0	0	0.35	0	0	0.81	1.81	0.5	0.7	0	0	4.17
43	0	0	0	0.29	0.26	0.53	2.03	2.22	0.57	0.79	0	0	6.69
44	0	0	0	0.04	0.4	0.6	1.03	0.85	0.77	1.04	0	0	4.73
45	0	0	0	0.03	0	0	1.34	2.25	0.34	0.52	0	0	4.48
46	0	0	0	0.08	0.09	0.1	1.39	3.29	0.95	0.19	0	0	6.09
47	0	0	0	0	0.93	0.44	1.72	4.61	0.65	0.94	0	0	9.29
48	0	0	0	0	0.42	0.98	1.58	1.63	1.44	0.76	0	0	6.81
49	0	0	0	0.19	0	0.68	1.39	0.77	1.19	0.5	0	0	4.72
50	0	0	0	0	0	0	2.05	0.61	0.89	0	0	0	3.55
51	0	0	0	0.38	0.26	0	0.74	2.27	0.26	0.18	0	0	4.09
52	0	0	0	0.49	0.08	0.85	1.31	2.22	0.64	0	0	0	5.59
53	0	0	0	0.28	0.17	0.09	1.92	1.14	0	0.29	0	0	3.89
54	0	0	0	0	0.92	0.44	1.78	1.99	2.03	0.46	0	0	7.62
55	0	0	0	0.02	0.26	0.68	2.96	2.32	0	0.07	0	0	6.31
56	0	0	0	0.08	0.42	0.29	1.17	0.9	0	0.3	0	0	3.16
57	0	0	0	0.05	0.81	0.53	2.28	1.92	0	0.95	0	0	6.54
58	0	0	0	0.25	0	0.37	1.03	1.43	1.12	0.37	0	0	4.57
59	0	0	0	0.36	0	0.46	0.74	3.19	0	1.03	0	0	5.78
60	0	0	0	0.16	0.41	0.37	0.72	0.46	0.18	0.78	0	0	3.08
61	0	0	0	0.19	0.18	0.2	1.42	2.39	0.17	0.93	0	0	5.48
62	0	0	0	0.1	0	0.18	0.87	0.37	2.24	1	0	0	4.76
63	0	0	0	0	0	0	1.21	2.51	2.04	0.91	0	0	6.67
64	0	0	0	0.1	0.08	0.09	1.56	2.7	1.29	0.13	0	0	5.95
65	0	0	0	0.47	0.54	1	2.57	1.14	0.48	0.15	0	0	6.35
66	0	0	0	0.44	0.09	0.52	1.49	1.55	1.35	0.08	0	0	5.52
67	0	0	0	0	0.09	1.1	2.89	1.78	0.49	0.3	0	0	6.65
68	0	0	0	0.08	0.33	0	1.66	1.31	0	0.18	0	0	3.56
69	0	0	0	0.22	0.84	0	1.85	2.57	0.78	0.8	0	0	7.06
70	0	0	0	0	0.26	0.6	0.89	1.83	0.57	0.21	0	0	4.36
71	0	0	0	0.16	0	0	1.36	2.99	1.41	0.74	0	0	6.66
72	0	0	0	0	0.18	0.9	1.2	2.66	0.84	1.51	0	0	7.29
73	0	0	0	0	0.69	0.27	1.16	1.42	0.63	0	0	0	4.17
74	0	0	0	0.09	0	0	0.95	2.45	0.63	1.63	0	0	5.75
75	0	0	0	0	0.08	0	1.03	1.34	2.15	0	0	0	4.6
76	0	0	0	0	0.77	0.19	1.48	1.41	0.71	0.43	0	0	4.99
77	0	0	0	0.84	0.41	0.28	2.66	1.98	1.74	0.52	0	0	8.43
78	0	0	0	0.06	1.01	0.19	0.81	0.68	0.09	0.6	0	0	3.44
79	0	0	0	0.13	1.68	0.45	0.88	2.09	0	0.51	0	0	5.74
80	0	0	0	0.14	0.25	0	0.31	1.14	1.92	0.22	0	0	3.98
81	0	0	0	0.87	0.25	1.01	1.89	1.07	1.3	0.49	0	0	6.88
82	0	0	0	0	0.62	0	1.66	2.51	1.18	0.03	0	0	6
83	0	0	0	0	0.56	0.27	1.53	1.88	2.5	0.79	0	0	7.53
84	0	0	0	0.25	0.09	0.45	1.63	2.85	2.24	0.55	0	0	8.06
85	0	0	0	0.8	0.41	0	2.32	1.21	0.96	0.84	0	0	6.54
86	0	0	0	0.54	0.56	1.19	2.66	1.43	0.76	0.9	0	0	8.04
87	0	0	0	0.13	0.95	0.9	1.62	2.54	0.17	0.41	0	0	6.72
88	0	0	0	0.73	0.33	1.93	1.1	2.3	0.17	0	0	0	6.56
89	0	0	0	0	0	0	2.29	1.19	0.98	0.69	0	0	5.15
90	0	0	0	0.82	0.96	0.71	1.66	1.25	1.56	0.45	0	0	7.41
91	0	0	0	0	0	0.66	0.94	1.68	1.04	0.59	0	0	4.91
92	0	0	0	0	2.37	0.27	1.35	2.09	0.42	0.43	0	0	6.93
93	0	0	0	0	0.77	0.1	0	4.44	0.26	0.6	0	0	6.17
94	0	0	0	0.73	1.1	0.53	1.26	1.08	1.23	0.98	0	0	6.91
95	0	0	0	0.17	0.33	0.09	0.47	2.07	1.42	0	0	0	4.55
96	0	0	0	0.41	0	0.7	1.62	2.13	1.91	0.93	0	0	7.7
97	0	0	0	0.23	0.34	1.23	1.65	2.13	1.52	0.45	0	0	7.55
98	0	0	0	0.24	0	0	3.1	2.14	0.35	1.58	0	0	7.41
99	0	0	0	0.34	0.89	0.36	1.98	2.62	0.49	0	0	0	6.68
0	0	0	0	0	0	0.62	0.39	1.9	0.65	1.15	0	0	4.71
1	0	0	0	0.38	0.57	0.28	1.48	2.2	0.86	0.24	0	0	6.01
2	0	0	0	0.3	0	0	1.76	1.21	2.45	0.96	0	0	6.68
3	0	0	0	0.02	0	0	0.83	1.91	0.57	0.6	0	0	3.93
4	0	0	0	1.01	0	0.37	0.87	1.64	0.77	0.27	0	0	4.93
5	0	0	0	0.51	0.08	0.27	0.39	1.53	0.93	0.43	0	0	4.14
6	0	0	0	0.05	0.09	0.78	3.55	3.13	0.53	0.41	0	0	8.54
7	0	0	0	0.13	0.88	0.36	1.34	3.02	0.42	0.24	0	0	6.39
8	0	0	0	0	0.89	0.19	2.65	1.42	0.49	0.6	0	0	6.24

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**El Morro Weather Station**

**Pasture Grass/Hay**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
38	0	0	0	0.86	2.29	3.78	4.43	3.32	1.73	1.51	0	0	17.93	
39	0	0	0	1.18	3.01	4.41	4.6	4.15	2.43	0.85	0	0	20.63	
40	0	0	0	0.83	2.92	4.31	3.46	2.47	1.58	1.13	0	0	16.7	
41	0	0	0	0.18	1.94	3.3	3.89	2.89	1.01	0.72	0	0	13.93	
42	0	0	0	1.23	2.9	4.13	4.79	2.85	2.7	0.88	0	0	19.49	
43	0	0	0	1.54	2.67	3.78	3.48	2.66	2.59	0.61	0	0	17.34	
44	0	0	0	0.52	2.35	3.51	4.22	4.06	2.3	0.71	0	0	17.66	
45	0	0	0	0.64	2.81	3.71	4.19	2.91	2.81	1.11	0	0	18.17	
46	0	0	0.06	2.05	2.59	4.53	3.93	1.52	2.8	1	0	0	18.49	
47	0	0	0	0.97	2.44	3.64	4.04	0	2.76	0.63	0	0	14.48	
48	0	0	0	1.42	2.76	3.41	4.18	3.22	1.89	0.6	0	0	17.49	
49	0	0	0	0.85	2.75	3.59	3.91	3.79	2.24	0.84	0	0	17.98	
50	0	0	0	1.67	2.77	4.34	3.07	3.8	1.85	2.26	0.25	0	20.01	
51	0	0	0	0.58	2.75	4.01	5.19	2.56	2.98	1.25	0	0	19.31	
52	0	0	0	0.67	3.08	3.73	3.88	2.71	2.75	1.63	0	0	18.44	
53	0	0	0	0.56	2.23	4.69	3.8	3.49	3.46	1.33	0	0	19.55	
54	0	0	0	1.83	2.29	4.03	3.94	2.57	1.3	1.39	0.08	0	17.43	
55	0	0	0	0.79	2.55	3.56	2.31	2.42	3.29	1.74	0	0	16.67	
56	0	0	0	0.71	2.82	4.6	4.04	3.41	3.47	1.24	0	0	20.29	
57	0	0	0	0.46	1.77	3.96	3.1	2.56	3.07	0.25	0	0	15.16	
58	0	0	0	0.58	3.37	4.5	4.31	3.55	2.13	1.11	0	0	19.54	
59	0	0	0	1	2.89	4.52	4.98	1.37	2.98	0.16	0	0	17.9	
60	0	0	0	1.22	2.37	4.21	4.73	4.59	3.23	0.37	0	0	20.71	
61	0	0	0	0.74	2.78	4.71	4.13	2.34	2.63	0.19	0	0	17.53	
62	0	0	0	1.43	2.69	3.91	4.36	4.41	0.92	0.53	0	0	18.24	
63	0	0	0	1.03	3.24	4.13	4.55	1.88	1.34	1.02	0.04	0	17.21	
64	0	0	0	0.25	2.74	4	3.99	1.74	1.67	1.43	0	0	15.83	
65	0	0	0	0.28	1.99	2.62	2.64	3.62	2.23	1.45	0	0	14.82	
66	0	0	0	0.68	3.15	3.72	4.17	3.14	1.72	1.53	0	0	18.11	
67	0	0	0	1.19	2.6	2.99	2.75	2.58	2.58	1.33	0	0	16.04	
68	0	0	0	0.37	2.31	4.26	3.48	2.83	2.79	1.26	0	0	17.29	
69	0	0	0	1.04	2.25	4.08	3.85	2.61	2.51	0.39	0	0	16.72	
70	0	0	0	0.28	2.67	3.72	4.77	3.03	2.43	0.47	0	0	17.38	
71	0	0	0	0.62	2.53	4.39	4.42	1.44	1.49	0.38	0	0	15.27	
72	0	0	0.02	1.65	2.63	3.44	4.44	1.93	2.13	0	0	0	16.25	
73	0	0	0	0.23	2.06	3.84	4.01	3.29	2.24	1.6	0	0	17.28	
74	0	0	0	0.93	3.24	5.14	4.33	1.94	2.4	0	0	0	17.98	
75	0	0	0	0.1	2.4	3.87	4.31	3.24	0.72	1.41	0	0	16.05	
76	0	0	0	1.1	2.25	4.12	4.01	3.23	2.51	0.72	0	0	17.95	
77	0	0	0	0.35	2.28	4.3	2.7	3.06	1.58	1.26	0	0	15.52	
78	0	0	0	1.56	1.65	4.22	4.68	3.73	3.03	1.28	0.03	0	20.18	
79	0	0	0	1.09	1	3.81	4.55	2.27	3.51	1.18	0	0	17.42	
80	0	0	0	0.68	2.35	4.65	5.51	3.67	1.4	1.11	0	0	19.36	
81	0	0	0	0.84	2.62	3.93	3.54	3.79	1.91	1.06	0	0	17.69	
82	0	0	0	1.07	2.08	3.98	3.5	2.22	2.12	1.11	0	0	16.09	
83	0	0	0	0.27	2.17	3.57	3.68	2.91	0.97	0.8	0	0	14.38	
84	0	0	0	0.44	3.39	3.99	3.92	1.73	0.92	0.09	0	0	14.5	
85	0	0	0	0.93	2.64	4.71	3.36	3.6	1.79	0.67	0	0	17.7	
86	0	0	0	1.11	2.33	3.17	2.33	3.48	2.04	0.33	0	0	14.79	
87	0	0	0	1.14	1.76	3.37	3.19	2	2.66	1.25	0	0	15.38	
88	0	0	0	0.26	2.65	2.63	4.18	2.26	2.66	1.73	0	0	16.37	
89	0	0	0.27	2.08	3.29	4.29	3.18	3.24	2.17	0.62	0	0	19.14	
90	0	0	0	0.91	1.83	4.2	3.5	3	1.87	0.89	0	0	16.2	
91	0	0	0	0.72	2.86	3.18	4.23	3	2.09	0.88	0	0	16.95	
92	0	0	0	1.87	0.57	3.63	3.41	2.3	2.7	0.96	0	0	15.44	
93	0	0	0	1.07	2.23	4.08	5.08	0	2.64	0.53	0	0	15.63	
94	0	0	0	0.58	1.87	4.18	4.21	3.97	1.82	0	0	0	16.62	
95	0	0	0	0.24	2.18	3.78	4.67	3.2	1.71	1.5	0	0	17.28	
96	0	0	0	0.96	3.35	4	3.89	2.61	0.75	0.33	0	0	15.89	
97	0	0	0	0.47	2.81	2.78	3.41	2.58	2.08	0.76	0	0	14.89	
98	0	0	0	0.34	2.82	3.87	2.35	2.62	3.29	0	0	0	15.29	
99	0	0	0	0.34	1.94	3.77	3.1	2.01	2.57	1.64	0.67	0	16.05	
0	0	0	0	1.81	3.26	4.11	5.1	3.05	2.67	0.09	0	0	20.1	
1	0	0	0	1.22	2.68	4.33	3.99	2.53	2.51	1.54	0	0	18.81	
2	0	0	0	1.66	3.05	4.87	3.71	3.48	0.63	0.32	0	0	17.74	
3	0	0	0	0.83	3.22	4.54	5.26	3.06	2.68	1.42	0.02	0	21.03	
4	0	0	0	0.43	3.11	3.99	4.27	2.64	2.16	0.96	0	0	17.57	
5	0	0	0	0.65	3.04	3.82	5.08	3.01	2.39	1.25	0	0	19.25	
6	0	0	0	1.67	3.32	4.25	2	1.12	1.64	0.09	0	0	14.08	
7	0	0	0	0.4	1.7	4.13	4.21	1.91	2.87	1.47	0.11	0	16.8	
8	0	0	0	0.62	1.79	4.27	2.65	3.31	2.53	0.81	0	0	15.97	

AV	0	0	0.01	0.89	2.53	3.97	3.93	2.78	2.23	0.91	0.02	0	17.26
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**MODIFIED B-C GROSS CONSUMPTIVE USE  
El Morro Weather Station**

**Spring Grain**

Year	Crop Potential Evapotranspiration (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
38	0	0	0	0.58	2.35	6.45	5.15	0.66	0	0	0	0	0	15.19
39	0	0	0	0.83	3.14	6.2	4.83	0.4	0	0	0	0	0	15.4
40	0	0	0	0.66	2.97	6.63	5.39	0.6	0	0	0	0	0	16.25
41	0	0	0	0.15	1.63	4.67	6.39	1.93	0	0	0	0	0	14.77
42	0	0	0	0.81	2.92	5.82	5.02	0.44	0	0	0	0	0	15.01
43	0	0	0	1	3.26	6	4.13	0.21	0	0	0	0	0	14.6
44	0	0	0	0.22	1.54	5.27	6.54	1.73	0	0	0	0	0	15.29
45	0	0	0	0.28	1.59	4.87	6.67	1.56	0	0	0	0	0	14.96
46	0	0	0.02	1.18	3.11	6.4	3.47	0.09	0	0	0	0	0	14.29
47	0	0	0	0.43	2.4	5.57	6.51	1.02	0	0	0	0	0	15.94
48	0	0	0	0.7	2.97	6.22	5.5	0.6	0	0	0	0	0	15.99
49	0	0	0	0.48	2.17	5.96	5.68	0.84	0	0	0	0	0	15.13
50	0	0	0	0.9	2.99	6.08	4.14	0.27	0	0	0	0	0	14.38
51	0	0	0	0.43	2.15	5.49	6.71	1.05	0	0	0	0	0	15.82
52	0	0	0	0.55	2.61	6.45	5.41	0.81	0	0	0	0	0	15.83
53	0	0	0	0.37	1.62	6.47	6.57	1.1	0	0	0	0	0	16.13
54	0	0	0	0.99	3.46	6.27	4.62	0.29	0	0	0	0	0	15.63
55	0	0	0	0.35	1.8	5.68	6.16	1.21	0	0	0	0	0	15.19
56	0	0	0	0.34	2.07	6.55	6.09	1.14	0	0	0	0	0	16.19
57	0	0	0	0.2	1.44	5.76	6.7	1.61	0	0	0	0	0	15.71
58	0	0	0	0.35	2.15	6.52	6.24	1.28	0	0	0	0	0	16.56
59	0	0	0	0.67	2.7	7.06	5.46	0.56	0	0	0	0	0	16.44
60	0	0	0	0.71	2.8	6.46	4.89	0.48	0	0	0	0	0	15.34
61	0	0	0	0.41	2.11	6.71	6.27	1.04	0	0	0	0	0	16.54
62	0	0	0	0.78	2.71	5.77	4.69	0.46	0	0	0	0	0	14.42
63	0	0	0	0.47	2.43	5.7	6.34	0.89	0	0	0	0	0	15.83
64	0	0	0	0.13	1.54	5.07	7.23	2.05	0	0	0	0	0	16.03
65	0	0	0	0.32	1.62	4.85	6.09	1.24	0	0	0	0	0	14.12
66	0	0	0	0.53	2.67	5.98	5.9	0.8	0	0	0	0	0	15.88
67	0	0	0	0.58	2.41	5.82	5.55	0.6	0	0	0	0	0	14.96
68	0	0	0	0.17	1.46	5.4	6.5	1.6	0	0	0	0	0	15.13
69	0	0	0	0.6	2.66	5.81	5.78	0.77	0	0	0	0	0	15.61
70	0	0	0	0.1	1.58	5.29	7.49	2.4	0.01	0	0	0	0	16.87
71	0	0	0	0.33	1.62	5.88	6.75	1.15	0	0	0	0	0	15.74
72	0	0	0.01	0.92	3.27	6.01	3.68	0.09	0	0	0	0	0	13.97
73	0	0	0	0.08	1.48	4.96	6.94	2.48	0.01	0	0	0	0	15.96
74	0	0	0	0.46	2.43	7.1	5.82	0.88	0	0	0	0	0	16.69
75	0	0	0	0.03	1.31	4.54	7.37	2.72	0.04	0	0	0	0	16.01
76	0	0	0	0.52	2.49	6.07	5.72	0.79	0	0	0	0	0	15.6
77	0	0	0	0.57	2.31	6.52	5.43	0.74	0	0	0	0	0	15.58
78	0	0	0	0.88	2.92	6.16	4.28	0.24	0	0	0	0	0	14.47
79	0	0	0	0.6	2.4	6.05	5.35	0.61	0	0	0	0	0	15
80	0	0	0	0.36	1.76	6.28	6.69	1.17	0	0	0	0	0	16.25
81	0	0	0	0.91	3.05	6.94	4.55	0.34	0	0	0	0	0	15.79
82	0	0	0	0.51	2.23	5.61	5.38	0.79	0	0	0	0	0	14.51
83	0	0	0	0.1	1.48	4.69	6.89	2.37	0.01	0	0	0	0	15.54
84	0	0	0	0.28	1.97	5.82	6.7	1.4	0	0	0	0	0	16.18
85	0	0	0	0.93	3.29	6.6	4.59	0.29	0	0	0	0	0	15.71
86	0	0	0	0.89	3.16	6.09	3.89	0.24	0	0	0	0	0	14.27
87	0	0	0	0.62	2.44	6.07	4.74	0.61	0	0	0	0	0	14.47
88	0	0	0	0.45	2.24	6.3	5.82	0.92	0	0	0	0	0	15.73
89	0	0	0.11	1.2	4.12	5.59	2.68	0.01	0	0	0	0	0	13.7
90	0	0	0	0.94	3.06	6.86	4.02	0.22	0	0	0	0	0	15.09
91	0	0	0	0.3	1.73	5.08	6.15	1.31	0	0	0	0	0	14.57
92	0	0	0	1.02	3.32	5.43	3.42	0.16	0	0	0	0	0	13.34
93	0	0	0	0.5	2.36	5.83	5.45	0.8	0	0	0	0	0	14.93
94	0	0	0	0.66	2.88	6.67	5.06	0.55	0	0	0	0	0	15.83
95	0	0	0	0.15	1.38	4.85	6.6	2.26	0	0	0	0	0	15.24
96	0	0	0	0.68	3.13	6.66	5.26	0.57	0	0	0	0	0	16.29
97	0	0	0	0.29	1.79	5.26	6.12	1.41	0	0	0	0	0	14.86
98	0	0	0	0.23	1.59	5.02	6.69	1.59	0	0	0	0	0	15.11
99	0	0	0	0.28	1.61	5.41	6.14	1.39	0	0	0	0	0	14.82
0	0	0	0	0.98	3.58	6.61	4.28	0.25	0	0	0	0	0	15.69
1	0	0	0	0.85	3.45	6.47	4.58	0.33	0	0	0	0	0	15.69
2	0	0	0	1.07	3.4	6.79	4.1	0.2	0	0	0	0	0	15.56
3	0	0	0	0.37	2.06	6.08	7.12	1.27	0	0	0	0	0	16.9
4	0	0	0	0.77	3.3	6.12	4.3	0.3	0	0	0	0	0	14.79
5	0	0	0	0.55	2.57	5.77	5.7	0.75	0	0	0	0	0	15.34
6	0	0	0	0.91	3.62	7.06	4.65	0.31	0	0	0	0	0	16.55
7	0	0	0	0.21	1.44	5.76	6.91	1.76	0	0	0	0	0	16.08
8	0	0	0	0.25	1.5	5.78	6.5	1.54	0	0	0	0	0	15.57
AV	0	0	0	0.55	2.41	5.94	5.58	0.94	0	0	0	0	0	15.42

