

HYDROLOGY & GROUNDWATER RESOURCES

2024 - 2025

Eighteenth Edition



**NORTH PLAINS
GROUNDWATER**
Conservation District

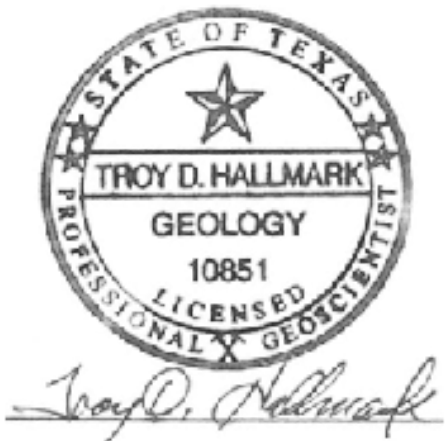
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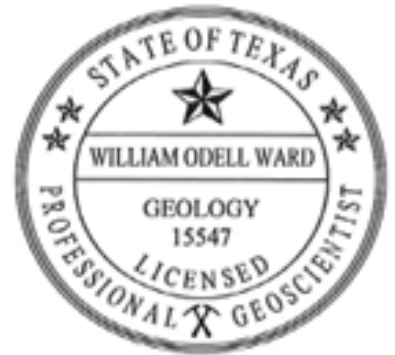
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Responsible for field staff training, water level data collection, initial contour map and graph creation and content editing. This professional Geoscientist seal's use and the signature was authorized by William Odell Ward P.G. # 15547 in October 2025.

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INTRODUCTION

The North Plains Groundwater Conservation District (NPGCD or District) manages groundwater resources in all or part of eight counties in the Northern Texas Panhandle and is governed by an elected seven-member Board of Directors. The Board established the District's mission, "maintaining our way of life through conservation, protection, and preservation of our groundwater resources" and achieves this mission through the development of long-range management plans, creating and enforcing rules, being actively involved in regional and state water planning, undertaking conservation demonstrations projects, and providing public outreach and education programs.

To further advance its management strategies the District promotes new conservation management methods and technologies, cooperates with private, corporate and government entities to promote the conservation, protection, and preservation of the area's critically important groundwater resources. The District manages and operates information collection programs, undertakes scientific investigations, and offers well GPM testing and water quality analysis services as part of its on-going efforts to monitor aquifer conditions.

Information collected by the District and other agencies is broadly summarized in this "Hydrology and Groundwater Resources" report. District's staff prepared maps for this report showing the District boundaries, estimated depth to water, estimated average annual water level declines, estimated aquifer saturated thickness and maps showing District monitor well locations. This report summarizes the number of active and inactive wells, the number of new wells drilled, measured annual groundwater production, and provides a broad overview of general water quality.



DEFINITIONS

Cretaceous - A geological period corresponding to 65-144 million years ago.

DFC - (Desired Future Condition) a goal set by the District Board of Directors specifying the condition that an Aquifer will be in at a specified time in the future.

GAM - (Groundwater Availability Model) a predictive numerical computer model of Aquifers that the Texas Water Development Board maintains and operates.

Heterogeneous - Consisting of dissimilar elements or parts; not homogeneous.

Jurassic - A geological period corresponding to 144-208 million years ago.

Inter-formational Flow - A flow of water from one formation into another formation.

Intra-formational Flow - A flow of water from one part of a formation into another part of the same formation.

MAG - (Managed Available Groundwater) a groundwater volume results of a GAM based on specified DFCs.

Permian - A geological period corresponding to 245-286 million years ago.

Pliocene - A geological period corresponding to 2.5 to 5.3 million years before the present.

Recharge - Precipitation (rainfall or snowmelt) that infiltrates the earth's surface and makes its way down to the water table below.

Red-Bed - a geological stratum consisting primarily of red to orange clays and silts in place below the base of the Ogallala Aquifer.

Saturated Thickness - The distance from the base of an aquifer to the surface of the aquifer (water table) where the pore spaces are filled with water.

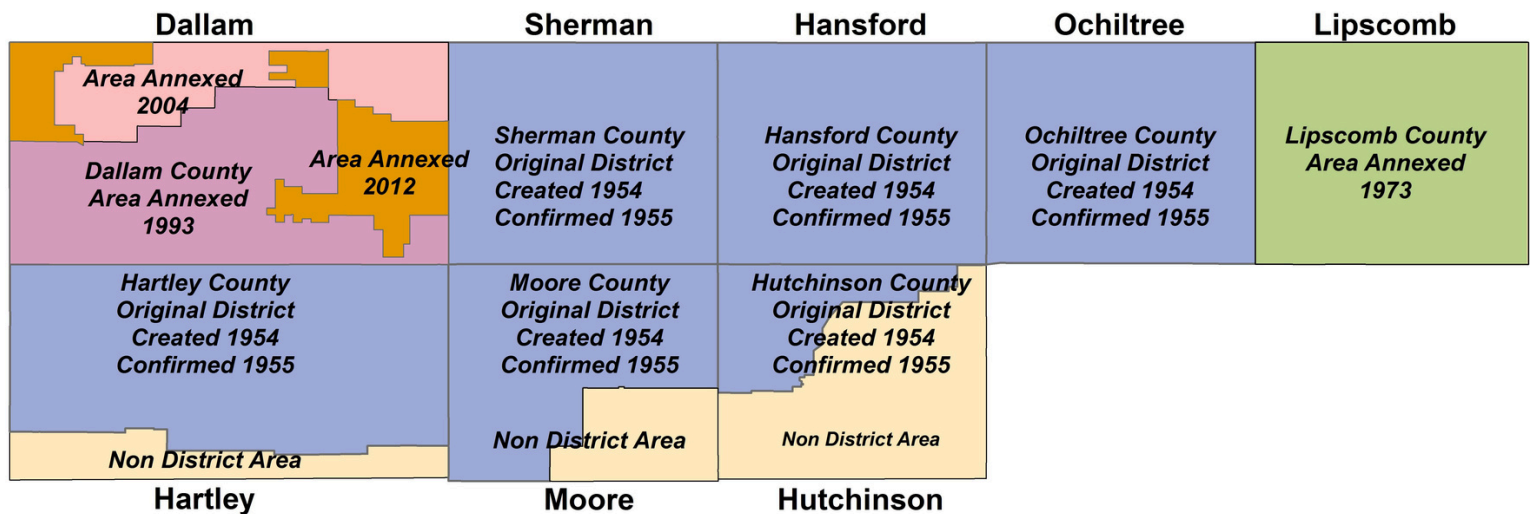
Triassic - A geological period corresponding to 208-245 million years ago.

Unconformably (Unconformity) - the surface between successive strata representing a missing interval in the geologic time record.

DISTRICT BOUNDARIES

The North Plains Groundwater Conservation District is in the Texas Panhandle, north of the city of Amarillo and North of the Canadian River. The District consists of approximately 7,335 square miles which includes all of Dallam, Hansford, Lipscomb, Ochiltree and Sherman counties, as well as part of Hartley, Hutchinson and Moore counties.

The original (1954/1955) area of the District included part of Hartley, Moore and Hutchinson counties and all of Sherman, Hansford and Ochiltree counties. Other areas have been annexed into the District over time.



County	County Area (Sq. Mi.)	Estimated Area in District (Sq. Mi.)	Approximate Number of Acres	Percent of County in the District
Dallam	1505	1505	963,200	100%
Hansford	907	907	580,480	100%
Hartley	1463	1244	796,160	83.56%
Hutchinson	894	278	177,920	30.53%
Lipscomb	934	934	597,760	100%
Moore	914	699	447,360	76.51%
Ochiltree	907	907	580,480	100%
Sherman	916	916	586,240	100%
Totals	8440	7390	4,729,600	

Table 1: County Area and percent of each county within the North Plains Groundwater Conservation District.



