

Appendix B

Estimated Irrigation Demand for the Southern Ogallala GAM

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Irrigation accounts for approximately 95 percent of the water use in the area covered by the southern portion of the Ogallala Aquifer. Therefore, accurate assessment of water use in irrigated agriculture is critical to the development of any groundwater availability model (GAM). To estimate irrigation demand in the Southern Ogallala GAM region, a procedure similar to the one developed for the Regional Water Planning Group (RWPG) in Region A (Amosson et al., 1999) was utilized. This procedure, which is based on a water balance approach, is being adopted by the Texas Water Development Board (TWDB) for use in water planning across the state. The water demand methodology developed for the Region A Ogallala model was utilized in developing the southern Ogallala GAM Model. The procedure involved using weather data, crops, acreages, irrigation technologies and other relevant data from the region. Observed water levels were used to validate the crop demand estimates where available.

Specific scope of work for developing the irrigation demand for the Southern Ogallala GAM project included:

- 1) Collection of all required data for determination of annual crop water demand for the southern Ogallala Aquifer region for the period 1940 through 2000. In addition, monthly estimates of irrigation demand will be made for two three-year periods, each centered about a drought period. One three-year period should be during 1980 to 1990, and another 1990 to 2000.
- 2) Determination of appropriate crop irrigation requirements for the predictive modeling scenarios as described in Section 4.0 of the GAM Request for Proposal (RFP).
- 3) Provide complete documentation and explanation of analyses conducted and associated results.
- 4) Provide copies of all data collected and analyses conducted.
- 5) Participate in up to two Stakeholder Advisory Forums to present or discuss work activities.
- 6) Identify and estimate "drought of record" irrigation demands for the Southern Ogallala GAM region.

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Methodology

The overall methodology involved estimating irrigation demand for counties in the Southern Ogallala GAM region by month for the selected years of 1982, 1987, 1992 and 1997. These years were selected because two sources of information on irrigated acreage were available (Texas Agricultural Statistics Services (TASS) and the Census of Agriculture) increasing the validity of estimates. In addition, long-term average (LTA) irrigation and water use by crop and by county were calculated to assist in evaluating other years and the impact of drought scenarios. The LTA was developed utilizing long-term rainfall, and crop ET estimates to reflect water use in an "average year". Data and results of the 1997 simulation are presented in the main report with the remaining analysis provided in the appendices.

Computation of irrigation demand is based upon a water balance crop use approach. This approach lends itself well to use demands based on scientific functions of crop production. Production functions are directly related to crop evapotranspiration (ET). Similarly, crop ET can be related to potential ET (PET). A modified Penman-Monteith equation was used for calculation of PET from meteorological data utilizing a well-watered grass reference. Factors influencing the PET demand equation are percentage of crop ET applied, rainfall, soil profile moisture, and irrigation applied. The equation used for the computation(s) is:

$$P_T(ET_C) = IRR_C + ER + SSM_D \quad (1)$$

where,

- P_T = Percentage of crop evapotranspiration applied on a seasonal basis, inches
- ET_C = Crop evapotranspiration (or water use) for maximum production potential, inches
- IRR_C = Irrigation applied on a seasonal basis to a crop, inches
- ER = Effective rainfall computed from seasonal rainfall occurring during the crop season, inches, and
- SSM_D = Differential seasonal soil moisture used in crop production which is extracted from the soil profile, inches.

Rearranging the equation and solving for IRR yields:

$$IRR_C = ET_C(P_T) - ER - SSM_D \quad (2)$$

Summary equation for the crops grown per county yields:

$$IRR_{CTY} = \sum_1^n IRR_C \quad (3)$$

where,

IRR_{CTY} = Total quantity of irrigation volume applied (pumped) to the crops grown within a county in a given year or season, acre-feet.

Similarly,

$$IRR_Z = \sum_1^{36} IRR_{CTY} \quad (4)$$

where,

IRR_Z = Total quantity of irrigation volume applied (pumped) to crops grown within the study area (Southern Ogallala GAM Region) in a given year or season, acre-feet.

Data used in computations for specific crops were derived from crop ET data. Crop data were derived for corn, grain sorghum, cotton, peanuts, soybeans, wheat, hay, and pasture and other from each of the stations located in the Southern Ogallala GAM region, where sufficient and accurate data existed. In areas where no useable information was available, surrounding meteorological stations were utilized in determining crop ET. Differential seasonal soil moisture values were derived from sampling data obtained from growers by the Texas Cooperative Extension throughout the Texas Panhandle during the 1998 to 2000 time frame.

Percentage of crop PET used in computations was obtained from data attained by the Texas Cooperative Extension. Comparing the applied or targeted percentage of crop PET agrees well with crop production level(s) and water use. This term of percentage of crop PET essentially represents the water pumped per crop.

Effective precipitation from rainfall events recorded in county data was computed using the National Resources Conservation Service (NRCS, formerly the Soil Conservation Service) method of estimating effective precipitation. This method is described in Part 623 of Chapter 2 of the NRCS National Engineering Handbook. The storage factor was computed using a usable soil water storage value of 6 inches. The equation used was:

$$SF = (0.531747 + 0.295164 D - 0.057697 D^2 + 0.003804 D^3) \quad (5)$$

where,

D = The usable soil water storage, (in)

Using this factor, the average monthly effective precipitation was calculated using the following equation:

$$ER = SF(0.70917R_M^{0.82416} - 0.11556) (10^{0.02426ET_{CM}}) \quad (6)$$

where,

ER = Average monthly effective monthly precipitation, (in)

RM = Mean monthly precipitation, (in)

ET_{CM} = Average monthly crop evapotranspiration, (in) and

SF = Soil water storage factor.

Data Inputs

While the methodology to estimate irrigation demand is relatively simple, the amount of data required to be analyzed can be extensive. In the next sections, base data required/analyzed to estimate irrigation demand is discussed. Where possible, model parameter estimates are incorporated into the text. In other cases, where data is too "bulky", it is located in an attachment or the data sources are cited.

ET and Weather Station Data

Potential evapotranspiration (PET) values were calculated from station data of the North Plains Evapotranspiration Network (NPET) and South Plains Potential Evapotranspiration Network (SP-PET), principally from the station sites of Chillicothe, Dimmitt, Earth, Etter, Farewell, James Bush Farm (Bushland), Lubbock, Lamesa, Morse and Wellington. (Some of these data are available at the web site <http://amarillo2.tamu.edu/nppet/station.htm>). A proportioning matrix was developed to allocate respective representation and contribution of each of the station sites of the PET network and associated crop values to the desired county. The county attribution was based upon the parameters of longitude, latitude, elevation of the stations and from past analysis and differentiation of crop ETs from the respective locations. Data comparisons of various other PET and meteorological sources were reviewed and partially analyzed, but were determined to be inadequate in terms of accuracy and integrity for purposes of this analysis.

The NPET computations of PET values used in the analysis were obtained using the new American Society of Civil Engineers (ASCE) standardized reference evapotranspiration equation (current draft version) developed by and in cooperation with members of the NPET network development team (Environmental and Water Resources Institute of the American Society of Agricultural Engineers Standardization of Reference Evapotranspiration Task Committee, December 30, 2001 – draft version). The meteorological parameters of temperature, wind speed, solar radiation and elevation are the primary inputs to these computations. Crop ET values for each respective crop used in the irrigation demand analysis were computed by using growth stage crop coefficients determined through explicit prior lysimeter research throughout the cropping season. These crop coefficients were then computed against the standardized values to yield the respective crop ET's used in the analysis. Compiling these values on a monthly basis provided data for the monthly irrigation demand values of each crop.

Rainfall Data

Rainfall data used in the analysis for the respective years of 1982, 1987, 1992 and 1997 were utilized from Texas and New Mexico quadrangle rainfall records of the Texas Water Development Board. In the case where counties spanned multiple quadrangle boundaries, a proportioning of the quadrangle value(s) was attributed and summed to the total county rainfall value. Similar to the ET data, rainfall data were compared from site-specific locations and other sources but were rejected due to the variability (continuity) of the values within the respective locations as compared to across the region. Use of specific weather station data would thus have provided more attenuation of the irrigation demand values than desired. Use of the quadrangle data set reflects a more consistent trend across the region and corresponds more to the intent of the demand analysis.

The respective county rainfall values were used to compute effective rainfall per crop for each respective growing season. The values were computed using the NRCS engineering equation to determine effective rainfall. Summing the respective values per crop resulted in the amount of effective rainfall deducted from the PET demand per crop per county. Monthly rainfall by county used in the project is located in Attachment B1.

Differential Soil Moisture

Differential soil moisture (DSM) is the water existing in (prior to the growing season) and extracted from the soil profile during crop production. Estimates of differential soil moisture for the heavier soils were made based on measurements taken from demonstrations conducted in the Agri-Partner program and research trials from the U.S. Department of Agriculture (USDA) facility in Bushland. Differential soil moisture estimates for areas with sandy soils were modified to reflect smaller holding capacities and water use required by cover crops to reduce wind erosion in these areas. Adjustments to DSM were made with input provided by scientists from Texas Tech University (table 1).

Table 1. Differential soil moisture (DSM) and long-term average (LTA) crop ET used in calculations per crop category for the northern and southern tiers of counties in the GAM Region.

Crop	DSM, Northern Counties (acre-inches)	DSM, Southern Counties (acre-inches)	LTA ET Applied, Northern Counties	LTA ET Applied, Southern Counties
Corn	2.0	2.0	0.95	0.95
Cotton	5.0	2.0	1.00	1.00
Grain Sorghum	2.5	1.5	0.85	0.85
Hay	1.5	1.0	0.95	0.95
Pasture	2.5	2.5	0.80	0.80
Peanuts	2.5	1.5	1.00	1.00
Soybeans	3.0	1.5	0.92	0.92
Wheat	3.5	0.5	0.78	0.60

Producer Use of ET

Actual producer application of irrigation water on a crop in the short run is effected by several factors including: the amount of water available; variable cost of pumping; profitability of the crop; profitability of competing crops; and change in crop yield from an acre-inch of water applied. Agri-Partner demonstration data, water district data and interviews with individual producers were utilized in estimating producer use of ET by crop (table 1).

Current estimates of producer use of ET by crop varied across the region depending on water availability. Current estimates were used in all base years and actual drought year simulations. Long-term average estimates varied slightly from current estimates to reflect expected changes in producer water use. LTA estimates were used in evaluating "drought of record" impacts and as a reference point for water use in non-base or actual drought years for GAM modeling.

Irrigated Acreage

The importance of accurate assessments of irrigated acreage is paramount to estimating water demand. Base years of 1982, 1987, 1992 and 1997 were used to estimate irrigation demand because both of TASS and the Census of Agriculture being available. TASS provides annual estimates of irrigated acreage by major crops annually. The Census of Agriculture provides an estimate of all irrigated acreage delineated into major and minor crops every five years.

In non-base years (i.e., selected three-year drought periods in the 1980s and 1990s), minor irrigated crop acreage was assumed to remain unchanged from the most recent Census of Agriculture estimates. Major crop acreage was altered by the associated TASS estimates for the year.

Acreage estimates for all years needed to be modified to account for "border" conditions (i.e., not all irrigated acreage in counties on the edge of the Ogallala may be over the aquifer). A survey of border county Farm Service Agency (FSA) offices was conducted to determine the percentage of irrigated land in their counties located over the Ogallala (table 2). Border modified irrigated acreage estimates by base and selected drought years, crop and county are located in Attachment B2.

Drought Scenarios

Annual rainfall data obtained from the TWDB for 1940 to 1998 was utilized to identify drought periods to be analyzed. The contract specifies irrigation demands for the lowest three consecutive rainfall periods during the 1980s and 1990s were to be estimated. Analysis of the rainfall data indicated these periods were 1982 to 1984 and 1992 to 1994, where rainfall averaged 18.47 inches per year and 17.08 inches per year, respectively (table 3).

Table 2. Percentage of irrigated land located above the Ogallala Aquifer in border counties of the Southern Ogallala GAM Region.

Border County	Percentage of Irrigated Land Located Over Ogallala Aquifer
Andrews	100
Armstrong	1
Borden	100
Briscoe	60
Crosby	100
Dickens	50
Ector	100
Floyd	97
Garza	100
Glasscock	8
Howard	100
Lea	100
Midland	30
Motley	7
Oldham	100
Potter	100
Quay	1
Randall	80

Table 3. Rainfall (inches) in Southern Ogallala GAM Region for 1980s and 1990s.

Year	Annual Rainfall (inches)		Year	Annual Rainfall (inches)
1980	17.93		1990	18.45
1981	21.83		1991	24.83
1982	19.35		1992	21.45
1983	15.77		1993	15.39
1984	20.28		1994	14.39
1985	23.78		1995	23.98
1986	27.99		1996	15.98
1987	20.70		1997	24.01
1988	19.25		1998	12.80
1989	15.59			
1980, 1981, 1982	19.70		1990, 1991, 1992	21.58
1981, 1982, 1983	18.98		1991, 1992, 1993	20.56
1982, 1983, 1984	18.47		1992, 1993, 1994	17.08
1983, 1984, 1985	19.94		1993, 1994, 1995	17.92
1984, 1985, 1986	24.02		1994, 1995, 1996	18.12
1985, 1986, 1987	24.16		1995, 1996, 1997	21.32
1986, 1987, 1988	22.65		1996, 1997, 1998	17.60
1987, 1988, 1989	18.51			

In addition, the impact of the "drought of record" was to be estimated. After consultation with the TWDB, the five consecutive year period from 1952 to 1956 was identified. This period represented the lowest five-year consecutive annual rainfall period, for the region within the 1947 to 1998 time period (table 4). The average annual rainfall for the period was 13.37 inches while the annual rainfall varied more than six inches in that time period and five years were below the long-term average.

Table 4. Drought of Record in Southern GAM Region (inches).

Year	Annual Rainfall (inches)
1952	12.71
1953	13.72
1954	13.44
1955	16.52
1956	10.48
Average	13.37
1990-1998 Average	18.77

Results

The purpose of the irrigation demand model is to provide water use estimates by month and county for application in the Southern Ogallala GAM model. Irrigation water demand was estimated for the years 1982, 1983, 1984, 1987, 1992, 1993, 1994 and 1997. Another simulation estimating water demand was conducted utilizing 1997 irrigated acreage, average weather related values and average rainfall from the 1940 to 1998 time period. This LTA scenario is considered a proxy for an "average" year irrigation water use estimate. A regional summary of irrigated acreage, total water use and water use per irrigated acre is given in Table 1.

In addition, simulations were conducted to determine the relative impact of irrigated water use by year and month of a "drought of record". All model parameters were assumed to remain unchanged from the LTA scenario with the exception of rainfall. Rainfall totals and distribution were assumed to be identical to the identified "Drought of Record" 1952 to 1956.

Simulations for Base Years

The years 1982, 1987, 1992, and 1997 were selected as the "benchmark" years for simulating water demand. These years were selected because two different sources of information for irrigated acreage are available, thus increasing the accuracy of estimated water projections. County comparisons are presented in Figures 1 through 4 for these years. Regional and county level water use estimates projected by month for each of the benchmark years are presented in Attachment B3.

Drought of Record

The five-year drought of record identified from the Texas Water Development Board (TWDB) records for the Southern Ogallala GAM region was 1952 through 1956. The water use estimates were generated from the weather conditions existing during the drought period and utilizing the most recent irrigated acreage estimates (1997). This was done to provide the most viable estimate of water use during an "extended" record drought now or in the future (assuming irrigated acreage remains constant). Water use

Figure 1. 1982 Southern GAMS Irrigation Water Use Demands by County.

1982 County Irrigation Water Use Demands

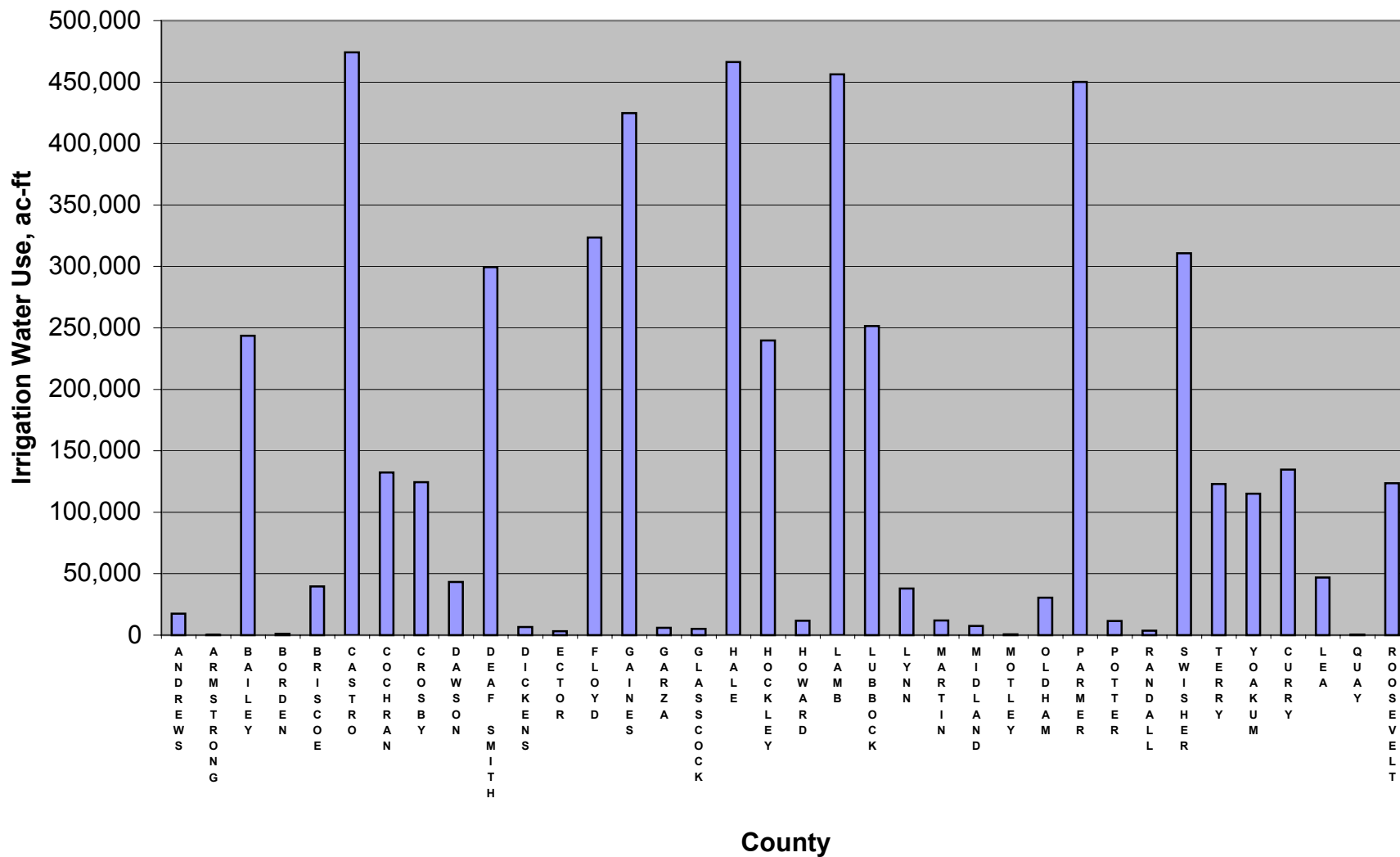


Figure 2. 1987 Southern GAMS Irrigation Water Use Demands by County.

1987 County Irrigation Water Use Demands

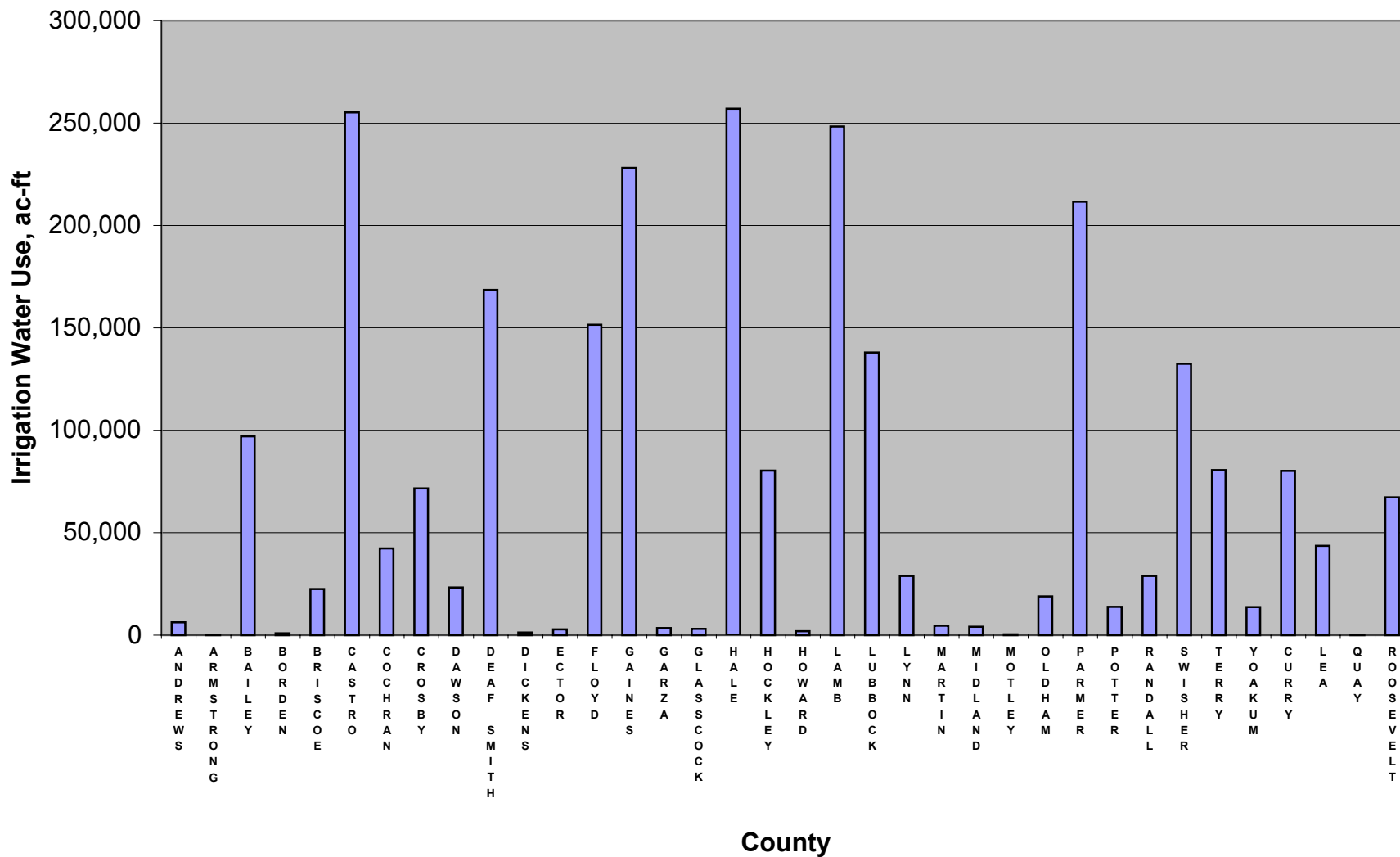


Figure 3. 1992 Southern GAMS Irrigation Water Use Demands by County.

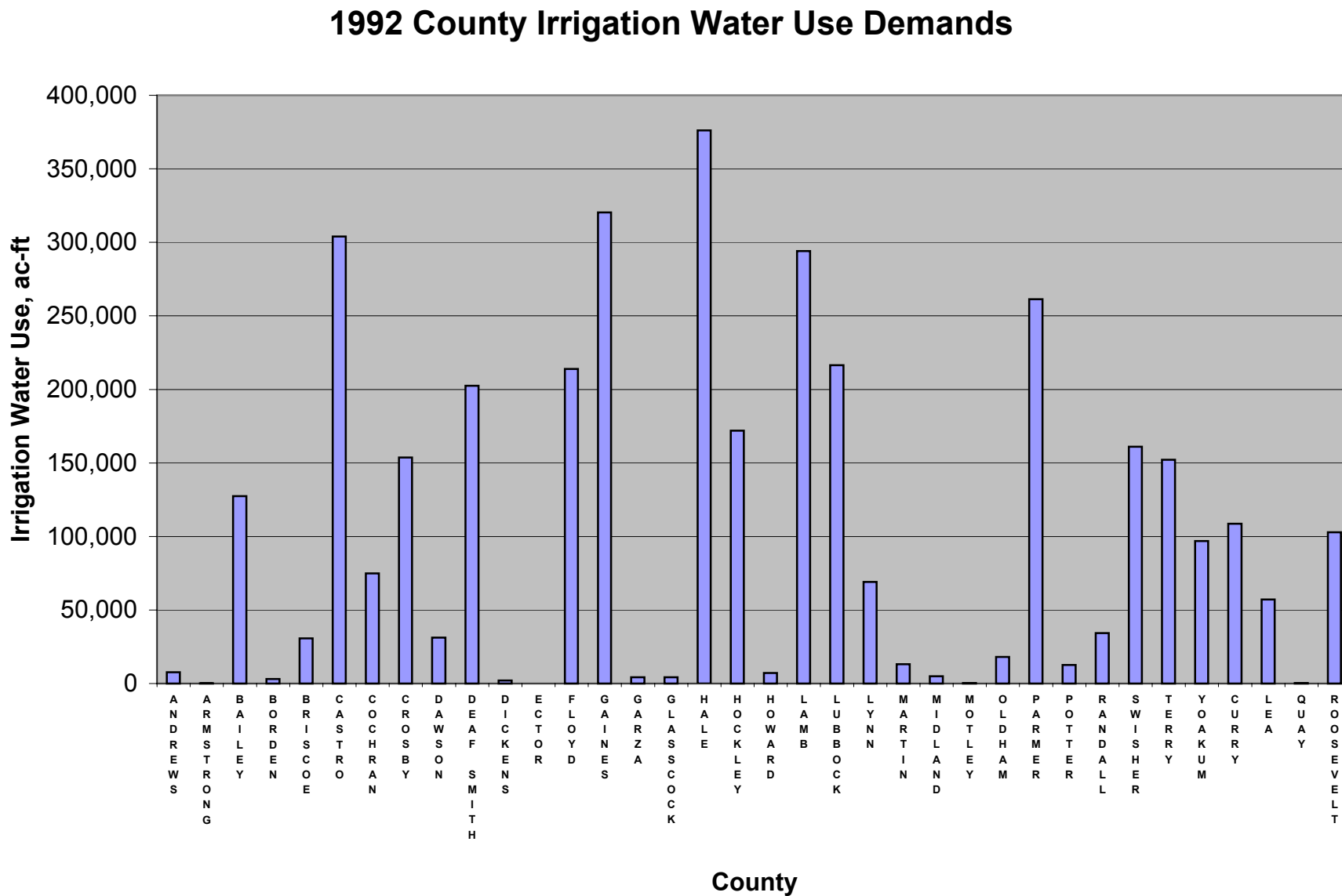
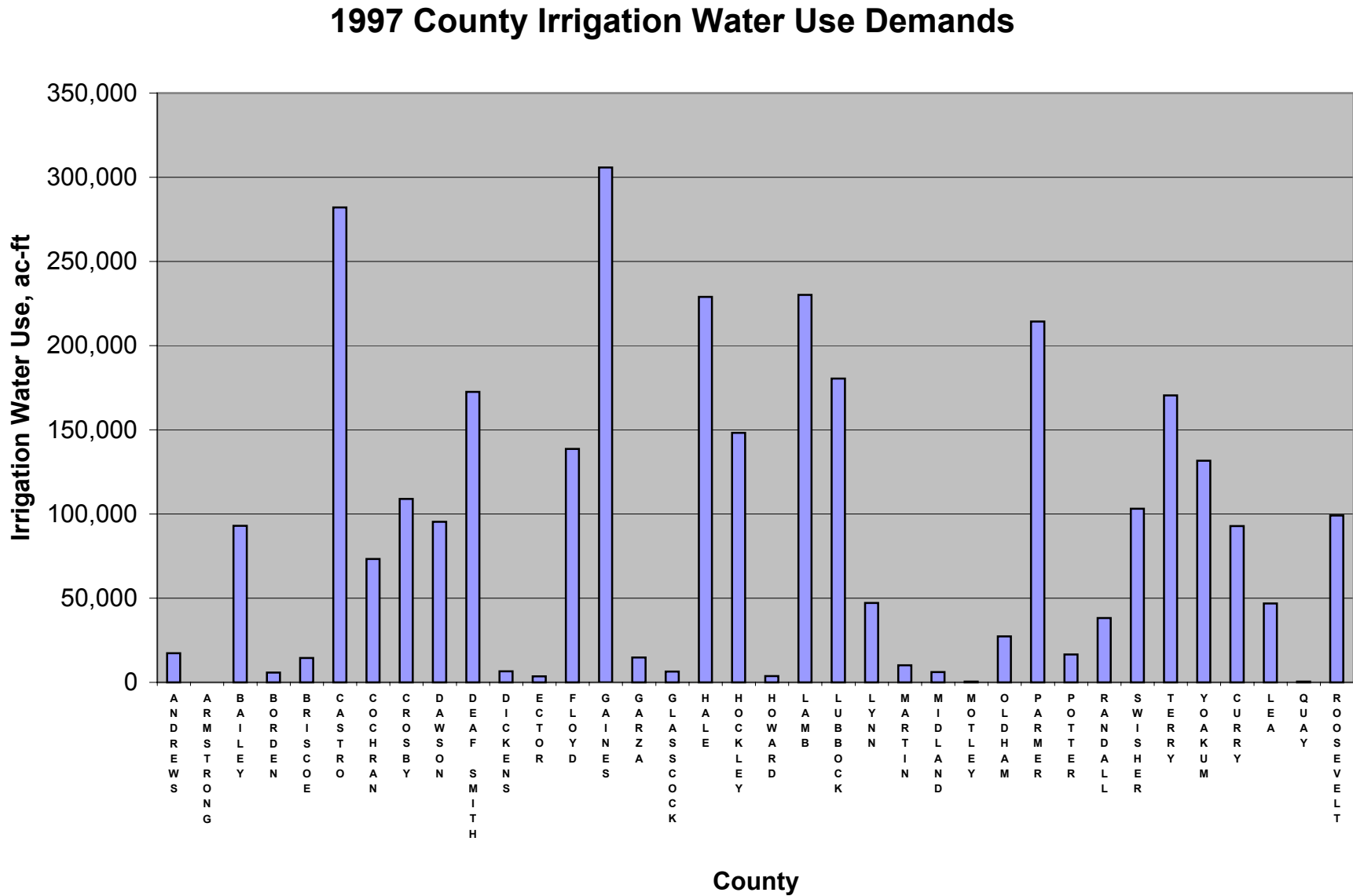


Figure 4. 1997 Southern GAMS Irrigation Water Use Demands by County.



estimates for the "Drought of Record" are presented by year, month and county in Attachment B3.