EFFECTIVE PRECIPITATION, Inches

El Morro Weather Station

Spring Grain

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
38	0	0	0	0.31	0.32	0.85	0.8	0.66	0	0	0	0	2.94
39	0	0	0	0.4	0	0	0.93	0.25	0	0	0	0	1.58
40	0	0	0	0.48	0.26	0.41	2.15	0.6	0	0	0	0	3.9
41	0	0	0	0.15	0.96	0.45	1.17	1.39	0	0	0	0	4.12
42	0	0	0	0.33	0	0	0.78	0.44	0	0	0	0	1.55
43	0	0	0	0.28	0.26	0.57	1.88	0.21	0	0	0	0	3.2
44	0	0	0	0.04	0.38	0.64	1.1	0.67	0	0	0	0	2.83
45	0	0	0	0.03	0	0	1.42	1.56	0	0	0	0	3.01
46	0	0	0	0.08	0.08	0.1	1.26	0.09	0	0	0	0	1.61
47	0	0	0	0	0.87	0.47	1.79	1.02	0	0	0	0	4.15
48	0	0	0	0	0.41	1.08	1.55	0.6	0	0	0	0	3.64
49	0	0	0	0.18	0	0.74	1.42	0.42	0	0	0	0	2.76
50	0	0	0	0	0	0	1.94	0.16	0	0	0	0	2.1
51	0	0	0	0.37	0.25	0	0.78	1.05	0	0	0	0	2.45
52	0	0	0	0.48	0.09	0.93	1.33	0.81	0	0	0	0	3.64
53	0	0	0	0.28	0.16	0.1	2.01	0.72	0	0	0	0	3.27
54	0	0	0	0	0.93	0.5	1.67	0.29	0	0	0	0	3.39
55	0	0	0	0.02	0.24	0.74	3.11	1.21	0	0	0	0	5.32
56	0	0	0	0.08	0.39	0.32	1.23	0.63	0	0	0	0	2.65
57	0	0	0	0.05	0.77	0.57	2.45	1.56	0	0	0	0	5.4
58	0	0	0	0.24	0	0.41	1.08	0.96	0	0	0	0	2.69
59	0	0	0	0.34	0	0.52	0.73	0.56	0	0	0	0	2.15
60	0	0	0	0.16	0.41	0.41	0.71	0.15	0	0	0	0	1.84
61	0	0	0	0.18	0.17	0.22	1.47	1.04	0	0	0	0	3.08
62	0	0	0	0.09	0	0.2	0.85	0.11	0	0	0	0	1.25
63	0	0	0	0	0	0	1.25	0.89	0	0	0	0	2.14
64	0	0	0	0.1	0.08	0.09	1.71	2.05	0	0	0	0	4.03
65	0	0	0	0.32	0.52	1.08	2.7	0.77	0	0	0	0	5.39
66	0	0	0	0.43	0.09	0.58	1.51	0.8	0	0	0	0	3.41
67	0	0	0	0	0.08	1.22	2.87	0.6	0	0	0	0	4.77
68	0	0	0	0.07	0.31	0	1.79	1.11	0	0	0	0	3.28
69	0	0	0	0.21	0.82	0	1.86	0.77	0	0	0	0	3.66
70	0	0	0	0	0.23	0.64	0.99	1.59	0	0	0	0	3.45
71	0	0	0	0.15	0	0	1.43	1.15	0	0	0	0	2.73
72	0	0	0	0	0.18	1	1.08	0.09	0	0	0	0	2.35
73	0	0	0	0	0.65	0.29	1.29	1.25	0	0	0	0	3.48
74	0	0	0	0.08	0	0	0.98	0.88	0	0	0	0	1.94
75	0	0	0	0	0.08	0	1.15	1.21	0.04	0	0	0	2.48
76	0	0	0	0.01	0.75	0.21	1.49	0.77	0	0	0	0	3.23
77	0	0	0	0.57	0.39	0.32	2.67	0.74	0	0	0	0	4.69
78	0	0	0	0.06	1.03	0.21	0.76	0.17	0	0	0	0	2.23
79	0	0	0	0.13	1.65	0.49	0.88	0.61	0	0	0	0	3.76
80	0	0	0	0.13	0.24	0	0.32	0.74	0	0	0	0	1.43
81	0	0	0	0.84	0.26	1.13	1.8	0.34	0	0	0	0	4.37
82	0	0	0	0	0.61	0	1.68	0.79	0	0	0	0	3.08
83	0	0	0	0	0.52	0.28	1.67	1.65	0.01	0	0	0	4.13
84	0	0	0	0.24	0.08	0.49	1.74	1.4	0	0	0	0	3.95
85	0	0	0	0.76	0.42	0	2.18	0.29	0	0	0	0	3.65
86	0	0	0	0.51	0.56	1.31	2.51	0.24	0	0	0	0	5.13
87	0	0	0	0.13	0.94	0.99	1.62	0.61	0	0	0	0	4.29
88	0	0	0	0.45	0.32	2.12	1.14	0.92	0	0	0	0	4.95
89	0	0	0	0	0	0	1.96	0	0	0	0	0	1.96
90	0	0	0	0.79	0.97	0.79	1.56	0.22	0	0	0	0	4.33
91	0	0	0	0	0	0.71	1	1.2	0	0	0	0	2.91
92	0	0	0	0	2.42	0.3	1.26	0.16	0	0	0	0	4.14
93	0	0	0	0	0.74	0.1	0	0.8	0	0	0	0	1.64
94	0	0	0	0.66	1.09	0.6	1.23	0.45	0	0	0	0	4.03
95	0	0	0	0.15	0.31	0.09	0.51	1.75	0	0	0	0	2.81
96	0	0	0	0.39	0	0.78	1.6	0.57	0	0	0	0	3.34
97	0	0	0	0.23	0.32	1.32	1.75	1.41	0	0	0	0	5.03
98	0	0	0	0.23	0	0	3.33	1.59	0	0	0	0	5.15
99	0	0	0	0.28	0.84	0.39	2.11	1.39	0	0	0	0	5.01
0	0	0	0	0	0	0.69	0.36	0.25	0	0	0	0	1.3
1	0	0	0	0.36	0.58	0.31	1.4	0.33	0	0	0	0	2.98
2	0	0	0	0.28	0	0	1.62	0.2	0	0	0	0	2.1
3	0	0	0	0.03	0	0	0.89	1.26	0	0	0	0	2.18
4	0	0	0	0.77	0	0.4	0.82	0.3	0	0	0	0	2.29
5	0	0	0	0.49	0.08	0.3	0.39	0.75	0	0	0	0	2.01
6	0	0	0	0.05	0.09	0.88	3.38	0.31	0	0	0	0	4.71
7	0	0	0	0.13	0.83	0.4	1.45	1.76	0	0	0	0	4.57
8	0	0	0	0	0.83	0.21	2.83	1.07	0	0	0	0	4.94

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**El Morro Weather Station**

**Spring Grain**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
38	0	0	0	0.27	2.03	5.6	4.35	0	0	0	0	0	12.25
39	0	0	0	0.43	3.14	6.2	3.9	0.15	0	0	0	0	13.82
40	0	0	0	0.18	2.71	6.22	3.24	0	0	0	0	0	12.35
41	0	0	0	0	0.67	4.22	5.22	0.54	0	0	0	0	10.65
42	0	0	0	0.48	2.92	5.82	4.24	0	0	0	0	0	13.46
43	0	0	0	0.72	3	5.43	2.25	0	0	0	0	0	11.4
44	0	0	0	0.18	1.16	4.63	5.44	1.06	0	0	0	0	12.47
45	0	0	0	0.25	1.59	4.87	5.25	0	0	0	0	0	11.95
46	0	0	0.02	1.1	3.03	6.3	2.21	0	0	0	0	0	12.67
47	0	0	0	0.43	1.53	5.1	4.72	0	0	0	0	0	11.77
48	0	0	0	0.7	2.56	5.14	3.95	0	0	0	0	0	12.34
49	0	0	0	0.3	2.17	5.22	4.26	0.42	0	0	0	0	12.37
50	0	0	0	0.9	2.99	6.08	2.2	0.11	0	0	0	0	12.28
51	0	0	0	0.06	1.9	5.49	5.93	0	0	0	0	0	13.38
52	0	0	0	0.07	2.52	5.52	4.08	0	0	0	0	0	12.19
53	0	0	0	0.09	1.46	6.37	4.56	0.38	0	0	0	0	12.86
54	0	0	0	0.99	2.53	5.77	2.95	0	0	0	0	0	12.24
55	0	0	0	0.33	1.56	4.94	3.05	0	0	0	0	0	9.88
56	0	0	0	0.26	1.68	6.23	4.86	0.51	0	0	0	0	13.54
57	0	0	0	0.15	0.67	5.19	4.25	0.05	0	0	0	0	10.31
58	0	0	0	0.11	2.15	6.11	5.16	0.32	0	0	0	0	13.86
59	0	0	0	0.33	2.7	6.54	4.73	0	0	0	0	0	14.3
60	0	0	0	0.55	2.39	6.05	4.18	0.33	0	0	0	0	13.51
61	0	0	0	0.23	1.94	6.49	4.8	0	0	0	0	0	13.46
62	0	0	0	0.69	2.71	5.57	3.84	0.35	0	0	0	0	13.16
63	0	0	0	0.47	2.43	5.7	5.09	0	0	0	0	0	13.69
64	0	0	0	0.03	1.46	4.98	5.52	0	0	0	0	0	11.99
65	0	0	0	0	1.1	3.77	3.39	0.47	0	0	0	0	8.73
66	0	0	0	0.1	2.58	5.4	4.39	0	0	0	0	0	12.47
67	0	0	0	0.58	2.33	4.6	2.68	0	0	0	0	0	10.19
68	0	0	0	0.1	1.15	5.4	4.71	0.49	0	0	0	0	11.85
69	0	0	0	0.39	1.84	5.81	3.92	0	0	0	0	0	11.95
70	0	0	0	0.1	1.35	4.65	6.5	0.81	0.01	0	0	0	13.41
71	0	0	0	0.18	1.62	5.88	5.32	0	0	0	0	0	13
72	0	0	0.01	0.92	3.09	5.01	2.6	0	0	0	0	0	11.63
73	0	0	0	0.08	0.83	4.67	5.65	1.23	0.01	0	0	0	12.49
74	0	0	0	0.38	2.43	7.1	4.84	0	0	0	0	0	14.74
75	0	0	0	0.03	1.23	4.54	6.22	1.51	0	0	0	0	13.53
76	0	0	0	0.51	1.74	5.86	4.23	0.02	0	0	0	0	12.37
77	0	0	0	0	1.92	6.2	2.76	0	0	0	0	0	10.88
78	0	0	0	0.82	1.89	5.95	3.52	0.07	0	0	0	0	12.25
79	0	0	0	0.47	0.75	5.56	4.47	0	0	0	0	0	11.25
80	0	0	0	0.23	1.52	6.28	6.37	0.43	0	0	0	0	14.82
81	0	0	0	0.07	2.79	5.81	2.75	0	0	0	0	0	11.43
82	0	0	0	0.51	1.62	5.61	3.7	0	0	0	0	0	11.43
83	0	0	0	0.1	0.96	4.41	5.22	0.72	0	0	0	0	11.41
84	0	0	0	0.04	1.89	5.33	4.96	0	0	0	0	0	12.23
85	0	0	0	0.17	2.87	6.6	2.41	0	0	0	0	0	12.05
86	0	0	0	0.38	2.6	4.78	1.38	0	0	0	0	0	9.15
87	0	0	0	0.49	1.5	5.08	3.12	0	0	0	0	0	10.18
88	0	0	0	0	1.92	4.18	4.68	0	0	0	0	0	10.77
89	0	0	0.11	1.2	4.12	5.59	0.72	0.01	0	0	0	0	11.74
90	0	0	0	0.15	2.09	6.07	2.46	0	0	0	0	0	10.77
91	0	0	0	0.3	1.73	4.37	5.15	0.11	0	0	0	0	11.66
92	0	0	0	1.02	0.9	5.13	2.16	0	0	0	0	0	9.21
93	0	0	0	0.5	1.62	5.73	5.45	0	0	0	0	0	13.29
94	0	0	0	0	1.79	6.07	3.83	0.1	0	0	0	0	11.79
95	0	0	0	0	1.07	4.76	6.09	0.51	0	0	0	0	12.42
96	0	0	0	0.29	3.13	5.88	3.66	0	0	0	0	0	12.96
97	0	0	0	0.06	1.47	3.94	4.37	0	0	0	0	0	9.83
98	0	0	0	0	1.59	5.02	3.36	0	0	0	0	0	9.96
99	0	0	0	0	0.77	5.02	4.03	0	0	0	0	0	9.82
0	0	0	0	0.98	3.58	5.92	3.92	0	0	0	0	0	14.4
1	0	0	0	0.49	2.87	6.16	3.18	0	0	0	0	0	12.7
2	0	0	0	0.79	3.4	6.79	2.48	0	0	0	0	0	13.45
3	0	0	0	0.34	2.06	6.08	6.23	0.01	0	0	0	0	14.73
4	0	0	0	0	3.3	5.72	3.48	0	0	0	0	0	12.49
5	0	0	0	0.06	2.49	5.47	5.31	0	0	0	0	0	13.33
6	0	0	0	0.86	3.53	6.18	1.27	0	0	0	0	0	11.85
7	0	0	0	0.08	0.61	5.36	5.46	0	0	0	0	0	11.52
8	0	0	0	0.25	0.67	5.57	3.67	0.47	0	0	0	0	10.63



AV	0	0	0	0.34	2.03	5.51	4.09	0.16	0	0	0	0	12.13
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**MODIFIED B-C GROSS CONSUMPTIVE USE  
El Morro Weather Station**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
38	0	0	0	0	0.92	3.14	4.55	4.24	2.24	0.3	0	0	15.4
39	0	0	0	0.17	1.49	3.43	4.97	4.28	2.13	0	0	0	16.47
40	0	0	0	0.08	1.41	3.43	4.94	4.24	2.39	0.55	0	0	17.04
41	0	0	0	0	1.11	2.88	4.47	3.53	0.53	0	0	0	12.51
42	0	0	0	0.2	1.49	3.27	5.02	3.94	1.64	0	0	0	15.55
43	0	0	0	0.23	1.48	3.33	4.91	4.3	2.22	0.18	0	0	16.66
44	0	0	0	0	0.94	2.87	4.6	4.36	2.13	0.07	0	0	14.97
45	0	0	0	0	1.04	2.83	4.95	4.2	0.92	0	0	0	13.93
46	0	0	0	0.49	1.57	3.73	4.76	4.22	2.64	0.25	0	0	17.66
47	0	0	0	0.06	1.46	2.95	5.03	4.14	2.7	0.61	0	0	16.96
48	0	0	0	0.21	1.58	3.38	5.13	4.28	2.35	0.19	0	0	17.1
49	0	0	0	0	1.04	3	4.62	4.08	2.58	0.32	0	0	15.63
50	0	0	0	0.08	1.36	3.49	4.6	3.5	0.67	0	0	0	13.7
51	0	0	0	0	1.35	3.14	5.32	3.89	0.86	0	0	0	14.56
52	0	0	0	0.08	1.55	3.67	4.67	3.94	0.88	0	0	0	14.78
53	0	0	0	0	0.57	3.13	4.99	4.08	1.99	0	0	0	14.77
54	0	0	0	0.43	1.8	3.53	5.1	4.04	2.47	0.47	0	0	17.84
55	0	0	0	0	1.07	3.18	4.7	4.01	1.46	0	0	0	14.43
56	0	0	0	0	1.39	3.55	4.56	3.86	2.67	0.51	0	0	16.54
57	0	0	0	0	0.8	3.25	4.8	3.7	0.95	0	0	0	13.51
58	0	0	0	0.03	1.5	3.72	4.77	4.28	1.77	0	0	0	16.08
59	0	0	0	0.05	1.36	3.91	5.13	3.76	1.12	0	0	0	15.31
60	0	0	0	0	1.19	3.48	4.87	4.29	1.67	0	0	0	15.51
61	0	0	0	0	1.35	3.96	5	3.42	0.21	0	0	0	13.95
62	0	0	0	0.12	1.3	3.16	4.67	4.18	2.1	0.03	0	0	15.55
63	0	0	0	0.05	1.41	3	5.04	3.94	2.64	0.58	0	0	16.66
64	0	0	0	0	0.94	2.81	4.83	3.97	2.18	0.25	0	0	14.98
65	0	0	0	0	0.72	2.53	4.62	4.1	1.28	0	0	0	13.24
66	0	0	0	0.07	1.46	3.18	5	4.17	2.24	0.28	0	0	16.4
67	0	0	0	0	1.01	3.12	5.05	3.55	0.86	0	0	0	13.58
68	0	0	0	0	0.84	3.09	4.59	3.46	0.99	0	0	0	12.96
69	0	0	0	0.1	1.44	3.09	5.07	4.58	2.31	0.17	0	0	16.76
70	0	0	0	0	1.05	3.26	5.07	3.99	0.94	0	0	0	14.3
71	0	0	0	0	0.77	3.28	5.18	3.38	0.28	0	0	0	12.89
72	0	0	0	0	1.15	3.26	5.03	3.97	1.68	0	0	0	15.09
73	0	0	0	0	0.87	2.89	4.58	4.11	1.55	0	0	0	14
74	0	0	0	0.04	1.47	3.93	4.72	3.81	1.84	0	0	0	15.8
75	0	0	0	0	0.62	2.62	4.7	3.99	1.45	0	0	0	13.39
76	0	0	0	0.01	1.32	3.21	4.86	4.11	2.27	0.17	0	0	15.94
77	0	0	0	0	1.04	3.3	4.73	4.45	2.25	0.04	0	0	15.81
78	0	0	0	0	1.08	3.34	4.91	3.71	1.31	0	0	0	14.34
79	0	0	0	0	1.02	3.02	4.76	3.89	2.55	0.24	0	0	15.47
80	0	0	0	0	0.83	3.15	5.06	4.29	2.37	0.14	0	0	15.85
81	0	0	0	0.23	1.46	3.84	4.85	4.28	2.23	0.14	0	0	17.02
82	0	0	0	0	0.99	2.87	4.56	4.17	2.13	0	0	0	14.71
83	0	0	0	0	0.86	2.73	4.63	4.11	1.58	0	0	0	13.91
84	0	0	0	0.02	1.54	3.36	4.94	4.01	2.07	0	0	0	15.94
85	0	0	0	0.22	1.67	3.9	5.12	3.77	0.69	0	0	0	15.36
86	0	0	0	0.04	1.39	3.5	4.49	3.86	0.64	0	0	0	13.92
87	0	0	0	0	1.17	3.3	4.31	3.71	0.9	0	0	0	13.39
88	0	0	0	0	1.33	3.54	4.74	3.72	0.89	0	0	0	14.22
89	0	0	0	0.47	2.03	3.64	4.93	3.5	0.87	0	0	0	15.45
90	0	0	0	0.09	1.29	3.69	4.56	3.78	2.52	0.32	0	0	16.25
91	0	0	0	0	1.07	2.75	4.55	4.14	2.18	0.11	0	0	14.8
92	0	0	0	0.22	1.53	3.09	4.26	3.74	1.73	0	0	0	14.58
93	0	0	0	0	1.37	3.28	4.56	3.58	0.82	0	0	0	13.62
94	0	0	0	0.01	1.34	3.63	4.89	4.28	1.51	0	0	0	15.66
95	0	0	0	0	0.66	2.58	4.48	4.67	2.11	0	0	0	14.51
96	0	0	0	0.14	1.68	3.74	4.94	3.92	1.1	0	0	0	15.52
97	0	0	0	0	1.3	2.91	4.45	4.2	2.64	0.29	0	0	15.78
98	0	0	0	0	1	2.79	4.83	4.17	2.08	0	0	0	14.87
99	0	0	0	0	1.04	2.96	4.48	4.08	2.05	0	0	0	14.62
0	0	0	0	0.29	1.78	3.81	4.92	4.16	1.69	0	0	0	16.65
1	0	0	0	0.18	1.73	3.8	4.93	3.62	0.58	0	0	0	14.83
2	0	0	0	0.45	1.75	3.91	4.89	4.09	2.11	0.13	0	0	17.35
3	0	0	0	0.01	1.46	3.52	5.45	4.16	1.44	0	0	0	16.04
4	0	0	0	0.03	1.48	3.53	4.63	3.19	0.33	0	0	0	13.19
5	0	0	0	0.05	1.49	3.25	4.91	3.66	0.92	0	0	0	14.27
6	0	0	0	0.32	1.94	4.16	4.99	3.43	0.8	0	0	0	15.64
7	0	0	0	0	0.79	3.12	4.89	4.32	1.82	0	0	0	14.95
8	0	0	0	0	0.89	3.09	4.65	4.19	2.07	0.03	0	0	14.92
AV	0	0	0	0.07	1.26	3.29	4.81	3.98	1.65	0.09	0	0	15.15