GENERAL GEOLOGY AND HYDROLOGY

Ogallala Aquifer

The Ogallala Aquifer extends from the northern United States into the Texas Panhandle and West Texas and is the primary source of water within the District. The aquifer consists of sands, gravel, silts, and clay sediments that were deposited as part of ancient river systems from about three million to about six million years ago during the Neogene geologic period. An ancient land surface separates the Ogallala from much older strata below the Permian, Triassic, Jurassic, and Cretaceous geologic periods which range in age from 65million years to 286million years. This ancient land surface is called an unconformity and represents between six million years and 65 million years of missing geologic strata in the area.

South of the District, the Canadian River has totally or partially eroded through the base of the Ogallala along much of its length and separates the North Plains from the South Plains. Water-bearing units of Cretaceous and Jurassic ages combine to form the Rita Blanca (a minor aquifer) in the western part of Dallam and Hartley counties. Underlying these aquifers and much of the Ogallala are Triassic age (Dockum Aquifer) sediments and Red Bed strata. The Dockum is a minor, confined to semi-confined aquifer located under Dallam, Hartley and far western Sherman and Moore counties. The water bearing strata is generally locally referred to as the Santa Rosa. For this document, the Ogallala Aquifer is considered to consist of the Ogallala formation and any underlying, potable water-bearing geologic units hydraulically connected with it.

Red Bed (Base of the Aquifer)

Throughout much of the District, the Ogallala aquifer is underlain by "Red Bed". The geology consists of mixed deposits of reddish to orange clay, sand and gravel. The reddish color is caused by staining from the oxides of iron containing minerals.



AQUIFER THICKNESS OR SATURATED MATERIAL

Saturated thickness maps depict the vertical distance from the water level to the bottom of the aquifer. The saturated thickness of the Ogallala Aquifer ranges from less than 30 feet to over 350 feet and has an estimated average thickness (Table 2) of 163 feet within the District. Saturated thicknesses are calculated every other year and use data from District monitor wells. Other calculation methods will give differing results.

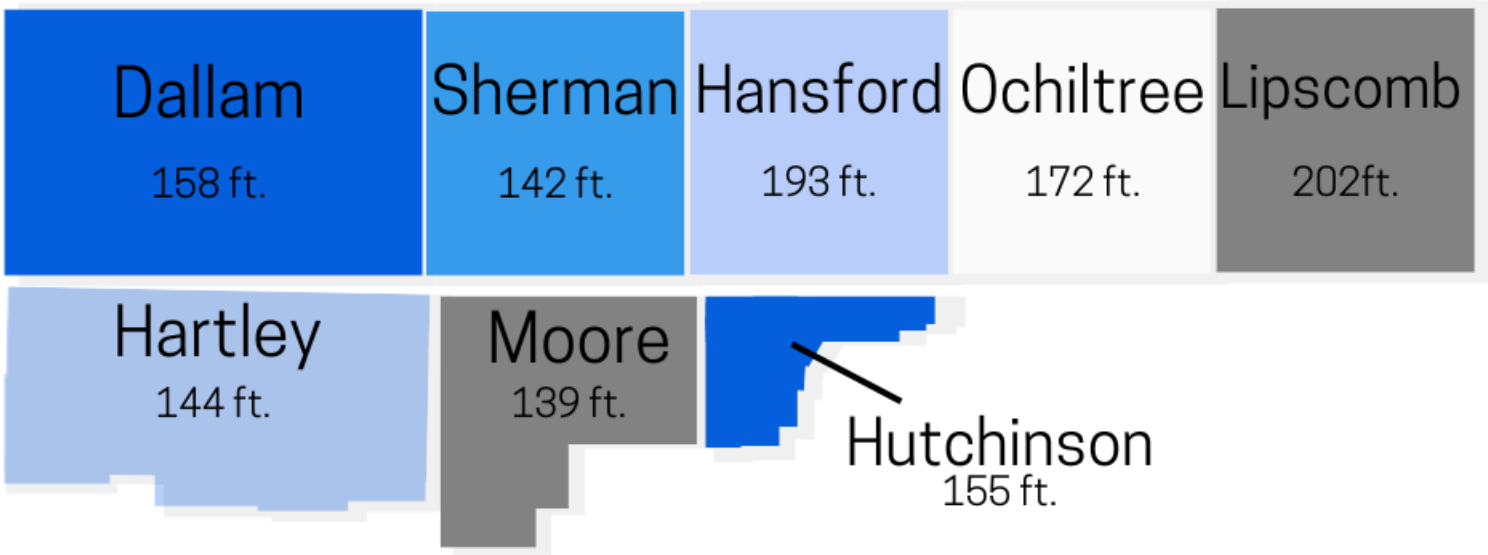


Table 2: 2020–2025 Estimated average aquifer thickness by county (District Area only).

Next scheduled update: Summer of 2026.

AQUIFER RECHARGE, INFLOWS AND OUTFLOWS

Surface water and precipitation provide minimal annual recharge to the Ogallala aquifer when compared to the enormous aquifer withdrawals each year. District-wide average recharge estimates vary slightly but tend to be below one third of an inch per year. Other inflows and outflows, from and to streams and lateral inflows and outflows tend to be somewhat equal. Some areas of the District however may experience significant local recharge.

The recharge information below (Tables 3) are combined from the Texas Water Development Board's (TWDB) Groundwater Availability Model Run 22-015 that include the Ogallala, Rita Blanca and Dockum Aquifers. The GAM run was requested by the District for use in the 2024 District Management Plan.

Management Plan Requirements	Aquifers: Ogallala, Rita Blanca, Dockum	Acre-Feet
<i>Estimated annual amount of recharge from precipitation to the Aquifers</i>	<i>Varies across the different Aquifers</i>	137,053
<i>Estimated annual volume of water that discharges from the aquifers to springs and surface-water bodies (lakes, streams, rivers)</i>	<i>Only the Ogallala Aquifer contributes to surface water</i>	26,369
<i>Estimated annual volume of inflows to the aquifers</i>	<i>All aquifers combined</i>	7,744
<i>Estimated annual volume of outflows to the aquifers</i>	<i>All aquifers combined (Ogallala highest outflows)</i>	52,728
<i>Estimated new annual volume of flow between the Aquifers</i>	<i>From the Ogallala to the Rita Blanca and Dockum</i>	8,839
<i>Estimated new annual volume of flow between the Aquifers</i>	<i>From the Dockum to the Ogallala and Rita Blanca</i>	1,352