1980s and 1990s Drought

Irrigation water use in actual three-year periods for the 1980s and 1990s were estimated. These years were identified from TWDB data to be 1982 to 1984 and 1992 to 1994. Actual weather conditions occurring during these years and the associated irrigated acreage for the same years were utilized in the simulation. The resultant water use estimates are summarized and presented by county, year and month in Attachment B3.

Long-term Acreage Simulation

LTA estimates of water use by crop and county were made using average monthly rainfall data for the region over the 1940 to 1998 time frame for the region, Attachment B4. LTA irrigation water use incorporated weather station data and current producer use of ET in its estimates. A county comparison of these estimates is presented in Figure 5.

LTA water use is valuable in estimating water use in years when simulations were not conducted. In addition, LTA water use provides the basic results for approximating average future water use demand for the region.

Estimating Irrigation Demand Prior to 1982

The estimation of irrigation demand in the southern Ogallala region can be done in a number of ways. After discussion among ourselves and other knowledgeable individuals, we have decided to recommend the following procedure as a quick/relatively inexpensive methodology for approximating water use prior to 1982.

Records and experience suggest water use efficiency has improved an average of 1 percent per year from the inception of irrigation in the region through 1997. Therefore, the easiest/simplest way to estimate irrigation demand for a year prior to 1982 is to use the LTA water use per acre by county and then adjust this amount to reflect the difference in acreage and irrigation efficiency for that year.

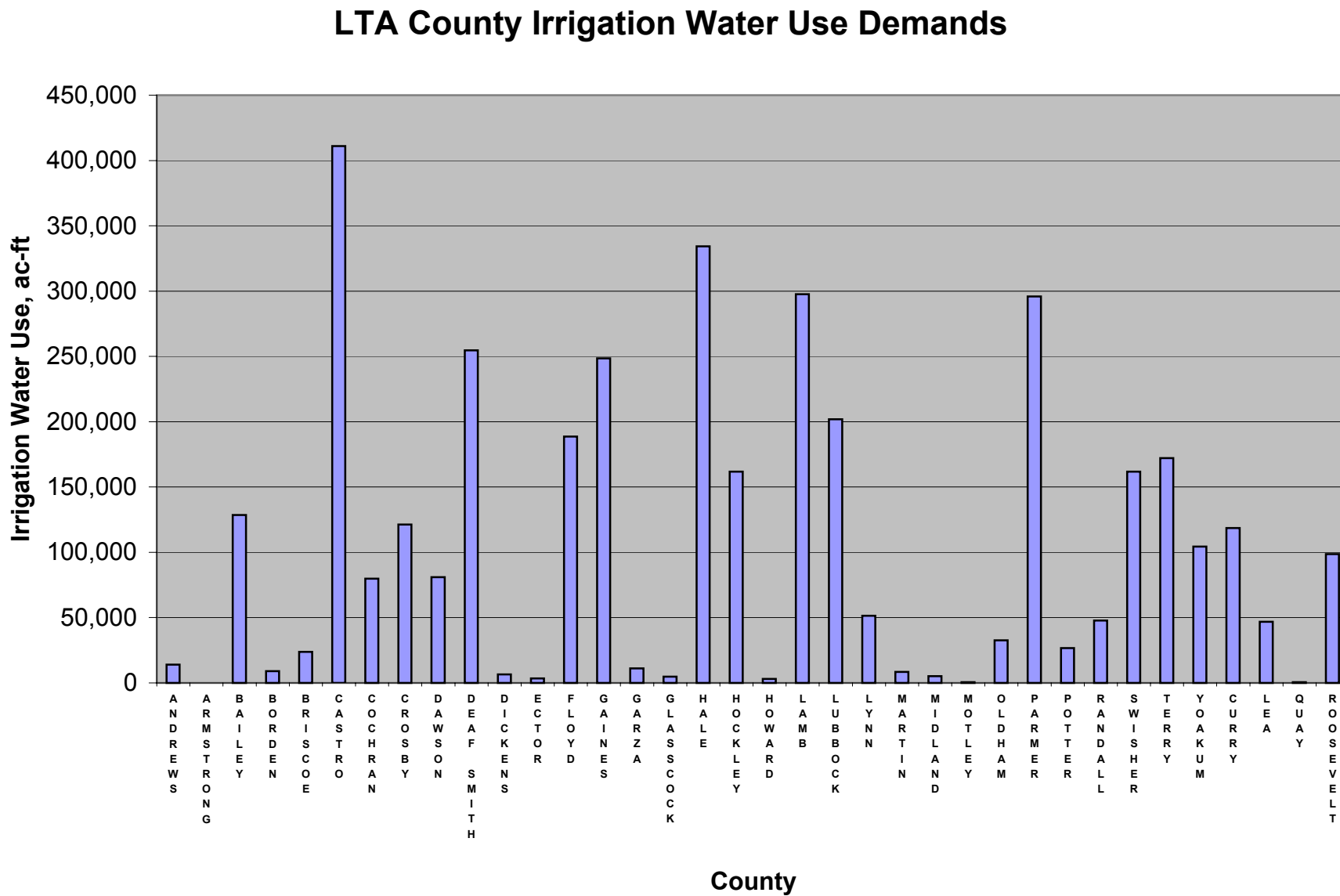
For example, if the LTA irrigation demand (LTA estimates are calculated using 1940 to 1998 conditions.) for a specific county was 13 inches and water use in 1968 needed to be estimated, then the following equation would be used:

$$\begin{array}{r} \text{By County} \\ \text{YIWU} = \text{LTA}_{\text{WU}} \times (1 + (1997 - \text{year})/100) \text{ per acre} \end{array} \quad (7)$$

$$\begin{array}{r} \text{Sum Over Acres} \\ \text{CIWU} = \text{YIWU} * \text{YIA} \end{array} \quad (8)$$

where,

Figure 5. LTA Southern GAMS Irrigation Water Use Demands by County.



YIWU = Water use per irrigated acre in the year being estimated

LTA_{WU} = Long-term average (1940 - 1998) irrigated water use estimate per acre by county

Y = Year being estimated

YCIA = County irrigated acreage in year being estimated

CIWU = Irrigated water use for the county

If the year is 1968, LTA_{WU} for the county equals 13 inches and 1968 county irrigated acreage is 50,000 acres then estimated irrigation water use should be:

$$YIWU = 13 \times (1 + (1997 - 1968/100)) = 16.77$$

and

$$CIWU = 16.77 \times 50,000 = 838,500 \text{ acre-inches}$$

This methodology represents the easiest and simplest way to make a reasonable estimate of irrigation demand for a county. However, it is important to recognize the procedure's weaknesses. First, water use estimates are specific to a year. If this is the only year estimated for a time period, an alternative procedure that utilizes average time period acreages for irrigated acreage and water use efficiency should be considered.

Second, since LTA water use for the county is used, there is no allowance considered for weather variations such as temperature in that year which leads to potential distortions in water use estimates for that specific year. Finally, estimating irrigation demand for a specific year utilizing LTA water use per irrigated acre can result in some distortion if the assumed LTA crop mix (based on 1997 regional crop patterns) varies from the specific year's crop mix.

The distortion in crop mix can be eliminated by using the LTA water use estimate by crop (included in the LTA estimate). Obviously, this approach increases significantly the workload unless the approach is used only when observed significant variations in crop mix between the LTA and the distribution of estimated irrigated acreage in the year being projected.

Optimally, the best approach would be to run the Southern Ogallala GAM water demand model for every year of the time frame being considered. However, the workload would increase significantly and while the results would increase in accuracy, the expense would need to be warranted.

Regional Assessment

The summary of the planted irrigation acreages (pia), irrigation water use demands and irrigation water use per pia is presented in Figure 6. Graphically viewing this data along with polynomial trendlines reflects the sequence of irrigation water use for the Southern Ogallala Region. Note that the time series axis is not proportionately contiguous. Additionally, in Figure 7, the irrigation water use per pia is presented for the total region. These estimates are supplemented with observations witnessed from scientists and irrigation associated engineers over the respective periods.

Figure 6. Southern GAMS Comparisons Chart.

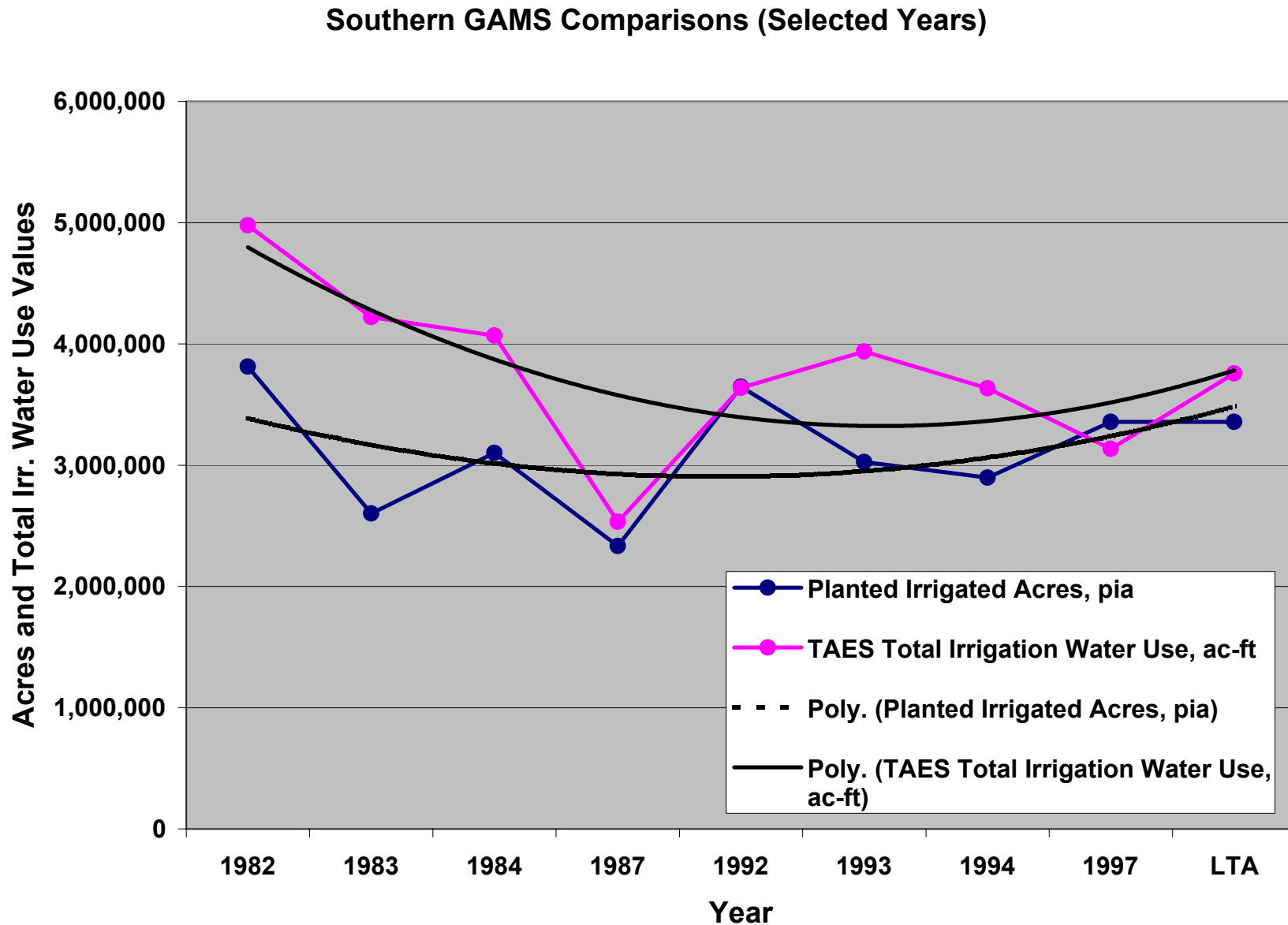
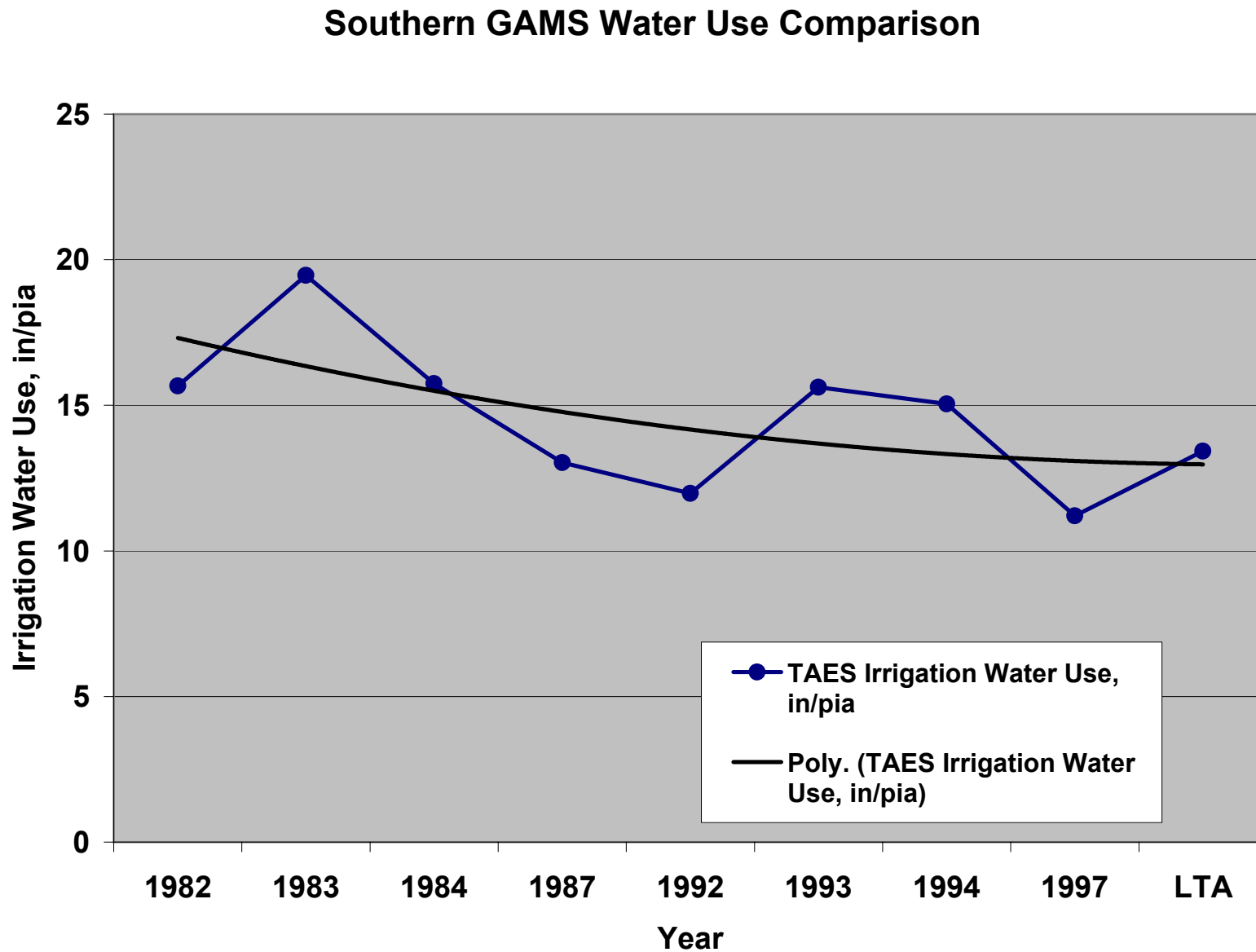


Figure 7. Southern GAMS Water Use Comparison Chart.



Attachment B1

**Monthly Rainfall in
Inches by County**

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Andrews County-Texas														
505	1997	0.30	1.96	0.28	3.12	3.02	3.53	1.85	2.47	2.07	1.09	0.44	2.00	22.11
	1994	0.55	0.04	0.09	0.66	3.22	0.36	1.93	0.46	1.80	0.77	0.85	0.09	10.81
	1993	1.22	0.93	0.98	1.33	1.15	0.72	3.59	1.70	1.05	0.96	0.20	0.33	14.15
	1992	1.56	2.15	0.91	0.76	6.68	3.14	1.45	2.33	0.72	0.01	1.26	0.43	21.41
	1987	0.31	1.52	0.74	0.55	6.47	2.36	0.58	1.97	2.63	0.32	0.07	0.58	18.10
	1984	0.35	0.37	0.38	0.20	3.49	4.17	1.84	4.13	1.53	3.59	2.10	1.41	23.56
	1983	1.55	0.53	0.52	0.70	1.42	1.11	0.94	0.33	0.48	4.41	2.22	0.73	14.95
	1982	0.47	0.32	0.98	1.15	2.90	2.82	2.37	0.59	1.37	0.88	1.53	2.78	18.15
	1956	0.39	1.51	0.08	0.89	1.87	1.23	0.65	0.69	0.18	1.76	0.46	0.33	10.04
	1955	0.81	0.22	0.49	0.94	2.41	1.12	3.56	0.62	1.87	3.54	0.26	0.04	15.87
	1954	0.34	0.07	0.06	2.66	5.78	1.14	0.24	2.54	0.42	3.27	0.40	0.89	17.81
	1953	0.27	0.34	0.87	1.70	5.33	0.45	3.38	1.79	0.73	3.67	0.82	1.15	20.49
	1952	0.48	0.50	0.41	1.50	2.05	0.40	2.75	0.52	1.94	0.03	1.46	1.04	13.06
	LTA	0.76	0.73	0.73	1.12	2.43	2.04	2.28	1.99	2.48	1.69	0.78	0.78	17.82
Armstrong County-Texas														
206&306	1997	0.59	1.57	0.34	7.50	3.50	2.91	2.56	3.90	2.25	1.05	0.87	2.01	29.01
	1994	0.72	0.12	1.31	2.22	2.49	1.39	3.93	2.09	1.76	0.94	0.83	0.44	18.20
	1993	1.17	0.70	1.17	0.92	2.17	2.79	3.81	3.06	1.21	0.81	0.62	0.51	18.90
	1992	0.75	0.67	1.08	2.11	4.14	6.63	2.70	2.65	0.51	0.08	1.52	0.89	23.70
	1987	0.85	1.32	1.24	0.33	5.18	3.19	2.36	3.75	3.34	0.90	0.48	1.89	24.80
	1984	0.36	0.57	1.12	1.02	0.56	4.14	1.30	3.45	0.83	2.45	1.28	1.57	18.63
	1983	1.58	1.67	0.79	1.11	2.27	2.57	0.60	0.84	1.04	4.09	0.50	0.63	17.66
	1982	0.18	0.63	0.72	0.56	4.92	5.06	4.79	1.08	1.19	0.39	1.04	1.13	21.67
	1956	0.20	1.81	0.13	0.30	3.82	1.65	2.52	0.81	0.49	0.62	0.23	0.34	12.88
	1955	0.45	0.22	0.28	0.70	6.02	3.55	2.02	1.19	1.94	1.02	0.14	0.05	17.54
	1954	0.36	0.06	0.17	1.98	4.37	1.73	1.21	2.35	0.38	0.83	0.03	0.40	13.85
	1953	0.69	0.32	0.66	0.90	1.03	0.34	3.24	2.57	0.26	3.61	0.39	0.48	14.47
	1952	0.70	0.29	0.51	2.63	1.18	1.99	2.18	1.51	0.58	0.00	1.08	0.57	13.19
	LTA	0.62	0.75	0.92	1.45	3.05	3.33	2.74	2.67	2.16	1.65	0.76	0.71	20.81
Bailey County-Texas														
305&405	1997	0.54	0.83	0.09	4.62	2.51	3.11	2.56	3.07	2.61	1.06	0.62	2.04	23.65
	1994	0.16	0.10	1.01	1.46	4.13	1.60	2.93	1.84	1.03	0.45	0.65	0.26	15.63
	1993	1.07	0.36	0.59	0.67	1.47	1.55	3.88	2.56	1.80	1.15	0.53	0.30	15.94
	1992	1.07	0.65	1.16	1.13	4.40	5.16	1.91	2.87	1.17	0.02	1.19	0.77	21.50
	1987	0.71	0.97	0.30	0.18	4.08	2.08	1.43	4.68	3.40	0.78	0.31	1.68	20.60
	1984	0.24	0.14	0.67	0.29	1.01	3.42	2.12	5.54	0.53	3.33	1.28	1.59	20.17
	1983	1.47	0.94	0.39	0.65	1.45	1.67	0.62	0.62	0.76	3.45	0.56	0.45	13.00
	1982	0.15	0.38	0.37	0.48	2.52	3.28	3.93	1.08	0.74	0.44	1.16	1.61	16.12
	1956	0.18	1.21	0.11	0.37	2.40	1.90	1.02	0.96	0.21	0.68	0.03	0.17	9.23
	1955	0.67	0.15	0.22	0.54	3.47	0.95	2.53	1.05	1.98	2.19	0.15	0.03	13.95
	1954	0.18	0.19	0.14	1.17	2.59	0.91	0.57	2.75	0.51	1.67	0.02	0.28	10.99
	1953	0.44	0.44	0.94	0.93	1.20	0.86	2.28	2.00	0.41	2.45	0.24	0.22	12.40
	1952	0.57	0.25	0.42	1.86	0.99	1.53	1.95	1.57	0.85	0.00	1.04	0.36	11.38
	LTA	0.59	0.63	0.64	1.04	2.34	2.57	2.50	2.55	2.21	1.57	0.68	0.71	18.04

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Borden County-Texas														
506	1997	0.17	3.11	0.27	4.41	2.77	5.34	1.13	3.21	1.76	1.45	0.51	1.63	25.77
	1994	0.99	0.26	0.15	0.81	4.03	0.50	1.16	0.35	3.35	1.12	1.45	0.48	14.64
	1993	1.09	1.12	0.66	1.76	1.93	3.31	2.42	1.73	1.49	2.04	0.26	0.47	18.27
	1992	1.76	2.69	0.65	1.59	7.21	4.33	1.30	2.36	1.24	0.02	1.30	0.56	25.03
	1987	0.41	1.85	0.75	0.46	7.53	2.97	1.67	1.52	2.82	0.07	0.06	0.79	20.90
	1984	0.54	0.82	0.45	0.21	2.06	2.02	1.86	3.28	2.55	3.85	2.77	2.29	22.70
	1983	2.03	0.64	0.93	1.11	2.36	1.46	1.31	0.28	0.78	4.39	1.58	1.63	18.52
	1982	1.56	1.07	0.90	2.07	4.54	6.47	1.74	2.26	0.74	1.34	2.67	5.73	31.10
	1956	0.52	1.25	0.10	1.99	2.16	1.20	0.56	0.44	0.53	1.82	0.57	0.66	11.80
	1955	0.90	0.67	1.47	1.17	4.39	1.45	3.10	1.39	3.61	2.19	0.19	0.11	20.66
	1954	0.69	0.15	0.12	3.54	4.26	1.67	0.17	1.16	0.57	3.11	0.78	0.92	17.14
	1953	0.68	0.67	1.71	2.13	2.49	0.52	2.10	1.22	1.27	3.55	0.55	0.54	17.43
	1952	0.60	0.49	0.81	1.09	1.92	0.19	1.65	0.98	2.39	0.06	2.55	1.69	14.42
	LTA	0.96	1.01	1.04	1.70	3.08	2.49	2.27	2.10	2.86	2.06	1.05	1.12	21.74
Briscoe County-Texas														
306	1997	0.65	2.34	0.67	7.35	4.17	3.31	2.01	4.05	2.65	1.18	0.73	1.94	31.05
	1994	0.65	0.13	1.44	2.64	3.23	1.23	3.64	1.48	1.98	0.53	0.85	0.35	18.15
	1993	1.28	0.62	0.96	1.02	1.95	1.54	4.00	2.81	0.71	1.13	0.56	0.50	17.06
	1992	0.89	0.92	0.99	2.15	4.70	7.04	2.80	1.37	0.62	0.03	1.57	0.88	23.95
	1987	0.70	1.42	0.55	0.23	5.37	2.31	2.80	3.82	2.95	0.68	0.37	2.18	23.37
	1984	0.26	0.59	0.69	0.71	0.56	4.14	1.58	3.73	0.76	1.90	1.59	1.68	18.19
	1983	1.90	1.47	0.41	0.94	1.91	2.23	0.64	0.66	1.32	5.71	0.42	0.61	18.21
	1982	0.22	0.36	0.70	0.49	5.56	5.39	3.14	0.75	0.66	0.28	1.32	1.27	20.15
	1956	0.30	2.63	0.18	0.45	4.97	1.54	2.10	0.61	0.43	0.85	0.45	0.65	15.16
	1955	0.65	0.34	0.45	0.54	6.61	4.51	2.01	1.07	1.64	1.89	0.20	0.04	19.95
	1954	0.48	0.09	0.19	2.23	4.07	1.44	0.92	2.16	0.29	0.62	0.06	0.58	13.14
	1953	0.85	0.29	0.84	1.01	1.24	0.37	2.70	2.66	0.31	3.34	0.33	0.39	14.33
	1952	1.07	0.24	0.41	2.79	1.09	1.55	2.37	0.89	0.68	0.00	1.18	0.58	12.85
	LTA	0.67	0.78	0.88	1.48	3.05	3.39	2.51	2.53	2.34	1.72	0.75	0.75	20.85
Castro County-Texas														
305	1997	0.56	0.64	0.08	4.79	2.48	2.99	2.59	3.22	2.90	0.99	0.62	2.07	23.92
	1994	0.17	0.10	1.14	1.45	4.17	1.88	3.22	2.12	1.09	0.46	0.64	0.31	16.75
	1993	0.98	0.35	0.51	0.58	1.59	1.71	3.89	2.85	2.02	1.22	0.55	0.34	16.60
	1992	1.00	0.48	1.25	1.10	4.19	5.46	1.95	2.99	1.16	0.02	1.14	0.79	21.53
	1987	0.76	0.87	0.31	0.15	3.79	1.94	1.26	4.70	3.52	0.82	0.33	1.63	20.09
	1984	0.28	0.16	0.79	0.34	0.80	2.95	2.28	5.91	0.41	3.44	1.17	1.59	20.12
	1983	1.39	1.04	0.47	0.63	1.33	1.74	0.56	0.59	0.82	2.97	0.43	0.47	12.41
	1982	0.07	0.39	0.36	0.50	2.18	3.35	3.92	1.24	0.57	0.45	1.14	1.50	15.65
	1956	0.21	1.20	0.13	0.40	2.60	1.85	1.04	1.05	0.20	0.57	0.03	0.14	9.42
	1955	0.65	0.18	0.24	0.61	3.63	0.99	2.56	1.25	1.96	1.17	0.12	0.04	13.41
	1954	0.22	0.22	0.17	0.99	2.41	0.99	0.61	2.86	0.56	1.45	0.02	0.27	10.76
	1953	0.43	0.52	0.99	0.99	1.28	0.89	2.31	2.09	0.41	2.25	0.26	0.25	12.65
	1952	0.55	0.26	0.52	1.95	0.87	1.67	1.94	1.70	0.79	0.00	1.11	0.43	11.78
	LTA	0.60	0.63	0.66	1.04	2.32	2.58	2.50	2.60	2.13	1.55	0.70	0.74	18.04