EFFECTIVE PRECIPITATION, Inches

El Morro Weather Station

Small Vegetables/Misc. Crops

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
38	0	0	0	0	0.22	0.71	0.76	1.38	1.23	0	0	0	4.3
39	0	0	0	0.05	0	0	0.93	0.76	0.83	0	0	0	2.57
40	0	0	0	0	0.23	0.35	2.1	2.2	1.42	0.26	0	0	6.56
41	0	0	0	0	0.79	0.41	1.06	1.52	0.53	0	0	0	4.31
42	0	0	0	0.05	0	0	0.79	1.74	0.36	0	0	0	2.94
43	0	0	0	0.03	0.24	0.49	1.96	2.14	0.54	0.11	0	0	5.51
44	0	0	0	0	0.28	0.56	0.99	0.83	0.74	0	0	0	3.4
45	0	0	0	0	0	0	1.3	2.13	0.1	0	0	0	3.53
46	0	0	0	0	0.08	0.09	1.35	3.18	0.89	0	0	0	5.59
47	0	0	0	0	0.83	0.41	1.65	4.14	0.62	0.54	0	0	8.19
48	0	0	0	0	0.39	0.92	1.52	1.58	1.36	0.12	0	0	5.89
49	0	0	0	0	0	0.63	1.34	0.75	1.14	0.13	0	0	3.99
50	0	0	0	0	0	0	1.99	0.58	0.31	0	0	0	2.88
51	0	0	0	0	0.23	0	0.72	2.15	0.06	0	0	0	3.16
52	0	0	0	0.02	0.08	0.8	1.28	2.1	0.22	0	0	0	4.5
53	0	0	0	0	0.03	0.09	1.84	1.1	0	0	0	0	3.06
54	0	0	0	0	0.85	0.43	1.72	1.93	1.93	0.13	0	0	6.99
55	0	0	0	0	0.19	0.63	2.86	2.23	0	0	0	0	5.91
56	0	0	0	0	0.38	0.27	1.13	0.88	0	0.12	0	0	2.78
57	0	0	0	0	0.5	0.49	2.2	1.83	0	0	0	0	5.02
58	0	0	0	0	0	0.35	1	1.38	0.86	0	0	0	3.59
59	0	0	0	0	0	0.44	0.72	3.05	0	0	0	0	4.21
60	0	0	0	0	0.35	0.34	0.7	0.44	0.11	0	0	0	1.94
61	0	0	0	0	0.15	0.18	1.37	2.22	0	0	0	0	3.92
62	0	0	0	0	0	0.18	0.85	0.36	2.1	0	0	0	3.49
63	0	0	0	0	0	0	1.16	2.45	1.95	0.38	0	0	5.94
64	0	0	0	0	0.04	0.09	1.5	2.63	1.23	0	0	0	5.49
65	0	0	0	0	0.31	0.95	2.49	1.1	0.3	0	0	0	5.15
66	0	0	0	0	0.08	0.5	1.44	1.51	1.3	0	0	0	4.83
67	0	0	0	0	0.05	1.05	2.79	1.7	0.17	0	0	0	5.76
68	0	0	0	0	0.2	0	1.61	1.26	0	0	0	0	3.07
69	0	0	0	0	0.77	0	1.79	2.49	0.74	0.14	0	0	5.93
70	0	0	0	0	0.18	0.57	0.87	1.74	0.23	0	0	0	3.59
71	0	0	0	0	0	0	1.31	2.82	0.19	0	0	0	4.32
72	0	0	0	0	0.14	0.86	1.16	2.57	0.68	0	0	0	5.41
73	0	0	0	0	0.45	0.25	1.14	1.37	0.46	0	0	0	3.67
74	0	0	0	0	0	0	0.93	2.38	0.56	0	0	0	3.87
75	0	0	0	0	0	0	0.99	1.3	1.45	0	0	0	3.74
76	0	0	0	0	0.71	0.18	1.43	1.37	0.68	0.05	0	0	4.42
77	0	0	0	0	0.32	0.26	2.57	1.91	1.63	0	0	0	6.69
78	0	0	0	0	0.85	0.18	0.78	0.66	0.02	0	0	0	2.49
79	0	0	0	0	1.02	0.42	0.85	2.04	0	0.05	0	0	4.38
80	0	0	0	0	0.14	0	0.29	1.11	1.82	0	0	0	3.36
81	0	0	0	0.23	0.24	0.95	1.83	1.04	1.23	0	0	0	5.52
82	0	0	0	0	0.47	0	1.61	2.43	1.07	0	0	0	5.58
83	0	0	0	0	0.36	0.25	1.47	1.81	1.58	0	0	0	5.47
84	0	0	0	0	0.08	0.43	1.57	2.75	2.07	0	0	0	6.9
85	0	0	0	0.2	0.38	0	2.25	1.15	0.34	0	0	0	4.32
86	0	0	0	0	0.51	1.13	2.59	1.35	0.23	0	0	0	5.81
87	0	0	0	0	0.83	0.85	1.58	2.42	0.04	0	0	0	5.72
88	0	0	0	0	0.3	1.82	1.07	2.2	0.03	0	0	0	5.42
89	0	0	0	0	0	0	2.22	1.13	0.4	0	0	0	3.75
90	0	0	0	0.04	0.88	0.66	1.61	1.22	1.49	0.12	0	0	6.02
91	0	0	0	0	0	0.62	0.91	1.63	0.99	0	0	0	4.15
92	0	0	0	0	1.53	0.26	1.31	2.02	0.32	0	0	0	5.44
93	0	0	0	0	0.7	0.09	0	3.58	0.06	0	0	0	4.43
94	0	0	0	0	1	0.5	1.22	1.04	0.88	0	0	0	4.64
95	0	0	0	0	0.15	0.08	0.45	2	1.34	0	0	0	4.02
96	0	0	0	0.04	0	0.66	1.57	2.04	1.1	0	0	0	5.41
97	0	0	0	0	0.29	1.16	1.6	2.08	1.44	0.12	0	0	6.69
98	0	0	0	0	0	0	3	2.07	0.27	0	0	0	5.34
99	0	0	0	0	0.69	0.34	1.91	2.53	0.46	0	0	0	5.93
0	0	0	0	0	0	0.59	0.37	1.82	0.47	0	0	0	3.25
1	0	0	0	0.04	0.53	0.27	1.43	2.07	0.2	0	0	0	4.54
2	0	0	0	0.12	0	0	1.7	1.17	2.11	0.11	0	0	5.21
3	0	0	0	0	0	0	0.81	1.82	0.35	0	0	0	2.98
4	0	0	0	0	0	0.35	0.84	1.55	0.09	0	0	0	2.83
5	0	0	0	0	0.08	0.26	0.37	1.47	0.38	0	0	0	2.56
6	0	0	0	0	0.08	0.75	3.44	2.99	0.27	0	0	0	7.53
7	0	0	0	0	0.55	0.34	1.29	2.91	0.32	0	0	0	5.41
8	0	0	0	0	0.61	0.17	2.56	1.37	0.47	0	0	0	5.18

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**El Morro Weather Station**

**Small Vegetables/Misc. Crops**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
38	0	0	0	0	0.7	2.43	3.79	2.86	1.01	0.3	0	0	11.08
39	0	0	0	0.12	1.49	3.43	4.04	3.52	1.3	0	0	0	13.9
40	0	0	0	0.08	1.18	3.08	2.84	2.04	0.97	0.29	0	0	10.48
41	0	0	0	0	0.32	2.47	3.41	2.01	0	0	0	0	8.22
42	0	0	0	0.15	1.49	3.27	4.23	2.2	1.28	0	0	0	12.62
43	0	0	0	0.2	1.24	2.84	2.95	2.16	1.68	0.07	0	0	11.15
44	0	0	0	0	0.66	2.31	3.61	3.53	1.39	0.07	0	0	11.57
45	0	0	0	0	1.04	2.83	3.65	2.07	0.82	0	0	0	10.4
46	0	0	0	0.49	1.49	3.64	3.41	1.04	1.75	0.25	0	0	12.07
47	0	0	0	0.06	0.63	2.54	3.38	0	2.08	0.07	0	0	8.76
48	0	0	0	0.21	1.19	2.46	3.61	2.7	0.99	0.07	0	0	11.22
49	0	0	0	0	1.04	2.37	3.28	3.33	1.44	0.19	0	0	11.66
50	0	0	0	0.08	1.36	3.49	2.61	2.92	0.36	0	0	0	10.82
51	0	0	0	0	1.12	3.14	4.6	1.74	0.8	0	0	0	11.4
52	0	0	0	0.06	1.47	2.87	3.39	1.84	0.66	0	0	0	10.28
53	0	0	0	0	0.54	3.04	3.15	2.98	1.99	0	0	0	11.7
54	0	0	0	0.43	0.95	3.1	3.38	2.11	0.54	0.34	0	0	10.85
55	0	0	0	0	0.88	2.55	1.84	1.78	1.46	0	0	0	8.51
56	0	0	0	0	1.01	3.28	3.43	2.98	2.67	0.39	0	0	13.77
57	0	0	0	0	0.3	2.76	2.6	1.87	0.95	0	0	0	8.47
58	0	0	0	0.03	1.5	3.37	3.77	2.9	0.91	0	0	0	12.48
59	0	0	0	0.05	1.36	3.47	4.41	0.71	1.12	0	0	0	11.12
60	0	0	0	0	0.84	3.14	4.17	3.85	1.56	0	0	0	13.56
61	0	0	0	0	1.2	3.78	3.63	1.2	0.21	0	0	0	10.03
62	0	0	0	0.12	1.3	2.98	3.82	3.82	0	0.03	0	0	12.07
63	0	0	0	0.05	1.41	3	3.88	1.49	0.69	0.2	0	0	10.71
64	0	0	0	0	0.9	2.72	3.33	1.34	0.95	0.25	0	0	9.5
65	0	0	0	0	0.41	1.58	2.13	3	0.98	0	0	0	8.09
66	0	0	0	0.07	1.38	2.68	3.56	2.66	0.94	0.28	0	0	11.59
67	0	0	0	0	0.96	2.07	2.26	1.85	0.69	0	0	0	7.82
68	0	0	0	0	0.64	3.09	2.98	2.2	0.99	0	0	0	9.9
69	0	0	0	0.1	0.67	3.09	3.28	2.09	1.57	0.03	0	0	10.84
70	0	0	0	0	0.87	2.69	4.2	2.25	0.71	0	0	0	10.72
71	0	0	0	0	0.77	3.28	3.87	0.56	0.09	0	0	0	8.57
72	0	0	0	0	1.01	2.4	3.87	1.4	1	0	0	0	9.69
73	0	0	0	0	0.42	2.64	3.44	2.74	1.09	0	0	0	10.33
74	0	0	0	0.04	1.47	3.93	3.79	1.43	1.28	0	0	0	11.95
75	0	0	0	0	0.62	2.62	3.71	2.69	0	0	0	0	9.64
76	0	0	0	0.01	0.61	3.03	3.43	2.74	1.59	0.12	0	0	11.55
77	0	0	0	0	0.72	3.04	2.16	2.54	0.62	0.04	0	0	9.11
78	0	0	0	0	0.23	3.16	4.13	3.05	1.29	0	0	0	11.86
79	0	0	0	0	0	2.6	3.91	1.85	2.55	0.19	0	0	11.1
80	0	0	0	0	0.69	3.15	4.77	3.18	0.55	0.14	0	0	12.49
81	0	0	0	0	1.22	2.89	3.02	3.24	1	0.14	0	0	11.51
82	0	0	0	0	0.52	2.87	2.95	1.74	1.06	0	0	0	9.13
83	0	0	0	0	0.5	2.48	3.16	2.3	0	0	0	0	8.44
84	0	0	0	0.02	1.46	2.93	3.37	1.26	0	0	0	0	9.04
85	0	0	0	0.02	1.29	3.9	2.87	2.62	0.35	0	0	0	11.05
86	0	0	0	0.04	0.88	2.37	1.9	2.51	0.41	0	0	0	8.1
87	0	0	0	0	0.34	2.45	2.73	1.29	0.86	0	0	0	7.67
88	0	0	0	0	1.03	1.72	3.67	1.52	0.86	0	0	0	8.8
89	0	0	0	0.47	2.03	3.64	2.71	2.37	0.47	0	0	0	11.69
90	0	0	0	0.05	0.41	3.03	2.95	2.56	1.03	0.2	0	0	10.23
91	0	0	0	0	1.07	2.13	3.64	2.51	1.19	0.11	0	0	10.64
92	0	0	0	0.22	0	2.83	2.95	1.72	1.41	0	0	0	9.13
93	0	0	0	0	0.67	3.19	4.56	0	0.76	0	0	0	9.19
94	0	0	0	0.01	0.34	3.13	3.67	3.24	0.63	0	0	0	11.01
95	0	0	0	0	0.51	2.5	4.03	2.67	0.77	0	0	0	10.48
96	0	0	0	0.1	1.68	3.08	3.37	1.88	0	0	0	0	10.11
97	0	0	0	0	1.01	1.75	2.85	2.12	1.2	0.17	0	0	9.11
98	0	0	0	0	1	2.79	1.83	2.1	1.81	0	0	0	9.53
99	0	0	0	0	0.35	2.62	2.57	1.55	1.59	0	0	0	8.68
0	0	0	0	0.29	1.78	3.22	4.55	2.34	1.22	0	0	0	13.4
1	0	0	0	0.14	1.2	3.53	3.5	1.55	0.38	0	0	0	10.31
2	0	0	0	0.33	1.75	3.91	3.19	2.92	0	0.02	0	0	12.13
3	0	0	0	0.01	1.46	3.52	4.64	2.34	1.09	0	0	0	13.06
4	0	0	0	0.03	1.48	3.18	3.79	1.64	0.24	0	0	0	10.36
5	0	0	0	0.05	1.41	2.99	4.54	2.19	0.54	0	0	0	11.72
6	0	0	0	0.32	1.86	3.41	1.55	0.44	0.53	0	0	0	8.11
7	0	0	0	0	0.24	2.78	3.6	1.41	1.5	0	0	0	9.54
8	0	0	0	0	0.28	2.92	2.09	2.82	1.6	0.03	0	0	9.74

AV	0	0	0	0.06	0.96	2.92	3.38	2.17	0.96	0.06	0	0	10.5
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**MODIFIED B-C GROSS CONSUMPTIVE USE  
McGaffey Weather Station**

**Alfalfa**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	0.92	4.27	5.5	4.62	3.31	0.07	0	0	18.69
50	0	0	0	0	0.72	4.57	5.46	4.46	1.12	0	0	0	16.33
51	0	0	0	0	1.52	4.22	6.14	4.73	1.35	0	0	0	17.96
52	0	0	0	0	1.65	4.72	5.61	4.88	1.54	0	0	0	18.4
53	0	0	0	0	0.5	4.74	5.69	4.46	1.58	0	0	0	16.97
54	0	0	0	0	2.95	4.68	5.54	4.44	2.9	0.75	0	0	21.27
55	0	0	0	0	2.46	4.68	5.09	4.79	2.41	0	0	0	19.44
56	0	0	0	0	2.33	5.08	5.38	4.62	3.08	0.91	0	0	21.39
57	0	0	0	0	0.69	4.38	5.61	0.8	0	0	0	0	11.47
58	0	0	0	0	2.67	5	5.75	5.03	2.95	0.35	0	0	21.76
59	0	0	0	0	1.69	5.06	5.97	4.52	2.64	0	0	0	19.87
60	0	0	0	0	1.33	4.61	5.86	5.32	3.27	0	0	0	20.39
61	0	0	0	0	2.02	5.06	5.88	4.92	0.48	0	0	0	18.36
62	0	0	0	0	1.26	4.48	5.44	4.75	3.16	0.37	0	0	19.46
63	0	0	0	0	2.63	4.42	5.93	4.55	3.34	1.09	0	0	21.96
64	0	0	0	0	1.69	4.25	5.63	4.43	2.84	0.55	0	0	19.39
65	0	0	0	0	3.04	5.15	4.39	1.97	0	0	0	0	14.55
66	0	0	0	0	2.46	4.51	5.99	4.96	2.99	0.57	0	0	21.48
67	0	0	0	0	0.71	3.96	5.75	4.48	1.49	0	0	0	16.4
68	0	0	0	0	0.99	4.68	5.19	3.86	1.68	0	0	0	16.41
69	0	0	0	0	1.07	4.44	5.82	4.99	2.84	0.28	0	0	19.44
70	0	0	0	0	1.17	4.31	5.69	4.81	2.27	0	0	0	18.25
71	0	0	0	0	0.5	4.25	5.8	4.52	1.89	0	0	0	16.95
72	0	0	0	0	0.88	4.14	5.73	4.5	2.01	0	0	0	17.26
73	0	0	0	0	0.92	4.33	5.3	4.59	2.3	0	0	0	17.43
74	0	0	0	0	2.16	5.28	5.28	4.3	2.7	0	0	0	19.72
75	0	0	0	0	0.26	4	5.15	4.41	2.29	0	0	0	16.12
76	0	0	0	0	1.22	4.34	5.28	4.32	2.84	0.29	0	0	18.29
77	0	0	0	0	0.86	4.78	5.44	4.84	3.2	0.08	0	0	19.2
78	0	0	0	0	0.78	4.63	5.73	4.36	2.09	0	0	0	17.58
79	0	0	0	0	0.73	4.2	5.42	4.29	3.31	1.01	0	0	18.95
80	0	0	0	0	0.67	4.7	5.84	4.71	2.34	0	0	0	18.26
81	0	0	0	0	1.45	4.98	5.44	4.48	2.92	0.31	0	0	19.57
82	0	0	0	0	0.53	4	5.17	4.64	2.92	0	0	0	17.26
83	0	0	0	0	0.27	3.98	5.4	4.62	2.43	0	0	0	16.7
84	0	0	0	0	2.6	4.36	5.52	4.43	3.06	0	0	0	19.98
85	0	0	0	0	1.44	4.67	5.52	4.68	1.16	0	0	0	17.46
86	0	0	0	0	0.49	4.27	4.92	4.62	1.12	0	0	0	15.43
87	0	0	0	0	0.85	4.4	4.92	4.06	2.71	0.97	0	0	17.91
88	0	0	0	0	0.78	4.44	5.26	4.59	1.89	0	0	0	16.95
89	0	0	0	0	1.98	4.36	5.84	4.43	1.12	0	0	0	17.73
90	0	0	0	0	1	5.16	5.07	4.06	3.12	0.5	0	0	18.91
91	0	0	0	0	0.72	3.89	5.28	4.55	1.75	0	0	0	16.2
92	0	0	0	0	1.63	3.98	5.03	4.39	2.77	0	0	0	17.81
93	0	0	0	0	1.48	4.2	5.34	4.53	1.93	0	0	0	17.48
94	0	0	0	0	1.38	5.24	5.73	5.05	2.43	0	0	0	19.82
95	0	0	0	0	0.06	3.84	5.13	5.11	3.06	0	0	0	17.21
96	0	0	0	0	2.96	5.12	5.9	4.84	1.84	0	0	0	20.67
97	0	0	0	0	1.98	4.09	5.24	4.44	3.34	0.52	0	0	19.6
98	0	0	0	0	0.67	3.86	5.63	4.79	3.17	0	0	0	18.11
99	0	0	0	0	0.88	4.2	5.24	4.52	2.8	0	0	0	17.63
0	0	0	0	0	3.47	4.92	5.4	4.99	2.91	0	0	0	21.69
1	0	0	0	0	2.41	4.8	5.78	4.53	1.12	0	0	0	18.64
2	0	0	0	0	1.69	5.28	5.9	4.84	2.21	0	0	0	19.93
3	0	0	0	0	1.74	4.68	6.57	5.05	2.18	0	0	0	20.22
4	0	0	0	0	1.89	4.55	5.28	4.41	2.25	0	0	0	18.38
5	0	0	0	0	0.88	3.6	6.06	4.55	1.7	0	0	0	16.79
6	0	0	0	0	3.09	5.38	5.61	4.3	1.64	0	0	0	20.02
7	0	0	0	0	1.77	5.2	6.23	5.03	2.92	0	0	0	21.15
8	0	0	0	0	1.19	4.78	5.71	5.18	3.23	0.51	0	0	20.6
AV	0	0	0	0	1.4	4.5	5.55	4.56	2.33	0.15	0	0	18.49

EFFECTIVE PRECIPITATION, Inches

McGaffey Weather Station

YR	Alfalfa												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0	0.13	1.51	3.42	2.24	0.99	0	0	0	8.29
50	0	0	0	0	0	0.28	1.76	0.45	0.32	0	0	0	2.81
51	0	0	0	0	0.11	0	0.92	1.48	0.18	0	0	0	2.69
52	0	0	0	0	0	1.35	2.7	1.57	0.23	0	0	0	5.85
53	0	0	0	0	0	0.19	2.58	1.05	0	0	0	0	3.82
54	0	0	0	0	0.75	0	1.41	1.85	1.22	0.53	0	0	5.76
55	0	0	0	0	0.21	0.53	2.43	2.14	0	0	0	0	5.31
56	0	0	0	0	0.19	0	1.75	2.06	0	0.48	0	0	4.48
57	0	0	0	0	0.09	0.45	2.76	0.41	0	0	0	0	3.71
58	0	0	0	0	0.11	1.01	1.28	2.85	2.64	0.1	0	0	7.99
59	0	0	0	0	0	1.02	1.15	2.18	0.2	0	0	0	4.55
60	0	0	0	0	0.18	0.62	0.48	0.3	0.86	0	0	0	2.44
61	0	0	0	0	0	0	2.21	2.66	0.01	0	0	0	4.88
62	0	0	0	0	0	0	1.04	0.92	2.24	0.32	0	0	4.52
63	0	0	0	0	0	0	1.22	3.18	1.5	0.46	0	0	6.36
64	0	0	0	0	0.04	0	1.91	2.82	0.97	0	0	0	5.74
65	0	0	0	0	0	0.97	2.69	1.78	0.56	0	0	0	6
66	0	0	0	0	0.03	0.36	1.67	1.37	1.64	0	0	0	5.07
67	0	0	0	0	0	1.74	2.84	2.47	0.75	0	0	0	7.8
68	0	0	0	0	0.04	0.19	2.5	2.62	0.2	0	0	0	5.55
69	0	0	0	0	0.15	0.19	2.2	2.54	1.52	0.17	0	0	6.77
70	0	0	0	0	0	0.37	2.77	2.58	0.77	0	0	0	6.49
71	0	0	0	0	0	0	1.14	2.54	1.67	0	0	0	5.35
72	0	0	0	0	0	1.3	1.99	0.69	0.19	0	0	0	4.17
73	0	0	0	0	0.37	0.61	1.33	0.99	0.81	0	0	0	4.11
74	0	0	0	0	0.12	0	2.4	1.45	0.31	0	0	0	4.28
75	0	0	0	0	0	0	2.56	0.61	0.97	0	0	0	4.14
76	0	0	0	0	0.1	0	1.18	1.65	0.83	0.01	0	0	3.77
77	0	0	0	0	0	0.46	1.4	1.07	1.18	0	0	0	4.11
78	0	0	0	0	0.17	0.1	0.89	0.45	0.58	0	0	0	2.19
79	0	0	0	0	0.35	0.28	0.2	1.19	0.26	0.55	0	0	2.83
80	0	0	0	0	0	0	0.9	1.13	0.5	0	0	0	2.53
81	0	0	0	0	0.29	0.1	2.92	1.79	1.29	0.07	0	0	6.46
82	0	0	0	0	0.12	0	1.52	2.37	1.36	0	0	0	5.37
83	0	0	0	0	0	0	1.54	1.67	0.94	0	0	0	4.15
84	0	0	0	0	0.1	0.36	1.76	2.53	1.94	0	0	0	6.69
85	0	0	0	0	0.26	0.46	1.9	1.35	0.46	0	0	0	4.43
86	0	0	0	0	0.04	1.9	1.44	2.06	0.53	0	0	0	5.97
87	0	0	0	0	0.32	0.28	1.77	3.04	0.83	0.26	0	0	6.5
88	0	0	0	0	0	2.35	2.2	2.18	0.48	0	0	0	7.21
89	0	0	0	0	0	0	2.47	0.98	0.13	0	0	0	3.58
90	0	0	0	0	0.24	0.72	2.74	2.53	1.48	0.06	0	0	7.77
91	0	0	0	0	0	0.81	2.21	1.4	1.06	0	0	0	5.48
92	0	0	0	0	1.05	0.09	1.16	2.64	0.5	0	0	0	5.44
93	0	0	0	0	0.77	0	0.2	2.59	0.41	0	0	0	3.97
94	0	0	0	0	0.71	0.88	0.39	1.51	1.35	0	0	0	4.84
95	0	0	0	0	0	0.09	1.09	4.15	1.53	0	0	0	6.86
96	0	0	0	0	0	0.87	2.21	3.46	1.42	0	0	0	7.96
97	0	0	0	0	0.48	1.1	2.71	2.93	1.12	0.22	0	0	8.56
98	0	0	0	0	0	0	2.51	1.22	0.51	0	0	0	4.24
99	0	0	0	0	0.14	1.18	3.84	3.69	2.24	0	0	0	11.09
0	0	0	0	0	0	1.37	0.88	1.71	0.81	0	0	0	4.77
1	0	0	0	0	0.21	0.37	1.36	3.68	0.15	0	0	0	5.77
2	0	0	0	0	0	0	4.04	1.95	1.18	0	0	0	7.17
3	0	0	0	0	0	0.45	1.11	1.92	0.33	0	0	0	3.81
4	0	0	0	0	0	0.28	0.8	1.72	0.78	0	0	0	3.58
5	0	0	0	0	0	0.18	0.5	3.75	0.45	0	0	0	4.88
6	0	0	0	0	0.13	0.29	3.68	3.58	1.05	0	0	0	8.73
7	0	0	0	0	0.47	0.38	2.99	1.71	1.03	0	0	0	6.58
8	0	0	0	0	0.36	0.28	1.85	1.79	0.18	0.2	0	0	4.66
AV	0.00	0.00	0.00	0.00	0.15	0.47	1.86	1.99	0.83	0.06	0.00	0.00	5.35