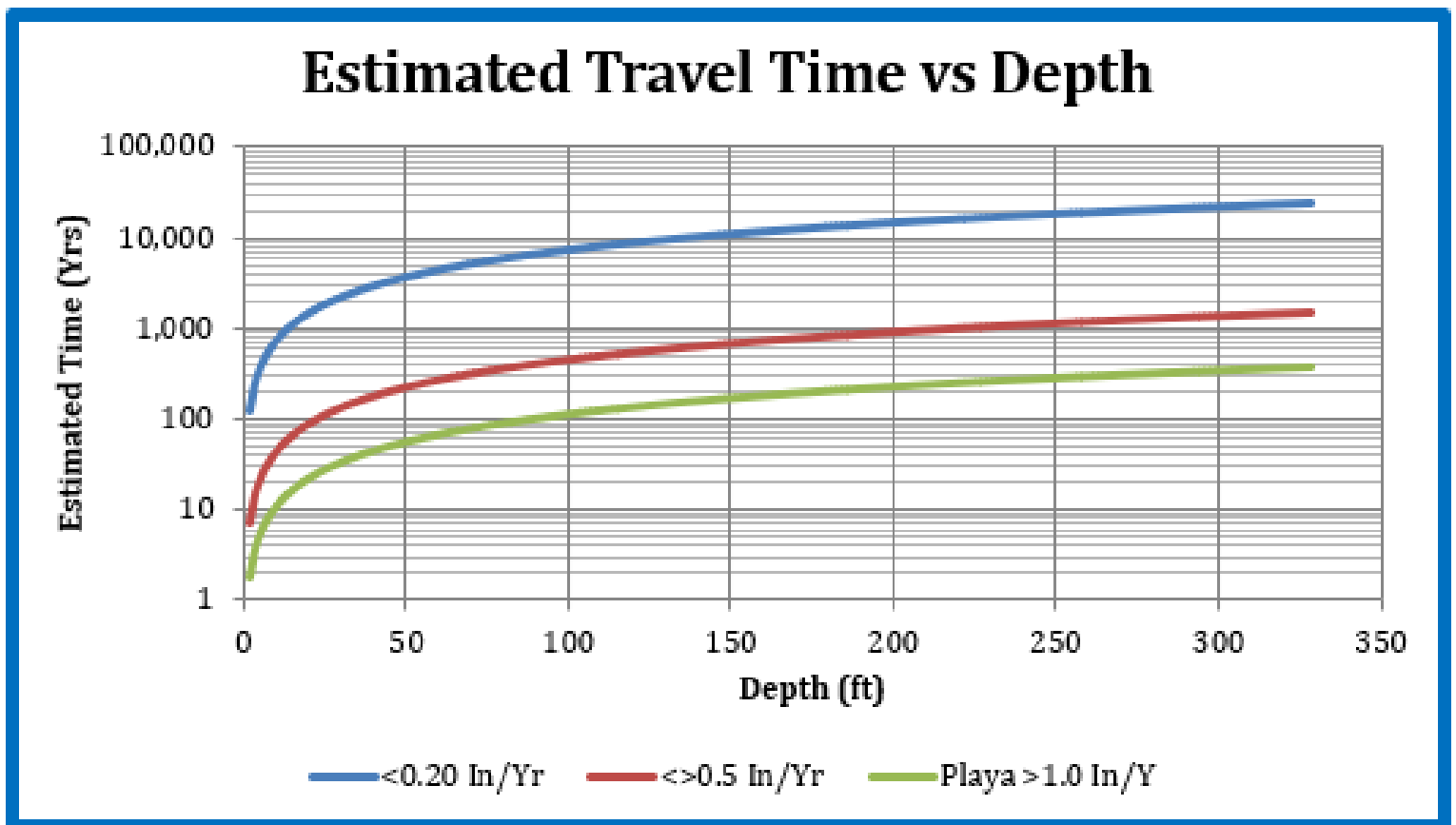
Table 3: Summarized recharge, inflows and outflows combined for the Ogallala, Rita Blanca, and Dockum Aquifers. All values are in acre-feet per year rounded to the nearest acre-foot.

Recharge and Travel-Time

Recharge to the Ogallala Aquifer north of the Canadian River is both highly variable and spatially focused. Most studies suggest that recharge to the Ogallala Aquifer occurs from playa lakes. The average size of a playa in the region is approximately 15 acres, but range in size from < 0.1 acres to over > 600 acres with the largest exceeding 800 acres. During heavy rainfall events most of the water infiltrating the soil occurs within hours to a few days. Some recharge occurs in interplaya areas (between the playa lakes) but is estimated to be much less than in the playa. Water infiltrating the soil varies greatly in travel time from surface to water table. Some additional recharge may occur from return flow of irrigation water that makes it past the root zone. Some studies suggest that the return flow will decrease over time due to advances in irrigation application efficiencies. Some estimates of natural recharge suggest a travel time of <.20 inches per year in high clay content soils to as much as .50 inches per year in sandier type soils. In general, in areas where the water table is shallow (30 to 60 feet below surface), recharge can reach the water table in years to decades. In areas where the water table is less shallow (60 to 150 feet), recharge may take decades to centuries to reach the water table. Areas with deep water tables (>150 feet) may take thousands of years to reach the aquifer. With the declining aquifer levels across the district, infiltrated water is always chasing the water table.



Graph 1: Show estimates on infiltration times for different soil densities on semi-log scale.



It should be noted that Graph 1 illustrates estimated infiltration rates for different soil densities. Playa lakes have the highest rates with the lowest being interplaya areas with very high clay content soil types.

TOTAL ANNUAL GROUNDWATER PRODUCTION AND MODELED AVAILABLE GROUNDWATER.

Municipal, Commercial, Industrial, and Agriculture water user groups reported 1,676,959 acre-feet groundwater production in the North Plains Groundwater Conservation District in 2024. Production by County in acre-feet is as follows:

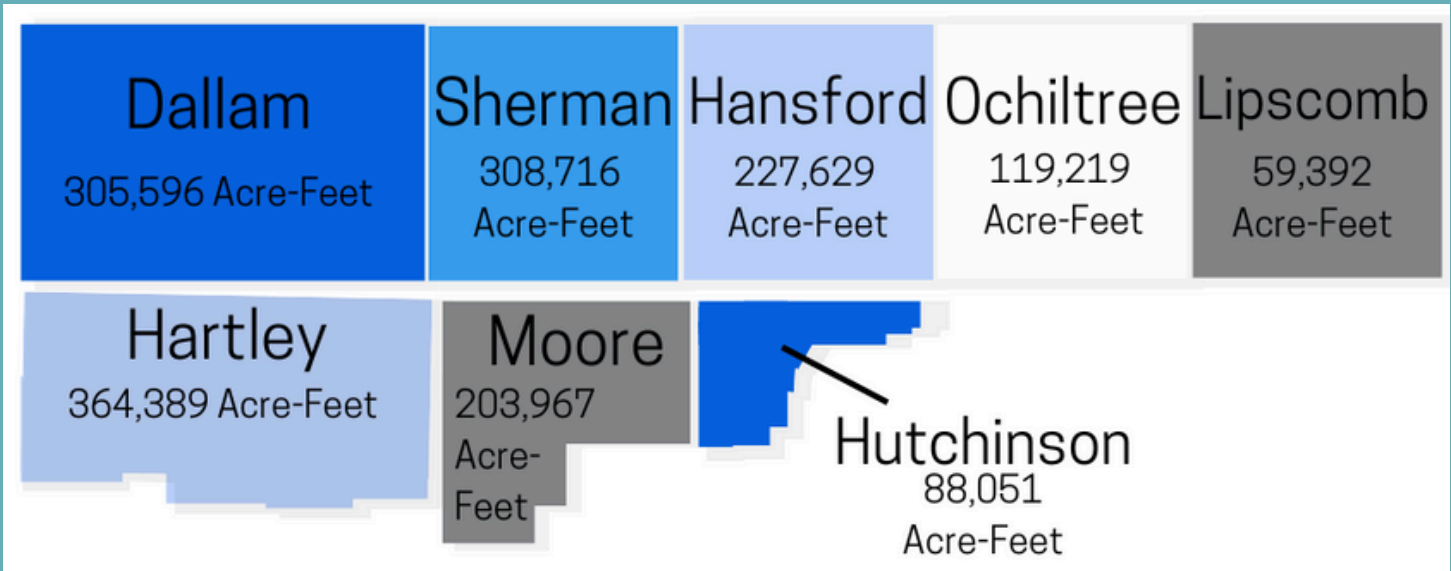


Table 4: 2024 Reported Groundwater Production.