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Cochran County-Texas														
405	1997	0.48	1.57	0.11	3.92	2.64	3.57	2.46	2.47	1.43	1.33	0.63	1.94	22.56
	1994	0.14	0.08	0.48	1.49	3.96	0.50	1.77	0.73	0.81	0.42	0.69	0.07	11.14
	1993	1.41	0.42	0.89	1.05	1.01	0.91	3.82	1.41	0.94	0.89	0.46	0.12	13.31
	1992	1.37	1.34	0.80	1.23	5.24	3.98	1.76	2.39	1.19	0.01	1.38	0.67	21.36
	1987	0.50	1.37	0.28	0.32	5.22	2.63	2.09	4.61	2.91	0.60	0.24	1.87	22.65
	1984	0.10	0.07	0.19	0.09	1.85	5.32	1.47	4.06	1.02	2.90	1.70	1.60	20.38
	1983	1.81	0.52	0.07	0.72	1.93	1.38	0.85	0.74	0.50	5.37	1.10	0.35	15.34
	1982	0.46	0.33	0.43	0.40	3.90	3.00	3.95	0.45	1.41	0.38	1.24	2.03	18.00
	1956	0.07	1.23	0.04	0.23	1.60	2.10	0.95	0.62	0.23	1.10	0.02	0.29	8.47
	1955	0.74	0.03	0.12	0.27	2.85	0.77	2.43	0.27	2.08	6.27	0.27	0.00	16.11
	1954	0.04	0.05	0.01	1.91	3.31	0.60	0.41	2.32	0.33	2.56	0.04	0.33	11.92
	1953	0.48	0.12	0.75	0.71	0.88	0.72	2.16	1.66	0.40	3.27	0.14	0.12	11.42
	1952	0.65	0.23	0.03	1.50	1.46	0.97	1.97	1.04	1.08	0.00	0.78	0.07	9.76
	LTA	0.57	0.64	0.57	1.04	2.41	2.55	2.52	2.37	2.52	1.66	0.61	0.61	18.08
Crosby County-Texas														
406	1997	0.46	2.23	0.22	6.40	3.64	4.26	2.21	1.96	2.01	1.15	0.53	1.98	27.06
	1994	0.34	0.35	0.42	2.49	4.41	0.50	1.60	1.08	2.44	1.13	1.33	0.19	16.28
	1993	1.31	1.06	0.71	1.25	1.85	1.50	2.46	1.93	0.51	1.30	0.35	0.60	14.84
	1992	1.51	2.46	0.66	2.31	5.73	5.45	2.13	1.53	0.82	0.00	1.76	0.95	25.32
	1987	0.75	2.75	0.64	0.40	5.02	2.82	3.95	2.10	2.71	0.85	1.29	1.94	25.24
	1984	0.33	1.36	0.79	0.60	1.11	3.65	1.58	3.41	1.40	3.43	2.55	1.81	22.03
	1983	2.35	1.45	0.92	1.18	2.96	1.65	1.02	0.67	0.52	7.70	1.49	2.31	24.23
	1982	0.93	0.76	1.09	1.45	5.84	5.37	1.96	1.07	1.94	1.33	1.91	2.70	26.36
	1956	1.41	2.80	0.94	1.94	2.53	2.33	1.47	0.79	0.55	1.24	2.37	1.05	19.43
	1955	1.27	1.19	1.57	0.94	4.71	2.63	4.13	0.90	3.12	3.58	0.58	0.21	24.83
	1954	1.65	0.20	0.31	2.64	4.69	0.64	0.46	1.84	0.31	1.59	0.86	2.00	17.20
	1953	1.10	1.58	1.92	2.42	2.16	0.56	2.69	2.04	0.64	4.04	0.52	0.79	20.47
	1952	1.89	1.32	1.15	2.98	2.48	0.96	3.18	1.28	1.31	0.03	1.70	1.38	19.67
	LTA	1.19	1.28	1.21	1.78	3.22	2.90	2.53	2.26	2.72	2.12	1.24	1.19	23.65
Dawson County-Texas														
505&506	1997	0.21	2.77	0.27	4.02	2.85	4.80	1.35	2.99	1.85	1.34	0.49	1.74	24.67
	1994	0.64	0.08	0.10	0.69	3.38	0.39	1.78	0.44	2.11	0.84	0.97	0.17	11.58
	1993	1.19	0.97	0.92	1.42	1.31	1.24	3.36	1.71	1.14	1.18	0.21	0.36	14.97
	1992	1.70	2.53	0.73	1.34	7.05	3.97	1.35	2.35	1.08	0.02	1.29	0.52	23.94
	1987	0.38	1.75	0.75	0.49	7.21	2.79	1.34	1.66	2.76	0.15	0.06	0.73	20.06
	1984	0.39	0.46	0.39	0.20	3.20	3.74	1.84	3.96	1.73	3.64	2.23	1.59	23.39
	1983	1.65	0.55	0.60	0.78	1.61	1.18	1.01	0.32	0.54	4.41	2.09	0.91	15.66
	1982	1.23	0.85	0.92	1.79	4.05	5.38	1.93	1.76	0.93	1.20	2.33	4.85	27.22
	1956	0.48	1.33	0.09	1.66	2.07	1.21	0.59	0.52	0.43	1.80	0.54	0.56	11.27
	1955	0.87	0.54	1.18	1.10	3.80	1.35	3.24	1.16	3.09	2.60	0.21	0.09	19.22
	1954	0.59	0.13	0.10	3.28	4.72	1.51	0.19	1.57	0.53	3.16	0.67	0.91	17.34
	1953	0.56	0.57	1.46	2.00	3.34	0.50	2.48	1.39	1.11	3.59	0.63	0.72	18.35
	1952	0.56	0.49	0.69	1.21	1.96	0.25	1.98	0.84	2.26	0.05	2.22	1.50	14.01
	LTA	0.80	0.79	0.79	1.23	2.56	2.13	2.28	2.01	2.55	1.77	0.84	0.85	18.60

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Deaf Smith County-Texas														
205&305	1997	0.53	0.59	0.07	4.79	2.27	2.87	2.75	3.54	2.63	0.94	0.65	2.06	23.69
	1994	0.29	0.06	1.04	1.34	3.87	1.73	3.65	2.27	0.77	1.10	0.56	0.40	17.06
	1993	0.98	0.48	0.89	0.57	1.83	3.24	3.19	2.76	1.44	1.13	0.53	0.39	17.40
	1992	0.93	0.46	1.17	1.06	4.07	5.30	2.14	3.09	1.00	0.03	1.09	0.76	21.10
	1987	0.82	1.07	0.50	0.25	3.80	1.96	1.14	4.59	3.28	0.78	0.42	1.46	20.09
	1984	0.33	0.21	1.23	1.16	0.86	2.90	1.94	5.05	0.45	3.51	0.93	1.55	20.11
	1983	1.41	0.96	0.78	0.69	1.82	1.59	0.93	0.89	0.67	2.21	0.46	0.71	13.07
	1982	0.10	0.43	0.41	0.48	2.16	3.25	4.41	1.62	0.86	0.57	1.04	1.39	16.71
	1956	0.21	1.13	0.12	0.38	2.36	1.71	1.29	1.24	0.17	0.59	0.09	0.18	9.48
	1955	0.55	0.19	0.25	0.95	3.61	0.98	2.50	1.44	1.99	1.00	0.12	0.04	13.62
	1954	0.31	0.22	0.16	0.95	2.45	1.17	0.95	2.76	0.61	1.52	0.03	0.28	11.38
	1953	0.36	0.50	0.89	0.85	1.26	0.78	2.48	2.28	0.39	2.24	0.38	0.31	12.71
	1952	0.53	0.27	0.59	2.09	0.92	1.60	1.92	2.04	0.77	0.00	1.07	0.44	12.25
	LTA	0.59	0.63	0.77	1.13	2.37	2.56	2.74	2.77	2.02	1.44	0.71	0.71	18.44
Dickens County-Texas														
407	1997	0.37	3.86	0.25	6.42	3.24	3.91	2.12	2.16	2.37	2.13	0.63	3.52	30.98
	1994	0.89	1.17	0.82	1.88	4.72	0.44	1.69	0.74	3.03	2.22	1.86	0.52	19.99
	1993	1.23	2.25	1.07	1.84	2.49	1.71	1.20	2.61	1.30	1.40	0.45	0.91	18.45
	1992	1.89	3.12	1.03	2.02	4.22	7.36	0.97	1.60	0.91	0.01	2.67	1.03	26.85
	1987	1.08	2.64	1.37	0.42	8.58	3.95	2.84	1.55	2.84	0.75	1.23	2.24	29.49
	1984	0.61	1.59	1.15	1.28	2.20	2.17	1.49	3.36	1.66	3.95	2.53	3.60	25.60
	1983	2.41	1.57	1.60	2.34	3.96	2.66	0.38	1.74	1.03	8.38	1.93	1.78	29.78
	1982	1.77	1.60	1.02	1.31	7.27	5.50	1.60	1.27	2.85	0.46	1.95	2.30	28.90
	1956	0.37	1.22	0.05	0.23	2.31	0.60	1.09	0.28	0.05	1.29	0.27	0.71	8.46
	1955	0.92	1.25	1.26	0.35	4.38	3.68	2.52	1.59	3.65	3.81	0.09	0.11	23.61
	1954	0.28	0.02	0.18	2.41	7.14	0.73	0.35	1.07	0.45	0.84	0.72	1.02	15.22
	1953	0.09	0.59	1.13	1.22	0.65	0.40	3.17	2.73	0.27	4.10	0.45	0.27	15.08
	1952	0.59	0.46	0.85	2.68	2.02	0.39	2.69	0.69	1.21	0.00	1.28	1.02	13.89
	LTA	0.97	1.19	1.16	1.81	3.39	2.91	2.12	2.49	2.92	2.16	1.09	1.09	23.32
Ector County-Texas														
605	1997	0.16	1.99	0.16	1.60	1.68	2.46	1.04	1.32	2.04	0.62	0.56	1.63	15.26
	1994	1.09	0.35	0.05	0.35	1.34	0.24	2.03	1.33	1.98	0.71	0.52	0.39	10.38
	1993	0.99	0.56	0.27	0.64	1.27	0.35	1.79	1.89	1.33	1.02	0.09	0.52	10.73
	1992	1.31	2.09	0.62	0.97	6.77	1.47	1.66	2.55	0.80	0.08	0.61	0.63	19.55
	1987	0.09	1.57	1.07	1.33	5.02	2.42	0.42	1.77	2.08	0.55	0.05	0.51	16.89
	1984	0.52	0.12	0.01	0.00	2.69	2.13	0.47	0.86	2.27	2.68	1.96	1.21	14.94
	1983	0.78	0.25	0.21	0.07	0.77	0.87	0.12	0.26	0.64	3.64	1.82	0.25	9.68
	1982	0.23	0.15	0.00	1.14	3.50	1.31	0.94	0.97	0.51	0.21	0.79	1.68	11.44
	1956	0.29	0.27	0.01	0.60	0.55	0.67	0.95	1.17	0.26	0.53	0.00	0.34	5.66
	1955	0.87	0.27	0.00	0.07	2.07	1.56	2.41	0.81	0.51	0.68	0.38	0.02	9.66
	1954	0.19	0.03	0.18	1.54	2.03	1.74	0.15	1.43	0.16	2.30	0.03	0.01	9.79
	1953	0.00	0.46	0.48	0.55	0.03	0.31	0.54	0.84	0.05	2.39	0.00	0.28	5.91
	1952	0.34	0.25	0.04	0.82	1.39	0.42	1.62	0.25	0.93	0.00	1.13	0.85	8.04
	LTA	0.65	0.68	0.40	0.82	1.92	1.50	1.48	1.58	2.07	1.47	0.58	0.65	13.81

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Floyd County-Texas														
306&406	1997	0.61	2.32	0.58	7.16	4.06	3.50	2.05	3.63	2.52	1.17	0.69	1.95	30.25
	1994	0.59	0.17	1.24	2.61	3.47	1.08	3.23	1.40	2.07	0.65	0.95	0.32	17.78
	1993	1.29	0.71	0.91	1.07	1.93	1.53	3.69	2.63	0.67	1.16	0.52	0.52	16.62
	1992	1.01	1.23	0.92	2.18	4.91	6.72	2.67	1.40	0.66	0.02	1.61	0.89	24.22
	1987	0.71	1.69	0.57	0.26	5.30	2.41	3.03	3.48	2.90	0.71	0.55	2.13	23.74
	1984	0.27	0.74	0.71	0.69	0.67	4.04	1.58	3.67	0.89	2.21	1.78	1.71	18.96
	1983	1.99	1.47	0.51	0.99	2.12	2.11	0.72	0.66	1.16	6.11	0.63	0.95	19.41
	1982	0.36	0.44	0.78	0.68	5.62	5.39	2.90	0.81	0.92	0.49	1.44	1.56	21.39
	1956	0.52	2.66	0.33	0.75	4.48	1.70	1.97	0.65	0.45	0.93	0.83	0.73	16.01
	1955	0.77	0.51	0.67	0.62	6.23	4.13	2.43	1.04	1.94	2.23	0.28	0.07	20.93
	1954	0.71	0.11	0.21	2.31	4.19	1.28	0.83	2.10	0.29	0.81	0.22	0.86	13.95
	1953	0.90	0.55	1.06	1.29	1.42	0.41	2.70	2.54	0.38	3.48	0.37	0.47	15.56
	1952	1.23	0.46	0.56	2.83	1.37	1.43	2.53	0.97	0.81	0.01	1.28	0.74	14.21
	LTA	0.77	0.88	0.94	1.54	3.09	3.29	2.52	2.48	2.42	1.80	0.85	0.83	21.41
Gaines County-Texas														
505	1997	0.30	1.96	0.28	3.12	3.02	3.53	1.85	2.47	2.07	1.09	0.44	2.00	22.11
	1994	0.55	0.04	0.09	0.66	3.22	0.36	1.93	0.46	1.80	0.77	0.85	0.09	10.81
	1993	1.22	0.93	0.98	1.33	1.15	0.72	3.59	1.70	1.05	0.96	0.20	0.33	14.15
	1992	1.56	2.15	0.91	0.76	6.68	3.14	1.45	2.33	0.72	0.01	1.26	0.43	21.41
	1987	0.31	1.52	0.74	0.55	6.47	2.36	0.58	1.97	2.63	0.32	0.07	0.58	18.10
	1984	0.35	0.37	0.38	0.20	3.49	4.17	1.84	4.13	1.53	3.59	2.10	1.41	23.56
	1983	1.55	0.53	0.52	0.70	1.42	1.11	0.94	0.33	0.48	4.41	2.22	0.73	14.95
	1982	0.47	0.32	0.98	1.15	2.90	2.82	2.37	0.59	1.37	0.88	1.53	2.78	18.15
	1956	0.39	1.51	0.08	0.89	1.87	1.23	0.65	0.69	0.18	1.76	0.46	0.33	10.04
	1955	0.81	0.22	0.49	0.94	2.41	1.12	3.56	0.62	1.87	3.54	0.26	0.04	15.87
	1954	0.34	0.07	0.06	2.66	5.78	1.14	0.24	2.54	0.42	3.27	0.40	0.89	17.81
	1953	0.27	0.34	0.87	1.70	5.33	0.45	3.38	1.79	0.73	3.67	0.82	1.15	20.49
	1952	0.48	0.50	0.41	1.50	2.05	0.40	2.75	0.52	1.94	0.03	1.46	1.04	13.06
	LTA	0.76	0.73	0.73	1.12	2.43	2.04	2.28	1.99	2.48	1.69	0.78	0.78	17.82
Garza County-Texas														
406	1997	0.46	2.23	0.22	6.40	3.64	4.26	2.21	1.96	2.01	1.15	0.53	1.98	27.06
	1994	0.34	0.35	0.42	2.49	4.41	0.50	1.60	1.08	2.44	1.13	1.33	0.19	16.28
	1993	1.31	1.06	0.71	1.25	1.85	1.50	2.46	1.93	0.51	1.30	0.35	0.60	14.84
	1992	1.51	2.46	0.66	2.31	5.73	5.45	2.13	1.53	0.82	0.00	1.76	0.95	25.32
	1987	0.75	2.75	0.64	0.40	5.02	2.82	3.95	2.10	2.71	0.85	1.29	1.94	25.24
	1984	0.33	1.36	0.79	0.60	1.11	3.65	1.58	3.41	1.40	3.43	2.55	1.81	22.03
	1983	2.35	1.45	0.92	1.18	2.96	1.65	1.02	0.67	0.52	7.70	1.49	2.31	24.23
	1982	0.93	0.76	1.09	1.45	5.84	5.37	1.96	1.07	1.94	1.33	1.91	2.70	26.36
	1956	1.41	2.80	0.94	1.94	2.53	2.33	1.47	0.79	0.55	1.24	2.37	1.05	19.43
	1955	1.27	1.19	1.57	0.94	4.71	2.63	4.13	0.90	3.12	3.58	0.58	0.21	24.83
	1954	1.65	0.20	0.31	2.64	4.69	0.64	0.46	1.84	0.31	1.59	0.86	2.00	17.20
	1953	1.10	1.58	1.92	2.42	2.16	0.56	2.69	2.04	0.64	4.04	0.52	0.79	20.47
	1952	1.89	1.32	1.15	2.98	2.48	0.96	3.18	1.28	1.31	0.03	1.70	1.38	19.67
	LTA	1.19	1.28	1.21	1.78	3.22	2.90	2.53	2.26	2.72	2.12	1.24	1.19	23.65

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Glasscock County-Texas														
606	1997	0.21	3.04	0.82	3.15	1.95	3.47	0.49	1.83	1.88	0.65	0.57	1.50	19.54
	1994	1.82	0.35	0.11	0.93	2.63	0.42	0.84	0.34	2.43	1.20	0.72	0.53	12.32
	1993	1.14	0.67	0.46	0.44	2.31	0.83	1.52	2.63	1.44	0.80	0.13	0.58	12.96
	1992	1.91	2.99	0.70	1.66	4.70	3.43	1.98	3.68	0.60	0.21	0.30	0.50	22.67
	1987	0.31	2.07	1.47	1.04	5.11	2.83	0.28	1.83	3.21	0.52	0.05	1.64	20.36
	1984	0.61	0.28	0.37	0.01	1.12	1.39	1.06	0.68	3.26	2.89	2.23	1.72	15.62
	1983	1.65	0.26	0.48	0.25	0.41	1.47	0.23	0.31	0.30	4.19	0.89	0.52	10.96
	1982	0.73	0.38	0.38	0.75	4.27	2.65	0.92	1.19	1.10	0.66	0.99	2.00	16.03
	1956	0.67	0.42	0.03	1.89	1.06	0.26	1.40	0.68	0.71	1.40	0.07	0.72	9.30
	1955	0.83	0.63	0.03	0.56	2.05	1.53	1.87	1.87	0.68	1.13	0.21	0.08	11.46
	1954	0.28	0.18	0.17	2.76	2.26	2.16	0.01	0.62	0.30	1.35	0.37	0.31	10.76
	1953	0.00	0.33	1.86	0.64	0.80	0.30	1.14	1.70	0.36	1.96	0.02	0.15	9.26
	1952	1.83	0.18	0.23	1.12	1.72	0.23	1.45	1.15	1.01	0.00	1.71	1.14	11.78
	LTA	0.88	0.96	0.81	1.43	2.51	1.93	1.77	1.96	2.58	1.84	0.84	0.94	18.45
Hale County-Texas														
306&406	1997	0.61	2.32	0.58	7.16	4.06	3.50	2.05	3.63	2.52	1.17	0.69	1.95	30.25
	1994	0.59	0.17	1.24	2.61	3.47	1.08	3.23	1.40	2.07	0.65	0.95	0.32	17.78
	1993	1.29	0.71	0.91	1.07	1.93	1.53	3.69	2.63	0.67	1.16	0.52	0.52	16.62
	1992	1.01	1.23	0.92	2.18	4.91	6.72	2.67	1.40	0.66	0.02	1.61	0.89	24.22
	1987	0.71	1.69	0.57	0.26	5.30	2.41	3.03	3.48	2.90	0.71	0.55	2.13	23.74
	1984	0.27	0.74	0.71	0.69	0.67	4.04	1.58	3.67	0.89	2.21	1.78	1.71	18.96
	1983	1.99	1.47	0.51	0.99	2.12	2.11	0.72	0.66	1.16	6.11	0.63	0.95	19.41
	1982	0.36	0.44	0.78	0.68	5.62	5.39	2.90	0.81	0.92	0.49	1.44	1.56	21.39
	1956	0.52	2.66	0.33	0.75	4.48	1.70	1.97	0.65	0.45	0.93	0.83	0.73	16.01
	1955	0.77	0.51	0.67	0.62	6.23	4.13	2.43	1.04	1.94	2.23	0.28	0.07	20.93
	1954	0.71	0.11	0.21	2.31	4.19	1.28	0.83	2.10	0.29	0.81	0.22	0.86	13.95
	1953	0.90	0.55	1.06	1.29	1.42	0.41	2.70	2.54	0.38	3.48	0.37	0.47	15.56
	1952	1.23	0.46	0.56	2.83	1.37	1.43	2.53	0.97	0.81	0.01	1.28	0.74	14.21
	LTA	0.77	0.88	0.94	1.54	3.09	3.29	2.52	2.48	2.42	1.80	0.85	0.83	21.41
Hockley County-Texas														
405	1997	0.48	1.57	0.11	3.92	2.64	3.57	2.46	2.47	1.43	1.33	0.63	1.94	22.56
	1994	0.14	0.08	0.48	1.49	3.96	0.50	1.77	0.73	0.81	0.42	0.69	0.07	11.14
	1993	1.41	0.42	0.89	1.05	1.01	0.91	3.82	1.41	0.94	0.89	0.46	0.12	13.31
	1992	1.37	1.34	0.80	1.23	5.24	3.98	1.76	2.39	1.19	0.01	1.38	0.67	21.36
	1987	0.50	1.37	0.28	0.32	5.22	2.63	2.09	4.61	2.91	0.60	0.24	1.87	22.65
	1984	0.10	0.07	0.19	0.09	1.85	5.32	1.47	4.06	1.02	2.90	1.70	1.60	20.38
	1983	1.81	0.52	0.07	0.72	1.93	1.38	0.85	0.74	0.50	5.37	1.10	0.35	15.34
	1982	0.46	0.33	0.43	0.40	3.90	3.00	3.95	0.45	1.41	0.38	1.24	2.03	18.00
	1956	0.07	1.23	0.04	0.23	1.60	2.10	0.95	0.62	0.23	1.10	0.02	0.29	8.47
	1955	0.74	0.03	0.12	0.27	2.85	0.77	2.43	0.27	2.08	6.27	0.27	0.00	16.11
	1954	0.04	0.05	0.01	1.91	3.31	0.60	0.41	2.32	0.33	2.56	0.04	0.33	11.92
	1953	0.48	0.12	0.75	0.71	0.88	0.72	2.16	1.66	0.40	3.27	0.14	0.12	11.42
	1952	0.65	0.23	0.03	1.50	1.46	0.97	1.97	1.04	1.08	0.00	0.78	0.07	9.76
	LTA	0.57	0.64	0.57	1.04	2.41	2.55	2.52	2.37	2.52	1.66	0.61	0.61	18.08

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Howard County-Texas														
506	1997	0.17	3.11	0.27	4.41	2.77	5.34	1.13	3.21	1.76	1.45	0.51	1.63	25.77
	1994	0.99	0.26	0.15	0.81	4.03	0.50	1.16	0.35	3.35	1.12	1.45	0.48	14.64
	1993	1.09	1.12	0.66	1.76	1.93	3.31	2.42	1.73	1.49	2.04	0.26	0.47	18.27
	1992	1.76	2.69	0.65	1.59	7.21	4.33	1.30	2.36	1.24	0.02	1.30	0.56	25.03
	1987	0.41	1.85	0.75	0.46	7.53	2.97	1.67	1.52	2.82	0.07	0.06	0.79	20.90
	1984	0.54	0.82	0.45	0.21	2.06	2.02	1.86	3.28	2.55	3.85	2.77	2.29	22.70
	1983	2.03	0.64	0.93	1.11	2.36	1.46	1.31	0.28	0.78	4.39	1.58	1.63	18.52
	1982	1.56	1.07	0.90	2.07	4.54	6.47	1.74	2.26	0.74	1.34	2.67	5.73	31.10
	1956	0.52	1.25	0.10	1.99	2.16	1.20	0.56	0.44	0.53	1.82	0.57	0.66	11.80
	1955	0.90	0.67	1.47	1.17	4.39	1.45	3.10	1.39	3.61	2.19	0.19	0.11	20.66
	1954	0.69	0.15	0.12	3.54	4.26	1.67	0.17	1.16	0.57	3.11	0.78	0.92	17.14
	1953	0.68	0.67	1.71	2.13	2.49	0.52	2.10	1.22	1.27	3.55	0.55	0.54	17.43
	1952	0.60	0.49	0.81	1.09	1.92	0.19	1.65	0.98	2.39	0.06	2.55	1.69	14.42
	LTA	0.96	1.01	1.04	1.70	3.08	2.49	2.27	2.10	2.86	2.06	1.05	1.12	21.74
Lamb County-Texas														
305&405	1997	0.54	0.83	0.09	4.62	2.51	3.11	2.56	3.07	2.61	1.06	0.62	2.04	23.65
	1994	0.16	0.10	1.01	1.46	4.13	1.60	2.93	1.84	1.03	0.45	0.65	0.26	15.63
	1993	1.07	0.36	0.59	0.67	1.47	1.55	3.88	2.56	1.80	1.15	0.53	0.30	15.94
	1992	1.07	0.65	1.16	1.13	4.40	5.16	1.91	2.87	1.17	0.02	1.19	0.77	21.50
	1987	0.71	0.97	0.30	0.18	4.08	2.08	1.43	4.68	3.40	0.78	0.31	1.68	20.60
	1984	0.24	0.14	0.67	0.29	1.01	3.42	2.12	5.54	0.53	3.33	1.28	1.59	20.17
	1983	1.47	0.94	0.39	0.65	1.45	1.67	0.62	0.62	0.76	3.45	0.56	0.45	13.00
	1982	0.15	0.38	0.37	0.48	2.52	3.28	3.93	1.08	0.74	0.44	1.16	1.61	16.12
	1956	0.18	1.21	0.11	0.37	2.40	1.90	1.02	0.96	0.21	0.68	0.03	0.17	9.23
	1955	0.67	0.15	0.22	0.54	3.47	0.95	2.53	1.05	1.98	2.19	0.15	0.03	13.95
	1954	0.18	0.19	0.14	1.17	2.59	0.91	0.57	2.75	0.51	1.67	0.02	0.28	10.99
	1953	0.44	0.44	0.94	0.93	1.20	0.86	2.28	2.00	0.41	2.45	0.24	0.22	12.40
	1952	0.57	0.25	0.42	1.86	0.99	1.53	1.95	1.57	0.85	0.00	1.04	0.36	11.38
	LTA	0.59	0.63	0.64	1.04	2.34	2.57	2.50	2.55	2.21	1.57	0.68	0.71	18.04
Lubbock County-Texas														
406	1997	0.46	2.23	0.22	6.40	3.64	4.26	2.21	1.96	2.01	1.15	0.53	1.98	27.06
	1994	0.34	0.35	0.42	2.49	4.41	0.50	1.60	1.08	2.44	1.13	1.33	0.19	16.28
	1993	1.31	1.06	0.71	1.25	1.85	1.50	2.46	1.93	0.51	1.30	0.35	0.60	14.84
	1992	1.51	2.46	0.66	2.31	5.73	5.45	2.13	1.53	0.82	0.00	1.76	0.95	25.32
	1987	0.75	2.75	0.64	0.40	5.02	2.82	3.95	2.10	2.71	0.85	1.29	1.94	25.24
	1984	0.33	1.36	0.79	0.60	1.11	3.65	1.58	3.41	1.40	3.43	2.55	1.81	22.03
	1983	2.35	1.45	0.92	1.18	2.96	1.65	1.02	0.67	0.52	7.70	1.49	2.31	24.23
	1982	0.93	0.76	1.09	1.45	5.84	5.37	1.96	1.07	1.94	1.33	1.91	2.70	26.36
	1956	1.41	2.80	0.94	1.94	2.53	2.33	1.47	0.79	0.55	1.24	2.37	1.05	19.43
	1955	1.27	1.19	1.57	0.94	4.71	2.63	4.13	0.90	3.12	3.58	0.58	0.21	24.83
	1954	1.65	0.20	0.31	2.64	4.69	0.64	0.46	1.84	0.31	1.59	0.86	2.00	17.20
	1953	1.10	1.58	1.92	2.42	2.16	0.56	2.69	2.04	0.64	4.04	0.52	0.79	20.47
	1952	1.89	1.32	1.15	2.98	2.48	0.96	3.18	1.28	1.31	0.03	1.70	1.38	19.67
	LTA	1.19	1.28	1.21	1.78	3.22	2.90	2.53	2.26	2.72	2.12	1.24	1.19	23.65