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER  
McGaffey Weather Station**

**Alfalfa**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	0.79	2.76	2.08	2.38	2.32	0.07	0	0	10.4
50	0	0	0	0	0.72	4.29	3.7	4.01	0.8	0	0	0	13.53
51	0	0	0	0	1.41	4.22	5.22	3.25	1.17	0	0	0	15.27
52	0	0	0	0	1.65	3.37	2.91	3.31	1.31	0	0	0	12.56
53	0	0	0	0	0.5	4.55	3.11	3.41	1.58	0	0	0	13.15
54	0	0	0	0	2.2	4.68	4.13	2.59	1.68	0.22	0	0	15.51
55	0	0	0	0	2.25	4.15	2.66	2.65	2.41	0	0	0	14.12
56	0	0	0	0	2.14	5.08	3.63	2.56	3.08	0.43	0	0	16.91
57	0	0	0	0	0.6	3.93	2.85	0.39	0	0	0	0	7.77
58	0	0	0	0	2.56	3.99	4.47	2.18	0.31	0.25	0	0	13.75
59	0	0	0	0	1.69	4.04	4.82	2.34	2.44	0	0	0	15.34
60	0	0	0	0	1.15	3.99	5.38	5.02	2.41	0	0	0	17.96
61	0	0	0	0	2.02	5.06	3.67	2.26	0.47	0	0	0	13.49
62	0	0	0	0	1.26	4.48	4.4	3.83	0.92	0.05	0	0	14.93
63	0	0	0	0	2.63	4.42	4.71	1.37	1.84	0.63	0	0	15.6
64	0	0	0	0	1.65	4.25	3.72	1.61	1.87	0.55	0	0	13.65
65	0	0	0	0	0	2.07	2.46	2.61	1.41	0	0	0	8.56
66	0	0	0	0	2.43	4.15	4.32	3.59	1.35	0.57	0	0	16.4
67	0	0	0	0	0.71	2.22	2.91	2.01	0.74	0	0	0	8.6
68	0	0	0	0	0.95	4.49	2.69	1.24	1.48	0	0	0	10.86
69	0	0	0	0	0.92	4.25	3.62	2.45	1.32	0.11	0	0	12.66
70	0	0	0	0	1.17	3.94	2.92	2.23	1.5	0	0	0	11.77
71	0	0	0	0	0.5	4.25	4.66	1.98	0.22	0	0	0	11.61
72	0	0	0	0	0.88	2.84	3.74	3.81	1.82	0	0	0	13.09
73	0	0	0	0	0.55	3.72	3.97	3.6	1.49	0	0	0	13.33
74	0	0	0	0	2.04	5.28	2.88	2.85	2.39	0	0	0	15.44
75	0	0	0	0	0.26	4	2.59	3.8	1.32	0	0	0	11.97
76	0	0	0	0	1.12	4.34	4.1	2.67	2.01	0.28	0	0	14.52
77	0	0	0	0	0.86	4.32	4.04	3.77	2.02	0.08	0	0	15.09
78	0	0	0	0	0.61	4.53	4.84	3.91	1.51	0	0	0	15.4
79	0	0	0	0	0.38	3.92	5.22	3.1	3.05	0.46	0	0	16.13
80	0	0	0	0	0.67	4.7	4.94	3.58	1.84	0	0	0	15.72
81	0	0	0	0	1.16	4.88	2.52	2.69	1.63	0.24	0	0	13.12
82	0	0	0	0	0.41	4	3.65	2.27	1.56	0	0	0	11.88
83	0	0	0	0	0.27	3.98	3.86	2.95	1.49	0	0	0	12.54
84	0	0	0	0	2.5	4	3.76	1.9	1.12	0	0	0	13.28
85	0	0	0	0	1.18	4.21	3.62	3.33	0.7	0	0	0	13.04
86	0	0	0	0	0.45	2.37	3.48	2.56	0.59	0	0	0	9.46
87	0	0	0	0	0.53	4.12	3.15	1.02	1.88	0.71	0	0	11.41
88	0	0	0	0	0.78	2.09	3.06	2.41	1.41	0	0	0	9.75
89	0	0	0	0	1.98	4.36	3.37	3.45	0.99	0	0	0	14.15
90	0	0	0	0	0.76	4.44	2.33	1.53	1.64	0.44	0	0	11.14
91	0	0	0	0	0.72	3.08	3.07	3.15	0.69	0	0	0	10.72
92	0	0	0	0	0.58	3.89	3.87	1.75	2.27	0	0	0	12.38
93	0	0	0	0	0.71	4.2	5.14	1.94	1.52	0	0	0	13.5
94	0	0	0	0	0.67	4.36	5.34	3.54	1.08	0	0	0	15
95	0	0	0	0	0.06	3.75	4.04	0.96	1.53	0	0	0	10.34
96	0	0	0	0	2.96	4.25	3.69	1.38	0.42	0	0	0	12.7
97	0	0	0	0	1.5	2.99	2.53	1.51	2.22	0.3	0	0	11.05
98	0	0	0	0	0.67	3.86	3.12	3.57	2.66	0	0	0	13.88
99	0	0	0	0	0.74	3.02	1.4	0.83	0.56	0	0	0	6.56
0	0	0	0	0	3.47	3.55	4.52	3.28	2.1	0	0	0	16.92
1	0	0	0	0	2.2	4.43	4.42	0.85	0.97	0	0	0	12.86
2	0	0	0	0	1.69	5.28	1.86	2.89	1.03	0	0	0	12.75
3	0	0	0	0	1.74	4.23	5.46	3.13	1.85	0	0	0	16.42
4	0	0	0	0	1.89	4.27	4.48	2.69	1.47	0	0	0	14.79
5	0	0	0	0	0.88	3.42	5.56	0.8	1.25	0	0	0	11.92
6	0	0	0	0	2.96	5.09	1.93	0.72	0.59	0	0	0	11.28
7	0	0	0	0	1.3	4.82	3.24	3.32	1.89	0	0	0	14.57
8	0	0	0	0	0.83	4.5	3.86	3.39	3.05	0.31	0	0	15.93
AV	0	0	0	0	1.25	4.03	3.7	2.57	1.5	0.1	0	0	13.14



**MODIFIED B-C GROSS CONSUMPTIVE USE  
McGaffey Weather Station**

Corn Grain													
Crop Potential Evapotranspiration (inches)													
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
49	0	0	0	0	0	1.44	4.05	4.67	2.27	0	0	0	12.44
50	0	0	0	0	0	1.73	4.58	4.38	0.82	0	0	0	11.5
51	0	0	0	0	0	1.54	5.12	4.65	0.91	0	0	0	12.21
52	0	0	0	0	0	2.18	4.85	4.81	1.37	0	0	0	13.2
53	0	0	0	0	0	1.8	4.69	4.45	1.41	0	0	0	12.35
54	0	0	0	0	0.19	2.47	5.31	3.28	0	0	0	0	11.25
55	0	0	0	0	0.24	2.29	4.37	4.8	2.22	0	0	0	13.92
56	0	0	0	0	0.3	2.53	4.69	4.62	1.91	0	0	0	14.04
57	0	0	0	0	0	1.76	5.41	0.65	0	0	0	0	7.81
58	0	0	0	0	0.44	2.57	5.2	4.93	1.42	0	0	0	14.57
59	0	0	0	0	0.1	2.4	5.09	4.52	1.81	0	0	0	13.91
60	0	0	0	0	0	1.9	4.5	5.38	2.98	0	0	0	14.76
61	0	0	0	0	0.17	2.53	5.48	4.63	0.31	0	0	0	13.12
62	0	0	0	0	0	1.85	4.97	4.25	0	0	0	0	11.07
63	0	0	0	0	0.2	2.07	4.56	4.64	3.29	0.51	0	0	15.26
64	0	0	0	0	0	1.58	4.39	4.45	1.71	0	0	0	12.13
65	0	0	0	0	0	0.34	2.94	4.47	1.7	0	0	0	9.45
66	0	0	0	0	0.08	2.08	4.6	5.04	2.91	0.24	0	0	14.96
67	0	0	0	0	0	1.06	4.16	4.5	1.35	0	0	0	11.07
68	0	0	0	0	0	2.02	4.94	2.57	0	0	0	0	9.52
69	0	0	0	0	0	1.66	4.33	5.06	2.41	0	0	0	13.46
70	0	0	0	0	0	1.6	4.89	4.63	0.59	0	0	0	11.72
71	0	0	0	0	0	1.4	4.87	4.36	0.48	0	0	0	11.11
72	0	0	0	0	0	1.3	4.12	4.55	1.87	0	0	0	11.83
73	0	0	0	0	0	1.49	3.88	4.65	2.16	0	0	0	12.17
74	0	0	0	0	0.3	2.57	4.41	4.34	2.54	0	0	0	14.16
75	0	0	0	0	0	1.04	3.46	4.47	2.07	0	0	0	11.04
76	0	0	0	0	0	1.56	3.79	4.39	2.56	0	0	0	12.31
77	0	0	0	0	0	1.93	4.34	4.87	2.2	0	0	0	13.34
78	0	0	0	0	0	1.77	4.46	4.39	1.93	0	0	0	12.55
79	0	0	0	0	0	1.31	3.5	4.32	3.29	0.41	0	0	12.82
80	0	0	0	0	0	1.79	4.47	4.76	2.18	0	0	0	13.2
81	0	0	0	0	0.02	2.26	4.14	4.56	2.83	0.23	0	0	14.04
82	0	0	0	0	0	1.05	3.28	4.7	2.82	0	0	0	11.85
83	0	0	0	0	0	1.03	3.66	4.68	2.26	0	0	0	11.64
84	0	0	0	0	0.25	2.1	4.58	4.47	2.74	0	0	0	14.13
85	0	0	0	0	0	2.06	4.82	4.54	0.7	0	0	0	12.12
86	0	0	0	0	0	1.36	3.91	4.59	1	0	0	0	10.86
87	0	0	0	0	0	1.57	3.96	4.06	1.35	0	0	0	10.95
88	0	0	0	0	0	1.61	4.27	4.58	1.26	0	0	0	11.72
89	0	0	0	0	0	1.84	5.04	4.31	0.89	0	0	0	12.08
90	0	0	0	0	0	2.24	3.83	4.13	3	0.06	0	0	13.25
91	0	0	0	0	0	0.93	3.66	4.58	1.41	0	0	0	10.57
92	0	0	0	0	0	1.15	4.36	3.58	0	0	0	0	9.09
93	0	0	0	0	0	1.49	4.46	4.44	0.87	0	0	0	11.25
94	0	0	0	0	0.06	2.47	4.92	5.02	1.53	0	0	0	14
95	0	0	0	0	0	0.83	3.33	5.17	1.98	0	0	0	11.32
96	0	0	0	0	0.57	2.71	5.31	4.8	1.67	0	0	0	15.06
97	0	0	0	0	0	1.38	3.82	4.5	2.38	0	0	0	12.08
98	0	0	0	0	0	0.89	3.55	4.87	2.92	0	0	0	12.23
99	0	0	0	0	0	1.36	4.01	4.53	1.46	0	0	0	11.35
0	0	0	0	0	0.71	2.62	4.79	5	2.61	0	0	0	15.73
1	0	0	0	0	0.22	2.4	5.29	4.34	0.76	0	0	0	13.02
2	0	0	0	0	0.16	2.53	5.04	4.85	1.93	0	0	0	14.51
3	0	0	0	0	0	2.18	5.74	4.93	1.18	0	0	0	14.04
4	0	0	0	0	0	2.1	4.73	4.21	0.49	0	0	0	11.53
5	0	0	0	0	0	0.68	3.89	4.58	1.35	0	0	0	10.5
6	0	0	0	0	0.63	2.86	5.08	4.25	1.48	0	0	0	14.29
7	0	0	0	0	0.16	2.46	5.16	5.07	2.74	0	0	0	15.59
8	0	0	0	0	0	2.12	5.09	4.95	0.56	0	0	0	12.72
AV	0	0	0	0	0.08	1.8	4.47	4.48	1.65	0.02	0	0	12.5

EFFECTIVE PRECIPITATION, Inches

McGaffey Weather Station

YR	Corn Grain												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0	0	0.98	3.15	2.25	0.66	0	0	0	7.04
50	0	0	0	0	0	0.19	1.67	0.45	0.24	0	0	0	2.55
51	0	0	0	0	0	0	0.87	1.48	0.11	0	0	0	2.46
52	0	0	0	0	0	1.15	2.59	1.56	0.23	0	0	0	5.53
53	0	0	0	0	0	0.12	2.44	1.05	0	0	0	0	3.61
54	0	0	0	0	0.03	0	1.39	1.43	0	0	0	0	2.85
55	0	0	0	0	0	0.47	2.34	2.14	0	0	0	0	4.95
56	0	0	0	0	0	0	1.68	2.06	0	0	0	0	3.74
57	0	0	0	0	0	0.29	2.73	0.4	0	0	0	0	3.42
58	0	0	0	0	0	0.88	1.24	2.84	1.23	0	0	0	6.19
59	0	0	0	0	0	0.87	1.1	2.17	0.11	0	0	0	4.25
60	0	0	0	0	0	0.48	0.45	0.3	0.81	0	0	0	2.04
61	0	0	0	0	0	0	2.16	2.61	0	0	0	0	4.77
62	0	0	0	0	0	0	1.01	0.87	0	0	0	0	1.88
63	0	0	0	0	0	0	1.13	3.2	1.5	0.18	0	0	6.01
64	0	0	0	0	0	0	1.78	2.82	0.55	0	0	0	5.15
65	0	0	0	0	0	0.17	2.38	1.79	0.5	0	0	0	4.84
66	0	0	0	0	0	0.32	1.54	1.37	1.64	0	0	0	4.87
67	0	0	0	0	0	0.88	2.6	2.47	0.75	0	0	0	6.7
68	0	0	0	0	0	0.14	2.48	1.8	0	0	0	0	4.42
69	0	0	0	0	0	0.12	2.03	2.55	1.3	0	0	0	6
70	0	0	0	0	0	0.23	2.65	2.55	0.15	0	0	0	5.58
71	0	0	0	0	0	0	1.08	2.52	0.44	0	0	0	4.04
72	0	0	0	0	0	0.78	1.82	0.69	0.19	0	0	0	3.48
73	0	0	0	0	0	0.39	1.23	1	0.8	0	0	0	3.42
74	0	0	0	0	0	0	2.28	1.45	0.3	0	0	0	4.03
75	0	0	0	0	0	0	2.34	0.61	0.92	0	0	0	3.87
76	0	0	0	0	0	0	1.08	1.65	0.76	0	0	0	3.49
77	0	0	0	0	0	0.34	1.32	1.07	0.79	0	0	0	3.52
78	0	0	0	0	0	0.05	0.83	0.45	0.57	0	0	0	1.9
79	0	0	0	0	0	0.14	0.18	1.18	0.27	0.18	0	0	1.95
80	0	0	0	0	0	0	0.84	1.14	0.49	0	0	0	2.47
81	0	0	0	0	0	0.08	2.72	1.8	1.27	0.04	0	0	5.91
82	0	0	0	0	0	0	1.37	2.38	1.36	0	0	0	5.11
83	0	0	0	0	0	0	1.4	1.68	0.93	0	0	0	4.01
84	0	0	0	0	0	0.32	1.67	2.53	1.8	0	0	0	6.32
85	0	0	0	0	0	0.36	1.82	1.34	0.28	0	0	0	3.8
86	0	0	0	0	0	1.17	1.35	2.05	0.53	0	0	0	5.1
87	0	0	0	0	0	0.17	1.68	3.04	0.38	0	0	0	5.27
88	0	0	0	0	0	1.61	2.08	2.18	0.32	0	0	0	6.19
89	0	0	0	0	0	0	2.36	0.97	0.11	0	0	0	3.44
90	0	0	0	0	0	0.59	2.56	2.54	1.47	0	0	0	7.16
91	0	0	0	0	0	0.35	2.02	1.41	0.92	0	0	0	4.7
92	0	0	0	0	0	0.01	1.11	2.24	0	0	0	0	3.36
93	0	0	0	0	0	0	0.19	2.58	0.16	0	0	0	2.93
94	0	0	0	0	0	0.75	0.38	1.51	0.86	0	0	0	3.5
95	0	0	0	0	0	0	0.99	4.16	0.95	0	0	0	6.1
96	0	0	0	0	0	0.76	2.14	3.46	1.41	0	0	0	7.77
97	0	0	0	0	0	0.72	2.5	2.95	0.79	0	0	0	6.96
98	0	0	0	0	0	0	2.23	1.22	0.48	0	0	0	3.93
99	0	0	0	0	0	0.73	3.59	3.69	1.15	0	0	0	9.16
0	0	0	0	0	0	1.2	0.85	1.71	0.77	0	0	0	4.53
1	0	0	0	0	0	0.32	1.32	3.65	0.1	0	0	0	5.39
2	0	0	0	0	0	0	3.85	1.96	1.1	0	0	0	6.91
3	0	0	0	0	0	0.39	1.06	1.9	0.15	0	0	0	3.5
4	0	0	0	0	0	0.23	0.78	1.7	0.12	0	0	0	2.83
5	0	0	0	0	0	0.01	0.43	3.75	0.38	0	0	0	4.57
6	0	0	0	0	0	0.25	3.58	3.58	1.03	0	0	0	8.44
7	0	0	0	0	0.03	0.33	2.81	1.72	1.02	0	0	0	5.91
8	0	0	0	0	0	0.23	1.79	1.77	0	0	0	0	3.79
AV	0.00	0.00	0.00	0.00	0.00	0.33	1.75	1.96	0.59	0.01	0.00	0.00	4.63

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**McGaffey Weather Station**