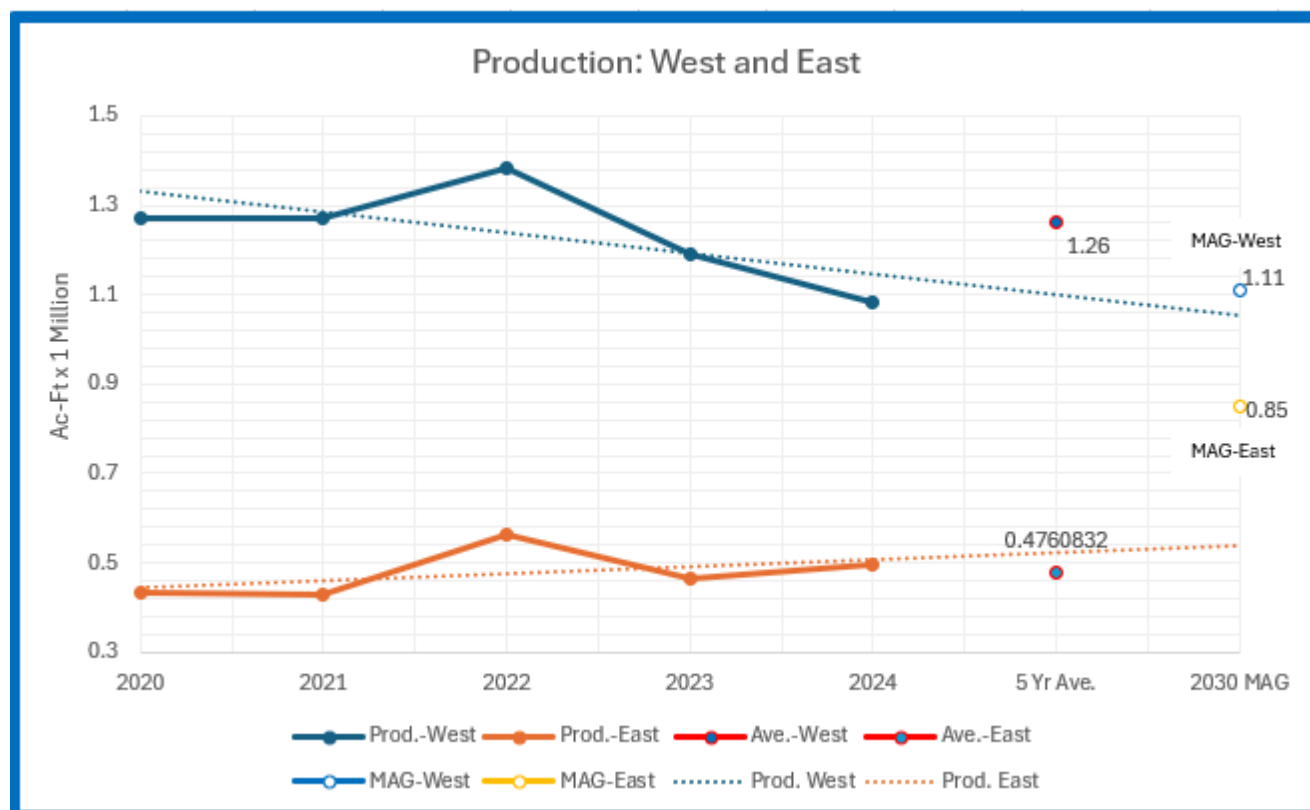
5 Year Average Reported Production

District groundwater production for production year 2024 is lower than the 5-year historical production average by approximately 58,418 acre-feet. The table below represents annual groundwater production in acre-feet from 2020 to 2024 collectively from all aquifers in the district.

Table 5: Average groundwater production 2020-2024.

County	2020	2021	2022	2023	2024	5 Year Average
Dallam	342,700	339,500	372,900	317,509	305,596	335,641
Hartley	402,200	408,500	418,900	373,495	364,389	393,497
Moore	199,400	195,300	221,200	196,489	203,967	203,271
Sherman	328,400	326,300	369,300	301,707	308,716	326,885
Hansford	195,100	194,800	258,700	217,323	227,629	218,710
Hutchinson	79,400	79,100	100,600	88,108	88,051	87,052
Lipscomb	54,500	55,300	63,200	48,574	59,392	56,193
Ochiltree	105,200	99,200	138,700	108,320	119,219	114,128
GMA West	1,272,700	1,269,600	1,382,300	1,189,200	1,182,668	1,259,294
GMA East	434,200	428,400	561,200	462,325	494,291	476,083
TOTAL	1,706,900	1,698,000	1,943,500	1,651,525	1,676,959	1,735,377

2020 vs 2024 ANNUAL PRODUCTION: The district's 2024 total groundwater production was 29,941 acre-feet lower than producers reported in 2020. The West Management Zone production declined 90,032 acre-feet; the East Management Zone showed a collective increase of 60,091 acre-feet of production in 2024 compared to 2020.



Graphic 2: Trend analysis of reported production for the west and east portions of the District against the 5-year production average and the GAM Run 16-029.

Graphic 2 indicates the West counties of the District (Dallam, Hartley, Sherman and Moore) in blue. The East counties (Hansford, Hutchinson, Ochiltree and Lipscomb) are orange. The data points outlined in red represent the previous 5year production average for the West and East. The hollow blue point represents the project available groundwater from the MAG for 2030 as does the hollow orange point. The graph shows a trend of reduced production in the West for the next five years, ending 2030. The East portions of the District show a trend of increasing production over the same period. The trend shows that the West could exceed the MAG estimations in 2030, and the East is trending well below the MAG estimations.

DEPTH TO WATER, AVERAGE DECLINES BASED ON GROUNDWATER PRODUCTION AND DECLINES OBSERVED IN DISTRICT OBSERVATION WELLS:

Changes in the water table, calculated from monitor well measurements, vary from rises in the water level to declines that may locally exceed 8-12 feet per year. Each county in the District has areas experiencing little or no decline as well as areas of much greater decline. Declines are caused predominately by agricultural pumping and are influenced primarily by surface recharge of the aquifer and lateral flows into and out of the aquifer.



County	Ave. Decline (Ft)	Avg. Depth to Water (Ft)
Dallam	-1.76	-283.47
Hartley	-2.54	-305.24
Hansford	-2.18	-371.23
Hutchinson	-2.75	-347.28
Lipscomb	-0.55	-154.39
Moore	-2.53	-357.18
Ochiltree	-1.14	-335.66
Sherman	-2.93	-334.07
Average	-2.05	-311.07

Table 6: 2024 Average county declines and depth to water calculated from groundwater measurements.

County	Current 5-Year Ave. Well Decline (Ft)	Previous 5-Year Ave. Well Decline (Ft)	Current 10-Year Ave. Well Decline (Ft)	Previous 10-Year Ave. Well Decline (Ft)
Dallam	-2.25	-2.48	-2.36	-2.52
Hansford	-1.5	-1.51	-1.5	-1.53
Hartley	-3.23	-3.19	-3.22	-3.19
Hutchinson	-1.41	-1.38	-1.4	-1.41
Lipscomb	-0.74	-0.76	-0.75	-0.07
Moore	-1.72	-1.8	-1.76	-1.6
Ochiltree	-1.13	-1.11	-1.11	-1.23
Sherman	-3.15	-2.96	-3.06	-2.64
District-wide	-1.89	-1.90	-1.90	-1.77

Table 7: 2024-2025, Average depth to water and comparisons of average declines in select District water level monitor wells.

*The information in Table 7 is derived from statistical analyses of monitor well hydrographs created from current and historical information. Statistical analyses (indicating both rises and declines) may indicate the quality of information collected from some wells is less than optimal. Such data may be included in the calculations of declines and depth to water as it represents the best or in some cases the only information available.