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Lynn County-Texas														
406	1997	0.46	2.23	0.22	6.40	3.64	4.26	2.21	1.96	2.01	1.15	0.53	1.98	27.06
	1994	0.34	0.35	0.42	2.49	4.41	0.50	1.60	1.08	2.44	1.13	1.33	0.19	16.28
	1993	1.31	1.06	0.71	1.25	1.85	1.50	2.46	1.93	0.51	1.30	0.35	0.60	14.84
	1992	1.51	2.46	0.66	2.31	5.73	5.45	2.13	1.53	0.82	0.00	1.76	0.95	25.32
	1987	0.75	2.75	0.64	0.40	5.02	2.82	3.95	2.10	2.71	0.85	1.29	1.94	25.24
	1984	0.33	1.36	0.79	0.60	1.11	3.65	1.58	3.41	1.40	3.43	2.55	1.81	22.03
	1983	2.35	1.45	0.92	1.18	2.96	1.65	1.02	0.67	0.52	7.70	1.49	2.31	24.23
	1982	0.93	0.76	1.09	1.45	5.84	5.37	1.96	1.07	1.94	1.33	1.91	2.70	26.36
	1956	1.41	2.80	0.94	1.94	2.53	2.33	1.47	0.79	0.55	1.24	2.37	1.05	19.43
	1955	1.27	1.19	1.57	0.94	4.71	2.63	4.13	0.90	3.12	3.58	0.58	0.21	24.83
	1954	1.65	0.20	0.31	2.64	4.69	0.64	0.46	1.84	0.31	1.59	0.86	2.00	17.20
	1953	1.10	1.58	1.92	2.42	2.16	0.56	2.69	2.04	0.64	4.04	0.52	0.79	20.47
	1952	1.89	1.32	1.15	2.98	2.48	0.96	3.18	1.28	1.31	0.03	1.70	1.38	19.67
	LTA	1.19	1.28	1.21	1.78	3.22	2.90	2.53	2.26	2.72	2.12	1.24	1.19	23.65
Martin County-Texas														
505&506	1997	0.21	2.77	0.27	4.02	2.85	4.80	1.35	2.99	1.85	1.34	0.49	1.74	24.67
	1994	0.64	0.08	0.10	0.69	3.38	0.39	1.78	0.44	2.11	0.84	0.97	0.17	11.58
	1993	1.19	0.97	0.92	1.42	1.31	1.24	3.36	1.71	1.14	1.18	0.21	0.36	14.97
	1992	1.70	2.53	0.73	1.34	7.05	3.97	1.35	2.35	1.08	0.02	1.29	0.52	23.94
	1987	0.38	1.75	0.75	0.49	7.21	2.79	1.34	1.66	2.76	0.15	0.06	0.73	20.06
	1984	0.39	0.46	0.39	0.20	3.20	3.74	1.84	3.96	1.73	3.64	2.23	1.59	23.39
	1983	1.65	0.55	0.60	0.78	1.61	1.18	1.01	0.32	0.54	4.41	2.09	0.91	15.66
	1982	1.23	0.85	0.92	1.79	4.05	5.38	1.93	1.76	0.93	1.20	2.33	4.85	27.22
	1956	0.48	1.33	0.09	1.66	2.07	1.21	0.59	0.52	0.43	1.80	0.54	0.56	11.27
	1955	0.87	0.54	1.18	1.10	3.80	1.35	3.24	1.16	3.09	2.60	0.21	0.09	19.22
	1954	0.59	0.13	0.10	3.28	4.72	1.51	0.19	1.57	0.53	3.16	0.67	0.91	17.34
	1953	0.56	0.57	1.46	2.00	3.34	0.50	2.48	1.39	1.11	3.59	0.63	0.72	18.35
	1952	0.56	0.49	0.69	1.21	1.96	0.25	1.98	0.84	2.26	0.05	2.22	1.50	14.01
	LTA	0.80	0.79	0.79	1.23	2.56	2.13	2.28	2.01	2.55	1.77	0.84	0.85	18.60
Midland County														
605&606	1997	0.19	2.52	0.49	2.38	1.82	2.97	0.77	1.58	1.96	0.64	0.57	1.57	17.40
	1994	1.46	0.35	0.08	0.64	1.99	0.33	1.44	0.84	2.21	0.96	0.62	0.46	11.35
	1993	1.07	0.62	0.37	0.54	1.79	0.59	1.66	2.26	1.39	0.91	0.11	0.55	11.85
	1992	1.61	2.54	0.66	1.32	5.74	2.45	1.82	3.12	0.70	0.15	0.46	0.57	21.11
	1987	0.20	1.82	1.27	1.19	5.07	2.63	0.35	1.80	2.65	0.54	0.05	1.08	18.63
	1984	0.57	0.20	0.19	0.01	1.91	1.76	0.77	0.77	2.77	2.79	2.10	1.47	15.28
	1983	1.22	0.26	0.35	0.16	0.59	1.17	0.18	0.29	0.47	3.92	1.36	0.39	10.32
	1982	0.48	0.27	0.19	0.95	3.89	1.98	0.93	1.08	0.81	0.44	0.89	1.84	13.74
	1956	0.48	0.35	0.02	1.25	0.81	0.47	1.18	0.93	0.49	0.97	0.04	0.53	7.48
	1955	0.85	0.45	0.02	0.32	2.06	1.55	2.14	1.34	0.60	0.91	0.30	0.05	10.56
	1954	0.24	0.11	0.18	2.15	2.15	1.95	0.08	1.03	0.23	1.83	0.20	0.16	10.28
	1953	0.00	0.40	1.17	0.60	0.42	0.31	0.84	1.27	0.21	2.18	0.01	0.22	7.59
	1952	1.09	0.22	0.14	0.97	1.56	0.33	1.54	0.70	0.97	0.00	1.42	1.00	9.91
	LTA	0.77	0.82	0.60	1.13	2.22	1.72	1.63	1.77	2.32	1.66	0.71	0.79	16.13

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Motley County-Texas														
307	1997	0.59	2.85	0.00	10.02	3.58	3.46	1.64	4.49	3.46	2.05	0.70	2.75	35.59
	1994	0.81	0.50	1.87	3.03	2.16	0.77	3.02	0.64	1.41	2.00	1.45	0.33	17.98
	1993	1.58	1.12	1.00	1.74	3.81	1.30	3.02	1.83	0.96	1.35	0.40	0.59	18.70
	1992	1.15	1.61	0.96	2.35	3.80	7.57	1.70	0.92	0.90	0.01	3.11	1.32	25.41
	1987	0.82	2.17	1.06	0.12	4.98	2.49	2.22	2.90	2.70	0.76	0.32	1.99	22.51
	1984	0.24	0.75	0.65	0.81	0.52	3.58	1.38	2.84	0.28	0.80	2.01	2.77	16.62
	1983	1.51	1.25	1.97	0.87	1.57	2.75	0.63	0.34	0.68	8.10	0.86	0.55	21.07
	1982	0.18	0.37	0.88	0.77	5.08	5.19	3.05	0.64	0.87	0.25	1.67	1.23	20.17
	1956	0.14	0.56	0.05	0.13	5.00	1.20	1.44	0.10	0.52	1.94	0.13	0.51	11.72
	1955	0.64	0.61	0.27	0.26	6.68	7.07	1.99	0.25	2.29	3.46	0.00	0.02	23.54
	1954	0.06	0.00	0.09	1.71	6.78	1.00	0.25	2.11	0.14	0.62	0.07	0.78	13.60
	1953	0.35	0.43	0.81	1.40	1.48	0.30	3.41	2.26	0.18	5.04	0.81	0.07	16.54
	1952	1.14	0.26	0.70	4.80	2.36	0.60	1.99	0.85	0.53	0.00	1.07	1.03	15.32
	LTA	0.72	0.91	1.03	1.94	3.59	3.29	2.13	2.30	2.53	2.01	0.86	0.83	22.12
Oldham County-Texas														
205	1997	0.4	0.39	0.01	4.81	1.44	2.38	3.39	4.82	1.56	0.76	0.75	2.04	22.75
	1994	0.41	0.02	0.93	1.23	3.57	1.57	4.08	2.42	0.45	1.74	0.47	0.49	17.37
	1993	0.97	0.61	1.26	0.55	2.06	4.77	2.49	2.67	0.85	1.03	0.51	0.43	18.2
	1992	0.63	0.38	0.83	0.92	3.57	4.66	2.92	3.5	0.38	0.06	0.88	0.63	19.38
	1987	1.06	1.87	1.28	0.66	3.86	2.02	0.64	4.15	2.34	0.64	0.79	0.8	20.1
	1984	0.38	0.26	1.67	1.98	0.91	2.85	1.6	4.18	0.49	3.58	0.69	1.51	20.1
	1983	1.42	0.87	1.09	0.75	2.31	1.43	1.29	1.19	0.52	1.44	0.48	0.95	13.73
	1982	0.21	0.57	0.6	0.4	2.1	2.85	6.37	3.14	2.01	1.05	0.66	0.97	20.94
	1956	0.21	0.83	0.1	0.32	1.42	1.17	2.29	1.99	0.05	0.65	0.34	0.36	9.7
	1955	0.15	0.24	0.31	2.29	3.54	0.94	2.28	2.18	2.09	0.3	0.11	0.06	14.48
	1954	0.66	0.21	0.14	0.77	2.59	1.88	2.29	2.36	0.79	1.82	0.05	0.3	13.86
	1953	0.08	0.44	0.49	0.3	1.19	0.35	3.16	3.06	0.31	2.19	0.84	0.53	12.96
	1952	0.43	0.3	0.86	2.67	1.14	1.34	1.85	3.42	0.69	0.01	0.93	0.47	14.11
	LTA	0.59	0.63	0.87	1.22	2.42	2.55	2.99	2.95	1.92	1.32	0.73	0.68	18.85
Parmer County-Texas														
305	1997	0.56	0.64	0.08	4.79	2.48	2.99	2.59	3.22	2.90	0.99	0.62	2.07	23.92
	1994	0.17	0.10	1.14	1.45	4.17	1.88	3.22	2.12	1.09	0.46	0.64	0.31	16.75
	1993	0.98	0.35	0.51	0.58	1.59	1.71	3.89	2.85	2.02	1.22	0.55	0.34	16.60
	1992	1.00	0.48	1.25	1.10	4.19	5.46	1.95	2.99	1.16	0.02	1.14	0.79	21.53
	1987	0.76	0.87	0.31	0.15	3.79	1.94	1.26	4.70	3.52	0.82	0.33	1.63	20.09
	1984	0.28	0.16	0.79	0.34	0.80	2.95	2.28	5.91	0.41	3.44	1.17	1.59	20.12
	1983	1.39	1.04	0.47	0.63	1.33	1.74	0.56	0.59	0.82	2.97	0.43	0.47	12.41
	1982	0.07	0.39	0.36	0.50	2.18	3.35	3.92	1.24	0.57	0.45	1.14	1.50	15.65
	1956	0.21	1.20	0.13	0.40	2.60	1.85	1.04	1.05	0.20	0.57	0.03	0.14	9.42
	1955	0.65	0.18	0.24	0.61	3.63	0.99	2.56	1.25	1.96	1.17	0.12	0.04	13.41
	1954	0.22	0.22	0.17	0.99	2.41	0.99	0.61	2.86	0.56	1.45	0.02	0.27	10.76
	1953	0.43	0.52	0.99	0.99	1.28	0.89	2.31	2.09	0.41	2.25	0.26	0.25	12.65
	1952	0.55	0.26	0.52	1.95	0.87	1.67	1.94	1.70	0.79	0.00	1.11	0.43	11.78
	LTA	0.60	0.63	0.66	1.04	2.32	2.58	2.50	2.60	2.13	1.55	0.70	0.74	18.04

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Potter County-Texas														
206	1997	0.52	0.79	0	7.64	2.82	2.5	3.1	3.74	1.85	0.91	1	2.08	26.96
	1994	0.78	0.1	1.17	1.8	1.75	1.55	4.21	2.69	1.53	1.34	0.81	0.52	18.24
	1993	1.05	0.78	1.37	0.82	2.38	4.04	3.61	3.3	1.71	0.48	0.68	0.52	20.74
	1992	0.61	0.41	1.16	2.07	3.58	6.22	2.59	3.93	0.39	0.13	1.46	0.89	23.44
	1987	1	1.21	1.92	0.43	4.99	4.07	1.91	3.67	3.72	1.11	0.59	1.6	26.22
	1984	0.46	0.54	1.55	1.33	0.56	4.14	1.01	3.17	0.9	2.99	0.96	1.46	19.07
	1983	1.26	1.87	1.16	1.27	2.63	2.9	0.55	1.02	0.75	2.47	0.57	0.64	17.1
	1982	0.14	0.9	0.74	0.63	4.28	4.72	6.43	1.41	1.71	0.5	0.75	0.99	23.19
	1956	0.09	0.99	0.07	0.14	2.66	1.75	2.94	1	0.55	0.38	0	0.03	10.6
	1955	0.24	0.09	0.11	0.85	5.43	2.59	2.02	1.3	2.23	0.15	0.08	0.06	15.13
	1954	0.24	0.03	0.14	1.73	4.67	2.01	1.49	2.53	0.47	1.04	0	0.22	14.56
	1953	0.52	0.35	0.47	0.79	0.81	0.31	3.77	2.48	0.21	3.87	0.44	0.57	14.6
	1952	0.33	0.33	0.6	2.46	1.26	2.43	1.99	2.12	0.48	0	0.98	0.55	13.52
	LTA	0.58	0.73	0.96	1.42	3.05	3.26	2.97	2.81	1.98	1.58	0.76	0.67	20.76
Randall County-Texas														
206&306	1997	0.59	1.57	0.34	7.50	3.50	2.91	2.56	3.90	2.25	1.05	0.87	2.01	29.01
	1994	0.72	0.12	1.31	2.22	2.49	1.39	3.93	2.09	1.76	0.94	0.83	0.44	18.20
	1993	1.17	0.70	1.17	0.92	2.17	2.79	3.81	3.06	1.21	0.81	0.62	0.51	18.90
	1992	0.75	0.67	1.08	2.11	4.14	6.63	2.70	2.65	0.51	0.08	1.52	0.89	23.70
	1987	0.85	1.32	1.24	0.33	5.18	3.19	2.36	3.75	3.34	0.90	0.48	1.89	24.80
	1984	0.36	0.57	1.12	1.02	0.56	4.14	1.30	3.45	0.83	2.45	1.28	1.57	18.63
	1983	1.58	1.67	0.79	1.11	2.27	2.57	0.60	0.84	1.04	4.09	0.50	0.63	17.66
	1982	0.18	0.63	0.72	0.56	4.92	5.06	4.79	1.08	1.19	0.39	1.04	1.13	21.67
	1956	0.20	1.81	0.13	0.30	3.82	1.65	2.52	0.81	0.49	0.62	0.23	0.34	12.88
	1955	0.45	0.22	0.28	0.70	6.02	3.55	2.02	1.19	1.94	1.02	0.14	0.05	17.54
	1954	0.36	0.06	0.17	1.98	4.37	1.73	1.21	2.35	0.38	0.83	0.03	0.40	13.85
	1953	0.69	0.32	0.66	0.90	1.03	0.34	3.24	2.57	0.26	3.61	0.39	0.48	14.47
	1952	0.70	0.29	0.51	2.63	1.18	1.99	2.18	1.51	0.58	0.00	1.08	0.57	13.19
	LTA	0.62	0.75	0.92	1.45	3.05	3.33	2.74	2.67	2.16	1.65	0.76	0.71	20.81
Swisher County-Texas														
306	1997	0.65	2.34	0.67	7.35	4.17	3.31	2.01	4.05	2.65	1.18	0.73	1.94	31.05
	1994	0.65	0.13	1.44	2.64	3.23	1.23	3.64	1.48	1.98	0.53	0.85	0.35	18.15
	1993	1.28	0.62	0.96	1.02	1.95	1.54	4.00	2.81	0.71	1.13	0.56	0.50	17.06
	1992	0.89	0.92	0.99	2.15	4.70	7.04	2.80	1.37	0.62	0.03	1.57	0.88	23.95
	1987	0.70	1.42	0.55	0.23	5.37	2.31	2.80	3.82	2.95	0.68	0.37	2.18	23.37
	1984	0.26	0.59	0.69	0.71	0.56	4.14	1.58	3.73	0.76	1.90	1.59	1.68	18.19
	1983	1.90	1.47	0.41	0.94	1.91	2.23	0.64	0.66	1.32	5.71	0.42	0.61	18.21
	1982	0.22	0.36	0.70	0.49	5.56	5.39	3.14	0.75	0.66	0.28	1.32	1.27	20.15
	1956	0.30	2.63	0.18	0.45	4.97	1.54	2.10	0.61	0.43	0.85	0.45	0.65	15.16
	1955	0.65	0.34	0.45	0.54	6.61	4.51	2.01	1.07	1.64	1.89	0.20	0.04	19.95
	1954	0.48	0.09	0.19	2.23	4.07	1.44	0.92	2.16	0.29	0.62	0.06	0.58	13.14
	1953	0.85	0.29	0.84	1.01	1.24	0.37	2.70	2.66	0.31	3.34	0.33	0.39	14.33
	1952	1.07	0.24	0.41	2.79	1.09	1.55	2.37	0.89	0.68	0.00	1.18	0.58	12.85
	LTA	0.67	0.78	0.88	1.48	3.05	3.39	2.51	2.53	2.34	1.72	0.75	0.75	20.85

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Terry County-Texas														
405	1997	0.48	1.57	0.11	3.92	2.64	3.57	2.46	2.47	1.43	1.33	0.63	1.94	22.56
	1994	0.14	0.08	0.48	1.49	3.96	0.50	1.77	0.73	0.81	0.42	0.69	0.07	11.14
	1993	1.41	0.42	0.89	1.05	1.01	0.91	3.82	1.41	0.94	0.89	0.46	0.12	13.31
	1992	1.37	1.34	0.80	1.23	5.24	3.98	1.76	2.39	1.19	0.01	1.38	0.67	21.36
	1987	0.50	1.37	0.28	0.32	5.22	2.63	2.09	4.61	2.91	0.60	0.24	1.87	22.65
	1984	0.10	0.07	0.19	0.09	1.85	5.32	1.47	4.06	1.02	2.90	1.70	1.60	20.38
	1983	1.81	0.52	0.07	0.72	1.93	1.38	0.85	0.74	0.50	5.37	1.10	0.35	15.34
	1982	0.46	0.33	0.43	0.40	3.90	3.00	3.95	0.45	1.41	0.38	1.24	2.03	18.00
	1956	0.07	1.23	0.04	0.23	1.60	2.10	0.95	0.62	0.23	1.10	0.02	0.29	8.47
	1955	0.74	0.03	0.12	0.27	2.85	0.77	2.43	0.27	2.08	6.27	0.27	0.00	16.11
	1954	0.04	0.05	0.01	1.91	3.31	0.60	0.41	2.32	0.33	2.56	0.04	0.33	11.92
	1953	0.48	0.12	0.75	0.71	0.88	0.72	2.16	1.66	0.40	3.27	0.14	0.12	11.42
	1952	0.65	0.23	0.03	1.50	1.46	0.97	1.97	1.04	1.08	0.00	0.78	0.07	9.76
	LTA	0.57	0.64	0.57	1.04	2.41	2.55	2.52	2.37	2.52	1.66	0.61	0.61	18.08
Yoakum County-Texas														
405	1997	0.48	1.57	0.11	3.92	2.64	3.57	2.46	2.47	1.43	1.33	0.63	1.94	22.56
	1994	0.14	0.08	0.48	1.49	3.96	0.50	1.77	0.73	0.81	0.42	0.69	0.07	11.14
	1993	1.41	0.42	0.89	1.05	1.01	0.91	3.82	1.41	0.94	0.89	0.46	0.12	13.31
	1992	1.37	1.34	0.80	1.23	5.24	3.98	1.76	2.39	1.19	0.01	1.38	0.67	21.36
	1987	0.50	1.37	0.28	0.32	5.22	2.63	2.09	4.61	2.91	0.60	0.24	1.87	22.65
	1984	0.10	0.07	0.19	0.09	1.85	5.32	1.47	4.06	1.02	2.90	1.70	1.60	20.38
	1983	1.81	0.52	0.07	0.72	1.93	1.38	0.85	0.74	0.50	5.37	1.10	0.35	15.34
	1982	0.46	0.33	0.43	0.40	3.90	3.00	3.95	0.45	1.41	0.38	1.24	2.03	18.00
	1956	0.07	1.23	0.04	0.23	1.60	2.10	0.95	0.62	0.23	1.10	0.02	0.29	8.47
	1955	0.74	0.03	0.12	0.27	2.85	0.77	2.43	0.27	2.08	6.27	0.27	0.00	16.11
	1954	0.04	0.05	0.01	1.91	3.31	0.60	0.41	2.32	0.33	2.56	0.04	0.33	11.92
	1953	0.48	0.12	0.75	0.71	0.88	0.72	2.16	1.66	0.40	3.27	0.14	0.12	11.42
	1952	0.65	0.23	0.03	1.50	1.46	0.97	1.97	1.04	1.08	0.00	0.78	0.07	9.76
	LTA	0.57	0.64	0.57	1.04	2.41	2.55	2.52	2.37	2.52	1.66	0.61	0.61	18.08
Curry County-New Mexico														
304	1997	0.67	0.71	0.01	4.34	1.43	2.93	2.68	3.00	2.27	0.94	0.65	2.67	22.29
	1994	0.07	0.06	1.03	0.80	3.78	0.83	2.61	1.89	0.61	1.26	0.43	0.45	13.82
	1993	0.81	0.29	0.78	0.40	1.25	1.86	4.59	3.40	1.65	1.10	0.50	0.14	16.77
	1992	1.16	0.33	0.37	1.09	3.86	2.95	1.64	3.30	1.29	0.20	0.44	0.65	17.27
	1987	0.95	1.55	0.42	0.35	2.57	3.04	0.76	5.80	2.07	0.51	0.39	1.24	19.65
	1984	0.45	0.16	0.52	0.95	2.83	4.67	2.61	4.62	0.48	3.58	1.50	1.10	23.47
	1983	1.23	0.65	0.69	0.80	1.24	1.74	0.91	0.62	0.76	3.21	0.64	0.55	13.05
	1982	0.20	0.38	0.19	0.28	1.36	1.94	4.41	1.81	1.42	1.41	0.85	1.38	15.65
	1956	0.09	0.95	0.03	0.24	1.66	2.13	2.07	1.12	0.22	1.00	0.08	0.02	9.62
	1955	0.22	0.06	0.08	1.06	2.13	1.23	3.60	1.44	2.41	0.61	0.03	0.07	12.95
	1954	0.13	0.23	0.05	0.74	1.44	0.92	1.29	4.41	0.35	3.06	0.09	0.08	12.79
	1953	0.30	0.28	0.42	0.41	1.22	0.24	3.93	2.02	0.00	1.23	0.40	0.45	10.91
	1952	0.32	0.23	0.09	1.92	0.38	1.34	2.38	2.24	0.81	0.00	1.01	0.29	11.02
	LTA	0.48	0.52	0.55	0.85	1.95	2.22	2.81	2.84	2.00	1.42	0.58	0.60	16.82

Attachment B1. Monthly rainfall in inches by county for selected years and long-term average (LTA) in the Southern Ogallala GAM region.

CTY/QID	YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Lea County-New Mexico														
504	1997	0.21	1.32	0.12	1.93	2.62	2.01	2.38	2.14	3.27	1.90	0.54	1.84	20.28
	1994	0.29	0.01	0.08	0.39	3.70	0.58	1.88	0.37	1.08	0.68	0.81	0.05	9.91
	1993	1.11	0.51	0.35	0.95	0.35	0.77	2.91	1.55	0.59	0.72	0.27	0.03	10.12
	1992	1.03	1.20	0.27	0.27	7.57	3.10	1.29	1.43	0.63	0.14	0.83	0.69	18.45
	1987	0.16	0.98	0.63	0.46	3.45	2.32	0.29	2.87	1.04	0.49	0.25	0.96	13.88
	1984	0.06	0.01	0.01	0.02	3.85	3.71	0.93	5.56	1.40	2.56	1.28	1.29	20.67
	1983	1.06	0.41	0.17	0.61	1.01	0.72	0.41	0.62	2.04	2.45	1.35	0.43	11.27
	1982	0.32	0.11	0.24	0.84	2.17	1.00	1.97	1.20	1.94	0.32	1.08	1.67	12.87
	1956	0.17	1.07	0.25	0.38	1.92	1.10	1.27	0.77	0.88	1.38	0.12	0.60	9.91
	1955	0.87	0.40	0.04	0.64	1.74	0.82	3.23	1.25	2.20	2.03	0.49	0.15	13.86
	1954	0.24	0.11	0.18	1.46	3.29	0.97	0.73	2.44	0.55	2.35	0.20	0.46	12.97
	1953	0.18	0.58	0.43	0.97	0.93	0.78	1.96	1.95	0.39	2.61	0.75	0.64	12.19
	1952	0.32	0.81	0.38	1.10	1.49	1.07	1.86	0.70	0.70	0.00	0.70	0.03	9.16
	LTA	0.72	0.69	0.63	0.76	1.92	1.74	2.22	2.26	2.44	1.37	0.71	0.75	16.21
Quay County-New Mexico														
204&304	1997	0.53	0.68	0.03	4.47	1.28	2.91	2.71	3.30	1.99	1.00	0.72	2.34	21.93
	1994	0.12	0.04	1.13	1.33	3.98	0.99	2.42	1.98	0.61	1.47	0.45	0.44	14.95
	1993	0.78	0.41	1.05	0.37	1.44	3.04	3.33	3.01	0.96	0.90	0.46	0.10	15.83
	1992	0.83	0.36	0.38	0.86	3.04	2.99	2.57	3.21	1.01	0.23	0.46	0.53	16.44
	1987	1.07	1.64	0.46	0.46	3.15	2.74	0.53	5.27	1.86	0.30	0.48	1.04	18.96
	1984	0.40	0.12	0.92	1.19	2.28	3.58	2.22	4.23	0.56	3.53	1.17	0.92	21.09
	1983	1.08	0.78	0.75	0.67	1.29	1.78	1.09	0.79	0.64	2.38	0.62	0.65	12.51
	1982	0.15	0.28	0.20	0.32	1.56	2.79	5.04	1.93	1.76	1.16	0.66	1.10	16.94
	1956	0.15	0.83	0.10	0.33	1.86	1.87	2.42	1.23	0.16	0.70	0.15	0.07	9.84
	1955	0.27	0.20	0.18	1.58	2.65	0.84	3.15	1.71	2.25	0.38	0.07	0.12	13.40
	1954	0.42	0.21	0.20	0.76	1.96	0.83	1.60	3.03	0.81	2.54	0.17	0.05	12.55
	1953	0.32	0.44	1.00	0.87	1.39	0.22	3.81	2.32	0.13	1.05	0.69	0.74	12.95
	1952	0.47	0.31	0.66	2.18	0.94	1.12	2.28	2.82	0.69	0.03	1.26	0.43	13.16
	LTA	0.49	0.55	0.64	1.01	2.06	2.21	2.85	2.80	1.95	1.30	0.65	0.57	17.08
Roosevelt County-New Mexico														
404	1997	0.83	1.01	0.28	2.94	1.57	1.68	2.33	2.64	2.04	1.52	0.49	2.02	19.36
	1994	0.02	0.00	0.31	0.45	3.50	0.51	2.52	0.74	0.96	0.50	0.69	0.05	10.26
	1993	0.67	0.17	0.40	0.67	0.57	1.05	5.22	3.37	2.54	0.51	0.54	0.05	15.76
	1992	1.35	0.53	0.27	0.71	6.96	2.07	1.61	2.38	0.91	0.11	0.65	0.48	18.02
	1987	0.36	1.08	0.38	0.19	4.09	2.64	1.00	3.79	3.03	0.70	0.45	1.22	18.93
	1984	0.12	0.01	0.11	0.08	3.46	3.65	2.43	4.74	0.85	3.03	1.41	1.53	21.43
	1983	1.03	0.47	0.07	0.28	1.59	0.89	0.66	0.50	1.23	3.55	1.03	0.15	11.45
	1982	0.47	0.31	0.23	0.23	1.93	1.16	4.84	1.07	2.65	0.87	1.29	1.56	16.60
	1956	0.08	1.34	0.00	0.16	1.50	1.13	1.32	1.16	0.30	1.34	0.00	0.08	8.40
	1955	0.54	0.01	0.08	0.35	2.06	0.37	2.98	0.51	2.42	4.01	0.18	0.00	13.50
	1954	0.06	0.01	0.00	0.82	2.53	0.45	0.50	4.02	0.33	3.24	0.13	0.20	12.29
	1953	0.50	0.20	0.49	0.63	1.66	0.23	2.52	2.25	0.15	2.17	0.11	0.23	11.13
	1952	0.33	0.15	0.06	1.29	0.81	1.29	2.95	1.85	0.94	0.02	0.69	0.15	10.52
	LTA	0.51	0.53	0.48	0.73	1.88	1.97	2.60	2.46	2.29	1.48	0.61	0.56	16.11

Attachment B2

**Irrigated Acreage by Crop and
County for 1982, 1983, 1994,
1987, 1992, 1993, 1994, and 1997**

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 1. Irrigated Crop Acreage by County, 1982

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	County Total
Andrews		7,000		81		2,900		900	10,881
Armstrong		2,000				3,600		7,400	13,000
Bailey	44,000	56,200		5,576		26,000	14,000	14,100	159,876
Borden		500						500	1,000
Briscoe	1,700	23,900		1,947		7,800	8,000	8,200	51,547
Castro	90,500	63,100		6,345		24,000	28,000	71,300	283,245
Cochran		51,700		1,263		41,000		8,300	102,263
Crosby		78,400		1,726		19,000	15,000	4,600	118,726
Dawson		19,000		329		9,500	1,000	800	30,629
Deaf Smith	33,200	8,900		3,336		55,000		91,200	191,636
Dickens		7,300		513		300	1,200	1,400	10,713
Ector				911					911
Floyd	16,900	136,700		3,327		41,500	83,000	29,000	310,427
Gaines		167,700		2,684	12,600	42,000	4,000	37,700	266,684
Garza		3,900				200		100	4,200
Glasscock		29,900		1,217		1,100		1,500	33,717
Hale	67,500	190,400		1,826		30,500	144,000	39,200	473,426
Hockley		118,600		2,277		59,000	6,000	2,800	188,677
Howard		7,600				100		900	8,600
Lamb	63,700	139,800		3,392		28,500	50,000	32,600	317,992
Lubbock	2,100	170,700		7,143		28,000	19,000	6,700	233,643
Lynn		24,800		532		6,000	4,000	2,600	37,932
Martin		6,300				1,400		900	8,600
Midland		11,400		292		1,000		1,300	13,992
Motley		1,500		251	2,000	400		300	4,451
Oldham						11,000		12,100	23,100
Parmer	102,700	55,700		6,242		35,000	32,000	73,700	305,342
Potter				1		5,800		5,100	10,901
Randall	1,200					11,500		34,200	46,900
Swisher	29,400	68,400		4,977		30,000	28,000	92,400	253,177
Terry		69,500		654		24,000		10,400	104,554
Yoakum	4,000	53,400		1,033		10,500		3,900	72,833
Subtotal TX	456,900	1,565,300	0	57,794	14,600	550,100	437,200	587,800	3,669,694
Curry	17,300	2,750		7,565		36,500		57,300	121,415
Lea	2,700	7,630		4,063		4,500		10,000	28,893
Quay	700	1,930		3,770		15,900		16,300	38,600
Roosevelt	8,800	9,200		7,028		47,000		33,500	105,528
Subtotal NM	29,500	21,510	0	22,426	0	103,900	0	117,100	294,436
Crop G.Total	486,400	1,586,810	0	80,220	14,600	654,000	437,200	704,900	3,964,130

¹Sources: Texas Agricultural Statistics Services, Census of Agriculture.