**Corn Grain**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	0	0.46	0.9	2.42	1.61	0	0	0	5.38
50	0	0	0	0	0	1.54	2.91	3.93	0.58	0	0	0	8.96
51	0	0	0	0	0	1.54	4.25	3.17	0.8	0	0	0	9.76
52	0	0	0	0	0	1.03	2.26	3.25	1.14	0	0	0	7.68
53	0	0	0	0	0	1.68	2.25	3.4	1.41	0	0	0	8.74
54	0	0	0	0	0.16	2.47	3.92	1.85	0	0	0	0	8.39
55	0	0	0	0	0.24	1.82	2.03	2.66	2.22	0	0	0	8.97
56	0	0	0	0	0.3	2.53	3.01	2.56	1.91	0	0	0	10.3
57	0	0	0	0	0	1.47	2.68	0.25	0	0	0	0	4.4
58	0	0	0	0	0.44	1.69	3.96	2.09	0.19	0	0	0	8.36
59	0	0	0	0	0.1	1.53	3.99	2.35	1.7	0	0	0	9.66
60	0	0	0	0	0	1.42	4.05	5.08	2.17	0	0	0	12.72
61	0	0	0	0	0.17	2.53	3.32	2.02	0.31	0	0	0	8.35
62	0	0	0	0	0	1.85	3.96	3.38	0	0	0	0	9.19
63	0	0	0	0	0.2	2.07	3.43	1.44	1.79	0.33	0	0	9.25
64	0	0	0	0	0	1.58	2.61	1.63	1.16	0	0	0	6.98
65	0	0	0	0	0	0.17	0.56	2.68	1.2	0	0	0	4.61
66	0	0	0	0	0.08	1.76	3.06	3.67	1.27	0.24	0	0	10.08
67	0	0	0	0	0	0.18	1.56	2.03	0.6	0	0	0	4.36
68	0	0	0	0	0	1.88	2.46	0.77	0	0	0	0	5.11
69	0	0	0	0	0	1.54	2.3	2.51	1.11	0	0	0	7.46
70	0	0	0	0	0	1.37	2.24	2.08	0.44	0	0	0	6.13
71	0	0	0	0	0	1.4	3.79	1.84	0.04	0	0	0	7.08
72	0	0	0	0	0	0.52	2.3	3.86	1.68	0	0	0	8.35
73	0	0	0	0	0	1.1	2.65	3.65	1.36	0	0	0	8.77
74	0	0	0	0	0.3	2.57	2.13	2.89	2.24	0	0	0	10.13
75	0	0	0	0	0	1.04	1.12	3.86	1.15	0	0	0	7.18
76	0	0	0	0	0	1.56	2.71	2.74	1.8	0	0	0	8.81
77	0	0	0	0	0	1.59	3.02	3.8	1.41	0	0	0	9.81
78	0	0	0	0	0	1.72	3.63	3.94	1.36	0	0	0	10.64
79	0	0	0	0	0	1.17	3.32	3.14	3.02	0.23	0	0	10.87
80	0	0	0	0	0	1.79	3.63	3.62	1.69	0	0	0	10.73
81	0	0	0	0	0.02	2.18	1.42	2.76	1.56	0.19	0	0	8.13
82	0	0	0	0	0	1.05	1.91	2.32	1.46	0	0	0	6.75
83	0	0	0	0	0	1.03	2.26	3	1.33	0	0	0	7.63
84	0	0	0	0	0.25	1.78	2.91	1.94	0.94	0	0	0	7.82
85	0	0	0	0	0	1.7	3	3.2	0.42	0	0	0	8.31
86	0	0	0	0	0	0.19	2.56	2.54	0.47	0	0	0	5.75
87	0	0	0	0	0	1.4	2.28	1.02	0.97	0	0	0	5.68
88	0	0	0	0	0	0	2.19	2.4	0.94	0	0	0	5.54
89	0	0	0	0	0	1.84	2.68	3.34	0.78	0	0	0	8.63
90	0	0	0	0	0	1.65	1.27	1.59	1.53	0.06	0	0	6.1
91	0	0	0	0	0	0.58	1.64	3.17	0.49	0	0	0	5.89
92	0	0	0	0	0	1.14	3.25	1.34	0	0	0	0	5.73
93	0	0	0	0	0	1.49	4.27	1.86	0.71	0	0	0	8.32
94	0	0	0	0	0.06	1.72	4.54	3.51	0.67	0	0	0	10.5
95	0	0	0	0	0	0.83	2.34	1.01	1.03	0	0	0	5.21
96	0	0	0	0	0.57	1.95	3.17	1.34	0.26	0	0	0	7.3
97	0	0	0	0	0	0.66	1.32	1.55	1.59	0	0	0	5.13
98	0	0	0	0	0	0.89	1.32	3.65	2.44	0	0	0	8.29
99	0	0	0	0	0	0.63	0.42	0.84	0.31	0	0	0	2.21
0	0	0	0	0	0.71	1.42	3.94	3.29	1.84	0	0	0	11.2
1	0	0	0	0	0.22	2.08	3.97	0.69	0.66	0	0	0	7.62
2	0	0	0	0	0.16	2.53	1.19	2.89	0.83	0	0	0	7.6
3	0	0	0	0	0	1.79	4.68	3.03	1.03	0	0	0	10.54
4	0	0	0	0	0	1.87	3.95	2.51	0.37	0	0	0	8.7
5	0	0	0	0	0	0.67	3.46	0.83	0.97	0	0	0	5.93
6	0	0	0	0	0.63	2.61	1.5	0.67	0.45	0	0	0	5.86
7	0	0	0	0	0.13	2.13	2.35	3.35	1.72	0	0	0	9.69
8	0	0	0	0	0	1.89	3.3	3.18	0.56	0	0	0	8.93
AV	0	0	0	0	0.08	1.47	2.72	2.52	1.06	0.02	0	0	7.87

MODIFIED B-C GROSS CONSUMPTIVE USE

McGaffey Weather Station

Pasture Grass/Hay

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	2.19	3.48	4.56	3.97	2.91	0.55	0	0	17.65
50	0	0	0	0	1.74	3.72	4.53	3.83	2.23	1.7	0	0	17.74
51	0	0	0	0	2.37	3.43	5.09	4.06	2.55	0.61	0	0	18.12
52	0	0	0	0.19	2.4	3.85	4.65	4.19	2.75	1.12	0	0	19.14
53	0	0	0	0	1.12	3.86	4.72	3.83	2.68	1.13	0	0	17.33
54	0	0	0	1.17	2.69	3.81	4.59	3.82	2.55	0.48	0	0	19.11
55	0	0	0	0.13	2.74	3.81	4.22	4.11	2.86	1.04	0	0	18.92
56	0	0	0	0.16	2.65	4.13	4.46	3.97	2.7	1.05	0	0	19.12
57	0	0	0	0	1.66	3.57	4.65	3.88	2.52	0.88	0	0	17.15
58	0	0	0	0.23	2.81	4.07	4.77	4.32	2.6	1.11	0	0	19.91
59	0	0	0	0.42	2.4	4.12	4.95	3.88	2.69	0.85	0	0	19.29
60	0	0	0	0.14	2.29	3.75	4.86	4.56	3.24	0.67	0	0	19.51
61	0	0	0	0.25	2.51	4.12	4.88	4.22	2.47	0.86	0	0	19.31
62	0	0	0	0.86	2.28	3.64	4.51	4.08	2.77	1.37	0	0	19.51
63	0	0	0	0.22	2.82	3.6	4.91	3.91	2.93	1.51	0	0	19.9
64	0	0	0	0	2.25	3.46	4.66	3.8	2.49	1.15	0	0	17.81
65	0	0	0	0	1.34	2.77	4.27	3.77	2.28	1.25	0	0	15.68
66	0	0	0	0.45	2.68	3.67	4.97	4.25	2.63	0.84	0	0	19.5
67	0	0	0	0	1.98	3.23	4.77	3.85	2.48	0.95	0	0	17.24
68	0	0	0	0	1.76	3.81	4.31	3.31	2.41	1.01	0	0	16.62
69	0	0	0	0.14	2.2	3.61	4.82	4.29	2.49	0.25	0	0	17.81
70	0	0	0	0	1.84	3.51	4.72	4.13	2.44	0.19	0	0	16.82
71	0	0	0	0	1.48	3.46	4.8	3.88	2.38	0.28	0	0	16.29
72	0	0	0	0	2.1	3.37	4.75	3.86	2.44	0.8	0	0	17.32
73	0	0	0	0	1.66	3.52	4.39	3.94	2.39	0.79	0	0	16.69
74	0	0	0	0.01	2.59	4.3	4.37	3.69	2.5	0.93	0	0	18.4
75	0	0	0	0	1.27	3.26	4.27	3.78	2.49	0.66	0	0	15.73
76	0	0	0	0	2.2	3.54	4.37	3.71	2.49	0.4	0	0	16.72
77	0	0	0	0	1.84	3.89	4.51	4.16	2.81	1.1	0	0	18.31
78	0	0	0	0	1.71	3.77	4.75	3.74	2.57	1.16	0	0	17.7
79	0	0	0	0	1.78	3.42	4.49	3.68	2.91	1.09	0	0	17.37
80	0	0	0	0	1.4	3.83	4.84	4.05	2.63	0.54	0	0	17.29
81	0	0	0	0.27	2.3	4.05	4.51	3.85	2.56	0.56	0	0	18.09
82	0	0	0	0	1.74	3.26	4.29	3.98	2.63	0.38	0	0	16.28
83	0	0	0	0	1.28	3.24	4.47	3.97	2.9	0.99	0	0	16.86
84	0	0	0	0.05	2.88	3.55	4.58	3.8	2.69	0.26	0	0	17.81
85	0	0	0	0.1	2.32	3.8	4.58	4.02	2.03	0.2	0	0	17.06
86	0	0	0	0	1.42	3.48	4.07	3.97	2.2	0.48	0	0	15.62
87	0	0	0	0	1.98	3.58	4.07	3.49	2.38	1.16	0	0	16.66
88	0	0	0	0	1.7	3.61	4.36	3.94	2.26	1.26	0	0	17.12
89	0	0	0	0.66	2.5	3.55	4.84	3.8	2.57	0.51	0	0	18.44
90	0	0	0	0	1.89	4.2	4.21	3.49	2.74	0.66	0	0	17.18
91	0	0	0	0	1.91	3.17	4.37	3.91	2.61	1.02	0	0	16.99
92	0	0	0	0.9	2.42	3.24	4.17	3.77	2.66	1.03	0	0	18.19
93	0	0	0	0.01	2.37	3.42	4.42	3.89	2.45	0.62	0	0	17.19
94	0	0	0	0	2.11	4.26	4.75	4.33	2.61	0.42	0	0	18.49
95	0	0	0	0	1.18	3.13	4.26	4.38	2.69	0.79	0	0	16.43
96	0	0	0	0.44	2.89	4.17	4.89	4.16	2.26	0.55	0	0	19.36
97	0	0	0	0	2.48	3.33	4.34	3.82	2.93	0.68	0	0	17.58
98	0	0	0	0	1.74	3.14	4.66	4.11	3.05	0.88	0	0	17.58
99	0	0	0	0	1.86	3.42	4.34	3.88	2.53	1.2	0	0	17.22
0	0	0	0	0.86	3	4	4.47	4.29	2.97	0.72	0	0	20.31
1	0	0	0	0.27	2.68	3.91	4.79	3.89	2.97	1.31	0	0	19.82
2	0	0	0	1.04	2.39	4.3	4.89	4.16	2.69	0.81	0	0	20.28
3	0	0	0	0	2.27	3.81	5.44	4.33	2.76	1.48	0	0	20.1
4	0	0	0	0	2.52	3.71	4.37	3.78	2.55	0.73	0	0	17.65
5	0	0	0	0	2.22	2.93	5.02	3.91	2.71	0.97	0	0	17.76
6	0	0	0	0.61	2.89	4.38	4.65	3.69	2.27	0.53	0	0	19.02
7	0	0	0	0	2.44	4.23	5.16	4.32	2.98	1.43	0	0	20.56
8	0	0	0	0.04	2.2	3.89	4.73	4.45	2.83	1.28	0	0	19.43
AV	0	0	0	0.16	2.14	3.67	4.6	3.96	2.61	0.85	0	0	18

EFFECTIVE PRECIPITATION, Inches

McGaffey Weather Station

YR	Pasture Grass/Hay												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0	0.61	1.45	3.24	2.17	0.97	0.16	0	0	8.6
50	0	0	0	0	0	0.27	1.67	0.43	0.93	0.07	0	0	3.37
51	0	0	0	0	0.32	0	0.86	1.43	0.55	0.41	0	0	3.57
52	0	0	0	0.09	0	1.29	2.56	1.51	0.62	0	0	0	6.07
53	0	0	0	0	0.08	0.18	2.45	1.02	0	0.47	0	0	4.2
54	0	0	0	0.07	0.82	0	1.33	1.79	1.19	0.36	0	0	5.56
55	0	0	0	0	0.33	0.51	2.31	2.06	0	0	0	0	5.21
56	0	0	0	0	0.33	0	1.66	1.99	0	0.68	0	0	4.66
57	0	0	0	0	0.49	0.43	2.62	2.68	0	0.88	0	0	7.1
58	0	0	0	0.05	0.17	0.96	1.21	2.74	2.6	0.64	0	0	8.37
59	0	0	0	0.2	0	0.97	1.08	2.1	0.25	0.85	0	0	5.45
60	0	0	0	0	0.54	0.58	0.46	0.28	0.99	0.52	0	0	3.37
61	0	0	0	0.02	0	0	2.09	2.55	0.61	0.86	0	0	6.13
62	0	0	0	0	0.17	0	0.99	0.89	2.19	1.37	0	0	5.61
63	0	0	0	0	0	0	1.15	3.07	1.46	0.83	0	0	6.51
64	0	0	0	0	0.15	0	1.81	2.72	0.94	0.08	0	0	5.7
65	0	0	0	0	0.49	1.09	2.56	1.72	0.81	0.4	0	0	7.07
66	0	0	0	0.11	0.09	0.35	1.58	1.31	1.61	0	0	0	5.05
67	0	0	0	0	0.14	1.67	2.69	2.39	1.6	0.07	0	0	8.56
68	0	0	0	0	0.22	0.18	2.39	2.53	0.4	0.07	0	0	5.79
69	0	0	0	0	0.6	0.18	2.08	2.45	1.48	0.18	0	0	6.97
70	0	0	0	0	0.11	0.35	2.63	2.48	1.01	0.1	0	0	6.68
71	0	0	0	0	0	0	1.07	2.45	2.38	0.24	0	0	6.14
72	0	0	0	0	0	1.25	1.88	0.66	0.33	0.8	0	0	4.92
73	0	0	0	0	0.95	0.58	1.26	0.96	1	0.16	0	0	4.91
74	0	0	0	0	0.25	0	2.27	1.4	0.32	0.93	0	0	5.17
75	0	0	0	0	0.32	0	2.44	0.58	1.25	0	0	0	4.59
76	0	0	0	0	0.37	0	1.12	1.59	0.81	0.08	0	0	3.97
77	0	0	0	0	0.19	0.43	1.33	1.04	1.15	0.33	0	0	4.47
78	0	0	0	0	0.66	0.09	0.85	0.43	0.88	0.35	0	0	3.26
79	0	0	0	0	1.25	0.27	0.19	1.14	0.26	0.71	0	0	3.82
80	0	0	0	0	0.01	0	0.85	1.1	0.69	0.19	0	0	2.84
81	0	0	0	0.14	0.74	0.09	2.77	1.73	1.25	0.25	0	0	6.97
82	0	0	0	0	0.78	0	1.45	2.28	1.38	0.09	0	0	5.98
83	0	0	0	0	0.32	0	1.46	1.62	1.35	0.92	0	0	5.67
84	0	0	0	0	0.18	0.35	1.67	2.44	1.9	0.22	0	0	6.76
85	0	0	0	0.03	0.67	0.43	1.8	1.3	1.16	0.07	0	0	5.46
86	0	0	0	0	0.41	1.82	1.36	1.99	1.46	0.48	0	0	7.52
87	0	0	0	0	1.16	0.26	1.68	2.95	0.81	0.4	0	0	7.26
88	0	0	0	0	0.16	2.24	2.1	2.1	0.74	0	0	0	7.34
89	0	0	0	0	0	0	2.34	0.95	0.54	0.31	0	0	4.14
90	0	0	0	0	0.79	0.68	2.61	2.45	1.45	0.15	0	0	8.13
91	0	0	0	0	0	0.78	2.09	1.36	1.95	0.58	0	0	6.76
92	0	0	0	0.41	1.98	0.09	1.1	2.55	0.56	0.69	0	0	7.38
93	0	0	0	0	1.65	0	0.19	2.5	0.68	0.26	0	0	5.28
94	0	0	0	0	1.52	0.82	0.37	1.45	1.73	0.38	0	0	6.27
95	0	0	0	0	0.8	0.09	1.05	3.98	1.5	0	0	0	7.42
96	0	0	0	0.01	0	0.83	2.09	3.34	2.18	0.3	0	0	8.75
97	0	0	0	0	0.78	1.06	2.57	2.84	1.09	0.38	0	0	8.72
98	0	0	0	0	0.04	0	2.37	1.17	0.57	0.88	0	0	5.03
99	0	0	0	0	0.53	1.13	3.65	3.56	2.27	0	0	0	11.14
0	0	0	0	0	0	1.29	0.83	1.65	0.97	0.72	0	0	5.46
1	0	0	0	0.08	0.33	0.36	1.29	3.56	0.7	0.33	0	0	6.65
2	0	0	0	0.27	0.09	0	3.82	1.89	1.73	0.81	0	0	8.61
3	0	0	0	0	0	0.43	1.03	1.84	0.55	0.46	0	0	4.31
4	0	0	0	0	0	0.27	0.76	1.66	1.07	0.11	0	0	3.87
5	0	0	0	0	0.16	0.17	0.46	3.62	0.95	0.49	0	0	5.85
6	0	0	0	0	0.17	0.28	3.49	3.46	1.81	0.41	0	0	9.62
7	0	0	0	0	0.94	0.36	2.81	1.65	1.22	0.36	0	0	7.34
8	0	0	0	0	1.05	0.27	1.75	1.72	0.17	0.8	0	0	5.76
AV	0	0	0	0.02467	0.41517	0.453	1.76067	1.9545	1.05033	0.394	0	0	6.05233

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**McGaffey Weather Station**

**Pasture Grass/Hay**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	1.58	2.03	1.32	1.8	1.94	0.39	0	0	9.06
50	0	0	0	0	1.74	3.45	2.86	3.4	1.3	1.63	0	0	14.38
51	0	0	0	0	2.05	3.43	4.23	2.63	2	0.2	0	0	14.55
52	0	0	0	0.1	2.4	2.56	2.09	2.68	2.13	1.12	0	0	13.08
53	0	0	0	0	1.04	3.68	2.27	2.81	2.68	0.66	0	0	13.15
54	0	0	0	1.1	1.87	3.81	3.26	2.03	1.36	0.12	0	0	13.55
55	0	0	0	0.13	2.41	3.3	1.91	2.05	2.86	1.04	0	0	13.7
56	0	0	0	0.16	2.32	4.13	2.8	1.98	2.7	0.37	0	0	14.47
57	0	0	0	0	1.17	3.14	2.03	1.2	2.52	0	0	0	10.06
58	0	0	0	0.18	2.64	3.11	3.56	1.58	0	0.47	0	0	11.53
59	0	0	0	0.22	2.4	3.15	3.87	1.78	2.44	0	0	0	13.86
60	0	0	0	0.14	1.75	3.17	4.4	4.28	2.25	0.15	0	0	16.14
61	0	0	0	0.23	2.51	4.12	2.79	1.67	1.86	0	0	0	13.17
62	0	0	0	0.86	2.11	3.64	3.52	3.19	0.58	0	0	0	13.91
63	0	0	0	0.22	2.82	3.6	3.76	0.84	1.47	0.68	0	0	13.38
64	0	0	0	0	2.1	3.46	2.85	1.08	1.55	1.07	0	0	12.12
65	0	0	0	0	0.85	1.68	1.71	2.05	1.47	0.85	0	0	8.62
66	0	0	0	0.34	2.59	3.32	3.39	2.94	1.02	0.84	0	0	14.45
67	0	0	0	0	1.84	1.56	2.08	1.46	0.88	0.88	0	0	8.7
68	0	0	0	0	1.54	3.63	1.92	0.78	2.01	0.94	0	0	10.81
69	0	0	0	0.14	1.6	3.43	2.74	1.84	1.01	0.07	0	0	10.83
70	0	0	0	0	1.73	3.16	2.09	1.65	1.43	0.09	0	0	10.16
71	0	0	0	0	1.48	3.46	3.73	1.43	0	0.04	0	0	10.14
72	0	0	0	0	2.1	2.12	2.87	3.2	2.11	0	0	0	12.4
73	0	0	0	0	0.71	2.94	3.13	2.98	1.39	0.63	0	0	11.79
74	0	0	0	0.01	2.34	4.3	2.1	2.29	2.18	0	0	0	13.21
75	0	0	0	0	0.95	3.26	1.83	3.2	1.24	0.66	0	0	11.13
76	0	0	0	0	1.83	3.54	3.25	2.12	1.68	0.32	0	0	12.73
77	0	0	0	0	1.65	3.46	3.18	3.12	1.66	0.77	0	0	13.84
78	0	0	0	0	1.05	3.68	3.9	3.31	1.69	0.81	0	0	14.44
79	0	0	0	0	0.53	3.15	4.3	2.54	2.65	0.38	0	0	13.55
80	0	0	0	0	1.39	3.83	3.99	2.95	1.94	0.35	0	0	14.45
81	0	0	0	0.13	1.56	3.96	1.74	2.12	1.31	0.31	0	0	11.12
82	0	0	0	0	0.96	3.26	2.84	1.7	1.25	0.29	0	0	10.3
83	0	0	0	0	0.96	3.24	3.01	2.35	1.55	0.07	0	0	11.18
84	0	0	0	0.05	2.7	3.2	2.91	1.36	0.79	0.04	0	0	11.05
85	0	0	0	0.07	1.65	3.37	2.78	2.72	0.87	0.13	0	0	11.59
86	0	0	0	0	1.01	1.66	2.71	1.98	0.74	0	0	0	8.11
87	0	0	0	0	0.82	3.32	2.39	0.54	1.57	0.76	0	0	9.4
88	0	0	0	0	1.54	1.37	2.26	1.84	1.52	1.26	0	0	9.79
89	0	0	0	0.66	2.5	3.55	2.5	2.85	2.03	0.2	0	0	14.3
90	0	0	0	0	1.1	3.52	1.6	1.04	1.29	0.51	0	0	9.06
91	0	0	0	0	1.91	2.39	2.28	2.55	0.66	0.44	0	0	10.23
92	0	0	0	0.49	0.44	3.15	3.07	1.22	2.1	0.34	0	0	10.82
93	0	0	0	0.01	0.72	3.42	4.23	1.39	1.77	0.36	0	0	11.9
94	0	0	0	0	0.59	3.44	4.38	2.88	0.88	0.04	0	0	12.21
95	0	0	0	0	0.38	3.04	3.21	0.4	1.19	0.79	0	0	9.01
96	0	0	0	0.43	2.89	3.34	2.8	0.82	0.08	0.25	0	0	10.61
97	0	0	0	0	1.7	2.27	1.77	0.98	1.84	0.3	0	0	8.86
98	0	0	0	0	1.7	3.14	2.29	2.94	2.48	0	0	0	12.56
99	0	0	0	0	1.33	2.29	0.69	0.32	0.26	1.2	0	0	6.09
0	0	0	0	0.86	3	2.71	3.64	2.64	2	0	0	0	14.85
1	0	0	0	0.19	2.35	3.55	3.5	0.33	2.27	0.98	0	0	13.17
2	0	0	0	0.77	2.3	4.3	1.07	2.27	0.96	0	0	0	11.67
3	0	0	0	0	2.27	3.38	4.41	2.49	2.21	1.02	0	0	15.77
4	0	0	0	0	2.52	3.44	3.61	2.12	1.48	0.62	0	0	13.79
5	0	0	0	0	2.06	2.76	4.56	0.29	1.76	0.48	0	0	11.9
6	0	0	0	0.61	2.72	4.1	1.16	0.23	0.46	0.12	0	0	9.41
7	0	0	0	0	1.5	3.87	2.35	2.67	1.76	1.07	0	0	13.23
8	0	0	0	0.04	1.15	3.62	2.98	2.73	2.66	0.48	0	0	13.66
AV	0	0	0	0.14	1.72	3.22	2.84	2.01	1.56	0.46	0	0	11.95