County	2020 MAG (GR16-029)	2024 Production	2024 Percent Difference between MAG and Production	Average Production 2020-2024	Average percent Difference Between MAG and Production 2020- 2024
Dallam	401,663	305,596	-23.92%	335,641	-16.44%
Hartley	409,187	364,389	-10.95%	393,497	-3.83%
Moore	219,654	203,967	-7.14%	203,271	-7.46%
Sherman	398,183	308,716	-22.47%	326,885	-17.91%
Hansford	275,016	227,629	-17.23%	218,710	-20.47%
Hutchinson	62,803	88,051	40.20%	87,052	38.61%
Lipscomb	266,809	59,392	-77.74%	56,193	-78.94%
Ochiltree	243,778	119,219	-51.10%	114,128	-53.18%
GMA West	1,428,687	1,182,668	-17.22%	1,259,294	-11.86%
GMA East	848,406	494,291	-41.74%	476,083	-43.88%
TOTAL	2,277,093	1,676,959	-26.36%	1,735,377	-23.79%

Table 8: Comparison of the 2024 annual production to the district 2020 MAG (GR16-029 MAG Report)

The 2024 Production does not exceed the 2020 MAG (GR16-029 MAG Report). Therefore, there are no conditions that trigger District Rule 8.4 and District Rule 8.5 evaluation to reduce Allowable Annual Reduction. Although the 2024 reported production for Hutchinson County exceeded the 2020 MAG, the average for the East production zone remains well below the 2020 MAG.

ACTIVE PRODUCTION WELLS WITHIN THE DISTRICT

District records indicate that there are over 18,000 wells that have been permitted or registered since the district was created in 1955. Currently there are 11,529 large active wells which include wells varying in production between 18 GPM to over 1,000 GPM. During 2024, the district issued 328 permits of all types and 126 from January through June 2025.

County	Active Production Wells	Capped Wells	Small Registered Wells	2024 Production Permits Issued	2025 Permits Issued Through June 2025
Dallam	2,773	301	855	35	26
Hansford	1,001	379	355	23	11
Hartley	2,788	255	487	76	17
Hutchinson	447	124	140	5	9
Lipscomb	307	56	289	1	2
Moore	1,412	291	636	17	14
Ochiltree	610	217	348	24	6
Sherman	2,191	235	360	47	31
Total	11,529	1,858	3,470	328	126

Table 9: Summary of wells in the district and recent new well permits.

*Well count totals may vary over time due to differing database query techniques and as any previous errors are corrected.

DISTRICT MONITOR WELLS

Typical District Monitor Well

As part of its water level monitoring program, the District may drill additional wells or install water level monitoring equipment. The drilled wells are non-production wells dedicated solely to data collection which provide information of more accuracy, reliability, and consistency than other types of wells the District monitors. They are also readily available, if needed, for conducting aquifer tests that cannot be easily conducted using other well types.

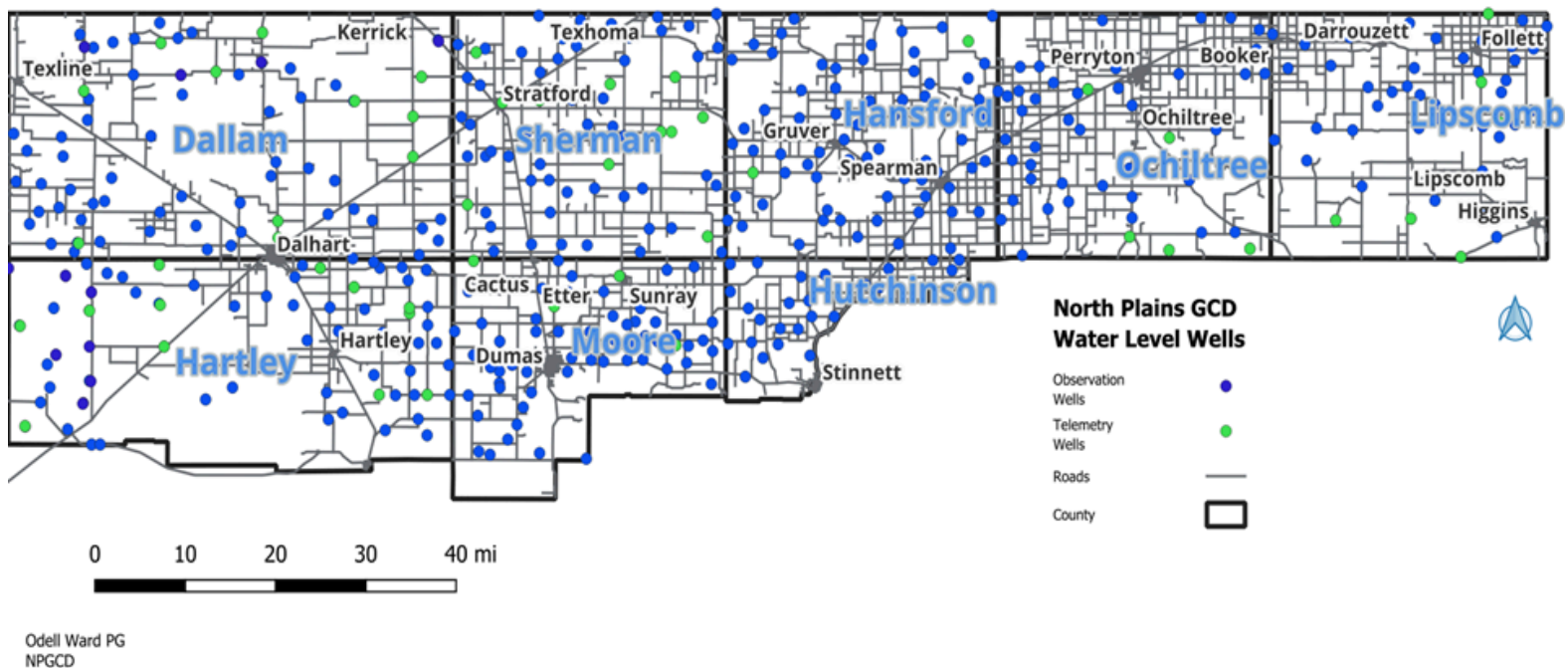


County	District Drilled Wells by County
Dallam	16
Hansford	2
Hartley	10
Hutchinson	0
Lipscomb	7
Moore	5
Ochiltree	5
Sherman	11
Totals	56

Table 10: 2024 water level monitor wells across the District by county.

DISTRICT MONITOR WELL LOCATIONS AND ON-LINE INTERACTIVE MAPS

The District maintains a website where data from wells, monitor wells and recording equipment may be viewed. The map is always a work in progress, and all data may not yet be available. More data and other map layers may become available as work on the on-line map progresses.



Map 2: Map of the District's 448 observation well network. These wells are measured annually between January and March 31st.

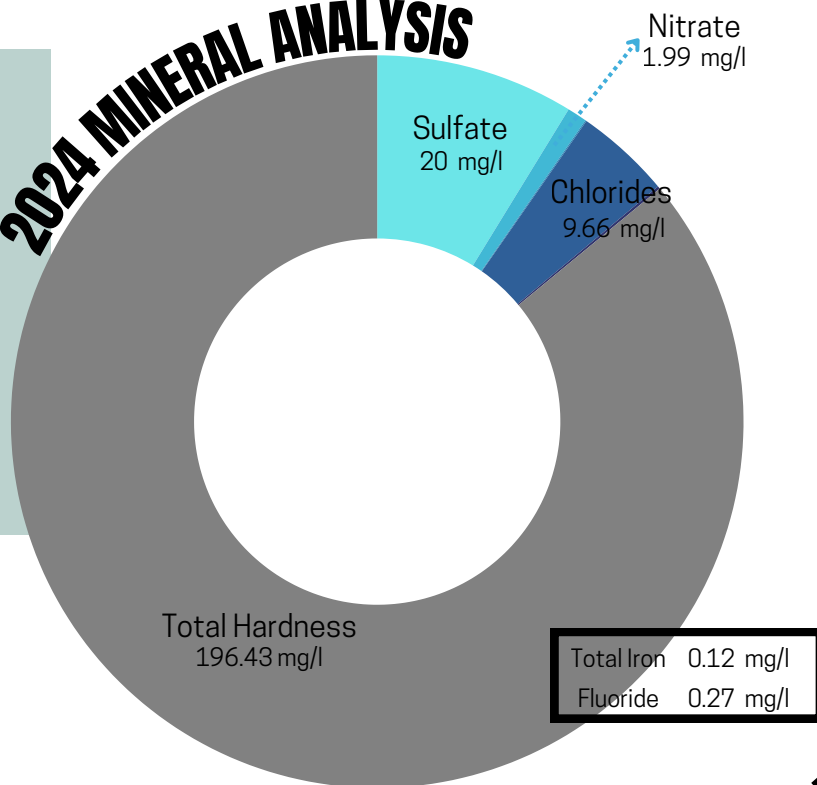
WATER QUALITY

The District's goal for groundwater is that future water supplies are of sufficient quantity and of excellent quality. The District monitors groundwater chemistry by analyzing samples from wells within the District and performing water quality analyses on those wells. The District offers free water quality testing for domestic and livestock wells at the request of its residents within the District.