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 2. Irrigated Crop Acreage by County, 1983

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	C.Total
Andrews		16,000	1,400					1,000	18,400
Armstrong						2,800		5,300	8,100
Bailey	24,800	34,900				13,300	8,000	21,900	102,900
Borden									0
Briscoe	1,300	18,900				2,100		9,300	31,600
Castro	70,600	42,900				11,000	7,000	60,400	191,900
Cochran		36,500				10,000		9,300	55,800
Crosby		85,300				9,500	2,000	6,600	103,400
Dawson		21,100				3,100		1,100	25,300
Deaf Smith	26,000	3,300				35,500	2,000	80,800	147,600
Dickens		3,900				700		1,900	6,500
Ector									0
Floyd	13,400	94,200				14,000	8,000	27,800	157,400
Gaines		143,800			14,800	16,000		41,700	216,300
Garza		4,000				200		100	4,300
Glasscock		33,200				1,800		1,100	36,100
Hale	54,300	130,400				20,000	21,000	43,300	269,000
Hockley		108,900				10,000	1,000	4,500	124,400
Howard		1,500				200		1,100	2,800
Lamb	42,300	95,700				13,500	18,000	56,300	225,800
Lubbock	1,400	119,100				13,000	3,000	5,100	141,600
Lynn		27,300				2,500	1,000	2,000	32,800
Martin		7,500				200		1,000	8,700
Midland		4,100				600		600	5,300
Motley		1,800			1,300	300		200	3,600
Oldham						6,200		11,300	17,500
Parmer	82,400	35,500				14,500	8,500	47,400	188,300
Potter	3,600					4,900	1,000	5,500	15,000
Randall	1,800					8,800		18,100	28,700
Swisher	25,500	54,500				21,000	9,000	50,200	160,200
Terry		93,100			1,400	12,000		15,400	121,900
Yoakum		42,000				4,000		6,300	52,300
Subtotal TX	347,400	1,259,400	1,400	0	17,500	251,700	89,500	536,600	2,503,500
Curry	12,500	2,120				22,000		55,000	91,620
Lea	2,300	6,700				2,150		9,200	20,350
Quay	250	1,060				10,000		21,400	32,710
Roosevelt	5,550	10,550				9,500		35,000	60,600
Subtotal NM	20,600	20,430	0	0	0	43,650	0	120,600	205,280
Crop G.Total	368,000	1,279,830	1,400	0	17,500	295,350	89,500	657,200	2,708,780

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 3. Irrigated Crop Acreage by County, 1984

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	C.Total
Andrews		9,300				900		1,600	11,800
Armstrong						5,200		4,500	9,700
Bailey	30,700	41,200				10,500	1,100	25,900	109,400
Borden								500	500
Briscoe	1,600	22,400				3,900		3,400	31,300
Castro	101,400	63,000				14,000	4,400	57,600	240,400
Cochran		60,700				11,500		10,800	83,000
Crosby		110,400				11,000		6,400	127,800
Dawson		32,200				2,000		1,200	35,400
Deaf Smith	28,000	5,700				50,000	2,500	55,300	141,500
Dickens		6,600				500		900	8,000
Ector									0
Floyd	13,800	134,400				22,000	3,000	25,600	198,800
Gaines		177,800			27,400	16,000		30,200	251,400
Garza		5,600					100		5,700
Glasscock		39,400				1,000		400	40,800
Hale	76,000	167,300				17,000	14,000	45,200	319,500
Hockley		132,100				8,100		8,800	149,000
Howard		2,500				500		200	3,200
Lamb	52,700	129,600				8,100	4,500	38,600	233,500
Lubbock	4,900	171,700				12,000		10,700	199,300
Lynn		39,400				1,500		2,800	43,700
Martin		7,600				500		1,400	9,500
Midland		6,400						500	6,900
Motley		3,000			1,900			100	5,000
Oldham						8,300		9,400	17,700
Parmer	99,800	48,400				20,500	2,800	56,700	228,200
Potter	3,500					7,500		16,600	27,600
Randall	4,100					12,500		27,100	43,700
Swisher	35,600	65,800				28,500	6,500	60,400	196,800
Terry		113,500			1,500	11,500		13,400	139,900
Yoakum		51,200			2,500	4,600		7,100	65,400
Subtotal TX	452,100	1,647,200	0	0	33,300	289,600	38,900	523,300	2,984,400
Curry	24,300	3,300				33,000		45,000	105,600
Lea	2,200	6,800				4,000		12,800	25,800
Quay	350	2,600				13,000		20,000	35,950
Roosevelt	8,500	17,300				15,000		32,000	72,800
Subtotal NM	35,350	30,000	0	0	0	65,000	0	109,800	240,150
Crop G.Total	487,450	1,677,200	0	0	33,300	354,600	38,900	633,100	3,224,550

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 4. Irrigated Crop Acreage by County, 1987

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	County Total
Andrews		2,400		516		300		1,800	5,016
Armstrong	250		398	170		4,100		2,800	7,718
Bailey	16,100	35,000		5,906		7,200		23,400	87,606
Borden		700							700
Briscoe	2,800	15,000		1,184		4,100		4,900	27,984
Castro	59,000	43,000		7,533		12,000	4,100	53,400	179,033
Cochran		34,600				6,300		3,700	44,600
Crosby		65,300		710		7,600		2,200	75,810
Dawson		15,200		501		700		100	16,501
Deaf Smith	21,200	2,000		3,456		42,500	1,100	67,300	137,556
Dickens		1,200		430				100	1,730
Ector				984					984
Floyd	10,000	111,000		3,976		13,500	4,200	18,100	160,776
Gaines		110,600		6,661	15,100	3,200		15,800	151,361
Garza		2,100				500		500	3,100
Glasscock		20,800		1,284		1,100		400	23,584
Hale	60,000	137,000		8,307		20,000	16,700	55,800	297,807
Hockley		80,200		388		4,600		3,600	88,788
Howard		1,100				200		400	1,700
Lamb	37,100	109,500		13,162		9,100	3,100	46,600	218,562
Lubbock	2,200	126,400		2,633		7,600		5,900	144,733
Lynn		30,000				1,100		200	31,300
Martin		3,000				200		500	3,700
Midland		7,500		528		300		300	8,628
Motley		1,100			2,000	200		100	3,400
Oldham			480	1	1	6,400		8,400	15,282
Parmer	60,200	38,000		4,527		14,500	2,000	51,800	171,027
Potter			1,725	1		3,200		5,700	10,626
Randall	2,100		2,709	829		12,000		14,200	31,838
Swisher	17,000	44,000		4,134		16,000	3,000	34,600	118,734
Terry		76,100		1,082	1,000	5,600		7,200	90,982
Yoakum				400	1,200	4,900		12,900	19,400
Subtotal TX	287,700	1,110,400	4,914	68,617	19,301	204,600	34,200	438,100	2,167,832
Curry	17,800	2,300		6,564		16,000		46,000	88,664
Lea	650	6,150		4,315		2,000		29,200	42,315
Quay	750	700		5,273		8,000		11,000	25,723
Roosevelt	10,000	4,000		7,007		14,000		50,000	85,007
Subtotal NM	29,200	13,150	0	23,159	0	40,000	0	136,200	241,709
Crop G.Total	316,900	1,123,550	4,914	91,776	19,301	244,600	34,200	574,300	2,409,541

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 5. Irrigated Crop Acreage by County, 1992

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	County Total
Andrews		500		401		6,400		300	7,601
Armstrong	1,300		393	208		2,700		10,400	15,001
Bailey	19,000	38,600		10,686	0	29,000	6,800	23,400	127,486
Borden		600				600		700	1,900
Briscoe	4,900	19,900		1,980	1,400	14,000	0	4,200	46,380
Castro	94,200	45,300		13,172	0	21,700	13,900	63,900	252,172
Cochran	0	34,700		260	0	40,500	2,100	700	78,260
Crosby	0	95,400		2,030	0	68,500	9,600	1,400	176,930
Dawson	0	18,700		613	0	7,000	0	900	27,213
Deaf Smith	38,500	3,700		11,275	0	41,800	0	82,000	177,275
Dickens	0	2,600			0	500	0	200	3,300
Ector	0	0			0	0	0	0	0
Floyd	19,200	124,800		2,562	0	68,400	23,500	11,000	249,462
Gaines	0	158,100		5,374	33,200	20,100	0	25,800	242,574
Garza	0	3,200			0	0	0	800	4,000
Glasscock		35,100		712		1,300		800	37,912
Hale	84,400	173,400		7,218	0	102,800	70,200	24,700	462,718
Hockley	0	95,800		852	0	82,400	0	1,100	180,152
Howard		5,200		230		100		700	6,230
Lamb	59,000	120,200		8,547	1,000	57,700	42,400	29,700	318,547
Lubbock	3,500	130,100		2,415	0	86,800	24,500	1,800	249,115
Lynn	0	44,500		1,016	0	32,000	1,200	200	78,916
Martin		9,300		344	0	600	0	400	10,644
Midland	0	8,000		2,203	0	0	0	300	10,503
Motley	0	800		250	1,900	0	0	0	2,950
Oldham			814	1		5,600		9,800	16,215
Parmer	99,300	44,700		12,494	0	32,100	18,200	48,500	255,294
Potter			987	652		2,100		7,800	11,539
Randall	2,100		2,709	829		12,500		19,700	37,838
Swisher	26,900	52,400		6,781	0	38,800	0	35,400	160,281
Terry	0	106,500		1,145	3,500	45,100	0	3,400	159,645
Yoakum	1,400	49,300		142	4,400	22,000	0	3,100	80,342
Subtotal TX	452,400	1,420,900	4,510	93,783	45,400	834,000	212,400	402,400	3,465,793
Curry	25,150	1,900		3,200	1,100	25,700		73,500	130,550
Lea	3,200	11,000		7,251	4,000	5,400		11,200	42,051
Quay	2,050	800		8,827	0	3,800		6,000	21,477
Roosevelt	21,000	4,800		4,910	16,000	13,200		40,000	99,910
Subtotal NM	51,400	18,500	0	24,188	21,100	48,100	0	130,700	293,988
Crop G.Total	503,800	1,439,400	4,510	117,971	66,500	882,100	212,400	533,100	3,759,781

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 6. Irrigated Crop Acreage by County, 1993

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	County Total
Andrews		3,100							3,100
Armstrong	2,100					2,300		4,900	9,300
Bailey	21,000	59,000				13,900		16,200	110,100
Borden									0
Briscoe	3,500	27,000			1,200	3,200		8,100	43,000
Castro	99,300	45,400				13,900	3,400	65,400	227,400
Cochran		55,000				2,600		2,100	59,700
Crosby	2,500	133,000				11,200		2,200	148,900
Dawson		40,700				1,400		1,200	43,300
Deaf Smith	49,000	3,800				38,900		76,200	167,900
Dickens		2,000							2,000
Ector									0
Floyd	19,800	129,200				26,400	2,800	9,700	187,900
Gaines		183,300			36,500	1,200		30,300	251,300
Garza		4,200							4,200
Glasscock		38,200							38,200
Hale	85,300	176,000				24,300	5,500	28,300	319,400
Hockley		125,200				6,500			131,700
Howard		3,400							3,400
Lamb	60,600	133,500				9,100	2,800	37,900	243,900
Lubbock	1,600	175,000				7,600	1,200	3,000	188,400
Lynn		41,200				1,300			42,500
Martin		11,300							11,300
Midland		6,400							6,400
Motley		1,500			1,200				2,700
Oldham						3,700		6,900	10,600
Parmer	104,500	48,200				26,600	2,100	48,200	229,600
Potter						2,200		10,000	12,200
Randall	4,300					6,400		26,900	37,600
Swisher	29,200	53,700				17,800	1,200	27,800	129,700
Terry		116,100			3,000	7,300		4,900	131,300
Yoakum	1,400	49,600			4,200	1,200		3,300	59,700
Subtotal TX	484,100	1,665,000	0	0	46,100	229,000	19,000	413,500	2,856,700
Curry	30,850	2,400			1,900	25,200		64,700	125,050
Lea	2,300	8,500			3,900	1,600		12,750	29,050
Quay	2,600	450				5,800		5,000	13,850
Roosevelt	23,500	6,550			16,000	13,100		34,100	93,250
Subtotal NM	59,250	17,900	0	0	21,800	45,700	0	116,550	261,200
Crop G.Total	543,350	1,682,900	0	0	67,900	274,700	19,000	530,050	3,117,900

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 7. Irrigated Crop Acreage by County, 1994

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	County Total
Andrews		2,900			1,500				4,400
Armstrong	1,900					1,400		7,600	10,900
Bailey	19,400	55,900				6,700		27,400	109,400
Borden		1,500							1,500
Briscoe	3,700	23,200			1,300	3,300		6,500	38,000
Castro	18,100	51,500				9,000	3,500	49,900	132,000
Cochran	1,200	53,500				2,300		2,100	59,100
Crosby		119,500				10,400		3,400	133,300
Dawson		38,000			2,300			4,100	44,400
Deaf Smith	56,800	4,500				29,200		58,000	148,500
Dickens		3,500							3,500
Ector									0
Floyd	21,200	131,000				18,500	1,000	12,200	183,900
Gaines		193,400			39,500	1,800		19,600	254,300
Garza		7,800							7,800
Glasscock		44,500				1,100		1,400	47,000
Hale	83,400	185,000				20,700	4,500	29,800	323,400
Hockley	1,300	135,200				1,800		2,000	140,300
Howard		1,400						1,600	3,000
Lamb	58,100	128,700				11,300	4,200	29,400	231,700
Lubbock	1,700	170,900				3,800		1,400	177,800
Lynn		46,000				1,200			47,200
Martin		9,900							9,900
Midland		9,100							9,100
Motley		1,800			2,800				4,600
Oldham						5,400		9,200	14,600
Parmer	109,400	51,000				20,700	4,300	37,400	222,800
Potter						2,700		8,600	11,300
Randall	5,600					9,600		22,000	37,200
Swisher	32,500	63,100				16,800		22,900	135,300
Terry	1,300	110,000			3,200	4,100		3,800	122,400
Yoakum	1,000	66,100			4,700	2,200		3,400	77,400
Subtotal TX	416,600	1,708,900	0	0	55,300	184,000	17,500	363,700	2,746,000
Curry	35,800	2,350			1,900	24,000		59,000	123,050
Lea	4,450	9,850			2,800	1,400		9,000	27,500
Quay	2,600	800				5,500		8,400	17,300
Roosevelt	22,900	8,200			16,300	8,400		25,000	80,800
Subtotal NM	65,750	21,200	0	0	21,000	39,300	0	101,400	248,650
Crop G.Total	482,350	1,730,100	0	0	76,300	223,300	17,500	465,100	2,994,650

Attachment B2. Irrigated acreage by crop and county in the Southern Ogallala GAM region for 1982, 1983, 1994, 1987, 1992, 1993, 1994 and 1997.

Table 8. Irrigated Crop Acreage by County, 1997

Counties	Corn	Cotton	Hay	Pasture	Peanuts	Sorghum	Soybeans	Wheat	County Total
Andrews		8,200		571	3,500				12,271
Armstrong	1,200	800	60	316		2,100		5,000	9,476
Bailey	15,500	50,900	0	8,102	0	13,600	1,200	6,100	95,402
Borden		5,000							5,000
Briscoe	2,900	21,400	0	495	1,500	3,500	0	3,600	33,395
Castro	119,200	60,600	0	6,707	0	16,200	3,000	70,200	275,907
Cochran	2,000	55,400	0	850	2,300	15,700	0	0	76,250
Crosby	0	126,700	0	235	0	6,800	1,100	0	134,835
Dawson	0	52,000	0	1,105	16,700	4,800	0	2,800	77,405
Deaf Smith	44,000	7,700	0	9,093	0	36,400	0	100,800	197,993
Dickens	0	5,400	0	3,966	0	0	0	0	9,366
Ector	0	0	0	1,313	0	0	0	0	1,313
Floyd	18,500	125,800	0	1,938	0	24,700	10,600	8,200	189,738
Gaines	1,600	144,000	0	3,272	64,600	6,700	0	10,700	230,872
Garza		12,500	0	0	0	0	0	0	12,500
Glasscock		50,700		295		1,900			52,895
Hale	62,600	202,200	0	8,963	0	34,900	14,600	37,500	360,763
Hockley		143,400	0	1,994	1,000	12,000	0	1,200	159,594
Howard		2,800		200					3,000
Lamb	62,700	123,600	0	4,662	1,100	14,900	5,100	14,200	226,262
Lubbock	1,000	188,900	0	3,738	2,500	14,000	3,600	3,600	217,338
Lynn	0	51,300	0	930	1,500	2,100	0	0	55,830
Martin		6,000		90	1,800				7,890
Midland	0	10,300	0	2,094	0	0	0	0	12,394
Motley	0	0	0	1,855	3,300	0	0	0	5,155
Oldham	862	0	0	520	0	10,500	0	18,300	30,182
Parmer	91,700	65,700	0	9,719	0	17,500	1,600	46,600	232,819
Potter	971	0	0	2,948	0	1,500	0	22,800	28,219
Randall	5,500	100	2,185	6,570	0	14,800	0	17,700	46,855
Swisher	27,900	61,200	0	3,776	0	21,000	5,600	19,400	138,876
Terry	1,200	133,100	0	2,331	21,100	8,200	0	6,100	172,031
Yoakum	1,900	78,700	0	409	11,800	8,700	0	4,400	105,909
Subtotal TX	460,033	1,785,400	0	88,170	129,200	290,400	46,400	394,200	3,193,803
Curry	33,000	2,400	0	5,195	1,600	23,500	0	52,000	117,695
Lea	4,200	12,200	0	6,291	3,200	2,400	0	6,000	34,291
Quay	2,200	2,500	0	14,345	0	5,500	0	9,000	33,545
Roosevelt	22,000	13,600	0	3,848	13,200	10,400	0	30,000	93,048
Subtotal NM	61,400	30,700	0	29,679	18,000	41,800	0	97,000	278,579
Crop G.Total	521,433	1,816,100	0	117,849	147,200	332,200	46,400	491,200	3,472,382

Attachment B3

**Irrigation Data by County for
Base Years, Drought Years,
Drought-of-Record Years, and
Long-Term Average Years**

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1982 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1982	1982	1982	1982
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	10,881	17,407	19.20	0	0	35	167
ARMSTRONG	130	134	12.34	0	0	7	29
BAILEY	159,876	243,703	18.29	0	0	563	8,172
BORDEN	1,000	1,089	13.07	0	0	0	0
BRISCOE	30,928	39,628	15.38	0	0	693	3,137
CASTRO	283,245	474,172	20.09	0	0	9,933	51,391
COCHRAN	102,263	132,458	15.54	0	0	1,103	4,784
CROSBY	118,726	124,402	12.57	0	0	516	2,528
DAWSON	30,629	43,361	16.99	0	0	14	147
DEAF SMITH	191,636	299,417	18.75	0	0	12,637	55,069
DICKENS	5,357	6,681	14.97	0	0	21	146
ECTOR	911	3,122	0.00	0	0	0	312
FLOYD	301,114	323,462	12.89	0	0	1,465	8,073
GAINES	266,684	424,730	19.11	0	0	1,485	6,790
GARZA	4,200	6,029	17.23	0	0	3	13
GLASSCOCK	2,866	5,154	21.58	0	0	6	58
HALE	473,426	466,255	11.82	0	0	251	7,407
HOCKLEY	188,677	239,790	15.25	0	0	125	1,174
HOWARD	8,600	11,638	16.24	0	0	7	28
LAMB	317,992	456,212	17.22	0	0	1,200	12,219
LUBBOCK	233,643	251,439	12.91	0	0	203	2,887
LYNN	37,932	37,848	11.97	0	0	83	476
MARTIN	8600	11846	16.53	0	0	15	61
MIDLAND	4198	7465	21.34	0	0	21	113
MOTLEY	334	598	21.48	0	0	1	8
OLDHAM	23,100	30,414	15.80	0	0	1,715	6,862
PARMER	305,342	450,146	17.69	0	0	9,760	50,363
POTTER	10,901	11,530	12.69	0	0	523	2,093
RANDALL	3,200	3,528	13.23	0	0	259	1,036
SWISHER	253,177	310,690	14.73	0	0	9,728	42,972
TERRY	104,554	122,876	14.10	0	0	499	2,194
YOAKUM	72,833	115,054	18.96	0	0	190	1,462
CURRY	121,415	134,694	13.31	0	0	2,573	13,891
LEA	28,893	46,833	19.45	0	0	554	3,892
QUAY	386	469	14.59	0	0	7	40
ROOSEVELT	105,528	123,539	14.05	0	0	957	6,436
TOTALS	3,813,176	4,977,813	15.67	0	0	57,156	296,430

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	1982	1982	1982	1982	1982	1982	1982	1982
	May	June	July	August	September	October	November	December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	904	3,418	7,025	5,747	38	35	35	0
ARMSTRONG	24	11	24	22	0	7	7	0
BAILEY	17,966	50,120	89,454	72,385	3,917	563	563	0
BORDEN	54	229	457	349	0	0	0	0
BRISCOE	3,739	6,189	12,796	10,841	846	693	693	0
CASTRO	57,746	81,174	138,226	109,752	6,086	9,933	9,933	0
COCHRAN	8,727	23,413	49,156	42,511	558	1,103	1,103	0
CROSBY	6,926	22,766	48,408	40,214	2,013	516	516	0
DAWSON	2,028	8,524	17,713	14,671	237	14	14	0
DEAF SMITH	49,484	35,906	63,994	55,635	1,418	12,637	12,637	0
DICKENS	422	1,296	2,571	2,046	138	21	21	0
ECTOR	468	624	624	624	468	0	0	0
FLOYD	17,382	55,814	123,569	105,469	8,761	1,465	1,465	0
GAINES	24,068	83,755	166,142	135,507	4,013	1,485	1,485	0
GARZA	305	1,251	2,515	1,935	0	3	3	0
GLASSCOCK	304	1,061	2,063	1,600	50	6	6	0
HALE	23,716	87,656	182,412	151,676	12,635	251	251	0
HOCKLEY	11,165	46,334	97,096	81,950	1,697	125	125	0
HOWARD	597	2,425	4,856	3,710	0	7	7	0
LAMB	29,425	90,172	173,446	139,922	7,429	1,200	1,200	0
LUBBOCK	13,740	49,337	99,422	80,938	4,507	203	203	0
LYNN	1,944	7,127	15,039	12,447	566	83	83	0
MARTIN	598	2391	4879	3870	0	15	15	0
MIDLAND	446	1503	2974	2322	44	21	21	0
MOTLEY	33	129	207	189	30	1	1	0
OLDHAM	5,544	2,254	5,304	5,304	0	1,715	1,715	0
PARMER	55,721	76,358	129,455	103,383	5,585	9,760	9,760	0
POTTER	1,759	1,071	2,518	2,518	0	523	523	0
RANDALL	805	160	375	375	0	259	259	0
SWISHER	41,781	42,371	81,592	68,180	4,609	9,728	9,728	0
TERRY	7,000	23,558	48,486	39,844	299	499	499	0
YOAKUM	6,673	23,524	46,032	36,318	475	190	190	0
CURRY	15,757	22,050	38,214	34,242	2,820	2,573	2,573	0
LEA	5,268	8,513	13,770	11,678	2,049	554	554	0
QUAY	48	73	138	132	16	7	7	0
ROOSEVELT	9,942	22,003	41,606	38,105	2,577	957	957	0
TOTALS	422,509	884,557	1,712,560	1,416,411	73,880	57,156	57,156	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1983 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1983	1983	1983	1983
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	18,400	34,009	22.18	0	0	42	763
ARMSTRONG	81	98	14.56	0	0	5	20
BAILEY	102,900	180,360	21.03	0	0	842	6,799
BORDEN	0	0	0.00	0	0	0	0
BRISCOE	18,960	34,208	21.65	0	0	950	3,907
CASTRO	191,900	401,774	25.12	0	0	8,008	42,549
COCHRAN	55,800	91,785	19.74	0	0	1,266	5,063
CROSBY	103,400	158,593	18.41	0	0	682	2,729
DAWSON	25,200	41,475	19.75	0	0	44	177
DEAF SMITH	147,600	259,146	21.07	0	0	10,748	46,810
DICKENS	3,250	3,578	13.21	0	0	25	99
ECTOR	0	0	0.00	0	0	0	0
FLOYD	152,678	233,128	18.32	0	0	1,227	6,627
GAINES	216,300	322,204	17.88	0	0	1,742	6,968
GARZA	4,300	6,587	18.38	0	0	3	10
GLASSCOCK	3,069	5,515	21.57	0	0	5	20
HALE	269,000	408,155	18.21	0	0	10	7,362
HOCKLEY	124,400	205,683	19.84	0	0	215	861
HOWARD	2,800	3,104	13.30	0	0	38	152
LAMB	225,800	374,602	19.91	0	0	1,993	13,896
LUBBOCK	141,600	218,825	18.54	0	0	120	657
LYNN	32,800	48,882	17.88	0	0	50	201
MARTIN	8700	13505	18.63	0	0	40	161
MIDLAND	1590	2693	20.32	0	0	10	39
MOTLEY	270	433	19.26	0	0	0	1
OLDHAM	17,500	26,995	18.51	0	0	1,589	6,356
PARMER	188,300	369,520	23.55	0	0	5,963	34,702
POTTER	15,000	25,692	20.55	0	0	549	2,695
RANDALL	22,960	31,438	16.43	0	0	1,499	6,203
SWISHER	160,200	269,198	20.16	0	0	4,996	23,662
TERRY	121,900	185,150	18.23	0	0	788	3,153
YOAKUM	52,300	79,331	18.20	0	0	328	1,311
CURRY	91,620	96,177	12.60	0	0	2,178	10,343
LEA	20,350	26,548	15.65	0	0	504	2,340
QUAY	327	299	10.96	0	0	7	30
ROOSEVELT	60,600	62,509	12.38	0	0	1,220	5,625
TOTALS	2,601,855	4,221,199	19.47	0	0	47,686	242,290