**MODIFIED B-C GROSS CONSUMPTIVE USE**

**McGaffey Weather Station**

**Spring Grain**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	1.14	3.96	6.33	2.62	0.07	0	0	0	14.11
50	0	0	0	0	0.88	3.94	6.33	2.87	0.1	0	0	0	14.13
51	0	0	0	0	1.24	3.91	7.06	2.68	0.07	0	0	0	14.96
52	0	0	0	0.06	1.28	4.57	6.33	2.35	0.02	0	0	0	14.61
53	0	0	0	0	0.48	3	6.67	3.63	0.28	0	0	0	14.06
54	0	0	0	0.56	2.32	5.43	4.66	0.59	0	0	0	0	13.56
55	0	0	0	0.05	1.45	4.47	5.83	2.44	0.03	0	0	0	14.27
56	0	0	0	0.05	1.41	4.91	6.07	2.22	0.02	0	0	0	14.7
57	0	0	0	0	0.87	4.59	4.15	0.07	0	0	0	0	9.68
58	0	0	0	0.08	1.51	4.91	6.4	2.28	0.01	0	0	0	15.19
59	0	0	0	0.16	1.32	5.16	6.35	1.58	0	0	0	0	14.57
60	0	0	0	0.05	1.21	4.4	6.71	2.71	0.04	0	0	0	15.11
61	0	0	0	0.09	1.35	4.96	6.54	2.23	0.01	0	0	0	15.18
62	0	0	0	0.38	1.62	4.98	5.1	0.89	0	0	0	0	12.98
63	0	0	0	0.08	1.52	4.34	6.59	2.06	0.01	0	0	0	14.6
64	0	0	0	0	1.16	3.77	6.52	2.88	0.13	0	0	0	14.45
65	0	0	0	0	0.62	2.43	6.08	3.75	0.36	0	0	0	13.25
66	0	0	0	0.17	1.48	4.66	6.28	1.65	0	0	0	0	14.25
67	0	0	0	0	1.02	3.51	6.66	2.92	0.13	0	0	0	14.24
68	0	0	0	0	0.91	4.45	5.43	0.79	0	0	0	0	11.57
69	0	0	0	0.05	1.16	4.24	6.66	2.54	0.03	0	0	0	14.68
70	0	0	0	0	0.93	3.74	6.58	2.73	0.04	0	0	0	14.03
71	0	0	0	0	0.72	3.58	6.72	2.56	0.03	0	0	0	13.62
72	0	0	0	0	1.09	3.73	6.62	2.8	0.1	0	0	0	14.34
73	0	0	0	0	0.8	3.35	6.22	3.69	0.3	0	0	0	14.35
74	0	0	0	0	1.36	4.97	6.05	2.31	0.04	0	0	0	14.73
75	0	0	0	0	0.57	2.62	5.96	3.99	0.47	0	0	0	13.61
76	0	0	0	0	1.14	3.91	6.09	2.69	0.1	0	0	0	13.93
77	0	0	0	0	0.94	4.11	6.33	3.4	0.2	0	0	0	14.97
78	0	0	0	0	0.85	3.85	6.7	3.28	0.24	0	0	0	14.92
79	0	0	0	0	0.9	3.55	6.32	3.12	0.23	0	0	0	14.12
80	0	0	0	0	0.64	3.22	6.82	4.15	0.45	0	0	0	15.28
81	0	0	0	0.1	1.24	4.95	5.96	1.9	0.01	0	0	0	14.17
82	0	0	0	0	0.87	3.38	6.03	3.38	0.23	0	0	0	13.89
83	0	0	0	0	0.57	2.61	6.24	4.18	0.53	0	0	0	14.15
84	0	0	0	0.02	1.51	4.1	6.33	2.38	0.05	0	0	0	14.39
85	0	0	0	0.03	1.23	4.45	6.32	2.38	0.03	0	0	0	14.45
86	0	0	0	0	0.67	3.31	5.75	3.3	0.15	0	0	0	13.17
87	0	0	0	0	1.02	3.9	5.69	2.64	0.12	0	0	0	13.37
88	0	0	0	0	0.83	3.58	6.15	3.52	0.24	0	0	0	14.32
89	0	0	0	0.27	1.42	4.65	5.84	1.15	0	0	0	0	13.34
90	0	0	0	0	0.97	4.5	5.89	2.75	0.16	0	0	0	14.27
91	0	0	0	0	0.97	3.34	6.14	3.19	0.18	0	0	0	13.83
92	0	0	0	0.4	1.73	4.43	4.72	0.81	0	0	0	0	12.09
93	0	0	0	0	1.24	3.95	6.12	2.44	0.04	0	0	0	13.8
94	0	0	0	0	1.09	4.64	6.64	3.29	0.14	0	0	0	15.79
95	0	0	0	0	0.52	2.46	5.93	4.57	0.48	0	0	0	13.97
96	0	0	0	0.17	1.59	5.22	6.28	1.7	0	0	0	0	14.96
97	0	0	0	0	1.29	3.73	6.03	2.64	0.09	0	0	0	13.79
98	0	0	0	0	0.86	3.21	6.58	3.6	0.29	0	0	0	14.54
99	0	0	0	0	0.93	3.55	6.11	3.28	0.21	0	0	0	14.08
0	0	0	0	0.37	2.03	5.42	5.14	1.02	0	0	0	0	13.99
1	0	0	0	0.1	1.45	4.78	6.33	1.92	0.01	0	0	0	14.59
2	0	0	0	0.48	1.88	6	5.25	0.76	0	0	0	0	14.36
3	0	0	0	0	1.17	4.15	7.6	3.29	0.14	0	0	0	16.35
4	0	0	0	0	1.31	4.26	6.05	2.29	0.03	0	0	0	13.95
5	0	0	0	0	1.15	3.29	6.98	2.71	0.09	0	0	0	14.22
6	0	0	0	0.25	1.63	5.68	5.7	1.22	0	0	0	0	14.47
7	0	0	0	0	1.27	4.82	7.16	2.85	0.07	0	0	0	16.18
8	0	0	0	0.01	1.16	4.53	6.54	2.63	0.03	0	0	0	14.9
AV	0	0	0	0.07	1.16	4.14	6.18	2.54	0.11	0	0	0	14.19

EFFECTIVE PRECIPITATION, Inches

McGaffey Weather Station

YR	Spring Grain												ANNUAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
49	0	0	0	0	0.57	1.49	3.58	2.01	0.07	0	0	0	7.72
50	0	0	0	0	0	0.27	1.84	0.41	0.1	0	0	0	2.62
51	0	0	0	0	0.3	0	0.96	1.33	0.07	0	0	0	2.66
52	0	0	0	0.06	0	1.34	2.81	1.36	0	0	0	0	5.57
53	0	0	0	0	0.07	0.18	2.72	1.01	0	0	0	0	3.98
54	0	0	0	0.06	0.81	0	1.35	0.59	0	0	0	0	2.81
55	0	0	0	0	0.31	0.53	2.54	1.88	0	0	0	0	5.26
56	0	0	0	0	0.31	0	1.82	1.8	0	0	0	0	3.93
57	0	0	0	0	0.46	0.45	2.54	0.07	0	0	0	0	3.52
58	0	0	0	0.05	0.16	1.01	1.33	2.28	0.01	0	0	0	4.84
59	0	0	0	0.16	0	1.02	1.17	1.58	0	0	0	0	3.93
60	0	0	0	0	0.51	0.61	0.51	0.25	0.04	0	0	0	1.92
61	0	0	0	0.02	0	0	2.29	2.23	0	0	0	0	4.54
62	0	0	0	0	0.16	0	1.02	0.55	0	0	0	0	1.73
63	0	0	0	0	0	0	1.26	2.06	0.01	0	0	0	3.33
64	0	0	0	0	0.14	0	2.01	2.58	0.13	0	0	0	4.86
65	0	0	0	0	0.47	1.07	2.83	1.72	0.36	0	0	0	6.45
66	0	0	0	0.11	0.08	0.37	1.69	1.12	0	0	0	0	3.37
67	0	0	0	0	0.13	1.69	2.99	2.27	0.13	0	0	0	7.21
68	0	0	0	0	0.21	0.19	2.54	0.79	0	0	0	0	3.73
69	0	0	0	0	0.57	0.19	2.31	2.21	0.03	0	0	0	5.31
70	0	0	0	0	0.1	0.35	2.91	2.29	0.04	0	0	0	5.69
71	0	0	0	0	0	0	1.2	2.27	0.03	0	0	0	3.5
72	0	0	0	0	0	1.28	2.09	0.63	0.03	0	0	0	4.03
73	0	0	0	0	0.8	0.58	1.39	0.94	0.3	0	0	0	4.01
74	0	0	0	0	0.24	0	2.5	1.29	0	0	0	0	4.03
75	0	0	0	0	0.31	0	2.68	0.59	0.47	0	0	0	4.05
76	0	0	0	0	0.35	0	1.23	1.5	0.1	0	0	0	3.18
77	0	0	0	0	0.19	0.44	1.48	0.99	0.2	0	0	0	3.3
78	0	0	0	0	0.63	0.09	0.95	0.42	0.24	0	0	0	2.33
79	0	0	0	0	0.9	0.27	0.21	1.11	0.05	0	0	0	2.54
80	0	0	0	0	0.01	0	0.95	1.11	0.38	0	0	0	2.45
81	0	0	0	0.1	0.69	0.09	3	1.55	0.01	0	0	0	5.44
82	0	0	0	0	0.74	0	1.59	2.21	0.23	0	0	0	4.77
83	0	0	0	0	0.31	0	1.61	1.63	0.53	0	0	0	4.08
84	0	0	0	0	0.16	0.35	1.84	2.25	0.05	0	0	0	4.65
85	0	0	0	0.02	0.64	0.45	1.99	1.18	0.03	0	0	0	4.31
86	0	0	0	0	0.39	1.8	1.5	1.92	0.15	0	0	0	5.76
87	0	0	0	0	1.02	0.27	1.85	2.64	0.12	0	0	0	5.9
88	0	0	0	0	0.16	2.23	2.31	2.06	0.24	0	0	0	7
89	0	0	0	0	0	0	2.47	0.71	0	0	0	0	3.18
90	0	0	0	0	0.75	0.69	2.87	2.35	0.16	0	0	0	6.82
91	0	0	0	0	0	0.78	2.31	1.3	0.18	0	0	0	4.57
92	0	0	0	0.4	1.73	0.09	1.14	0.81	0	0	0	0	4.17
93	0	0	0	0	1.24	0	0.21	2.31	0.04	0	0	0	3.8
94	0	0	0	0	1.09	0.84	0.41	1.37	0.14	0	0	0	3.85
95	0	0	0	0	0.52	0.08	1.14	4.02	0.48	0	0	0	6.24
96	0	0	0	0.01	0	0.87	2.26	1.7	0	0	0	0	4.84
97	0	0	0	0	0.73	1.07	2.82	2.64	0.09	0	0	0	7.35
98	0	0	0	0	0.04	0	2.64	1.13	0.21	0	0	0	4.02
99	0	0	0	0	0.5	1.13	4.03	3.28	0.21	0	0	0	9.15
0	0	0	0	0	0	1.41	0.86	1.02	0	0	0	0	3.29
1	0	0	0	0.09	0.31	0.37	1.4	1.92	0	0	0	0	4.09
2	0	0	0	0.26	0.08	0	3.9	0.76	0	0	0	0	5
3	0	0	0	0	0	0.44	1.17	1.74	0.12	0	0	0	3.47
4	0	0	0	0	0	0.27	0.83	1.53	0.03	0	0	0	2.66
5	0	0	0	0	0.14	0.18	0.52	2.71	0.09	0	0	0	3.64
6	0	0	0	0	0.17	0.3	3.7	1.22	0	0	0	0	5.39
7	0	0	0	0	0.87	0.37	3.14	1.52	0.07	0	0	0	5.97
8	0	0	0	0	1	0.28	1.94	1.56	0	0	0	0	4.78
AV	0	0	0.00	0.02	0.37	0.46	1.92	1.57	0.10	0.00	0.00	0.00	4.44



**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**McGaffey Weather Station**

**Spring Grain**

Year	Crop Irrigation Requirement (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	0.57	2.47	2.75	0.61	0	0	0	0	6.4
50	0	0	0	0	0.88	3.67	4.49	2.46	0	0	0	0	11.51
51	0	0	0	0	0.94	3.91	6.1	1.35	0	0	0	0	12.3
52	0	0	0	0	1.28	3.23	3.52	0.99	0.02	0	0	0	9.04
53	0	0	0	0	0.41	2.82	3.95	2.62	0.28	0	0	0	10.08
54	0	0	0	0.5	1.51	5.43	3.31	0	0	0	0	0	10.75
55	0	0	0	0.05	1.14	3.94	3.29	0.56	0.03	0	0	0	9.01
56	0	0	0	0.05	1.1	4.91	4.25	0.42	0.02	0	0	0	10.77
57	0	0	0	0	0.41	4.14	1.61	0	0	0	0	0	6.15
58	0	0	0	0.03	1.35	3.9	5.07	0	0	0	0	0	10.35
59	0	0	0	0	1.32	4.14	5.18	0	0	0	0	0	10.64
60	0	0	0	0.05	0.7	3.79	6.2	2.46	0	0	0	0	13.19
61	0	0	0	0.07	1.35	4.96	4.25	0	0.01	0	0	0	10.65
62	0	0	0	0.38	1.46	4.98	4.08	0.34	0	0	0	0	11.24
63	0	0	0	0.08	1.52	4.34	5.33	0	0	0	0	0	11.26
64	0	0	0	0	1.02	3.77	4.51	0.3	0	0	0	0	9.6
65	0	0	0	0	0.15	1.36	3.25	2.03	0	0	0	0	6.8
66	0	0	0	0.06	1.4	4.29	4.59	0.53	0	0	0	0	10.87
67	0	0	0	0	0.89	1.82	3.67	0.65	0	0	0	0	7.02
68	0	0	0	0	0.7	4.26	2.89	0	0	0	0	0	7.84
69	0	0	0	0.05	0.59	4.05	4.35	0.33	0	0	0	0	9.36
70	0	0	0	0	0.83	3.39	3.67	0.44	0	0	0	0	8.33
71	0	0	0	0	0.72	3.58	5.52	0.29	0	0	0	0	10.11
72	0	0	0	0	1.09	2.45	4.53	2.17	0.07	0	0	0	10.31
73	0	0	0	0	0	2.77	4.83	2.75	0	0	0	0	10.35
74	0	0	0	0	1.12	4.97	3.55	1.02	0.04	0	0	0	10.7
75	0	0	0	0	0.26	2.62	3.28	3.4	0	0	0	0	9.56
76	0	0	0	0	0.79	3.91	4.86	1.19	0	0	0	0	10.75
77	0	0	0	0	0.75	3.67	4.85	2.41	0	0	0	0	11.68
78	0	0	0	0	0.22	3.76	5.75	2.86	0	0	0	0	12.59
79	0	0	0	0	0	3.28	6.11	2.01	0.18	0	0	0	11.58
80	0	0	0	0	0.63	3.22	5.87	3.04	0.07	0	0	0	12.83
81	0	0	0	0	0.55	4.86	2.96	0.35	0	0	0	0	8.71
82	0	0	0	0	0.13	3.38	4.44	1.17	0	0	0	0	9.12
83	0	0	0	0	0.26	2.61	4.63	2.55	0	0	0	0	10.05
84	0	0	0	0.02	1.35	3.75	4.49	0.13	0	0	0	0	9.73
85	0	0	0	0.01	0.59	4	4.33	1.2	0	0	0	0	10.14
86	0	0	0	0	0.28	1.51	4.25	1.38	0	0	0	0	7.42
87	0	0	0	0	0	3.63	3.84	0	0	0	0	0	7.47
88	0	0	0	0	0.67	1.35	3.84	1.46	0	0	0	0	7.33
89	0	0	0	0.27	1.42	4.65	3.37	0.44	0	0	0	0	10.16
90	0	0	0	0	0.22	3.81	3.02	0.4	0	0	0	0	7.45
91	0	0	0	0	0.97	2.56	3.83	1.89	0	0	0	0	9.25
92	0	0	0	0	0	4.34	3.58	0	0	0	0	0	7.92
93	0	0	0	0	0	3.95	5.91	0.13	0	0	0	0	9.99
94	0	0	0	0	0	3.8	6.23	1.92	0	0	0	0	11.94
95	0	0	0	0	0	2.38	4.79	0.55	0	0	0	0	7.71
96	0	0	0	0.16	1.59	4.35	4.02	0	0	0	0	0	10.12
97	0	0	0	0	0.56	2.66	3.21	0	0	0	0	0	6.43
98	0	0	0	0	0.82	3.21	3.94	2.47	0.08	0	0	0	10.52
99	0	0	0	0	0.43	2.42	2.08	0	0	0	0	0	4.92
0	0	0	0	0.37	2.03	4.01	4.28	0	0	0	0	0	10.7
1	0	0	0	0.01	1.14	4.41	4.93	0	0.01	0	0	0	10.5
2	0	0	0	0.22	1.8	6	1.35	0	0	0	0	0	9.36
3	0	0	0	0	1.17	3.71	6.43	1.55	0.02	0	0	0	12.88
4	0	0	0	0	1.31	3.99	5.22	0.76	0	0	0	0	11.28
5	0	0	0	0	1.01	3.11	6.46	0	0	0	0	0	10.58
6	0	0	0	0.25	1.46	5.38	2	0	0	0	0	0	9.09
7	0	0	0	0	0.4	4.45	4.02	1.33	0	0	0	0	10.19
8	0	0	0	0.01	0.16	4.25	4.6	1.07	0.03	0	0	0	10.14
AV	0	0	0	0.04	0.79	3.67	4.26	0.97	0.01	0	0	0	9.74

**MODIFIED B-C GROSS CONSUMPTIVE USE**

**McGaffey Weather Station**

**Small Vegetables/Misc. Crops**

Year	Crop Potential Evapotranspiration (inches)												Total
	January	February	March	April	May	June	July	August	September	October	November	December	
49	0	0	0	0	0.27	2.1	3.95	3.49	1.34	0	0	0	11.16
50	0	0	0	0	0.21	2.28	4	3.14	0.43	0	0	0	10.05
51	0	0	0	0	0.49	2.38	4.55	3.26	0.46	0	0	0	11.14
52	0	0	0	0	0.53	2.61	4.14	3.48	0.75	0	0	0	11.51
53	0	0	0	0	0.14	2.21	4.1	3.27	0.79	0	0	0	10.51
54	0	0	0	0	1.15	3.12	4.09	2.06	0	0	0	0	10.42
55	0	0	0	0	0.84	2.72	3.76	3.52	1.29	0	0	0	12.12
56	0	0	0	0	0.79	2.94	3.97	3.36	1.09	0	0	0	12.16
57	0	0	0	0	0.21	2.68	3.98	0.33	0	0	0	0	7.2
58	0	0	0	0	0.93	3.02	4.27	3.54	0.77	0	0	0	12.53
59	0	0	0	0	0.54	2.73	4.36	3.32	1.05	0	0	0	12.01
60	0	0	0	0	0.41	2.37	4.22	4.03	1.8	0	0	0	12.84
61	0	0	0	0	0.68	3.04	4.38	3.15	0.15	0	0	0	11.39
62	0	0	0	0	0.4	2.54	4.04	2.8	0	0	0	0	9.78
63	0	0	0	0	0.89	2.44	4.26	3.5	2.17	0.25	0	0	13.51
64	0	0	0	0	0.55	2.33	4.12	3.24	0.98	0	0	0	11.22
65	0	0	0	0	0	1.15	3.55	3.35	1.01	0	0	0	9.06
66	0	0	0	0	0.82	2.49	4.32	3.8	1.89	0.12	0	0	13.44
67	0	0	0	0	0.21	1.93	4.17	3.27	0.75	0	0	0	10.32
68	0	0	0	0	0.31	2.64	3.88	1.64	0	0	0	0	8.47
69	0	0	0	0	0.32	2.16	4.15	3.81	1.51	0	0	0	11.95
70	0	0	0	0	0.36	2.32	4.21	3.28	0.3	0	0	0	10.48
71	0	0	0	0	0.14	2.08	4.26	3.09	0.24	0	0	0	9.81
72	0	0	0	0	0.26	2.05	4.13	3.38	1.08	0	0	0	10.9
73	0	0	0	0	0.27	2.09	3.78	3.49	1.32	0	0	0	10.95
74	0	0	0	0	0.71	2.89	3.82	3.27	1.58	0	0	0	12.27
75	0	0	0	0	0.07	1.71	3.64	3.36	1.24	0	0	0	10.02
76	0	0	0	0	0.37	2.18	3.77	3.3	1.59	0	0	0	11.21
77	0	0	0	0	0.25	2.3	3.9	3.67	1.33	0	0	0	11.44
78	0	0	0	0	0.23	2.24	4.12	3.28	1.13	0	0	0	10.99
79	0	0	0	0	0.21	1.84	3.74	3.34	2.2	0.2	0	0	11.54
80	0	0	0	0	0.19	2.15	4.15	3.58	1.33	0	0	0	11.41
81	0	0	0	0	0.45	2.47	3.85	3.46	1.87	0.11	0	0	12.21
82	0	0	0	0	0.15	1.73	3.62	3.58	1.78	0	0	0	10.86
83	0	0	0	0	0.07	1.71	3.82	3.51	1.35	0	0	0	10.47
84	0	0	0	0	0.89	2.5	4.03	3.35	1.66	0	0	0	12.43
85	0	0	0	0	0.46	2.61	4.09	3.2	0.35	0	0	0	10.72
86	0	0	0	0	0.14	2.02	3.57	3.31	0.53	0	0	0	9.58
87	0	0	0	0	0.25	2.18	3.56	2.98	0.77	0	0	0	9.73
88	0	0	0	0	0.23	2.21	3.82	3.33	0.69	0	0	0	10.28
89	0	0	0	0	0.67	2.58	4.33	3.03	0.45	0	0	0	11.07
90	0	0	0	0	0.3	2.41	3.58	3.13	1.93	0.03	0	0	11.38
91	0	0	0	0	0.21	1.9	3.82	3.32	0.78	0	0	0	10.03
92	0	0	0	0	0.55	2.42	3.76	2.25	0	0	0	0	8.98
93	0	0	0	0	0.47	2.33	3.95	3.15	0.45	0	0	0	10.35
94	0	0	0	0	0.43	2.8	4.2	3.64	0.84	0	0	0	11.92
95	0	0	0	0	0.02	1.58	3.63	3.87	1.16	0	0	0	10.25
96	0	0	0	0	1.04	3.09	4.37	3.51	0.96	0	0	0	12.96
97	0	0	0	0	0.66	2.29	3.83	3.3	1.38	0	0	0	11.46
98	0	0	0	0	0.19	1.77	3.99	3.66	1.8	0	0	0	11.41
99	0	0	0	0	0.26	2.12	3.8	3.29	0.81	0	0	0	10.28
0	0	0	0	0	1.25	3.01	3.99	3.69	1.56	0	0	0	13.5
1	0	0	0	0	0.84	2.96	4.3	3	0.37	0	0	0	11.48
2	0	0	0	0	0.54	2.84	4.31	3.58	1.13	0	0	0	12.4
3	0	0	0	0	0.57	2.64	4.86	3.54	0.63	0	0	0	12.24
4	0	0	0	0	0.64	2.72	3.92	2.88	0.24	0	0	0	10.39
5	0	0	0	0	0.26	1.83	4.42	3.28	0.73	0	0	0	10.52
6	0	0	0	0	1.1	3.3	4.15	3.08	0.84	0	0	0	12.46
7	0	0	0	0	0.57	2.77	4.51	3.81	1.67	0	0	0	13.33
8	0	0	0	0	0.37	2.59	4.23	3.49	0.28	0	0	0	10.96
AV	0	0	0	0	0.46	2.39	4.04	3.26	0.98	0.01	0	0	11.12