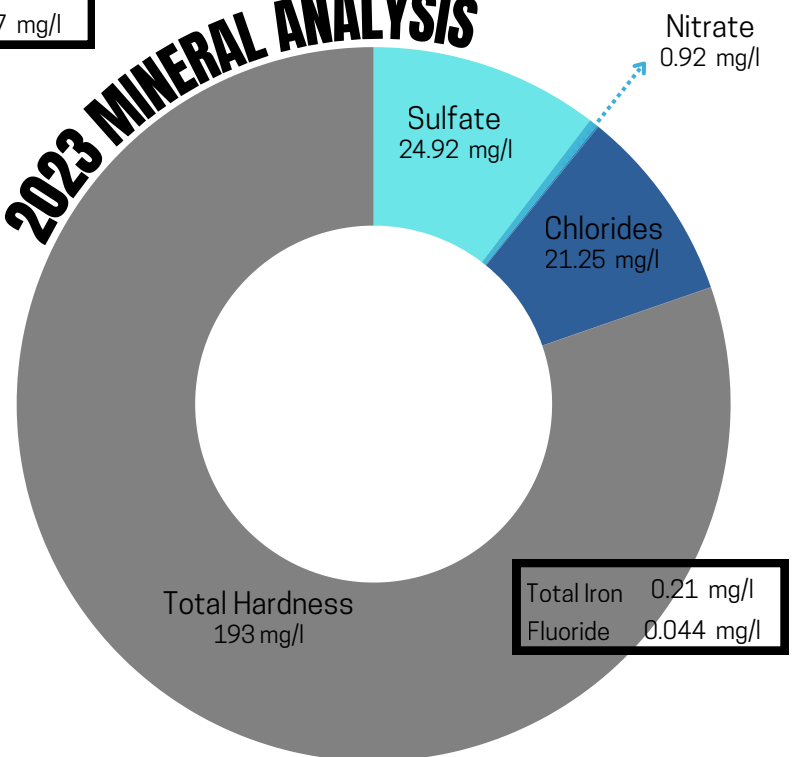


Groundwater within the District is considered excellent although it is “hard” water and contains considerable calcium and some magnesium carbonate (hardness) (Graphic 3). The District also performs analyses for the presence or absence of coliform bacteria. In the rare instance an analysis indicates the presence of coliform bacteria, the contamination source is often located within a few yards of the sampled well. Normally a well that tests positive for coliform bacteria can be decontaminated by eliminating the contaminate source, chlorinating the well, pipes and water storage equipment and then purging the well, pipes and water storage equipment.

2024 MINERAL ANALYSIS



2023 MINERAL ANALYSIS



Graphic 3: Typical mineral analysis in mg/L from wells within the district.

Graphic 3 shows the average mineral composition in milligrams per liter as indicated from analyses of well water from within the district. Totals are rounded. The district periodically analyzes a subset of wells from the district's monitoring well program. No meaningful conclusions may be drawn from the above graphics concerning potential changes in water quality over time. Please note the values are not all derived from the same set of wells.

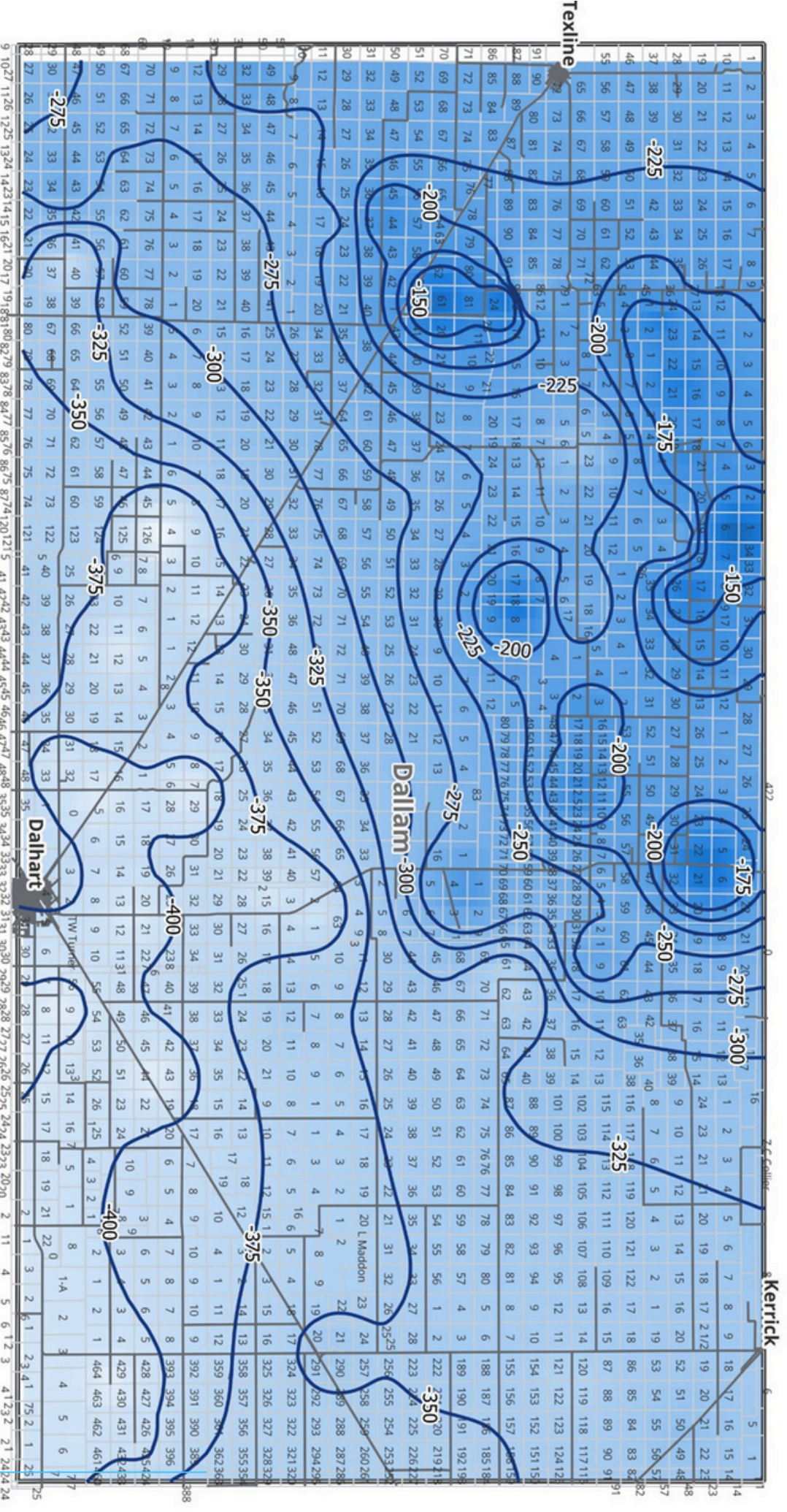
2024-2025 DEPTH TO WATER FROM LAND SURFACE:

Maps depicting depth to water below land surface are created from statistical analyses of current and historical water level measurements. The most recent water level measurements were measured in January and February of 2025. Those water level measurements represent the depth to water at the end of the 2024 agricultural pumping season and prior to the beginning of the 2025 pumping season.