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	1983	1983	1983	1983	1983	1983	1983	1983
	May	June	July	August	September	October	November	December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	2,401	6,995	12,797	10,034	894	42	42	0
ARMSTRONG	17	8	19	19	0	5	5	0
BAILEY	13,304	36,196	66,631	53,344	1,558	842	842	0
BORDEN	0	0	0	0	0	0	0	0
BRISCOE	4,146	5,181	10,180	7,945	0	950	950	0
CASTRO	49,493	73,564	119,671	91,081	1,390	8,008	8,008	0
COCHRAN	7,416	15,942	32,896	26,672	0	1,266	1,266	0
CROSBY	9,156	30,877	63,373	50,047	363	682	682	0
DAWSON	2,078	8,404	17,127	13,554	0	44	44	0
DEAF SMITH	42,136	31,847	56,962	48,754	391	10,748	10,748	0
DICKENS	231	679	1,389	1,106	0	25	25	0
ECTOR	0	0	0	0	0	0	0	0
FLOYD	15,301	45,331	89,634	71,148	1,408	1,227	1,227	0
GAINES	19,623	63,465	124,876	100,042	2,005	1,742	1,742	0
GARZA	329	1,366	2,750	2,125	0	3	3	0
GLASSCOCK	282	1,137	2,290	1,772	0	5	5	0
HALE	25,328	86,335	159,783	125,725	3,592	10	10	0
HOCKLEY	10,388	41,855	85,108	66,633	194	215	215	0
HOWARD	244	559	1,138	898	0	38	38	0
LAMB	27,386	74,366	139,481	109,952	3,544	1,993	1,993	0
LUBBOCK	10,737	44,426	90,635	71,465	545	120	120	0
LYNN	2,400	9,804	20,205	15,940	182	50	50	0
MARTIN	769	2,738	5,496	4,220	0	40	40	0
MIDLAND	152	532	1,083	857	0	10	10	0
MOTLEY	20	92	164	142	12	0	0	0
OLDHAM	5,100	1,888	4,442	4,442	0	1,589	1,589	0
PARMER	43,016	71,174	114,195	87,053	1,491	5,963	5,963	0
POTTER	2,899	4,111	7,582	6,581	179	549	549	0
RANDALL	5,279	3,124	6,372	5,962	0	1,499	1,499	0
SWISHER	28,016	45,593	85,819	69,454	1,669	4,996	4,996	0
TERRY	10,802	36,479	73,818	58,350	182	788	788	0
YOAKUM	4,653	15,706	31,810	24,869	0	328	328	0
CURRY	11,125	15,408	28,205	24,561	0	2,178	2,178	0
LEA	2,839	4,632	8,506	6,720	0	504	504	0
QUAY	30	40	90	87	0	7	7	0
ROOSEVELT	6,592	10,503	19,759	16,369	0	1,220	1,220	0
TOTALS	363,689	790,354	1,484,286	1,177,924	19,600	47,686	47,686	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1984 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1984	1984	1984	1984
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	11,800	11,563	11.76	0	0	75	299
ARMSTRONG	97	125	15.52	0	0	5	19
BAILEY	109,400	146,389	16.06	0	0	963	7,140
BORDEN	500	168	0.00	0	0	17	67
BRISCOE	18,780	28,312	18.09	0	0	343	1,486
CASTRO	240,400	416,520	20.79	0	0	7,300	40,974
COCHRAN	83,000	100,166	14.48	0	0	1,469	5,877
CROSBY	127,800	163,163	15.32	0	0	723	2,891
DAWSON	35,400	38,078	12.91	0	0	53	211
DEAF SMITH	141,500	220,633	18.71	0	0	6,640	29,986
DICKENS	4,000	4,952	14.86	0	0	11	44
ECTOR	0	0	0.00	0	0	0	0
FLOYD	192,836	255,234	15.88	0	0	1,161	6,170
GAINES	251,400	255,210	12.18	0	0	1,409	5,637
GARZA	5,700	7,353	15.48	0	0	0	0
GLASSCOCK	3,468	5,167	17.88	0	0	1	6
HALE	319,500	423,736	15.91	0	0	72	9,120
HOCKLEY	149,000	169,640	13.66	0	0	425	1,701
HOWARD	3,200	3,812	14.30	0	0	7	27
LAMB	233,500	321,725	16.53	0	0	1,319	10,996
LUBBOCK	199,300	253,456	15.26	0	0	343	1,926
LYNN	43,700	53,493	14.69	0	0	94	377
MARTIN	9,500	9,509	12.01	0	0	62	246
MIDLAND	2,070	2,898	16.80	0	0	7	28
MOTLEY	375	555	17.77	0	0	0	1
OLDHAM	17,700	24,085	16.33	0	0	1,119	4,478
PARMER	228,200	349,416	18.37	0	0	6,807	37,357
POTTER	27,600	37,689	16.39	0	0	1,682	7,183
RANDALL	34,960	48,629	16.69	0	0	2,488	10,370
SWISHER	196,800	306,589	18.69	0	0	7,274	33,501
TERRY	139,900	152,415	13.07	0	0	693	2,770
YOAKUM	65,400	70,780	12.99	0	0	373	1,492
CURRY	105,600	102,397	11.64	0	0	1,764	9,295
LEA	25,800	23,083	10.74	0	0	756	3,238
QUAY	360	311	10.38	0	0	7	30
ROOSEVELT	72,800	62,394	10.28	0	0	1,015	4,855
TOTALS	3,101,346	4,069,648	15.75	0	0	46,477	239,797

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	1984	1984	1984	1984	1984	1984	1984	1984
	May	June	July	August	September	October	November	December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	746	2,234	4,524	3,537	0	75	75	0
ARMSTRONG	17	13	31	31	0	5	5	0
BAILEY	12,666	30,636	52,538	40,358	162	963	963	0
BORDEN	50	0	0	0	0	17	17	0
BRISCOE	2,318	5,180	10,220	8,080	0	343	343	0
CASTRO	50,103	79,997	127,248	95,634	664	7,300	7,300	0
COCHRAN	8,416	17,419	35,633	28,412	0	1,469	1,469	0
CROSBY	9,684	32,184	65,212	51,024	0	723	723	0
DAWSON	1,992	7,799	15,728	12,190	0	53	53	0
DEAF SMITH	29,382	31,739	58,424	50,791	390	6,640	6,640	0
DICKENS	268	1,003	2,027	1,577	0	11	11	0
ECTOR	0	0	0	0	0	0	0	0
FLOYD	16,392	50,741	99,524	78,472	453	1,161	1,161	0
GAINES	15,594	50,677	97,732	78,851	2,491	1,409	1,409	0
GARZA	360	1,527	3,085	2,365	16	0	0	0
GLASSCOCK	259	1,077	2,162	1,659	0	1	1	0
HALE	28,739	92,776	164,454	126,396	2,033	72	72	0
HOCKLEY	9,359	34,359	69,276	53,668	0	425	425	0
HOWARD	195	762	1,561	1,248	0	7	7	0
LAMB	24,561	68,216	121,235	92,088	672	1,319	1,319	0
LUBBOCK	13,775	52,331	103,927	80,468	0	343	343	0
LYNN	2,872	10,959	22,033	16,970	0	94	94	0
MARTIN	618	1,846	3,724	2,889	0	62	62	0
MIDLAND	163	594	1,188	905	0	7	7	0
MOTLEY	26	121	212	179	16	0	0	0
OLDHAM	3,745	2,191	5,156	5,156	0	1,119	1,119	0
PARMER	43,967	65,851	103,442	78,017	362	6,807	6,807	0
POTTER	6,309	4,276	7,893	6,983	0	1,682	1,682	0
RANDALL	8,762	4,708	9,081	8,244	0	2,488	2,488	0
SWISHER	36,510	49,710	90,951	73,062	1,033	7,274	7,274	0
TERRY	9,071	30,074	60,658	47,618	145	693	693	0
YOAKUM	4,333	13,943	27,746	21,906	242	373	373	0
CURRY	11,047	18,146	31,743	26,873	0	1,764	1,764	0
LEA	3,176	3,267	6,137	4,996	0	756	756	0
QUAY	30	43	96	91	0	7	7	0
ROOSEVELT	6,130	10,964	20,507	16,893	0	1,015	1,015	0
TOTALS	361,639	777,361	1,425,110	1,117,629	8,679	46,477	46,477	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1987 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1987	1987	1987	1987
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	5,016	6,279	15.02	0	0	96	527
ARMSTRONG	77	77	12.03	0	0	2	11
BAILEY	87,606	97,042	13.29	0	0	825	6,055
BORDEN	700	947	16.23	0	0	0	0
BRISCOE	16,790	22,538	16.11	0	0	536	2,455
CASTRO	179,033	255,231	17.11	0	0	5,760	30,643
COCHRAN	44,600	42,368	11.40	0	0	471	1,882
CROSBY	75,810	71,572	11.33	0	0	231	1,107
DAWSON	16,501	23,229	16.89	0	0	5	154
DEAF SMITH	137,556	168,558	14.70	0	0	7,189	30,885
DICKENS	865	1,228	17.04	0	0	1	52
ECTOR	984	2,823	0.00	0	0	0	282
FLOYD	155,953	151,571	11.66	0	0	737	4,593
GAINES	151,361	228,100	18.08	0	0	841	5,214
GARZA	3,100	3,427	13.27	0	0	14	57
GLASSCOCK	2,005	3,124	18.70	0	0	1	36
HALE	297,807	257,084	10.36	0	0	0	6,820
HOCKLEY	88,788	80,309	10.85	0	0	154	709
HOWARD	1,700	1,867	13.18	0	0	20	79
LAMB	218,562	248,356	13.64	0	0	1,503	12,368
LUBBOCK	144,733	137,948	11.44	0	0	160	1,485
LYNN	31,300	28,868	11.07	0	0	6	23
MARTIN	3700	4621	14.99	0	0	25	101
MIDLAND	2588	4130	19.15	0	0	4	61
MOTLEY	255	445	20.96	0	0	0	1
OLDHAM	15,282	18,906	14.85	0	0	893	3,737
PARMER	171,027	211,698	14.85	0	0	5,255	27,092
POTTER	10,626	13,833	15.62	0	0	449	2,352
RANDALL	23,851	28,960	14.57	0	0	977	4,697
SWISHER	118,134	132,539	13.46	0	0	3,137	15,007
TERRY	90,982	80,554	10.62	0	0	330	1,594
YOAKUM	19,400	13,683	8.46	0	0	603	2,512
CURRY	88,664	80,199	10.85	0	0	1,498	8,901
LEA	42,315	43,631	12.37	0	0	1,600	7,785
QUAY	257	304	14.19	0	0	3	27
ROOSEVELT	85,007	67,221	9.49	0	0	1,419	8,018
TOTALS	2,332,936	2,533,273	13.03	0	0	34,745	187,321

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	1987	1987	1987	1987	1987	1987	1987	1987
	May	June	July	August	September	October	November	December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	690	1,090	1,913	1,556	215	96	96	0
ARMSTRONG	10	10	19	18	2	2	2	0
BAILEY	9,521	19,359	32,225	25,417	1,990	825	825	0
BORDEN	47	199	398	303	0	0	0	0
BRISCOE	2,721	3,594	6,593	5,320	245	536	536	0
CASTRO	34,284	44,959	70,542	54,442	3,080	5,760	5,760	0
COCHRAN	3,184	7,686	15,707	12,497	0	471	471	0
CROSBY	4,201	14,251	28,550	22,496	274	231	231	0
DAWSON	1,295	4,827	9,427	7,310	201	5	5	0
DEAF SMITH	27,461	19,857	36,582	32,103	103	7,189	7,189	0
DICKENS	111	250	408	333	69	1	1	0
ECTOR	423	565	565	565	423	0	0	0
FLOYD	10,665	29,996	57,274	45,230	1,601	737	737	0
GAINES	14,958	46,479	85,141	68,683	5,101	841	841	0
GARZA	198	672	1,370	1,087	0	14	14	0
GLASSCOCK	188	646	1,238	967	46	1	1	0
HALE	18,759	55,858	96,392	75,388	3,866	0	0	0
HOCKLEY	4,413	16,371	32,795	25,417	142	154	154	0
HOWARD	139	343	698	549	0	20	20	0
LAMB	22,204	50,687	86,440	67,347	4,800	1,503	1,503	0
LUBBOCK	8,004	28,432	55,410	43,138	1,002	160	160	0
LYNN	1,438	6,010	12,081	9,299	0	6	6	0
MARTIN	290	910	1,831	1,414	0	25	25	0
MIDLAND	260	850	1,617	1,263	67	4	4	0
MOTLEY	19	99	158	146	22	0	0	0
OLDHAM	3,176	1,745	3,662	3,662	245	893	893	0
PARMER	29,455	36,748	57,299	43,797	1,542	5,255	5,255	0
POTTER	2,295	1,756	2,623	2,623	837	449	449	0
RANDALL	4,453	3,498	6,099	6,099	1,182	977	977	0
SWISHER	16,459	21,402	37,893	30,720	1,648	3,137	3,137	0
TERRY	5,009	16,042	31,566	24,800	551	330	330	0
YOAKUM	2,183	1,478	2,690	2,690	322	603	603	0
CURRY	10,316	14,050	21,833	18,475	2,132	1,498	1,498	0
LEA	7,515	5,618	8,557	7,374	1,982	1,600	1,600	0
QUAY	35	52	82	79	21	3	3	0
ROOSEVELT	8,956	11,088	17,517	15,163	2,220	1,419	1,419	0
TOTALS	255,338	467,480	825,196	657,772	35,932	34,745	34,745	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1992 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1992	1992	1992	1992
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	7,601	7,720	12.19	0	0	9	139
ARMSTRONG	150	143	11.41	0	0	8	35
BAILEY	127,486	127,389	11.99	0	0	633	6,124
BORDEN	1,900	3,096	19.55	0	0	55	220
BRISCOE	26,988	30,759	13.68	0	0	382	1,986
CASTRO	252,172	303,885	14.46	0	0	5,280	31,427
COCHRAN	78,260	74,803	11.47	0	0	81	386
CROSBY	176,930	153,672	10.42	0	0	145	1,054
DAWSON	27,213	31,262	13.79	0	0	27	257
DEAF SMITH	177,275	202,402	13.70	0	0	7,139	31,658
DICKENS	1,650	2,039	14.83	0	0	2	7
ECTOR	0	0	0.00	0	0	0	0
FLOYD	241,978	213,830	10.60	0	0	432	3,496
GAINES	242,574	320,398	15.85	0	0	855	4,790
GARZA	4,000	4,285	12.85	0	0	22	87
GLASSCOCK	3,223	4,274	15.92	0	0	2	24
HALE	462,718	376,085	9.75	0	0	0	7,329
HOCKLEY	180,152	171,899	11.45	0	0	37	354
HOWARD	6,230	7,230	13.93	0	0	21	138
LAMB	298,547	294,090	11.82	0	0	782	7,833
LUBBOCK	249,115	216,468	10.43	0	0	46	987
LYNN	78,916	69,117	10.51	0	0	5	260
MARTIN	10644	13202	14.88	0	0	12	131
MIDLAND	3151	5002	19.05	0	0	3	180
MOTLEY	221	377	20.47	0	0	0	4
OLDHAM	16,215	18,025	13.34	0	0	985	4,183
PARMER	255,294	261,250	12.28	0	0	3,718	23,911
POTTER	11,539	12,618	13.12	0	0	612	2,881
RANDALL	30,270	34,317	13.60	0	0	1,355	6,338
SWISHER	160,281	161,020	12.06	0	0	2,274	12,496
TERRY	159,645	152,204	11.44	0	0	125	785
YOAKUM	80,342	96,880	14.47	0	0	0	140
CURRY	130,550	108,583	9.98	0	0	3,085	14,946
LEA	42,051	57,197	16.32	0	0	529	4,236
QUAY	215	339	18.92	0	0	2	33
ROOSEVELT	99,910	102,926	12.36	0	0	1,180	7,234
TOTALS	3,645,406	3,638,785	11.98	0	0	29,846	176,089

pia = planted irrigation acreages
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Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	1992	1992	1992	1992	1992	1992	1992	1992
	May	June	July	August	September	October	November	December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	393	1,354	2,860	2,793	153	9	9	0
ARMSTRONG	29	12	21	19	2	8	8	0
BAILEY	10,760	24,704	43,425	36,695	3,781	633	633	0
BORDEN	269	488	1,046	908	0	55	55	0
BRISCOE	2,780	5,462	10,309	8,712	363	382	382	0
CASTRO	37,757	56,432	88,095	69,117	5,217	5,280	5,280	0
COCHRAN	3,164	13,835	30,150	26,768	257	81	81	0
CROSBY	7,042	28,899	61,598	53,302	1,343	145	145	0
DAWSON	1,661	6,257	12,573	10,211	221	27	27	0
DEAF SMITH	29,987	28,746	47,765	41,221	1,606	7,139	7,139	0
DICKENS	102	415	844	665	0	2	2	0
ECTOR	0	0	0	0	0	0	0	0
FLOYD	11,718	41,185	83,722	70,279	2,134	432	432	0
GAINES	18,485	65,943	121,571	100,308	6,736	855	855	0
GARZA	269	854	1,708	1,302	0	22	22	0
GLASSCOCK	232	887	1,751	1,351	22	2	2	0
HALE	22,728	76,400	144,207	119,778	5,644	0	0	0
HOCKLEY	7,357	32,927	70,053	60,789	308	37	37	0
HOWARD	467	1,466	2,827	2,188	83	21	21	0
LAMB	18,710	56,726	110,340	92,201	5,934	782	782	0
LUBBOCK	9,450	40,759	87,342	75,349	2,442	46	46	0
LYNN	3,124	13,305	27,923	24,053	436	5	5	0
MARTIN	763	2,718	5,302	4,127	124	12	12	0
MIDLAND	426	1,027	1,719	1,389	251	3	3	0
MOTLEY	20	84	127	119	24	0	0	0
OLDHAM	3,491	1,461	2,786	2,786	362	985	985	0
PARMER	30,411	50,155	78,924	62,285	4,411	3,718	3,718	0
POTTER	2,551	1,235	1,732	1,732	651	612	612	0
RANDALL	5,815	3,975	6,603	6,341	1,179	1,355	1,355	0
SWISHER	16,347	28,934	51,420	42,920	2,080	2,274	2,274	0
TERRY	7,311	30,155	61,325	51,342	910	125	125	0
YOAKUM	4,495	19,795	39,281	32,507	662	0	0	0
CURRY	15,187	16,788	27,742	23,534	1,131	3,085	3,085	0
LEA	6,118	10,865	16,484	14,509	3,399	529	529	0
QUAY	45	63	81	76	32	2	2	0
ROOSEVELT	10,047	20,367	30,964	27,171	3,602	1,180	1,180	0
TOTALS	289,512	684,682	1,274,619	1,068,845	55,499	29,846	29,846	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1993 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1993	1993	1993	1993
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	3,501	5,136	17.60	0	0	0	115
ARMSTRONG	93	117	15.04	0	0	5	22
BAILEY	110,100	140,049	15.26	0	0	635	4,713
BORDEN	0	0	0.00	0	0	0	0
BRISCOE	25,080	36,299	17.37	0	0	840	3,585
CASTRO	227,400	368,552	19.45	0	0	7,903	42,474
COCHRAN	59,700	79,749	16.03	0	0	264	1,054
CROSBY	148,900	193,050	15.56	0	0	263	1,318
DAWSON	43,300	53,333	14.78	0	0	56	222
DEAF SMITH	167,700	240,951	17.24	0	0	8,499	39,253
DICKENS	1,000	1,279	15.35	0	0	0	0
ECTOR	0	0	0.00	0	0	0	0
FLOYD	182,263	231,136	15.22	0	0	451	3,757
GAINES	251,300	303,810	14.51	0	0	1,401	5,606
GARZA	4,200	5,390	15.40	0	0	0	0
GLASSCOCK	3,247	4,073	15.05	0	0	0	0
HALE	319,400	398,524	14.97	0	0	118	9,315
HOCKLEY	131,700	175,304	15.97	0	0	0	0
HOWARD	3,400	3,837	13.54	0	0	0	0
LAMB	243,900	323,177	15.90	0	0	1,363	11,804
LUBBOCK	188,400	243,639	15.52	0	0	127	681
LYNN	47,200	54,541	13.87	0	0	0	0
MARTIN	11,300	14,166	15.04	0	0	0	0
MIDLAND	1,920	2,530	15.81	0	0	0	0
MOTLEY	203	238	14.09	0	0	0	0
OLDHAM	10,600	11,776	13.33	0	0	740	2,961
PARMER	229,600	327,375	17.11	0	0	5,526	32,101
POTTER	12,200	11,275	11.09	0	0	897	3,587
RANDALL	30,080	36,216	14.45	0	0	2,305	9,577
SWISHER	129,700	184,368	17.06	0	0	3,269	16,251
TERRY	131,300	167,234	15.28	0	0	234	936
YOAKUM	59,700	76,500	15.38	0	0	160	794
CURRY	125,050	115,350	11.07	0	0	2,695	13,614
LEA	29,050	32,847	13.57	0	0	706	3,089
QUAY	139	158	13.67	0	0	2	10
<u>ROOSEVELT</u>	<u>93,250</u>	<u>95,996</u>	<u>12.35</u>	0	0	1,231	7,156
TOTALS	3,025,875	3,937,974	15.62	0	0	39,689	213,996

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1993	1993	1993	1993	1993	1993	1993	1993
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	372	1,067	1,904	1,505	172	0	0	0
ARMSTRONG	20	15	25	21	0	5	5	0
BAILEY	10,437	29,161	52,785	41,046	0	635	635	0
BORDEN	0	0	0	0	0	0	0	0
BRISCOE	4,088	5,934	11,351	8,820	0	840	840	0
CASTRO	48,464	68,280	105,944	79,237	443	7,903	7,903	0
COCHRAN	4,578	16,057	32,319	24,951	0	264	264	0
CROSBY	10,289	39,628	79,315	61,712	0	263	263	0
DAWSON	2,771	11,013	22,131	17,029	0	56	56	0
DEAF SMITH	37,613	35,079	57,207	46,301	0	8,499	8,499	0
DICKENS	64	269	537	409	0	0	0	0
ECTOR	0	0	0	0	0	0	0	0
FLOYD	13,844	47,530	91,766	72,515	370	451	451	0
GAINES	18,137	61,847	116,951	93,384	3,681	1,401	1,401	0
GARZA	269	1,132	2,264	1,725	0	0	0	0
GLASSCOCK	204	855	1,711	1,303	0	0	0	0
HALE	28,162	88,643	153,810	117,550	690	118	118	0
HOCKLEY	8,594	36,472	73,457	56,781	0	0	0	0
HOWARD	192	806	1,611	1,228	0	0	0	0
LAMB	25,515	69,242	120,825	91,323	379	1,363	1,363	0
LUBBOCK	12,386	50,443	101,321	78,247	180	127	127	0
LYNN	2,694	11,387	22,874	17,587	0	0	0	0
MARTIN	708	2,975	5,950	4,533	0	0	0	0
MIDLAND	127	531	1,063	810	0	0	0	0
MOTLEY	11	52	90	77	8	0	0	0
OLDHAM	2,352	743	1,749	1,749	0	740	740	0
PARMER	39,538	63,835	99,719	75,372	232	5,526	5,526	0
POTTER	2,759	393	924	924	0	897	897	0
RANDALL	7,811	2,813	4,909	4,191	0	2,305	2,305	0
SWISHER	20,004	33,252	58,748	46,144	161	3,269	3,269	0
TERRY	8,713	34,336	68,670	53,569	308	234	234	0
YOAKUM	4,286	15,912	30,658	23,939	431	160	160	0
CURRY	14,783	19,810	32,425	26,478	156	2,695	2,695	0
LEA	3,566	5,662	9,856	8,124	434	706	706	0
QUAY	14	28	53	47	0	2	2	0
<u>ROOSEVELT</u>	9,658	19,180	30,124	24,922	1,265	1,231	1,231	0
TOTALS	343,021	774,380	1,395,046	1,083,553	8,911	39,689	39,689	0

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Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1994 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1994	1994	1994	1994
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	4,400	5,963	16.26	0	0	0	0
ARMSTRONG	109	129	14.25	0	0	7	31
BAILEY	109,400	124,924	13.70	0	0	1,183	6,624
BORDEN	1,500	2,803	22.43	0	0	0	0
BRISCOE	22,020	33,584	18.30	0	0	674	2,960
CASTRO	132,000	160,445	14.59	0	0	5,436	23,596
COCHRAN	59,100	80,122	16.27	0	0	300	1,333
CROSBY	133,300	154,332	13.89	0	0	452	1,808
DAWSON	44,400	54,051	14.61	0	0	245	980
DEAF SMITH	148,500	221,386	17.89	0	0	6,429	31,598
DICKENS	1,750	2,060	14.13	0	0	0	0
ECTOR	0	0	0.00	0	0	0	0
FLOYD	178,383	215,910	14.52	0	0	643	4,666
GAINES	254,300	322,453	15.22	0	0	1,221	4,884
GARZA	7,800	8,998	13.84	0	0	0	0
GLASSCOCK	3,995	5,324	15.99	0	0	6	23
HALE	323,400	385,001	14.29	0	0	303	9,877
HOCKLEY	140,300	185,934	15.90	0	0	119	619
HOWARD	3,000	2,473	9.89	0	0	81	322
LAMB	231,700	301,970	15.64	0	0	1,248	10,739
LUBBOCK	177,800	208,500	14.07	0	0	75	480
LYNN	47,200	54,445	13.84	0	0	0	0
MARTIN	9,900	12,568	15.23	0	0	0	0
MIDLAND	2,730	3,686	16.20	0	0	0	0
MOTLEY	345	442	15.37	0	0	0	0
OLDHAM	14,600	18,144	14.91	0	0	1,168	4,672
PARMER	222,800	300,227	16.17	0	0	3,848	25,119
POTTER	11,300	12,038	12.78	0	0	874	3,498
RANDALL	29,760	37,554	15.14	0	0	1,826	7,799
SWISHER	135,300	185,382	16.44	0	0	2,260	12,619
TERRY	122,400	157,783	15.47	0	0	238	1,095
YOAKUM	77,400	99,129	15.37	0	0	216	972
CURRY	137,550	138,782	12.11	0	0	3,460	17,312
LEA	27,500	34,537	15.07	0	0	587	2,839
QUAY	173	184	12.74	0	0	4	17
<u>ROOSEVELT</u>	<u>80,809</u>	<u>103,046</u>	<u>15.30</u>	0	0	1,100	6,780
TOTALS	2,896,924	3,634,311	15.05	0	0	34,003	183,264

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Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1994	1994	1994	1994	1994	1994	1994	1994
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	276	1,297	2,304	1,930	156	0	0	0
ARMSTRONG	26	13	21	17	0	7	7	0
BAILEY	10,944	24,961	44,699	34,147	0	1,183	1,183	0
BORDEN	140	589	1,177	897	0	0	0	0
BRISCOE	3,572	5,736	10,849	8,445	0	674	674	0
CASTRO	23,032	22,852	41,658	32,582	417	5,436	5,436	0
COCHRAN	4,828	16,180	32,145	24,736	0	300	300	0
CROSBY	8,607	30,982	62,682	48,897	0	452	452	0
DAWSON	3,282	10,903	21,370	16,546	235	245	245	0
DEAF SMITH	32,331	36,311	57,054	44,805	0	6,429	6,429	0
DICKENS	103	433	865	659	0	0	0	0
ECTOR	0	0	0	0	0	0	0	0
FLOYD	14,040	44,741	84,627	65,793	116	643	643	0
GAINES	18,543	66,229	124,985	100,049	4,099	1,221	1,221	0
GARZA	450	1,890	3,779	2,879	0	0	0	0
GLASSCOCK	278	1,101	2,209	1,695	0	6	6	0
HALE	27,986	85,722	147,756	112,262	488	303	303	0
HOCKLEY	9,690	38,816	77,345	59,107	0	119	119	0
HOWARD	325	350	701	534	0	81	81	0
LAMB	23,444	64,296	113,177	86,041	530	1,248	1,248	0
LUBBOCK	10,705	43,597	86,914	66,579	0	75	75	0
LYNN	2,695	11,378	22,839	17,533	0	0	0	0
MARTIN	628	2,639	5,279	4,022	0	0	0	0
MIDLAND	184	774	1,548	1,180	0	0	0	0
MOTLEY	19	98	162	144	19	0	0	0
OLDHAM	3,698	1,099	2,586	2,586	0	1,168	1,168	0
PARMER	33,755	61,500	95,841	72,039	431	3,848	3,848	0
POTTER	2,722	560	1,317	1,317	0	874	874	0
RANDALL	6,749	4,070	7,223	6,234	0	1,826	1,826	0
SWISHER	18,067	36,185	62,926	48,804	0	2,260	2,260	0
TERRY	8,474	32,626	64,551	50,001	321	238	238	0
YOAKUM	5,481	20,471	39,912	31,173	471	216	216	0
CURRY	18,453	23,539	38,089	30,837	173	3,460	3,460	0
LEA	3,607	6,425	10,936	8,674	296	587	587	0
QUAY	19	30	57	50	0	4	4	0
<u>ROOSEVELT</u>	9,841	21,247	33,089	27,214	1,573	1,100	1,100	0
TOTALS	306,996	719,640	1,302,672	1,010,405	9,325	34,003	34,003	0