EFFECTIVE PRECIPITATION, Inches

McGaffey Weather Station

Small Vegetables/Misc. Crops

YR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
49	0	0	0	0	0.12	1.35	3.13	2.11	0.62	0	0	0	7.33
50	0	0	0	0	0	0.24	1.62	0.42	0.24	0	0	0	2.52
51	0	0	0	0	0.1	0	0.84	1.37	0.1	0	0	0	2.41
52	0	0	0	0	0	1.2	2.48	1.45	0.22	0	0	0	5.35
53	0	0	0	0	0	0.17	2.36	0.99	0	0	0	0	3.52
54	0	0	0	0	0.67	0	1.3	1.34	0	0	0	0	3.31
55	0	0	0	0	0.19	0.48	2.26	2	0	0	0	0	4.93
56	0	0	0	0	0.18	0	1.61	1.92	0	0	0	0	3.71
57	0	0	0	0	0.09	0.4	2.52	0.33	0	0	0	0	3.34
58	0	0	0	0	0.09	0.91	1.18	2.62	0.77	0	0	0	5.57
59	0	0	0	0	0	0.89	1.04	2.03	0.11	0	0	0	4.07
60	0	0	0	0	0.17	0.54	0.44	0.27	0.76	0	0	0	2.18
61	0	0	0	0	0	0	2.04	2.4	0	0	0	0	4.44
62	0	0	0	0	0	0	0.95	0.81	0	0	0	0	1.76
63	0	0	0	0	0	0	1.11	3	1.4	0.18	0	0	5.69
64	0	0	0	0	0.04	0	1.75	2.63	0.53	0	0	0	4.95
65	0	0	0	0	0	0.87	2.46	1.68	0.48	0	0	0	5.49
66	0	0	0	0	0.03	0.33	1.52	1.29	1.55	0	0	0	4.72
67	0	0	0	0	0	1.55	2.61	2.31	0.72	0	0	0	7.19
68	0	0	0	0	0.04	0.17	2.33	1.64	0	0	0	0	4.18
69	0	0	0	0	0.15	0.16	2.01	2.38	1.24	0	0	0	5.94
70	0	0	0	0	0	0.32	2.55	2.37	0.15	0	0	0	5.39
71	0	0	0	0	0	0	1.04	2.34	0.24	0	0	0	3.62
72	0	0	0	0	0	1.17	1.82	0.65	0.18	0	0	0	3.82
73	0	0	0	0	0.27	0.53	1.21	0.93	0.77	0	0	0	3.71
74	0	0	0	0	0.11	0	2.21	1.37	0.29	0	0	0	3.98
75	0	0	0	0	0	0	2.35	0.58	0.87	0	0	0	3.8
76	0	0	0	0	0.09	0	1.08	1.56	0.73	0	0	0	3.46
77	0	0	0	0	0	0.4	1.29	1.01	0.76	0	0	0	3.46
78	0	0	0	0	0.16	0.08	0.82	0.42	0.55	0	0	0	2.03
79	0	0	0	0	0.21	0.24	0.18	1.12	0.24	0.18	0	0	2.17
80	0	0	0	0	0	0	0.82	1.07	0.46	0	0	0	2.35
81	0	0	0	0	0.28	0.08	2.67	1.69	1.21	0.04	0	0	5.97
82	0	0	0	0	0.12	0	1.4	2.23	1.28	0	0	0	5.03
83	0	0	0	0	0	0	1.41	1.57	0.88	0	0	0	3.86
84	0	0	0	0	0.09	0.33	1.62	2.38	1.66	0	0	0	6.08
85	0	0	0	0	0.25	0.41	1.75	1.24	0.28	0	0	0	3.93
86	0	0	0	0	0.04	1.67	1.33	1.91	0.51	0	0	0	5.46
87	0	0	0	0	0.25	0.25	1.64	2.87	0.37	0	0	0	5.38
88	0	0	0	0	0	2.07	2.03	2.04	0.3	0	0	0	6.44
89	0	0	0	0	0	0	2.27	0.91	0.1	0	0	0	3.28
90	0	0	0	0	0.24	0.61	2.52	2.4	1.38	0	0	0	7.15
91	0	0	0	0	0	0.73	2.03	1.31	0.78	0	0	0	4.85
92	0	0	0	0	0.55	0.08	1.08	2.07	0	0	0	0	3.78
93	0	0	0	0	0.47	0	0.19	2.41	0.15	0	0	0	3.22
94	0	0	0	0	0.43	0.76	0.36	1.4	0.83	0	0	0	3.78
95	0	0	0	0	0	0.08	1.01	3.87	0.91	0	0	0	5.87
96	0	0	0	0	0	0.78	2.03	3.22	0.96	0	0	0	6.99
97	0	0	0	0	0.45	0.99	2.49	2.75	0.75	0	0	0	7.43
98	0	0	0	0	0	0	2.29	1.14	0.45	0	0	0	3.88
99	0	0	0	0	0.13	1.05	3.54	3.29	0.81	0	0	0	8.82
0	0	0	0	0	0	1.22	0.81	1.59	0.73	0	0	0	4.35
1	0	0	0	0	0.19	0.34	1.25	3	0.1	0	0	0	4.88
2	0	0	0	0	0	0	3.7	1.82	1.06	0	0	0	6.58
3	0	0	0	0	0	0.4	1.01	1.76	0.15	0	0	0	3.32
4	0	0	0	0	0	0.26	0.74	1.58	0.13	0	0	0	2.71
5	0	0	0	0	0	0.17	0.45	3.28	0.37	0	0	0	4.27
6	0	0	0	0	0.12	0.26	3.39	3.08	0.84	0	0	0	7.69
7	0	0	0	0	0.44	0.33	2.71	1.6	0.96	0	0	0	6.04
8	0	0	0	0	0.34	0.25	1.7	1.63	0	0	0	0	3.92
AV	0.00	0.00	0.00	0.00	0.12	0.42	1.71	1.81	0.53	0.01	0.00	0.00	4.59

**MODIFIED B-C CONSUMPTIVE USE OF IRRIGATION WATER**

**McGaffey Weather Station**

**Small Vegetables/Misc. Crops**

Year	Crop Irrigation Requirement (inches)													Total
	January	February	March	April	May	June	July	August	September	October	November	December		
49	0	0	0	0	0.15	0.75	0.82	1.38	0.72	0	0	0	3.83	
50	0	0	0	0	0.21	2.04	2.38	2.72	0.19	0	0	0	7.53	
51	0	0	0	0	0.39	2.38	3.71	1.89	0.36	0	0	0	8.73	
52	0	0	0	0	0.53	1.41	1.66	2.03	0.53	0	0	0	6.16	
53	0	0	0	0	0.14	2.04	1.74	2.28	0.79	0	0	0	7	
54	0	0	0	0	0.48	3.12	2.79	0.72	0	0	0	0	7.11	
55	0	0	0	0	0.65	2.24	1.5	1.52	1.29	0	0	0	7.2	
56	0	0	0	0	0.61	2.94	2.36	1.44	1.09	0	0	0	8.45	
57	0	0	0	0	0.12	2.28	1.46	0	0	0	0	0	3.86	
58	0	0	0	0	0.84	2.11	3.09	0.92	0	0	0	0	6.95	
59	0	0	0	0	0.54	1.84	3.32	1.29	0.94	0	0	0	7.93	
60	0	0	0	0	0.24	1.83	3.78	3.76	1.04	0	0	0	10.65	
61	0	0	0	0	0.68	3.04	2.34	0.75	0.15	0	0	0	6.96	
62	0	0	0	0	0.4	2.54	3.09	1.99	0	0	0	0	8.01	
63	0	0	0	0	0.89	2.44	3.15	0.5	0.77	0.07	0	0	7.82	
64	0	0	0	0	0.51	2.33	2.37	0.61	0.45	0	0	0	6.26	
65	0	0	0	0	0	0.28	1.09	1.67	0.53	0	0	0	3.57	
66	0	0	0	0	0.79	2.16	2.8	2.51	0.34	0.12	0	0	8.73	
67	0	0	0	0	0.21	0.38	1.56	0.96	0.03	0	0	0	3.14	
68	0	0	0	0	0.27	2.47	1.55	0	0	0	0	0	4.29	
69	0	0	0	0	0.17	2	2.14	1.43	0.27	0	0	0	6.01	
70	0	0	0	0	0.36	2	1.66	0.91	0.15	0	0	0	5.09	
71	0	0	0	0	0.14	2.08	3.22	0.75	0	0	0	0	6.19	
72	0	0	0	0	0.26	0.88	2.31	2.73	0.9	0	0	0	7.09	
73	0	0	0	0	0	1.56	2.57	2.56	0.55	0	0	0	7.24	
74	0	0	0	0	0.6	2.89	1.61	1.9	1.29	0	0	0	8.29	
75	0	0	0	0	0.07	1.71	1.29	2.78	0.37	0	0	0	6.22	
76	0	0	0	0	0.28	2.18	2.69	1.74	0.86	0	0	0	7.75	
77	0	0	0	0	0.25	1.9	2.61	2.66	0.57	0	0	0	7.99	
78	0	0	0	0	0.07	2.16	3.3	2.86	0.58	0	0	0	8.96	
79	0	0	0	0	0	1.6	3.56	2.22	1.96	0.02	0	0	9.36	
80	0	0	0	0	0.19	2.15	3.33	2.51	0.87	0	0	0	9.05	
81	0	0	0	0	0.17	2.39	1.18	1.77	0.66	0.07	0	0	6.24	
82	0	0	0	0	0.03	1.73	2.22	1.35	0.5	0	0	0	5.83	
83	0	0	0	0	0.07	1.71	2.41	1.94	0.47	0	0	0	6.59	
84	0	0	0	0	0.8	2.17	2.41	0.97	0	0	0	0	6.35	
85	0	0	0	0	0.21	2.2	2.34	1.96	0.07	0	0	0	6.79	
86	0	0	0	0	0.1	0.35	2.24	1.4	0.02	0	0	0	4.1	
87	0	0	0	0	0	1.93	1.92	0.11	0.4	0	0	0	4.37	
88	0	0	0	0	0.23	0.14	1.79	1.29	0.39	0	0	0	3.84	
89	0	0	0	0	0.67	2.58	2.06	2.12	0.35	0	0	0	7.79	
90	0	0	0	0	0.06	1.8	1.06	0.73	0.55	0.03	0	0	4.22	
91	0	0	0	0	0.21	1.17	1.79	2.01	0	0	0	0	5.18	
92	0	0	0	0	0	2.34	2.68	0.18	0	0	0	0	5.2	
93	0	0	0	0	0	2.33	3.76	0.74	0.3	0	0	0	7.14	
94	0	0	0	0	0	2.04	3.84	2.24	0.01	0	0	0	8.14	
95	0	0	0	0	0.02	1.5	2.62	0	0.25	0	0	0	4.39	
96	0	0	0	0	1.04	2.31	2.34	0.29	0	0	0	0	5.98	
97	0	0	0	0	0.21	1.3	1.34	0.55	0.63	0	0	0	4.02	
98	0	0	0	0	0.19	1.77	1.7	2.52	1.35	0	0	0	7.53	
99	0	0	0	0	0.13	1.07	0.26	0	0	0	0	0	1.46	
0	0	0	0	0	1.25	1.79	3.18	2.1	0.83	0	0	0	9.14	
1	0	0	0	0	0.65	2.62	3.05	0	0.27	0	0	0	6.59	
2	0	0	0	0	0.54	2.84	0.61	1.76	0.07	0	0	0	5.83	
3	0	0	0	0	0.57	2.24	3.85	1.78	0.48	0	0	0	8.92	
4	0	0	0	0	0.64	2.46	3.18	1.3	0.11	0	0	0	7.69	
5	0	0	0	0	0.26	1.66	3.97	0	0.36	0	0	0	6.26	
6	0	0	0	0	0.98	3.04	0.76	0	0	0	0	0	4.78	
7	0	0	0	0	0.13	2.44	1.8	2.21	0.71	0	0	0	7.28	
8	0	0	0	0	0.03	2.34	2.53	1.86	0.28	0	0	0	7.03	
AV	0	0	0	0	0.34	1.97	2.33	1.45	0.44	0.01	0	0	6.53	

**Climate Data Assessment, Zuni Pueblo  
Appendix D**

Station  
WMO #  
WBAN #

Albuquerque Airport  
723650  
23050

Average Dewpoint Temperature Raw Data, Degrees F

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1941							49.61	53.67	45.04				49.69
1942	25.62	15.80	19.53	33.85	28.76	33.33	47.62	53.46	45.70	37.45	26.24	27.11	33.68
1943	21.92	21.50	22.79	25.30	32.83	39.98	50.29	55.08	42.16	32.06	19.67	23.55	32.35
1944	18.64	23.40	18.71	25.03	34.29	38.38	51.29	51.50	45.67	42.35	29.60	23.48	33.57
1945	24.23	25.18	22.53	24.61	29.23	30.51	50.45						29.61
1946								55.49	47.11	33.73	26.97	20.74	36.80
1947	14.36	18.05	23.36	22.81	34.36	33.82	45.27	53.76	41.26	33.92	21.61	20.82	30.39
1948	20.34	24.57	20.29	23.98	35.61	41.88	46.54	50.65	42.22	35.18	18.08	18.07	31.49
1949	18.95	17.96	21.60	30.26	32.36	43.29	52.50	48.95	48.24	32.97	22.09	18.96	32.43
1950	16.56	23.30	13.19	20.19	21.85	34.25	51.52	46.41	40.33	32.28	18.05	16.03	27.86
1951	14.16	19.29	13.32	22.49	27.59	21.83	44.77	51.98	35.79	28.03	20.05	18.47	26.56
1952	20.97	14.81	17.61	27.50	30.78	39.02	49.59	51.82	37.99	26.02	22.37	20.67	29.99
1953	20.70	16.21	22.45	19.55	23.94	34.33	51.78	48.37	30.53	30.44	27.33	16.82	28.64
1954	20.19	17.48	18.11	22.49	33.96	30.48	50.04	50.15	44.62	34.72	23.07	16.62	30.26
1955	18.80	11.65	18.24	19.37	28.28	31.07	49.52	55.15	39.83	29.70	18.48	22.24	28.68
1956	21.28	15.68	9.04	17.14	22.25	39.49	47.21	44.25	32.83	27.62	13.69	13.00	25.34
1957	23.68	28.16	22.46	22.33	34.20	34.97	51.42	54.30	35.61	40.11	26.09	19.99	32.85
1958	18.98	26.11	26.61	27.11	38.12	40.36	45.21	51.55	47.95	35.88	25.39	17.52	33.44
1959	17.04	18.92	14.95	25.44	26.25	41.15	48.86	54.21	33.53	31.86	21.61	23.45	29.85
1960	19.22	17.19	22.24	17.12	26.97	39.64	49.54	47.45	42.82	35.51	24.44	19.84	30.23
1961	15.80	19.70	20.56	21.09	26.51	37.78	48.35	52.08	42.02	26.96	24.94	19.31	29.65
1962	16.87	22.43	15.21	24.28	21.09	34.23	50.25	41.18	47.83	38.96	28.65	22.90	30.35
1963	12.77	24.26	18.80	18.88	28.61	30.14	47.98	54.99	49.22	35.46	28.52	13.86	30.33
1964	8.37	13.97	13.68	19.50	27.34	30.09	50.35	49.20	49.07	30.07	23.70	20.12	28.00
1965	22.24	18.24	17.56	22.43	27.69	33.75	50.58	47.96	45.64	30.23	25.76	24.54	30.64
1966	14.78	14.19	14.70	19.13	30.21	39.28	52.01	51.83	45.72	26.26	21.84	14.21	28.77
1967	8.08	11.18	14.71	11.65	18.71	35.89	48.21	51.25	44.54	25.64	20.43	16.22	25.63
1968	17.42	22.74	22.76	22.74	27.80	32.55	49.95	51.53	36.21	27.09	23.59	16.00	29.24
1969	23.14	16.95	16.06	22.27	31.37	34.77	51.69	51.94	45.40	32.22	21.13	20.02	30.69
1970	13.99	18.16	19.53	13.14	24.99	36.43	52.46	52.68	41.41	29.72	20.78	16.95	28.44
1971													
1972													
1973	18.93	22.53	27.22	25.13	34.81	36.48	51.29	47.78	38.04	27.44	19.12	14.73	30.36
1974	20.40	13.40	21.38	12.57	22.22	32.33	44.34	47.75	40.83	41.67	26.56	18.37	28.61
1975	16.02	22.34	21.38	17.42	24.65	30.62	52.04	46.72	45.22	26.73	16.46	20.13	28.37
1976	14.54	19.73	13.65	21.22	32.04	31.38	51.14	47.51	45.80	27.92	19.22	14.95	28.29
1977	18.94	17.33	11.48	29.56	22.33	35.33	50.63	52.44	47.16	32.98	22.57	16.54	29.83
1978	25.44	23.66	27.29	20.03	29.35	37.77	46.80	48.40	44.68	35.47	34.38	19.38	32.78
1979	19.03	21.51	22.06	23.64	35.85	39.52	45.83	47.65	42.17	28.88	21.49	18.49	30.57
1980	27.19	24.52	19.12	20.04	27.57	26.77	45.65	50.30	44.64	28.33	22.26	25.30	30.19
1981	18.58	15.80	24.05	25.34	31.08	34.85	51.37	52.63	45.98	35.32	21.63	18.34	31.37
1982	18.95	22.29	23.08	20.22	29.92	32.09	46.44	55.55	48.17	27.60	26.76	22.33	31.18
1983	23.26	25.69	26.79	20.29	26.90	33.68	46.92	52.28	48.47	41.28	27.46	21.77	32.96
1984	19.32	13.65	18.86	21.36	31.29	42.08	51.44	55.70	44.80	38.33	25.53	27.37	32.57
1985	23.96	20.06	23.56	29.71	38.04	42.03	47.31	48.35	42.71	39.48	25.12	19.57	33.42
1986	20.58	24.63	23.53	26.75	31.30	44.66	50.74	50.71	42.71	36.01	28.94	23.44	33.72
1987	16.87	24.56	19.25	23.92	36.36	41.29	39.69	50.77	41.57	34.87	25.84	19.88	31.27
1988	16.55	20.97	12.92	26.47	31.19	43.99	51.19	56.24	42.55	35.93	21.43	15.46	31.27
1989	16.97	21.40	19.67	19.90	23.66	33.02	47.29	49.21	40.05	31.48	15.69	16.54	27.97
1990	16.45	21.36	25.32	31.14	24.33	33.15	52.05	49.64	49.48	29.95	25.69	14.25	31.11
1991	19.41	19.26	18.42	14.61	21.79	39.26	50.47	53.66	46.17	29.67	25.76	24.46	30.32
1992	20.43	24.13	25.31	28.94	41.53	38.64	48.43	50.43	40.54	30.53	23.35	21.68	32.88
1993	26.47	24.33	24.08	20.04	35.28	34.39	45.17	54.23	40.23	31.57	17.91	15.68	30.87
1994	13.02	16.05	25.90	23.86	34.91	36.60	44.95	52.57	44.15	33.49	24.82	23.30	31.25
1995	23.55	26.25	26.35	24.55	31.46	36.16	39.27	53.58	45.53	22.96	25.18	20.18	31.27
1996	15.07	20.83	12.45	12.69	16.72	39.23	52.38	50.20	42.65	34.60	25.52	15.84	28.20
1997	21.57	21.18	15.78	26.92	35.31	38.87	45.62	53.22	51.05	32.05	23.37	20.56	32.18
1998	21.44	22.32	23.24	22.43	24.46	27.99	54.42	50.20	42.54	36.20	28.87	20.83	31.33
1999	21.96	16.71	23.29	21.60	30.07	37.85	53.26	54.63	46.06	30.07	20.33	16.11	31.11
2000	17.90	20.10	22.39	25.64	29.58	44.44	48.82	48.84	38.33	40.18	23.31	20.28	31.70
2001	20.38	20.91	24.40	25.35	32.19	35.39	51.55	51.74	40.21	28.65	29.08	17.90	31.56
2002	17.87	11.50	10.32	23.30	23.43	35.81	49.66	44.86	45.14	34.86	23.28	21.43	28.56
2003	20.70	21.99	22.32	20.48	29.39	38.54	45.96	52.12	42.15	34.35	23.50	16.55	30.74
2004	18.98	17.96	25.85	28.74	25.49	33.14	46.47	48.34	39.79	37.74	29.06	20.25	31.04
2005	26.26	29.70	25.25	24.94	34.98	34.70	43.98	49.30	43.16	40.52	18.13	11.58	31.91
2006	10.02	8.25	18.07	17.05	24.55	34.55	51.13	56.66	41.10	33.65	21.96	18.98	28.15
2007	19.08	20.20	21.11	26.19	36.68	36.64	49.66	50.25	43.82	26.85	20.55	19.47	30.93
2008	13.13	19.84	13.52	9.37	23.53	27.63	53.10	49.77	40.28	30.85	21.41	20.86	27.04
Average	18.81	19.90	19.99	22.36	29.22	35.84	48.94	51.02	42.98	32.67	23.37	19.29	30.50