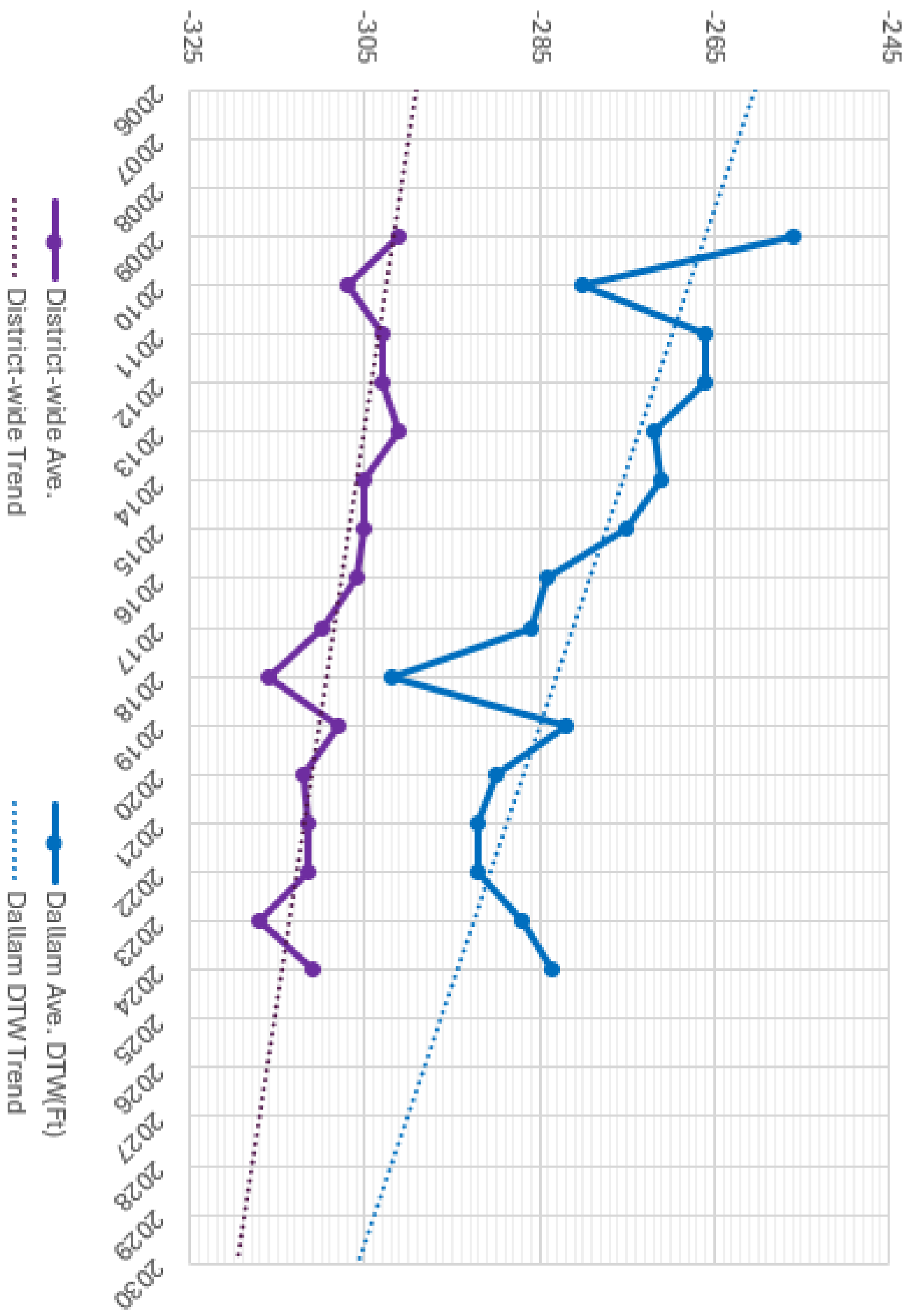
Accuracy: The accuracy of the depth to water maps is estimated to be equal to twice the contour interval, i.e. ± 50 feet.

Each depth to water map in this section is followed by a graphical representation of the depth to water in that county compared to the district average. Each set of data has an associated trend line that projects the data out to 2030. To best represent the data, a linear trend line is used. It is important to note that these graphs are trends and not future predictions of what the Aquifer is doing or will do.

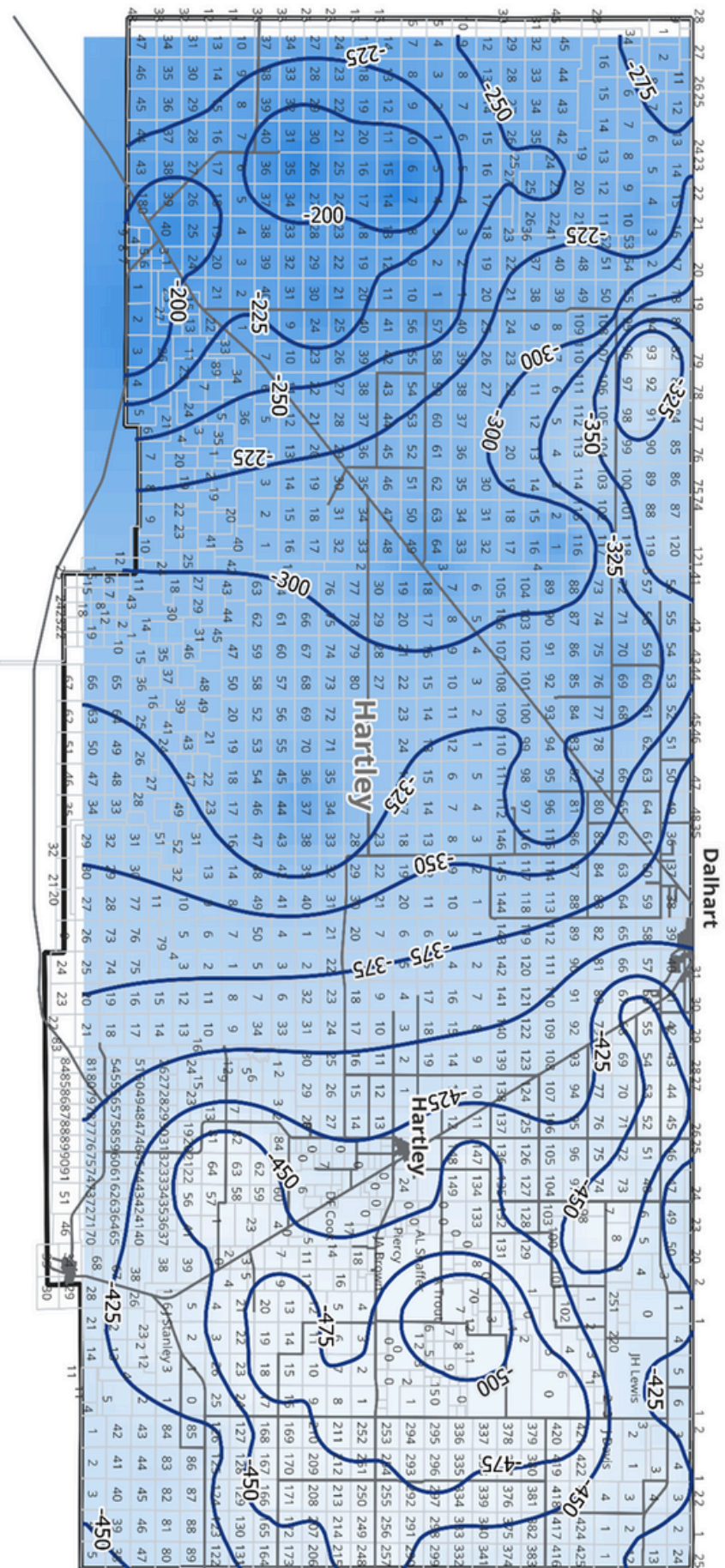
Dallam County Estimated Depth to Water End 2024