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Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1997 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1997	1997	1997	1997
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	12,271	17,309	16.93	0	0	0	128
ARMSTRONG	95	63	7.94	0	0	2	8
BAILEY	95,402	93,040	11.70	0	0	172	2,921
BORDEN	5,000	5,864	14.07	0	0	0	0
BRISCOE	19,137	14,455	9.06	0	0	52	356
CASTRO	275,907	282,039	12.27	0	0	2,993	22,139
COCHRAN	76,250	73,224	11.52	0	0	0	316
CROSBY	134,835	108,959	9.70	0	0	0	46
DAWSON	77,405	95,400	14.79	0	0	91	596
DEAF SMITH	197,993	172,527	10.46	0	0	4,774	24,053
DICKENS	4,683	6,524	16.72	0	0	0	314
ECTOR	1,313	3,542	32.37	0	0	0	354
FLOYD	184,046	138,604	9.04	0	0	119	1,881
GAINES	230,872	305,859	15.90	0	0	379	2,367
GARZA	12,500	14,748	14.16	0	0	0	0
GLASSCOCK	4,496	6,395	17.07	0	0	0	6
HALE	360,763	229,009	7.62	0	0	0	5,134
HOCKLEY	159,594	148,181	11.14	0	0	40	565
HOWARD	3,000	3,733	14.93	0	0	0	45
LAMB	226,262	230,078	12.20	0	0	359	6,624
LUBBOCK	217,338	180,437	9.96	0	0	113	1,223
LYNN	55,830	47,218	10.15	0	0	0	181
MARTIN	7,890	10,184	15.49	0	0	0	19
MIDLAND	3,718	6,151	19.85	0	0	0	163
MOTLEY	387	406	12.60	0	0	0	14
OLDHAM	30,182	27,314	10.86	0	0	1,520	6,230
PARMER	232,819	214,388	11.05	0	0	2,214	16,475
POTTER	28,219	16,548	7.04	0	0	917	4,185
RANDALL	37,484	38,190	12.23	0	0	817	4,780
SWISHER	138,876	103,085	8.91	0	0	472	4,297
TERRY	172,031	170,468	11.89	0	0	220	1,474
YOAKUM	105,909	131,643	14.92	0	0	162	877
CURRY	117,695	92,905	9.47	0	0	1,343	8,357
LEA	34,291	46,921	16.42	0	0	247	2,773
QUAY	335	397	14.21	0	0	2	33
<u>ROOSEVELT</u>	<u>93,048</u>	<u>99,103</u>	<u>12.78</u>	0	0	440	4,114
TOTALS	3,357,876	3,134,910	11.20	0	0	17,447	123,048

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1997	1997	1997	1997	1997	1997	1997	1997
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	935	3,739	6,462	5,444	601	0	0	0
ARMSTRONG	8	10	17	14	1	2	2	0
BAILEY	7,065	19,435	34,087	27,257	1,757	172	172	0
BORDEN	293	1,231	2,463	1,876	0	0	0	0
BRISCOE	971	2,954	5,586	4,378	53	52	52	0
CASTRO	31,427	59,523	90,569	67,799	1,603	2,993	2,993	0
COCHRAN	3,664	15,002	29,562	24,161	519	0	0	0
CROSBY	5,367	22,619	45,548	35,270	110	0	0	0
DAWSON	4,891	20,193	36,733	30,526	2,189	91	91	0
DEAF SMITH	24,850	27,575	43,682	35,946	2,101	4,774	4,774	0
DICKENS	640	1,339	2,050	1,711	471	0	0	0
ECTOR	531	708	708	708	531	0	0	0
FLOYD	8,185	28,853	55,179	43,574	575	119	119	0
GAINES	15,900	65,386	115,275	97,149	8,647	379	379	0
GARZA	737	3,097	6,194	4,719	0	0	0	0
GLASSCOCK	323	1,336	2,669	2,052	9	0	0	0
HALE	16,082	50,243	87,697	68,161	1,692	0	0	0
HOCKLEY	7,688	30,607	60,819	47,659	724	40	40	0
HOWARD	232	779	1,469	1,141	67	0	0	0
LAMB	17,214	50,403	86,884	66,524	1,352	359	359	0
LUBBOCK	9,754	37,126	73,097	57,459	1,440	113	113	0
LYNN	2,487	9,875	19,207	15,046	422	0	0	0
MARTIN	500	2,193	3,980	3,264	227	0	0	0
MIDLAND	471	1,275	2,224	1,772	245	0	0	0
MOTLEY	32	89	116	116	40	0	0	0
OLDHAM	5,117	2,193	4,613	4,477	123	1,520	1,520	0
PARMER	23,600	44,784	68,811	52,147	1,930	2,214	2,214	0
POTTER	3,608	1,509	1,993	1,840	661	917	917	0
RANDALL	5,236	6,010	9,333	8,632	1,746	817	817	0
SWISHER	8,399	21,478	37,257	29,478	760	472	472	0
TERRY	9,177	35,764	66,173	54,034	3,186	220	220	0
YOAKUM	6,871	27,492	52,318	42,103	1,494	162	162	0
CURRY	10,538	17,636	27,979	23,115	1,249	1,343	1,343	0
LEA	4,650	9,486	14,461	12,240	2,570	247	247	0
QUAY	49	76	102	95	36	2	2	0
<u>ROOSEVELT</u>	7,963	21,253	33,678	28,222	2,553	440	440	0
TOTALS	245,458	643,272	1,128,993	900,112	41,685	17,447	17,447	0

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Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	LTA Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	LTA	LTA	LTA	LTA
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	12,271	14,051	13.74	0	0	0	141
ARMSTRONG	95	94	11.89	0	0	4	16
BAILEY	95,402	128,592	16.17	0	0	321	4,554
BORDEN	5,000	9,055	21.73	0	0	0	0
BRISCOE	19,137	23,777	14.91	0	0	333	1,564
CASTRO	275,907	411,125	17.88	0	0	6,617	40,239
COCHRAN	76,250	79,734	12.55	0	0	0	384
CROSBY	134,835	121,345	10.80	0	0	0	52
DAWSON	77,405	80,954	12.55	0	0	115	726
DEAF SMITH	197,993	254,672	15.44	0	0	9,537	44,686
DICKENS	4,683	6,505	16.67	0	0	0	397
ECTOR	1,313	3,534	32.30	0	0	0	353
FLOYD	184,046	188,617	12.30	0	0	341	3,350
GAINES	230,872	248,450	12.91	0	0	457	2,788
GARZA	12,500	11,211	10.76	0	0	0	0
GLASSCOCK	4,496	4,798	12.81	0	0	0	6
HALE	360,763	334,295	11.12	0	0	1	7,489
HOCKLEY	159,594	161,837	12.17	0	0	53	670
HOWARD	3,000	3,112	12.45	0	0	0	47
LAMB	226,262	297,598	15.78	0	0	443	8,830
LUBBOCK	217,338	201,952	11.15	0	0	98	1,301
LYNN	55,830	51,468	11.06	0	0	0	206
MARTIN	7,890	8,411	12.79	0	0	0	22
MIDLAND	3,718	5,089	16.42	0	0	0	162
MOTLEY	387	499	15.47	0	0	0	26
OLDHAM	30,182	32,556	12.94	0	0	1,817	7,467
PARMER	232,819	295,996	15.26	0	0	4,120	26,552
POTTER	28,219	26,620	11.32	0	0	1,716	7,562
RANDALL	37,484	47,832	15.31	0	0	1,128	6,511
SWISHER	138,876	161,748	13.98	0	0	1,498	9,487
TERRY	172,031	172,157	12.01	0	0	286	1,810
YOAKUM	105,909	104,474	11.84	0	0	210	1,114
CURRY	117,695	118,523	12.08	0	0	1,975	11,894
LEA	34,291	46,745	16.36	0	0	267	3,095
QUAY	335	499	17.86	0	0	3	47
<u>ROOSEVELT</u>	<u>93,048</u>	<u>98,687</u>	<u>12.73</u>	0	0	855	6,235
TOTALS	3,357,876	3,756,611	13.42	0	0	32,193	199,784

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	LTA May	LTA June	LTA July	LTA August	LTA September	LTA October	LTA November	LTA December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	801	3,020	5,216	4,370	503	0	0	0
ARMSTRONG	15	12	21	18	1	4	4	0
BAILEY	10,124	26,646	46,391	37,213	2,700	321	321	0
BORDEN	453	1,902	3,803	2,898	0	0	0	0
BRISCOE	2,205	4,329	8,168	6,423	89	333	333	0
CASTRO	50,304	80,992	123,985	93,235	2,521	6,617	6,617	0
COCHRAN	4,037	16,312	32,251	26,275	475	0	0	0
CROSBY	5,941	25,108	50,706	39,343	195	0	0	0
DAWSON	4,310	16,930	31,074	25,800	1,770	115	115	0
DEAF SMITH	42,300	35,265	55,348	45,476	2,985	9,537	9,537	0
DICKENS	722	1,326	1,859	1,606	595	0	0	0
ECTOR	530	707	707	707	530	0	0	0
FLOYD	11,291	38,089	74,063	59,173	1,626	341	341	0
GAINES	13,616	52,528	93,358	78,180	6,609	457	457	0
GARZA	561	2,354	4,709	3,588	0	0	0	0
GLASSCOCK	243	1,000	1,998	1,542	9	0	0	0
HALE	22,910	71,917	127,663	100,356	3,956	1	1	0
HOCKLEY	8,437	33,383	66,402	52,018	769	53	53	0
HOWARD	203	649	1,203	939	71	0	0	0
LAMB	22,418	65,077	111,928	85,871	2,147	443	443	0
LUBBOCK	10,785	41,325	81,926	64,534	1,786	98	98	0
LYNN	2,727	10,744	20,987	16,386	417	0	0	0
MARTIN	421	1,806	3,295	2,686	180	0	0	0
MIDLAND	416	1,052	1,781	1,434	243	0	0	0
MOTLEY	49	107	130	130	56	0	0	0
OLDHAM	6,139	2,620	5,443	5,268	169	1,817	1,817	0
PARMER	34,774	59,141	91,132	69,192	2,843	4,120	4,120	0
POTTER	6,289	1,941	2,482	2,293	907	1,716	1,716	0
RANDALL	6,967	7,379	11,056	10,184	2,351	1,128	1,128	0
SWISHER	14,576	31,374	55,569	44,519	1,729	1,498	1,498	0
TERRY	9,591	35,750	67,418	54,225	2,505	286	286	0
YOAKUM	5,723	21,566	41,163	33,196	1,083	210	210	0
CURRY	14,352	22,103	34,448	28,182	1,619	1,975	1,975	0
LEA	4,941	9,409	13,976	11,832	2,691	267	267	0
QUAY	66	94	122	114	48	3	3	0
<u>ROOSEVELT</u>	9,519	20,374	31,755	26,076	2,163	855	855	0
TOTALS	328,756	744,332	1,303,541	1,035,280	48,341	32,193	32,193	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1952 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1952	1952	1952	1952
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	12,271	16,626	16.26	0	0	0	161
ARMSTRONG	95	129	16.34	0	0	5	24
BAILEY	95,402	150,169	18.89	0	0	234	4,646
BORDEN	5,000	7,259	17.42	0	0	0	0
BRISCOE	19,137	29,657	18.60	0	0	320	1,563
CASTRO	275,907	497,533	21.64	0	0	8,651	50,545
COCHRAN	76,250	106,574	16.77	0	0	0	462
CROSBY	134,835	155,424	13.83	0	0	0	61
DAWSON	77,405	99,741	15.46	0	0	98	707
DEAF SMITH	197,993	315,649	19.13	0	0	12,365	57,085
DICKENS	4,683	8,707	22.31	0	0	0	509
ECTOR	1,313	4,090	37.38	0	0	0	409
FLOYD	184,046	257,595	16.80	0	0	363	3,870
GAINES	230,872	293,907	15.28	0	0	478	3,008
GARZA	12,500	14,367	13.79	0	0	0	0
GLASSCOCK	4,496	6,223	16.61	0	0	0	8
HALE	360,763	463,178	15.41	0	0	82	9,471
HOCKLEY	159,594	217,573	16.36	0	0	66	827
HOWARD	3,000	4,163	16.65	0	0	0	59
LAMB	226,262	365,955	19.41	0	0	534	10,364
LUBBOCK	217,338	255,984	14.13	0	0	78	1,371
LYNN	55,830	65,591	14.10	0	0	0	241
MARTIN	7,890	10,405	15.82	0	0	0	26
MIDLAND	3,718	6,267	20.23	0	0	0	192
MOTLEY	387	625	19.40	0	0	0	33
OLDHAM	30,182	42,090	16.73	0	0	2,443	9,998
PARMER	232,819	365,164	18.82	0	0	5,462	33,586
POTTER	28,219	36,211	15.40	0	0	2,458	10,677
RANDALL	37,484	62,775	20.10	0	0	1,616	8,890
SWISHER	138,876	222,391	19.22	0	0	2,204	13,147
TERRY	172,031	230,197	16.06	0	0	356	2,232
YOAKUM	105,909	139,934	15.86	0	0	260	1,371
CURRY	117,695	140,779	14.35	0	0	2,396	14,176
LEA	34,291	56,280	19.69	0	0	334	3,691
QUAY	335	568	20.30	0	0	3	51
<u>ROOSEVELT</u>	<u>93,048</u>	<u>113,597</u>	<u>14.65</u>	0	0	1,206	7,916
TOTALS	3,357,876	4,763,375	17.02	0	0	42,012	251,375

pia = planted irrigation acreages
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Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

	1952	1952	1952	1952	1952	1952	1952	1952
	May	June	July	August	September	October	November	December
COUNTY	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	944	3,572	6,195	5,176	579	0	0	0
ARMSTRONG	22	16	27	24	1	5	5	0
BAILEY	11,344	31,286	54,896	44,139	3,157	234	234	0
BORDEN	363	1,524	3,049	2,323	0	0	0	0
BRISCOE	2,503	5,590	10,591	8,337	114	320	320	0
CASTRO	61,731	96,049	148,352	111,893	3,011	8,651	8,651	0
COCHRAN	5,335	21,759	43,202	35,226	591	0	0	0
CROSBY	7,607	32,169	64,960	50,398	229	0	0	0
DAWSON	5,189	20,939	38,530	31,950	2,134	98	98	0
DEAF SMITH	53,264	42,191	67,025	55,459	3,532	12,365	12,365	0
DICKENS	944	1,778	2,538	2,176	763	0	0	0
ECTOR	614	818	818	818	614	0	0	0
FLOYD	14,867	52,039	102,000	81,635	2,096	363	363	0
GAINES	15,928	62,213	110,974	92,730	7,621	478	478	0
GARZA	718	3,017	6,034	4,598	0	0	0	0
GLASSCOCK	314	1,297	2,592	2,000	11	0	0	0
HALE	30,691	98,648	178,400	140,633	5,088	82	82	0
HOCKLEY	11,270	44,880	89,413	70,038	944	66	66	0
HOWARD	267	868	1,618	1,261	89	0	0	0
LAMB	27,061	79,651	138,308	106,365	2,603	534	534	0
LUBBOCK	13,474	52,495	104,255	82,061	2,094	78	78	0
LYNN	3,454	13,689	26,807	20,911	488	0	0	0
MARTIN	520	2,234	4,083	3,324	218	0	0	0
MIDLAND	506	1,297	2,209	1,775	289	0	0	0
MOTLEY	61	134	164	164	70	0	0	0
OLDHAM	8,150	3,199	6,710	6,513	192	2,443	2,443	0
PARMER	43,122	71,572	111,789	85,253	3,455	5,462	5,462	0
POTTER	8,759	2,375	3,074	2,852	1,100	2,458	2,458	0
RANDALL	9,265	9,334	14,315	13,263	2,861	1,616	1,616	0
SWISHER	19,912	42,498	76,505	61,483	2,234	2,204	2,204	0
TERRY	12,684	47,809	90,550	72,703	3,150	356	356	0
YOAKUM	7,576	28,878	55,355	44,599	1,375	260	260	0
CURRY	16,977	25,947	40,880	33,702	1,909	2,396	2,396	0
LEA	5,889	11,271	16,930	14,332	3,164	334	334	0
QUAY	73	108	140	131	55	3	3	0
<u>ROOSEVELT</u>	11,353	22,842	35,832	29,554	2,480	1,206	1,206	0
TOTALS	412,752	935,986	1,659,121	1,319,795	58,310	42,012	42,012	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1953 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1953	1953	1953	1953
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	12,271	13,512	13.21	0	0	0	129
ARMSTRONG	95	131	16.57	0	0	6	25
BAILEY	95,402	149,736	18.83	0	0	249	4,605
BORDEN	5,000	6,231	14.96	0	0	0	0
BRISCOE	19,137	29,165	18.29	0	0	349	1,657
CASTRO	275,907	492,625	21.43	0	0	8,597	50,075
COCHRAN	76,250	109,888	17.29	0	0	0	451
CROSBY	134,835	164,469	14.64	0	0	0	57
DAWSON	77,405	91,924	14.25	0	0	124	765
DEAF SMITH	197,993	316,165	19.16	0	0	12,574	57,802
DICKENS	4,683	8,263	21.17	0	0	0	468
ECTOR	1,313	4,170	38.11	0	0	0	417
FLOYD	184,046	254,322	16.58	0	0	411	3,974
GAINES	230,872	240,305	12.49	0	0	508	2,913
GARZA	12,500	15,205	14.60	0	0	0	0
GLASSCOCK	4,496	6,595	17.60	0	0	0	8
HALE	360,763	455,998	15.17	0	0	302	10,008
HOCKLEY	159,594	224,380	16.87	0	0	68	806
HOWARD	3,000	4,007	16.03	0	0	0	52
LAMB	226,262	365,817	19.40	0	0	570	10,378
LUBBOCK	217,338	270,004	14.91	0	0	111	1,439
LYNN	55,830	69,168	14.87	0	0	0	225
MARTIN	7,890	9,560	14.54	0	0	0	22
MIDLAND	3,718	6,714	21.67	0	0	0	194
MOTLEY	387	627	19.46	0	0	0	30
OLDHAM	30,182	41,598	16.54	0	0	2,694	11,004
PARMER	232,819	361,234	18.62	0	0	5,427	33,220
POTTER	28,219	37,521	15.96	0	0	2,610	11,255
RANDALL	37,484	62,457	19.99	0	0	1,690	9,088
SWISHER	138,876	216,633	18.72	0	0	2,278	13,258
TERRY	172,031	238,215	16.62	0	0	363	2,227
YOAKUM	105,909	144,930	16.42	0	0	265	1,385
CURRY	117,695	138,139	14.08	0	0	2,429	14,178
LEA	34,291	54,464	19.06	0	0	320	3,494
QUAY	335	569	20.36	0	0	3	52
<u>ROOSEVELT</u>	<u>93,048</u>	<u>116,451</u>	<u>15.02</u>	0	0	1,173	7,790
TOTALS	3,357,876	4,721,195	16.87	0	0	43,121	253,450

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1953	1953	1953	1953	1953	1953	1953	1953
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	764	2,904	5,035	4,209	471	0	0	0
ARMSTRONG	22	16	27	23	1	6	6	0
BAILEY	11,252	31,142	54,853	44,093	3,043	249	249	0
BORDEN	312	1,309	2,617	1,994	0	0	0	0
BRISCOE	2,530	5,420	10,303	8,110	99	349	349	0
CASTRO	61,086	94,962	146,922	110,854	2,934	8,597	8,597	0
COCHRAN	5,473	22,431	44,585	36,361	588	0	0	0
CROSBY	8,040	34,038	68,756	53,344	234	0	0	0
DAWSON	4,849	19,219	35,456	29,360	1,902	124	124	0
DEAF SMITH	53,690	41,813	66,577	55,122	3,439	12,574	12,574	0
DICKENS	881	1,688	2,441	2,083	702	0	0	0
ECTOR	626	834	834	834	626	0	0	0
FLOYD	14,707	51,144	100,566	80,571	2,128	411	411	0
GAINES	13,298	50,638	90,234	75,456	6,241	508	508	0
GARZA	760	3,193	6,386	4,866	0	0	0	0
GLASSCOCK	333	1,375	2,749	2,120	11	0	0	0
HALE	30,499	96,441	175,050	138,110	4,983	302	302	0
HOCKLEY	11,575	46,289	92,307	72,290	910	68	68	0
HOWARD	252	836	1,569	1,220	78	0	0	0
LAMB	26,995	79,445	138,302	106,415	2,572	570	570	0
LUBBOCK	14,154	55,305	110,094	86,627	2,055	111	111	0
LYNN	3,613	14,439	28,328	22,088	475	0	0	0
MARTIN	477	2,051	3,759	3,056	194	0	0	0
MIDLAND	529	1,391	2,394	1,916	291	0	0	0
MOTLEY	58	135	168	168	68	0	0	0
OLDHAM	8,816	2,689	5,505	5,307	195	2,694	2,694	0
PARMER	42,608	70,710	110,671	84,413	3,332	5,427	5,427	0
POTTER	9,173	2,333	3,051	2,826	1,053	2,610	2,610	0
RANDALL	9,335	9,116	14,084	13,045	2,719	1,690	1,690	0
SWISHER	19,624	41,036	74,097	59,601	2,181	2,278	2,278	0
TERRY	13,043	49,506	93,775	75,335	3,240	363	363	0
YOAKUM	7,814	29,923	57,338	46,231	1,443	265	265	0
CURRY	16,803	25,234	39,813	32,905	1,918	2,429	2,429	0
LEA	5,624	10,926	16,529	13,964	2,967	320	320	0
QUAY	74	108	140	131	55	3	3	0
<u>ROOSEVELT</u>	11,393	23,528	37,036	30,630	2,556	1,173	1,173	0
TOTALS	411,082	923,568	1,642,349	1,305,680	55,703	43,121	43,121	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1954 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1954	1954	1954	1954
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	12,271	14,405	14.09	0	0	0	132
ARMSTRONG	95	118	15.00	0	0	5	22
BAILEY	95,402	147,257	18.52	0	0	316	4,838
BORDEN	5,000	9,055	21.73	0	0	0	0
BRISCOE	19,137	29,024	18.20	0	0	372	1,742
CASTRO	275,907	491,810	21.39	0	0	9,031	51,678
COCHRAN	76,250	104,005	16.37	0	0	0	430
CROSBY	134,835	165,722	14.75	0	0	0	61
DAWSON	77,405	92,287	14.31	0	0	153	877
DEAF SMITH	197,993	313,868	19.02	0	0	12,752	58,414
DICKENS	4,683	7,788	19.96	0	0	0	462
ECTOR	1,313	3,681	33.64	0	0	0	368
FLOYD	184,046	240,508	15.68	0	0	477	4,153
GAINES	230,872	257,641	13.39	0	0	633	3,443
GARZA	12,500	15,319	14.71	0	0	0	0
GLASSCOCK	4,496	6,278	16.76	0	0	0	7
HALE	360,763	432,056	14.37	0	0	608	10,920
HOCKLEY	159,594	212,724	15.99	0	0	79	826
HOWARD	3,000	3,950	15.80	0	0	0	50
LAMB	226,262	359,294	19.06	0	0	725	10,872
LUBBOCK	217,338	272,647	15.05	0	0	130	1,579
LYNN	55,830	69,807	15.00	0	0	0	241
MARTIN	7,890	9,566	14.55	0	0	0	22
MIDLAND	3,718	6,032	19.47	0	0	0	176
MOTLEY	387	598	18.57	0	0	0	31
OLDHAM	30,182	40,515	16.11	0	0	2,400	9,817
PARMER	232,819	359,838	18.55	0	0	5,713	34,284
POTTER	28,219	33,476	14.24	0	0	2,302	9,975
RANDALL	37,484	57,662	18.46	0	0	1,548	8,430
SWISHER	138,876	202,114	17.46	0	0	2,149	12,552
TERRY	172,031	225,020	15.70	0	0	420	2,420
YOAKUM	105,909	137,012	15.52	0	0	306	1,534
CURRY	117,695	138,808	14.15	0	0	2,946	16,053
LEA	34,291	51,155	17.90	0	0	381	3,605
QUAY	335	563	20.15	0	0	4	55
<u>ROOSEVELT</u>	<u>93,048</u>	<u>114,675</u>	<u>14.79</u>	0	0	1,447	8,755
TOTALS	3,357,876	4,626,278	16.53	0	0	44,900	258,826

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1954	1954	1954	1954	1954	1954	1954	1954
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	812	3,094	5,390	4,492	485	0	0	0
ARMSTRONG	20	14	24	21	1	5	5	0
BAILEY	11,275	30,484	53,593	43,086	3,032	316	316	0
BORDEN	453	1,902	3,803	2,898	0	0	0	0
BRISCOE	2,573	5,337	10,161	8,000	95	372	372	0
CASTRO	62,012	93,788	144,941	109,347	2,951	9,031	9,031	0
COCHRAN	5,186	21,229	42,204	34,406	550	0	0	0
CROSBY	8,106	34,298	69,272	53,745	240	0	0	0
DAWSON	4,943	19,213	35,578	29,387	1,830	153	153	0
DEAF SMITH	53,956	40,953	65,045	53,814	3,428	12,752	12,752	0
DICKENS	851	1,589	2,256	1,938	692	0	0	0
ECTOR	552	736	736	736	552	0	0	0
FLOYD	14,207	48,265	94,668	75,791	1,991	477	477	0
GAINES	14,473	54,038	96,722	80,639	6,427	633	633	0
GARZA	766	3,217	6,434	4,902	0	0	0	0
GLASSCOCK	316	1,309	2,617	2,019	11	0	0	0
HALE	29,914	90,839	164,223	129,522	4,813	608	608	0
HOCKLEY	11,016	43,854	87,449	68,479	864	79	79	0
HOWARD	247	825	1,549	1,204	75	0	0	0
LAMB	26,954	77,700	135,112	103,941	2,538	725	725	0
LUBBOCK	14,395	55,808	110,983	87,345	2,147	130	130	0
LYNN	3,661	14,571	28,562	22,274	498	0	0	0
MARTIN	478	2,051	3,772	3,057	187	0	0	0
MIDLAND	477	1,249	2,147	1,719	264	0	0	0
MOTLEY	58	128	157	157	67	0	0	0
OLDHAM	7,974	2,995	6,266	6,079	184	2,400	2,400	0
PARMER	43,185	69,756	108,988	83,123	3,363	5,713	5,713	0
POTTER	8,160	2,136	2,748	2,549	1,001	2,302	2,302	0
RANDALL	8,691	8,455	12,868	11,921	2,652	1,548	1,548	0
SWISHER	18,481	38,308	68,874	55,374	2,077	2,149	2,149	0
TERRY	12,534	46,577	88,353	70,893	2,983	420	420	0
YOAKUM	7,536	28,159	54,031	43,516	1,316	306	306	0
CURRY	17,968	24,294	38,325	31,590	1,739	2,946	2,946	0
LEA	5,489	10,092	15,201	12,846	2,779	381	381	0
QUAY	75	104	136	127	52	4	4	0
<u>ROOSEVELT</u>	11,882	22,539	35,471	29,292	2,397	1,447	1,447	0
TOTALS	409,675	899,907	1,598,660	1,270,228	54,282	44,900	44,900	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1955 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1955	1955	1955	1955
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	5,035	7,014	16.72	0	0	0	73
ARMSTRONG	27	44	19.56	0	0	0	2
BAILEY	54,853	91,852	20.09	0	0	0	2,333
BORDEN	2,617	2,816	12.91	0	0	0	0
BRISCOE	10,303	13,584	15.82	0	0	0	177
CASTRO	146,922	314,031	25.65	0	0	0	13,073
COCHRAN	44,585	63,470	17.08	0	0	0	309
CROSBY	68,756	69,906	12.20	0	0	0	30
DAWSON	35,456	42,211	14.29	0	0	0	148
DEAF SMITH	66,577	140,576	25.34	0	0	0	5,826
DICKENS	2,441	3,804	18.70	0	0	0	221
ECTOR	834	2,617	37.65	0	0	0	262
FLOYD	100,566	123,371	14.72	0	0	0	1,571
GAINES	90,234	121,942	16.22	0	0	0	536
GARZA	6,386	6,453	12.12	0	0	0	0
GLASSCOCK	2,749	3,713	16.21	0	0	0	5
HALE	175,050	225,698	15.47	0	0	0	5,918
HOCKLEY	92,307	127,298	16.55	0	0	0	291
HOWARD	1,569	1,866	14.27	0	0	0	29
LAMB	138,302	243,813	21.15	0	0	0	6,326
LUBBOCK	110,094	117,321	12.79	0	0	0	533
LYNN	28,328	29,472	12.48	0	0	0	117
MARTIN	3,759	4,450	14.20	0	0	0	12
MIDLAND	2,394	3,920	19.65	0	0	0	120
MOTLEY	168	240	17.11	0	0	0	13
OLDHAM	5,505	8,922	19.45	0	0	0	155
PARMER	110,671	198,338	21.51	0	0	0	8,150
POTTER	3,051	6,670	26.23	0	0	0	459
RANDALL	14,084	27,048	23.05	0	0	0	1,414
SWISHER	74,097	111,420	18.04	0	0	0	2,981
TERRY	93,775	129,737	16.60	0	0	0	469
YOAKUM	57,338	78,978	16.53	0	0	0	237
CURRY	39,813	74,352	22.41	0	0	0	3,052
LEA	16,529	30,722	22.30	0	0	0	1,409
QUAY	140	318	27.20	0	0	0	22
<u>ROOSEVELT</u>	<u>37,036</u>	<u>67,769</u>	<u>21.96</u>	0	0	0	2,195
TOTALS	1,642,349	2,495,753	18.24	0	0	0	58,467