Station  
WMO #  
WBAN #

Zuni Airport  
999999  
93044

Average Dewpoint Temperature Raw Data, Degrees F

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1941													
1942													
1943													
1944													
1945													
1946													
1947													
1948													
1949		27.13	25.32	28.67	32.91	41.71	52.04	47.72	45.36	32.49	22.89	16.16	34.36
1950	17.87	25.13	18.20	21.90	23.33	31.98	52.02	39.71	36.97	28.40	15.91	14.60	27.19
1951	17.18	21.62	16.26	25.81	29.79	25.73	46.85	50.52	33.76	29.51	22.30	20.02	28.35
1952	24.25	19.88	22.85	32.02	31.91	38.20	47.42	51.96	37.55	22.40	21.33	19.55	30.82
1953	22.51	15.94	22.15	21.24	23.61	31.11	49.47	44.43	29.01	26.02	22.15	12.34	26.76
1954	18.88	20.03	21.43	25.48	33.99	32.42	51.63	49.26	44.26	32.10	21.42	17.72	30.80
1955	16.76	14.53	17.69	15.34	24.75	25.31	43.90	53.85	34.37	25.64	19.69	22.67	26.33
1956	21.56	14.72	11.97	21.19	22.01	33.43	45.05	42.29	29.91	23.82	13.56	13.58	24.48
1957	24.80	29.34	23.78	21.80	30.82	33.23	48.99	52.98	31.80	36.02	24.93	22.78	31.84
1958	20.17	25.30	25.83	23.70	29.78	34.88	42.39	51.55	45.68	34.24	23.31	17.24	31.21
1959	18.65	22.17	14.49	22.52	20.54	34.37	44.75	52.19	33.88	31.35	22.83	22.49	28.40
1960	14.45	17.79	21.49	15.37	25.47	35.50	43.58	43.75	38.82	33.48	22.46	19.47	27.68
1961	17.01	22.12	23.37	21.50	21.78	30.65	45.91	52.42	38.34	25.87	25.75	18.90	28.68
1962	17.62	25.53	18.87	22.24	23.24	30.12	45.05	43.16	45.05	35.57	29.05	23.68	29.95
1963	17.46	27.23	21.95	18.47	24.96	35.58	46.87	54.48	47.73	34.86	29.75	14.57	31.17
1964	10.16	13.46	18.12	21.93	24.03	29.22	48.95	49.71	44.94	27.11	22.23	21.64	27.68
1965	24.14	19.28	19.52	23.35	26.18	32.97	51.07	46.45	39.69	26.43	24.47	24.62	29.93
1966	17.45	18.38	22.52	23.12	30.64	36.50	49.29	50.90	46.06	30.40	25.03	19.11	30.86
1967	15.14	17.69	19.66	16.33	21.51	33.46	48.79	48.62	41.76	24.73	19.96	14.82	26.94
1968	16.60	25.15	21.76	23.14	25.15	28.08	44.04	46.97	33.78	28.67	23.60	13.21	27.53
1969	24.94	21.01	19.26	22.40	30.95	32.43	50.55	52.36	44.01	30.33	23.55	21.52	31.20
1970	17.24	21.61	22.49	17.13	24.84	33.28	46.59	49.72	37.24	28.27	16.95	15.25	27.62
1971	13.24	15.38	12.96	16.41	19.57	25.43	44.14	51.13	36.67	31.71	21.62	20.99	25.86
1972	13.60	11.26	13.75	13.13	19.02	38.32	44.33	45.65	39.00	40.37	24.85	18.00	27.62
1973													
1974													
1975													
1976													
1977													
1978													
1979													
1980													
1981													
1982													
1983													
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2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008													
Average	18.33	20.24	19.82	21.42	25.87	32.66	47.24	48.82	38.99	29.99	22.48	18.56	28.86

Station  
WMO #  
WBAN #

Gallup Municipal Airport  
723627  
23081

Year	Average Dewpoint Temperature Raw Data, Degrees F												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1941													
1942													
1943													
1944													
1945													
1946													
1947													
1948													
1949													
1950													
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1968													
1969													
1970													
1971													
1972													
1973	16.13	26.01	28.30	26.20	35.79	38.00	48.15	48.41	37.62	24.35	20.43	14.21	30.53
1974	19.41	14.31	22.04	16.94	23.92	26.26	44.33	41.37	37.06	37.28	23.67	14.08	26.83
1975	15.43	19.88	24.95	25.60	28.45	31.01	49.71	42.43	43.78	27.13	15.56	16.39	28.42
1976	14.41	21.74	16.50	19.55	27.67	24.61	46.47	43.67	40.80	24.11	16.06	11.69	25.63
1977	14.27	17.03	14.30	19.73	22.50	33.63	47.97	47.25	41.80	30.06	22.91	17.64	27.49
1978	24.36	24.49	26.78	22.34	26.92	27.27	38.83	39.91	38.61	27.05	30.95	17.26	28.75
1979	17.29	20.69	24.06	22.02	32.65	32.21	38.00	40.70	35.26	23.55	17.96	14.75	26.64
1980	26.59	24.22	20.24	20.98	24.48	28.11	43.83	44.78	36.51	23.42	16.31	20.55	27.54
1981	15.17	14.50	23.64	25.24	29.33	34.26	50.07	46.62	43.50	29.65	18.53	17.32	29.09
1982	18.30	23.18	25.95	22.16	29.86	27.29	45.07	53.71	44.80	21.90	24.71	20.04	29.80
1983	19.17	24.01	26.99	21.80	25.72	32.91	47.36	51.50	43.27	35.29	24.86	25.27	31.58
1984	17.39	13.01	17.42	21.30	26.13	34.32	47.97	51.04	42.78	33.68	20.37	23.54	29.16
1985	20.80	18.93	23.99	26.37	32.90	34.03	45.19	45.19	37.56	32.97	24.50	17.38	30.07
1986	15.92	22.46	22.99	25.17	26.75	37.95	46.42	48.15	38.03	29.90	26.55	20.54	30.11
1987	14.35	23.00	20.75	23.32	33.96	33.98	37.31	47.80	35.46	28.09	23.75	16.20	28.20
1988	15.94	20.88	11.38	21.86	23.92	37.74	45.86	51.98	35.09	28.35	21.61	15.20	27.50
1989	14.66	19.55	20.70	18.43	20.42	24.14	40.09	42.22	31.17	26.86	11.54	6.19	23.04
1990	10.85	16.12	22.93	26.23	21.44	24.68	47.63	43.76	45.23	29.11	26.01	11.70	27.19
1991	16.89	21.71	23.28	18.05	21.25	32.67	46.22	50.06	39.14	21.19	23.15	22.51	28.06
1992	16.59	24.23	24.98	26.98	39.04	33.05	42.84	46.19	35.92	24.57	18.15	13.10	28.83
1993	25.36	24.10	20.19	16.91	31.23	26.35	36.12	48.60	34.12	28.07	15.73	12.81	26.69
1994	9.87	18.98	23.72	23.62	29.10	31.12	36.42	49.19	40.05	27.02	21.55	19.48	27.56
1995	22.79	24.59	25.00	23.34	29.25	31.33	33.59	48.36	39.15	16.80	20.22	15.33	27.49
1996	15.41	19.99	15.48	12.29	15.69	25.85	45.07	43.55	38.79	28.51	24.36	15.59	25.07
1997	20.44	19.50	16.16	23.99	31.45	32.64	39.42	51.02	47.88	27.60	22.17	18.13	29.25
1998	21.75	23.03	23.27	21.56	23.59	26.38	49.77	48.22	39.70	27.93	23.61	17.34	28.90
1999	13.07	11.74	14.17	18.96	24.92	31.15	50.61	52.15	42.97	21.28	14.65	11.25	25.68
2000	17.94	20.69	23.35	22.38	21.87	35.21	43.09	50.34	37.79	34.69	19.18	14.44	28.45
2001	16.40	20.04	23.29	23.54	28.02	28.23	47.04	48.23	35.06	20.27	23.91	15.45	27.51
2002	14.04	7.95	7.75	18.94	15.86	24.74	44.07	39.62	39.39	31.20	18.92	19.60	23.61
2003	21.24	19.14	20.51	16.32	24.19	26.62	38.98	50.82	34.04	27.55	19.37	15.20	26.25
2004	20.04	16.51	21.69	23.63	16.21	19.95	36.40	40.45	33.88	30.22	23.40	18.24	25.14
2005	25.67	27.79	23.49	18.29	27.92	27.34	33.95	47.16	36.91	30.40	11.39	7.71	26.53
2006	7.54	2.30	17.14	14.39	18.13	22.12	46.10	50.29	34.95	31.95	16.82	15.69	23.44
2007	15.29	21.76	16.68	21.01	29.01	21.98	41.91	48.95	36.57	22.64	15.03	18.65	25.84
2008	13.12	20.83	11.75	6.72	18.85	24.27	48.97	46.20	35.66	20.40	17.37	19.43	23.61
Average	17.33	19.72	20.72	21.00	26.07	29.54	43.63	46.94	38.62	27.36	20.42	16.39	27.38



Zuni Pueblo Area  
Relative Humidity Raw Data

Albuquerque Airport  
Average Maximum Humidity (percent)

Average of ABQ Airport		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002							42.33	61.71	55.75	68.52	69.46	66.78	76.44	63.42
2003		94.06	58.74	39.91	37.91	45.03	49.42	47.26	65.93	61.28	57.65	63.21	68.04	59.69
2004		67.55	71.27	60.05	61.88	34.84	41.26	57.17	66.35	57.63	77.42	77.78	74.10	62.33
2005		77.12	84.02	75.32	57.98	55.01	43.61	50.87	57.81	51.82	67.76	43.73	43.23	59.10
2006		58.32	77.09	63.93	50.24	53.75	45.38	67.60	82.91	70.15	75.15	57.72	71.81	64.49
2007		58.25	77.09	63.93	45.62	49.94	45.38	67.60	82.91	70.15	75.15	57.72	71.81	63.79
2008		72.22	77.09	63.93	45.62	49.94	45.38	67.60	82.91	70.15	75.15	57.72	71.81	64.97
Grand Total		70.90	76.39	65.01	51.21	48.16	44.74	60.07	70.66	64.22	71.17	60.73	68.46	62.59

Average Minimum Humidity (percent)

Average of ABQ Airport2		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002							13.57	21.59	19.66	25.24	25.09	26.26	37.28	24.49
2003		35.95	22.65		16.28	16.42	17.17	16.83	26.74	22.12	26.79	28.75	32.52	24.32
2004		32.98	28.35	25.54	25.45	13.33	16.08	25.91	29.09	27.10	33.80	40.39	37.18	27.95
2005		38.35	39.65	28.17	18.59	20.62	13.47	15.76	35.94	42.32	56.98	35.22	33.68	31.48
2006		20.21	28.53	16.55	9.28	13.15	12.14	23.80	32.50	24.30	26.19	19.72	31.74	21.50
2007		20.21	25.95	16.55	9.28	13.15	12.14	23.80	32.50	24.10	26.19	19.72	31.74	21.29
2008		22.58	25.95	16.55	9.28	13.15	12.14	23.80	32.50	24.10	26.19	19.72	31.74	21.50
Grand Total		28.23	29.58	20.61	14.47	14.98	13.81	21.60	29.90	27.01	31.81	27.07	33.68	24.64

Zuni Pueblo Area  
Relative Humidity Raw Data

Gallup Municipal Airport  
Average Maximum Humidity (percent)

Average of Gallup Municipal Airport		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002											85.41	83.88	93.67	87.77
2003	83.35	83.23	81.09	61.74	53.89	48.15	55.61	86.05	65.60	68.23	78.43	82.64	70.35	70.35
2004	88.37	84.82	76.16	73.12	39.37	37.51	60.71	69.93	68.47	81.28	85.58	88.52	71.03	71.03
2005	89.53	92.32	87.14	65.76	58.92	56.23	54.61	74.81	63.30	66.92	52.64	62.88	68.76	68.76
2006	73.64	82.77	82.51	61.49	53.30	52.54	75.82	86.84	79.17	83.59	72.55	84.32	74.06	74.06
2007	73.64	82.77	82.51	61.49	53.30	52.54	75.82	86.84	79.17	83.35	72.55	84.32	74.04	74.04
2008	80.18	82.77	82.51	61.49	53.30	52.54	75.82	86.84	79.17	83.35	72.55	84.32	74.59	74.59
Grand Total	81.26	84.79	82.06	64.19	52.08	49.99	66.55	81.89	72.48	78.83	74.11	83.17	72.78	72.78

Average Minimum Humidity (percent)

Average of Gallup Municipal Airport2		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002											32.19	24.28	48.56	34.95
2003	35.24	28.51	22.02	15.82	15.01	13.58	16.66	28.76	21.63	26.86	28.66	31.64	23.52	23.52
2004	46.93	34.87	23.02	25.37	11.10	11.03	22.33	25.46	25.22	30.67	39.89	43.38	28.09	28.09
2005	42.93	49.78	32.10	17.47	16.27	12.40	12.22	49.00	47.24	55.72	44.23	49.14	35.52	35.52
2006	22.86	32.74	20.76	11.10	10.93	8.98	21.77	28.06	19.86	26.53	20.62	34.59	21.55	21.55
2007	22.86	32.74	20.76	11.10	10.93	8.98	21.77	28.06	19.86	26.53	20.62	34.59	21.55	21.55
2008	28.58	32.74	20.76	11.10	10.93	8.98	21.77	28.06	19.86	26.53	20.62	34.59	22.04	22.04
Grand Total	32.89	35.80	23.39	15.31	12.52	10.65	19.39	31.23	25.61	32.17	28.47	39.36	25.75	25.75

Zuni Pueblo Area  
Relative Humidity Raw Data

Malpais Lava Flow RAWS  
Average Maximum Humidity (percent)

Average of Malpais Lava Flow RAWS		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992		93.26	93.79	86.42	72.00	88.23	66.97	78.03	92.39	74.83	66.84	87.43	90.03	82.54
1993		94.52	95.00	83.28	55.00	74.65	46.90	59.48	95.10	82.77	87.61	78.33	81.13	77.77
1994		67.77	86.25	85.35	70.83	65.90	46.37	60.94	88.06	83.03	81.19	91.23	89.26	76.33
1995		94.93	91.71	87.90	74.00	67.74	52.47	53.58	85.90	88.90	49.42	78.20	84.32	75.55
1996		80.77	81.11	68.16	51.77	30.71	54.03	83.97	83.19	90.57	83.42	82.80	71.97	71.82
1997		88.32	82.68	64.77	81.33	77.42	63.50	68.45	95.19	99.18	84.26	83.97	88.26	81.33
1998		87.06	85.71	81.90	77.00	56.26	41.30	83.90	88.06	77.47	74.16	85.03	79.87	76.47
1999		69.10	58.71	67.16	64.80	62.19	63.37	92.10	97.52	92.03	51.81	50.53	69.81	70.04
2000		75.84	72.90	82.32	62.27	39.06	61.30	75.58	86.58	65.20	92.19	84.60	76.39	72.90
2001		86.77	82.86	82.45	78.30	58.52	45.83	83.83	94.06	70.10	64.87	80.93	78.58	75.42
2002		77.68	62.54	52.19	51.20	31.81	32.70	76.00	76.58	91.53	88.61	79.67	89.61	67.59
2003				74.73	62.41	58.52	52.47	59.10	91.23	77.10	81.50	5.13	9.33	61.55
2004		8.95	11.67			28.04	36.17	56.86	75.26	66.83	79.87	76.90	78.27	57.99
2005		82.07	88.75	77.81	72.60	65.53	54.38	57.77	72.56	57.50	77.42	45.10	52.04	67.02
2006		78.57	77.71	86.74	66.17	56.23	51.62	83.26	95.74	87.90	87.84	76.37	84.90	77.90
2007		78.50	77.71	86.74	66.17	56.23	50.83	83.26	95.74	87.90	87.84	76.37	84.90	77.76
2008		86.53	82.55	54.81	34.76	47.71	36.77	78.94	74.07	70.57	67.77	74.97	82.45	65.29
Grand Total		79.22	80.85	76.41	65.13	57.06	50.38	72.54	87.76	80.16	76.63	75.85	78.18	73.21

Average Minimum Humidity (percent)

Average of Malpais Lava Flow RAWS2		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992		43.06	44.36	31.23	17.10	35.23	17.73	26.35	29.58	23.13	23.00	34.67	40.84	30.49
1993		51.58	43.00	35.04	16.48	20.77	12.47	19.94	36.35	23.17	27.26	28.77	26.47	28.34
1994		25.83	34.68	24.97	18.60	18.03	11.90	16.10	24.40	24.47	24.26	31.47	30.97	23.75
1995		38.07	29.32	23.26	20.23	18.48	11.87	17.13	29.58	27.03	12.32	26.13	33.74	23.84
1996		27.29	32.32	17.29	12.60	7.87	16.00	25.48	28.77	35.90	31.32	32.63	26.90	24.47
1997		48.45	32.14	15.81	27.73	20.71	17.13	26.00	31.84	35.96	26.16	33.20	43.32	29.83
1998		39.13	39.77	34.00	22.00	12.14	10.54	27.89	26.52	22.07	29.77	28.40	27.43	26.67
1999		18.67	14.96	13.27	13.40	10.68	11.30	29.93	31.07	23.59	6.34	11.00	23.03	17.20
2000		26.29	21.50	25.90	14.38	7.75	16.46	19.31	22.50	16.80	41.72	31.50	21.53	22.50
2001		35.71	28.59	24.54	17.46	12.45	8.19	21.12	29.38	17.11	14.03	30.89	26.74	22.24
2002		28.19	13.80	10.04	9.17	6.63	6.96	21.64	20.38	29.83	31.17	23.80	42.37	20.89
2003				44.55	15.52	14.69	12.30	14.26	27.53	18.23	7.00		4.00	18.55
2004						10.04	8.89	20.71	20.88	19.26	23.56	37.74	33.70	21.13
2005		46.18	45.00	30.92	19.27	16.04	9.38	13.43	52.20	57.00	68.68	41.17	39.00	36.90
2006		24.11	11.11	22.17	10.00	10.13	10.14	21.30	39.45	26.83	30.16	18.83	34.16	21.66
2007		24.11	11.11	22.17	10.00	10.13	10.20	21.30	39.45	26.83	30.16	18.83	34.16	21.64
2008		73.41	70.95	43.93	27.44	37.87	26.36	68.81	60.81	45.28	42.48	58.23	66.65	51.07
Grand Total		35.66	31.16	25.34	16.94	16.20	12.90	24.46	32.27	27.96	28.93	30.39	34.52	26.26

Zuni Pueblo Area  
Relative Humidity Raw Data

Ramah RAWS  
Average Maximum Humidity (percent)

Average of Ramah RAWS		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002														
2003														
2004														
2005				94.30	81.69	77.87	64.65	61.10	84.29	68.83	80.26	54.07	73.39	74.16
2006		69.00	49.82	94.30	81.60	76.10	61.83	61.10	90.81	82.30	92.19	67.40	83.94	76.22
2007		80.66	66.50	94.06	71.47	62.42	58.57	88.35	99.19	95.53	95.16	89.53	95.03	83.24
2008		88.05	91.43	67.39	43.45	58.97	48.80	85.48	81.70	77.93	80.03	83.83	93.71	74.60
Grand Total		78.59	69.25	87.40	69.67	68.76	58.22	74.01	89.24	81.20	86.91	73.71	86.84	77.23

Average Minimum Humidity (percent)

Average of Ramah RAWS2		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002														
2003														
2004														
2005				36.33	21.22	19.93	15.58	17.06	58.10	67.37	72.16	50.07	56.32	42.44
2006		47.88	47.79	36.33	20.71	19.80	15.55	17.06	29.65	28.37	31.84	21.57	32.29	28.73
2007		35.90	13.68	25.17	11.90	12.26	10.90	25.74	40.45	26.90	33.45	21.30	41.71	25.10
2008		80.12	83.92	54.73	32.33	47.14	34.04	74.59	70.04	56.36	50.10	66.60	77.71	60.21
Grand Total		50.70	46.69	38.34	20.97	24.53	18.70	32.94	48.52	44.24	46.89	39.88	51.90	38.41

Zuni Pueblo Area  
Relative Humidity Raw Data

Zuni/Zuni Buttes RAWS  
Average Maximum Humidity (percent)

Average of ZuniButtes RAWS		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002														
2003			91.56	86.55	63.17	51.26	44.77	53.45	83.87	63.93	64.06	70.13	77.23	66.64
2004	90.42	87.00	74.16	74.20	37.81	38.67	56.48	73.68	65.93	76.77	83.43	89.00		71.80
2005	93.77	96.50	92.26	72.27	84.50									88.44
2006				52.62	44.23	43.13	76.00	91.87	80.13	87.32	70.60	86.35		70.64
2007	90.65	89.96	70.48	72.87	73.65	39.30	70.03	82.68	71.33	66.10	65.23	92.45		73.72
2008	89.26	92.52	65.52	43.73	60.00	43.17	83.71	77.45	65.43	57.52	70.40	85.71		69.56
Grand Total		91.02	91.47	77.79	63.38	55.66	41.87	67.94	81.91	69.35	70.35	71.96	86.15	71.82

Average Minimum Humidity (percent)

Average of ZuniButtes RAWS2		Month												Grand Total
Year		1	2	3	4	5	6	7	8	9	10	11	12	
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002														
2003			44.56	30.65	14.67	12.35	9.37	11.00	22.35	15.70	16.19	24.13	25.06	18.93
2004	36.39	30.45	19.84	20.90	7.67	7.22	13.13	19.13	19.77	21.06	34.20	35.27		22.55
2005	45.23	48.21	34.87	17.37	22.33									35.62
2006				11.96	9.55	9.33	23.29	33.71	26.53	32.32	23.93	33.32		22.89
2007	39.19	34.46	20.23	18.23	20.52	9.93	19.77	25.74	18.30	15.74	19.13	40.65		23.48
2008	35.48	37.48	14.06	8.97	14.68	9.33	25.13	21.94	17.13	16.26	24.83	36.23		21.78
Grand Total		39.07	38.10	23.93	15.43	13.68	9.07	18.46	24.57	19.49	20.32	25.25	34.10	22.92