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1955	1955	1955	1955	1955	1955	1955	1955
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	405	1,503	2,615	2,175	242	0	0	0
ARMSTRONG	3	9	16	13	1	0	0	0
BAILEY	6,667	19,773	34,327	27,217	1,534	0	0	0
BORDEN	141	591	1,183	901	0	0	0	0
BRISCOE	825	2,904	5,401	4,230	46	0	0	0
CASTRO	28,331	74,703	112,530	83,804	1,589	0	0	0
COCHRAN	3,224	13,021	25,726	20,880	309	0	0	0
CROSBY	3,418	14,455	29,211	22,671	121	0	0	0
DAWSON	2,115	8,928	16,528	13,630	862	0	0	0
DEAF SMITH	12,240	31,839	49,281	39,536	1,854	0	0	0
DICKENS	411	777	1,112	952	332	0	0	0
ECTOR	393	523	523	523	393	0	0	0
FLOYD	7,094	25,620	49,042	38,989	1,054	0	0	0
GAINES	6,215	26,216	46,924	38,981	3,070	0	0	0
GARZA	323	1,355	2,710	2,065	0	0	0	0
GLASSCOCK	188	774	1,547	1,193	7	0	0	0
HALE	16,384	49,575	85,230	66,297	2,293	0	0	0
HOCKLEY	6,466	26,355	52,573	41,123	491	0	0	0
HOWARD	122	389	720	562	43	0	0	0
LAMB	18,042	54,785	92,701	70,571	1,388	0	0	0
LUBBOCK	6,117	24,113	47,856	37,677	1,026	0	0	0
LYNN	1,562	6,150	12,031	9,383	229	0	0	0
MARTIN	225	953	1,754	1,419	87	0	0	0
MIDLAND	316	811	1,382	1,110	180	0	0	0
MOTLEY	24	51	62	62	27	0	0	0
OLDHAM	471	1,675	3,345	3,173	103	0	0	0
PARMER	17,806	46,783	70,904	53,158	1,537	0	0	0
POTTER	770	1,395	1,844	1,655	548	0	0	0
RANDALL	2,594	5,571	8,411	7,566	1,491	0	0	0
SWISHER	8,010	24,271	41,870	33,211	1,078	0	0	0
TERRY	6,670	27,381	51,951	41,582	1,685	0	0	0
YOAKUM	3,966	16,644	31,836	25,559	737	0	0	0
CURRY	6,442	16,951	26,116	20,909	882	0	0	0
LEA	2,888	6,626	9,856	8,225	1,718	0	0	0
QUAY	37	65	86	79	30	0	0	0
<u>ROOSEVELT</u>	5,344	15,513	24,148	19,386	1,184	0	0	0
TOTALS	176,248	549,050	943,351	740,466	28,171	0	0	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1956 Planted Irrigated Acres, pia	TAES Total Irr. Water Use, ac-ft	TAES Irr. Water Use, in/pia	1956	1956	1956	1956
				January	February	March	April
				Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	12,271	19,096	18.67	0	0	0	169
ARMSTRONG	95	123	15.63	0	0	5	23
BAILEY	95,402	153,505	19.31	0	0	352	5,174
BORDEN	5,000	9,055	21.73	0	0	0	0
BRISCOE	19,137	32,361	20.29	0	0	365	1,746
CASTRO	275,907	499,749	21.74	0	0	9,018	51,895
COCHRAN	76,250	111,715	17.58	0	0	0	471
CROSBY	134,835	168,013	14.95	0	0	0	63
DAWSON	77,405	111,335	17.26	0	0	141	884
DEAF SMITH	197,993	460,250	27.89	0	0	26,611	114,159
DICKENS	4,683	9,758	25.01	0	0	0	567
ECTOR	1,313	4,168	38.09	0	0	0	417
FLOYD	184,046	234,217	15.27	0	0	323	3,520
GAINES	230,872	339,305	17.64	0	0	557	3,381
GARZA	12,500	15,525	14.90	0	0	0	0
GLASSCOCK	4,496	6,652	17.75	0	0	0	7
HALE	360,763	417,414	13.88	0	0	0	8,448
HOCKLEY	159,594	228,118	17.15	0	0	67	850
HOWARD	3,000	4,557	18.23	0	0	0	59
LAMB	226,262	370,191	19.63	0	0	628	10,716
LUBBOCK	217,338	276,018	15.24	0	0	56	1,319
LYNN	55,830	70,863	15.23	0	0	0	250
MARTIN	7,890	11,584	17.62	0	0	0	26
MIDLAND	3,718	6,523	21.05	0	0	0	192
MOTLEY	387	673	20.88	0	0	0	34
OLDHAM	30,182	47,425	18.86	0	0	2,851	11,646
PARMER	232,819	367,301	18.93	0	0	5,704	34,512
POTTER	28,219	40,347	17.16	0	0	2,854	12,286
RANDALL	37,484	60,491	19.37	0	0	1,610	8,827
SWISHER	138,876	194,475	16.80	0	0	1,872	11,388
TERRY	172,031	242,760	16.93	0	0	361	2,274
YOAKUM	105,909	147,453	16.71	0	0	264	1,390
CURRY	117,695	142,460	14.52	0	0	2,693	15,310
LEA	34,291	55,932	19.57	0	0	336	3,658
QUAY	335	596	21.33	0	0	4	58
<u>ROOSEVELT</u>	<u>93,048</u>	<u>123,708</u>	<u>15.95</u>	0	0	1,180	8,026
TOTALS	3,357,876	4,983,716	17.81	0	0	57,852	313,749

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B3. Irrigation data by county in the Southern Ogallala GAM Region for all base years, drought years, drought of record years and long-term average years.

COUNTY	1956	1956	1956	1956	1956	1956	1956	1956
	May	June	July	August	September	October	November	December
	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft	Monthly Pumpage, ac-ft
ANDREWS	1,068	4,106	7,142	5,964	648	0	0	0
ARMSTRONG	21	15	25	22	1	5	5	0
BAILEY	11,848	31,688	55,655	44,804	3,280	352	352	0
BORDEN	453	1,902	3,803	2,898	0	0	0	0
BRISCOE	2,747	6,052	11,528	9,081	113	365	365	0
CASTRO	62,618	95,546	147,846	111,654	3,138	9,018	9,018	0
COCHRAN	5,577	22,802	45,290	36,949	626	0	0	0
CROSBY	8,217	34,767	70,226	54,490	250	0	0	0
DAWSON	5,843	23,292	43,005	35,601	2,285	141	141	0
DEAF SMITH	96,175	42,565	67,686	56,136	3,697	26,611	26,611	0
DICKENS	1,055	1,993	2,852	2,443	850	0	0	0
ECTOR	625	834	834	834	625	0	0	0
FLOYD	13,476	47,210	92,691	74,280	2,072	323	323	0
GAINES	18,279	71,823	128,239	107,189	8,723	557	557	0
GARZA	776	3,260	6,520	4,968	0	0	0	0
GLASSCOCK	335	1,387	2,773	2,139	11	0	0	0
HALE	27,603	88,911	160,644	126,821	4,987	0	0	0
HOCKLEY	11,801	47,061	93,768	73,454	982	67	67	0
HOWARD	286	951	1,785	1,388	88	0	0	0
LAMB	27,444	80,204	139,661	107,544	2,737	628	628	0
LUBBOCK	14,399	56,640	112,607	88,654	2,233	56	56	0
LYNN	3,721	14,792	28,977	22,605	517	0	0	0
MARTIN	577	2,486	4,558	3,703	234	0	0	0
MIDLAND	519	1,351	2,316	1,856	289	0	0	0
MOTLEY	64	145	178	178	74	0	0	0
OLDHAM	9,432	3,421	7,183	6,980	211	2,851	2,851	0
PARMER	43,777	71,373	111,652	85,273	3,600	5,704	5,704	0
POTTER	9,982	2,410	3,091	2,873	1,143	2,854	2,854	0
RANDALL	9,124	8,895	13,471	12,492	2,850	1,610	1,610	0
SWISHER	17,355	37,230	66,903	53,840	2,144	1,872	1,872	0
TERRY	13,306	50,474	95,471	76,755	3,396	361	361	0
YOAKUM	7,937	30,461	58,322	47,051	1,500	264	264	0
CURRY	17,749	25,615	40,384	33,367	1,955	2,693	2,693	0
LEA	5,836	11,203	16,852	14,262	3,114	336	336	0
QUAY	79	111	144	135	57	4	4	0
<u>ROOSEVELT</u>	11,947	25,130	39,544	32,747	2,776	1,180	1,180	0
TOTALS	462,050	948,102	1,683,627	1,341,428	61,205	57,852	57,852	0

pia = planted irrigation acreages
 TAES = Texas Agricultural Extension Service

Attachment B4

**Regional and County Long-Term
Average Estimates for Irrigation
Water Demand by Crop**

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>ANDREWS COUNTY</u>				
<i>Crop</i>	LTA Total Irr. Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.46	34.00	0	0
<i>Cotton:</i>	12.39	22.95	8,200	8,465
<i>Hay:</i>	39.50	53.64	0	0
<i>Pasture and Other:</i>	29.53	45.17	571	1,405
<i>Peanuts:</i>	14.33	25.12	3,500	4,181
<i>Sorghum:</i>	12.33	22.76	0	0
<i>Soybeans:</i>	14.88	26.31	0	0
<i>Wheat - Cover Crop</i>	5.12	8.36	0	0
<i>Total</i>			12,271	14,051

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>ARMSTRONG COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.47	35.93	12	22
<i>Cotton:</i>	9.84	25.55	8	7
<i>Hay:</i>	32.44	49.01	1	2
<i>Pasture and Other:</i>	23.70	41.27	3	6
<i>Peanuts:</i>	11.84	25.74	0	0
<i>Sorghum:</i>	11.87	25.64	21	21
<i>Soybeans:</i>	12.00	27.22	0	0
<i>Wheat - Cover Crop</i>	8.70	23.50	50	36
<i>Total</i>			95	94

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>BAILEY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	24.33	34.68	15,500	31,420
<i>Cotton:</i>	14.23	24.82	50,900	60,358
<i>Hay:</i>	34.16	47.50	0	0
<i>Pasture and Other:</i>	25.16	40.00	8,102	16,988
<i>Peanuts:</i>	14.73	25.03	0	0
<i>Sorghum:</i>	13.32	23.71	13,600	15,093
<i>Soybeans:</i>	15.21	26.12	1,200	1,521
<i>Wheat - Cover Crop</i>	6.32	6.59	6,100	3,212
<i>Total</i>			95,402	128,592

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>BORDEN COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	32.80	34.00	0	0
<i>Cotton:</i>	21.73	22.95	5,000	9,055
<i>Hay:</i>	53.97	53.64	0	0
<i>Pasture and Other:</i>	44.00	45.17	0	0
<i>Peanuts:</i>	24.53	25.12	0	0
<i>Sorghum:</i>	22.08	22.76	0	0
<i>Soybeans:</i>	25.64	26.31	0	0
<i>Wheat - Cover Crop</i>	8.57	8.36	0	0
<i>Total</i>			5,000	9,055

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>BRISCOE COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.71	35.50	1,740	3,439
<i>Cotton:</i>	13.09	24.94	12,840	14,010
<i>Hay:</i>	33.10	48.74	0	0
<i>Pasture and Other:</i>	23.90	41.04	297	592
<i>Peanuts:</i>	13.05	25.30	0	0
<i>Sorghum:</i>	13.74	25.69	2,100	2,405
<i>Soybeans:</i>	13.90	26.94	0	0
<i>Wheat - Cover Crop</i>	18.51	22.86	2,160	3,332
<i>Total</i>			19,137	23,777

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>CASTRO COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	24.82	36.82	119,200	246,564
<i>Cotton:</i>	12.07	26.63	60,600	60,934
<i>Hay:</i>	34.64	49.38	0	0
<i>Pasture and Other:</i>	25.85	41.59	6,707	14,447
<i>Peanuts:</i>	13.95	26.41	0	0
<i>Sorghum:</i>	14.43	27.06	16,200	19,479
<i>Soybeans:</i>	14.14	27.86	3,000	3,536
<i>Wheat - Cover Crop</i>	11.31	24.52	70,200	66,166
<i>Total</i>			275,907	411,125

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>COCHRAN COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.77	34.32	2,000	3,796
<i>Cotton:</i>	12.12	23.53	55,400	55,971
<i>Hay:</i>	37.17	52.00	0	0
<i>Pasture and Other:</i>	27.46	43.79	850	1,945
<i>Peanuts:</i>	13.63	25.14	2,300	2,613
<i>Sorghum:</i>	11.78	23.07	15,700	15,409
<i>Soybeans:</i>	14.13	26.32	0	0
<i>Wheat - Cover Crop</i>	14.62	17.68	0	0
<i>Total</i>			76,250	79,734

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>CROSBY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.60	34.00	0	0
<i>Cotton:</i>	10.76	22.95	126,700	113,636
<i>Hay:</i>	36.58	53.64	0	0
<i>Pasture and Other:</i>	26.61	45.17	235	521
<i>Peanuts:</i>	12.28	25.12	0	0
<i>Sorghum:</i>	10.63	22.76	6,800	6,023
<i>Soybeans:</i>	12.71	26.31	1,100	1,165
<i>Wheat - Cover Crop</i>	11.86	17.60	0	0
<i>Total</i>			134,835	121,345

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>DAWSON COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.25	34.00	0	0
<i>Cotton:</i>	12.17	22.95	52,000	52,748
<i>Hay:</i>	39.07	53.64	0	0
<i>Pasture and Other:</i>	29.10	45.17	1,105	2,680
<i>Peanuts:</i>	14.04	25.12	16,700	19,540
<i>Sorghum:</i>	12.10	22.76	4,800	4,840
<i>Soybeans:</i>	14.57	26.31	0	0
<i>Wheat - Cover Crop</i>	4.91	8.36	2,800	1,146
<i>Total</i>			77,405	80,954

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>DEAF SMITH COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	24.80	37.25	44,000	90,950
<i>Cotton:</i>	12.12	26.96	7,700	7,779
<i>Hay:</i>	35.20	50.30	0	0
<i>Pasture and Other:</i>	26.26	42.36	9,093	19,898
<i>Peanuts:</i>	14.02	26.81	0	0
<i>Sorghum:</i>	13.41	26.18	36,400	40,673
<i>Soybeans:</i>	14.14	28.21	0	0
<i>Wheat - Cover Crop</i>	11.35	24.56	100,800	95,372
<i>Total</i>			197,993	254,672

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>DICKENS COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.09	34.59	0	0
<i>Cotton:</i>	11.28	23.69	2,700	2,538
<i>Hay:</i>	33.44	50.28	0	0
<i>Pasture and Other:</i>	24.00	42.34	1,983	3,967
<i>Peanuts:</i>	12.08	25.07	0	0
<i>Sorghum:</i>	11.09	23.47	0	0
<i>Soybeans:</i>	12.79	26.60	0	0
<i>Wheat - Cover Crop</i>	4.43	8.96	0	0
<i>Total</i>			4,683	6,505

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>ECTOR COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	25.51	34.00	0	0
<i>Cotton:</i>	14.26	22.95	0	0
<i>Hay:</i>	42.27	53.64	0	0
<i>Pasture and Other:</i>	32.30	45.17	1,313	3,534
<i>Peanuts:</i>	16.40	25.12	0	0
<i>Sorghum:</i>	14.28	22.76	0	0
<i>Soybeans:</i>	17.06	26.31	0	0
<i>Wheat - Cover Crop</i>	5.75	8.36	0	0
<i>Total</i>			1,313	3,534

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>FLOYD COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.66	34.54	17,945	32,397
<i>Cotton:</i>	11.46	23.85	122,026	116,500
<i>Hay:</i>	32.39	48.45	0	0
<i>Pasture and Other:</i>	23.24	40.80	1,880	3,640
<i>Peanuts:</i>	11.88	24.61	0	0
<i>Sorghum:</i>	10.95	23.27	23,959	21,865
<i>Soybeans:</i>	12.60	26.12	10,282	10,800
<i>Wheat - Cover Crop</i>	5.15	8.78	7,954	3,415
<i>Total</i>			184,046	188,617

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>GAINES COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.46	34.00	1,600	3,128
<i>Cotton:</i>	12.39	22.95	144,000	148,660
<i>Hay:</i>	39.50	53.64	0	0
<i>Pasture and Other:</i>	29.53	45.17	3,272	8,051
<i>Peanuts:</i>	14.33	25.12	64,600	77,162
<i>Sorghum:</i>	12.33	22.76	6,700	6,882
<i>Soybeans:</i>	14.88	26.31	0	0
<i>Wheat - Cover Crop</i>	5.12	8.36	10,700	4,566
<i>Total</i>			230,872	248,450

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>GARZA COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.60	34.00	0	0
<i>Cotton:</i>	10.76	22.95	12,500	11,211
<i>Hay:</i>	36.58	53.64	0	0
<i>Pasture and Other:</i>	26.61	45.17	0	0
<i>Peanuts:</i>	12.28	25.12	0	0
<i>Sorghum:</i>	10.63	22.76	0	0
<i>Soybeans:</i>	12.71	26.31	0	0
<i>Wheat - Cover Crop</i>	3.45	8.36	0	0
<i>Total</i>			12,500	11,211

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>GLASSCOCK COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.97	34.00	0	0
<i>Cotton:</i>	12.72	22.95	4,310	4,566
<i>Hay:</i>	39.51	53.64	0	0
<i>Pasture and Other:</i>	29.54	45.17	25	62
<i>Peanuts:</i>	14.44	25.12	0	0
<i>Sorghum:</i>	12.67	22.76	162	170
<i>Soybeans:</i>	14.99	26.31	0	0
<i>Wheat - Cover Crop</i>	4.64	8.36	0	0
<i>Total</i>			4,496	4,798

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>HALE COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.10	35.06	62,600	115,311
<i>Cotton:</i>	9.36	24.88	202,200	157,762
<i>Hay:</i>	31.64	48.17	0	0
<i>Pasture and Other:</i>	23.04	40.56	8,963	17,206
<i>Peanuts:</i>	11.41	25.20	0	0
<i>Sorghum:</i>	10.40	23.79	34,900	30,254
<i>Soybeans:</i>	11.31	26.35	14,600	13,756
<i>Wheat - Cover Crop</i>	0.00	6.50	37,500	8
<i>Total</i>			360,763	334,295

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>HOCKLEY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.73	34.26	0	0
<i>Cotton:</i>	12.04	23.43	143,400	143,846
<i>Hay:</i>	37.41	52.27	0	0
<i>Pasture and Other:</i>	27.66	44.02	1,994	4,596
<i>Peanuts:</i>	13.63	25.14	1,000	1,136
<i>Sorghum:</i>	11.73	23.02	12,000	11,733
<i>Soybeans:</i>	14.12	26.32	0	0
<i>Wheat - Cover Crop</i>	5.27	7.90	1,200	527
<i>Total</i>			159,594	161,837

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>HOWARD COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.43	34.00	0	0
<i>Cotton:</i>	11.32	22.95	2,800	2,641
<i>Hay:</i>	38.39	54.79	0	0
<i>Pasture and Other:</i>	28.23	46.14	200	471
<i>Peanuts:</i>	12.89	25.12	0	0
<i>Sorghum:</i>	11.21	22.76	0	0
<i>Soybeans:</i>	13.35	26.31	0	0
<i>Wheat - Cover Crop</i>	4.10	8.36	0	0
<i>Total</i>			3,000	3,112

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>LAMB COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.32	35.06	62,700	121,837
<i>Cotton:</i>	13.47	24.88	123,600	138,738
<i>Hay:</i>	34.01	48.17	0	0
<i>Pasture and Other:</i>	24.90	40.56	4,662	9,674
<i>Peanuts:</i>	13.82	25.20	1,100	1,267
<i>Sorghum:</i>	12.55	23.79	14,900	15,581
<i>Soybeans:</i>	14.29	26.35	5,100	6,075
<i>Wheat - Cover Crop</i>	3.74	6.50	14,200	4,426
<i>Total</i>			226,262	297,598

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>LUBBOCK COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.69	34.10	1,000	1,807
<i>Cotton:</i>	10.93	23.14	188,900	172,114
<i>Hay:</i>	36.11	53.09	0	0
<i>Pasture and Other:</i>	26.23	44.71	3,738	8,169
<i>Peanuts:</i>	12.29	25.13	2,500	2,560
<i>Sorghum:</i>	10.72	22.86	14,000	12,503
<i>Soybeans:</i>	12.71	26.31	3,600	3,814
<i>Wheat - Cover Crop</i>	3.28	8.18	3,600	984
<i>Total</i>			217,338	201,952

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>LYNN COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.60	34.00	0	0
<i>Cotton:</i>	10.76	22.95	51,300	46,010
<i>Hay:</i>	36.58	53.64	0	0
<i>Pasture and Other:</i>	26.61	45.17	930	2,062
<i>Peanuts:</i>	12.28	25.12	1,500	1,535
<i>Sorghum:</i>	10.63	22.76	2,100	1,860
<i>Soybeans:</i>	12.71	26.31	0	0
<i>Wheat - Cover Crop</i>	3.45	8.36	0	0
<i>Total</i>			55,830	51,468

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>MARTIN COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.25	34.00	0	0
<i>Cotton:</i>	12.17	22.95	6,000	6,086
<i>Hay:</i>	39.07	53.64	0	0
<i>Pasture and Other:</i>	29.10	45.17	90	218
<i>Peanuts:</i>	14.04	25.12	1,800	2,106
<i>Sorghum:</i>	12.10	22.76	0	0
<i>Soybeans:</i>	14.57	26.31	0	0
<i>Wheat - Cover Crop</i>	4.91	8.36	0	0
<i>Total</i>			7,890	8,411

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>MIDLAND COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	24.73	34.00	0	0
<i>Cotton:</i>	13.48	22.95	3,090	3,471
<i>Hay:</i>	40.87	53.64	0	0
<i>Pasture and Other:</i>	30.90	45.17	628	1,618
<i>Peanuts:</i>	15.41	25.12	0	0
<i>Sorghum:</i>	13.46	22.76	0	0
<i>Soybeans:</i>	16.01	26.31	0	0
<i>Wheat - Cover Crop</i>	5.19	8.36	0	0
<i>Total</i>			3,718	5,089

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>MOTLEY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.51	34.28	0	0
<i>Cotton:</i>	10.98	23.34	0	0
<i>Hay:</i>	32.01	48.59	0	0
<i>Pasture and Other:</i>	22.84	40.92	139	265
<i>Peanuts:</i>	11.33	24.32	248	234
<i>Sorghum:</i>	10.70	23.00	0	0
<i>Soybeans:</i>	12.20	26.00	0	0
<i>Wheat - Cover Crop</i>	3.16	6.73	0	0
<i>Total</i>			387	499

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>OLDHAM COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	24.36	37.25	862	1,750
<i>Cotton:</i>	11.88	26.96	0	0
<i>Hay:</i>	34.94	50.30	0	0
<i>Pasture and Other:</i>	26.00	42.36	520	1,127
<i>Peanuts:</i>	13.73	26.81	0	0
<i>Sorghum:</i>	13.16	26.18	10,500	11,513
<i>Soybeans:</i>	13.82	28.21	0	0
<i>Wheat - Cover Crop</i>	11.91	26.38	18,300	18,166
<i>Total</i>			30,182	32,556

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>PARMER COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.67	33.18	91,700	165,624
<i>Cotton:</i>	9.82	24.12	65,700	53,776
<i>Hay:</i>	30.08	44.27	0	0
<i>Pasture and Other:</i>	22.10	37.28	9,719	17,895
<i>Peanuts:</i>	11.68	23.91	0	0
<i>Sorghum:</i>	10.91	23.02	17,500	15,911
<i>Soybeans:</i>	11.90	25.29	1,600	1,587
<i>Wheat - Cover Crop</i>	10.61	23.76	46,600	41,204
<i>Total</i>			232,819	295,996

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>POTTER COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.31	37.25	971	1,886
<i>Cotton:</i>	11.01	26.96	0	0
<i>Hay:</i>	33.56	50.30	0	0
<i>Pasture and Other:</i>	24.61	42.36	2,948	6,047
<i>Peanuts:</i>	12.75	26.81	0	0
<i>Sorghum:</i>	12.24	26.18	1,500	1,530
<i>Soybeans:</i>	12.78	28.21	0	0
<i>Wheat - Cover Crop</i>	9.03	23.56	22,800	17,157
<i>Total</i>			28,219	26,620

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>RANDALL COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.57	37.25	4,400	8,641
<i>Cotton:</i>	11.09	26.96	80	74
<i>Hay:</i>	33.57	50.30	1,748	4,890
<i>Pasture and Other:</i>	24.63	42.36	5,256	10,786
<i>Peanuts:</i>	12.80	26.81	0	0
<i>Sorghum:</i>	12.33	26.18	11,840	12,163
<i>Soybeans:</i>	12.85	28.21	0	0
<i>Wheat - Cover Crop</i>	9.56	24.45	14,160	11,277
<i>Total</i>			37,484	47,832

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>SWISHER COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	23.54	36.90	27,900	54,735
<i>Cotton:</i>	10.93	26.69	61,200	55,760
<i>Hay:</i>	32.94	49.57	0	0
<i>Pasture and Other:</i>	24.11	41.74	3,776	7,588
<i>Peanuts:</i>	12.58	26.49	0	0
<i>Sorghum:</i>	13.02	26.89	21,000	22,777
<i>Soybeans:</i>	12.67	27.93	5,600	5,911
<i>Wheat - Cover Crop</i>	9.26	24.44	19,400	14,978
<i>Total</i>			138,876	161,748

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>TERRY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.55	34.05	1,200	2,255
<i>Cotton:</i>	11.69	23.05	133,100	129,681
<i>Hay:</i>	38.38	53.37	0	0
<i>Pasture and Other:</i>	28.45	44.94	2,331	5,527
<i>Peanuts:</i>	13.61	25.12	21,100	23,939
<i>Sorghum:</i>	11.55	22.81	8,200	7,894
<i>Soybeans:</i>	14.12	26.31	0	0
<i>Wheat - Cover Crop</i>	5.63	8.27	6,100	2,861
<i>Total</i>			172,031	172,157

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>YOAKUM COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.50	34.00	1,900	3,562
<i>Cotton:</i>	11.61	22.95	78,700	76,112
<i>Hay:</i>	38.62	53.64	0	0
<i>Pasture and Other:</i>	28.65	45.17	409	976
<i>Peanuts:</i>	13.61	25.12	11,800	13,384
<i>Sorghum:</i>	11.51	22.76	8,700	8,343
<i>Soybeans:</i>	14.11	26.31	0	0
<i>Wheat - Cover Crop</i>	5.72	8.36	4,400	2,096
<i>Total</i>			105,909	104,474

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>CURRY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	21.81	33.16	33,000	59,968
<i>Cotton:</i>	13.45	24.59	2,400	2,690
<i>Hay:</i>	31.57	44.83	0	0
<i>Pasture and Other:</i>	23.00	37.75	5,195	9,955
<i>Peanuts:</i>	13.43	24.37	1,600	1,790
<i>Sorghum:</i>	12.44	23.38	23,500	24,368
<i>Soybeans:</i>	13.65	25.18	0	0
<i>Wheat - Cover Crop</i>	4.56	6.93	52,000	19,750
<i>Total</i>			117,695	118,523

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>LEA COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	24.00	34.00	4,200	8,399
<i>Cotton:</i>	12.83	22.95	12,200	13,042
<i>Hay:</i>	40.63	53.64	0	0
<i>Pasture and Other:</i>	30.66	45.17	6,291	16,072
<i>Peanuts:</i>	15.02	25.12	3,200	4,005
<i>Sorghum:</i>	12.78	22.76	2,400	2,557
<i>Soybeans:</i>	15.60	26.31	0	0
<i>Wheat - Cover Crop</i>	5.34	8.36	6,000	2,670
<i>Total</i>			34,291	46,745

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>QUAY COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	25.33	37.25	22	46
<i>Cotton:</i>	15.55	26.96	25	32
<i>Hay:</i>	36.40	50.30	0	0
<i>Pasture and Other:</i>	26.96	42.36	143	322
<i>Peanuts:</i>	15.51	26.81	0	0
<i>Sorghum:</i>	14.85	26.18	55	68
<i>Soybeans:</i>	16.16	28.21	0	0
<i>Wheat - Cover Crop</i>	4.00	6.50	90	30
<i>Total</i>			335	499

Attachment B4. Southern Ogallala GAM regional and county long-term average estimates for irrigation water demand by crop.

<u>ROOSEVELT COUNTY</u>				
<i>Crop</i>	LTA Total Irr Water Used, in/pia	LTA Total Water Used, in/pia	Crop Acreage, ac/county	Total Irr Demand, ac-ft
<i>Corn:</i>	22.60	33.17	22,000	41,442
<i>Cotton:</i>	13.55	24.21	13,600	15,351
<i>Hay:</i>	31.71	44.38	0	0
<i>Pasture and Other:</i>	23.20	37.37	3,848	7,441
<i>Peanuts:</i>	13.60	24.00	13,200	14,955
<i>Sorghum:</i>	12.63	23.09	10,400	10,949
<i>Soybeans:</i>	14.26	25.27	0	0
<i>Wheat - Cover Crop</i>	3.42	5.73	30,000	8,548
<i>Total</i>			93,048	98,687