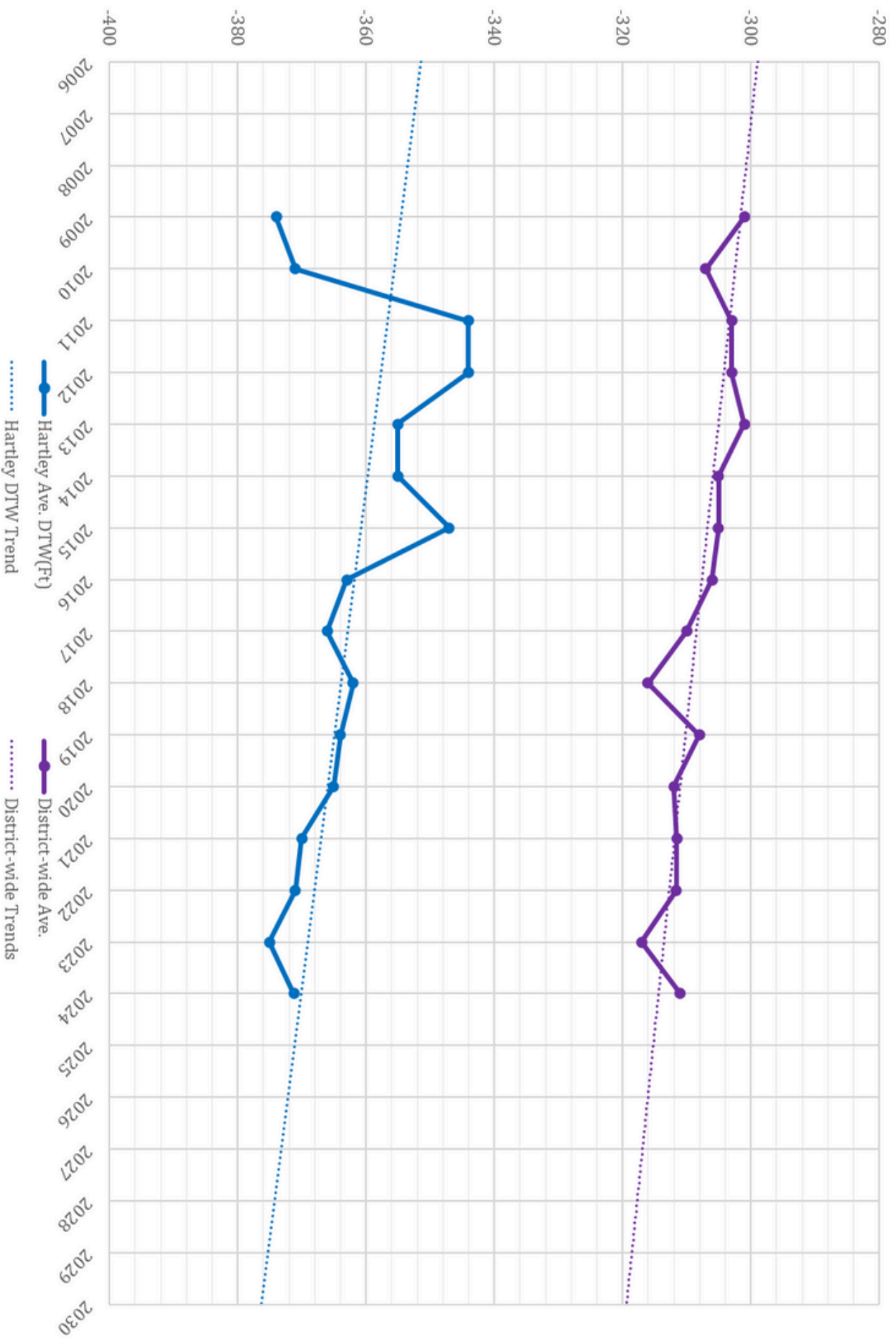
Dallam DTW Trends vs. District Trends



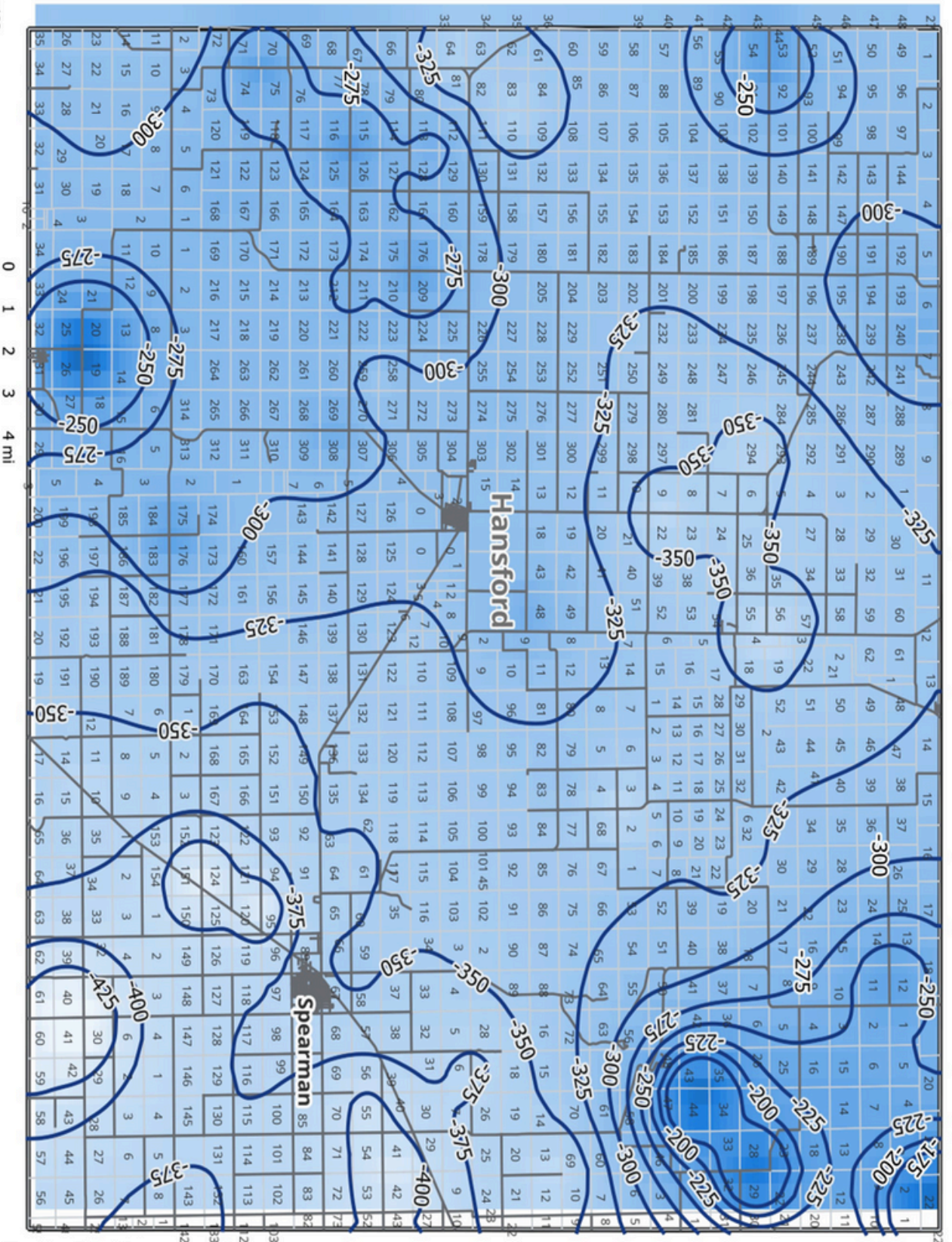
Hartley County Estimated Depth to Water End 2024



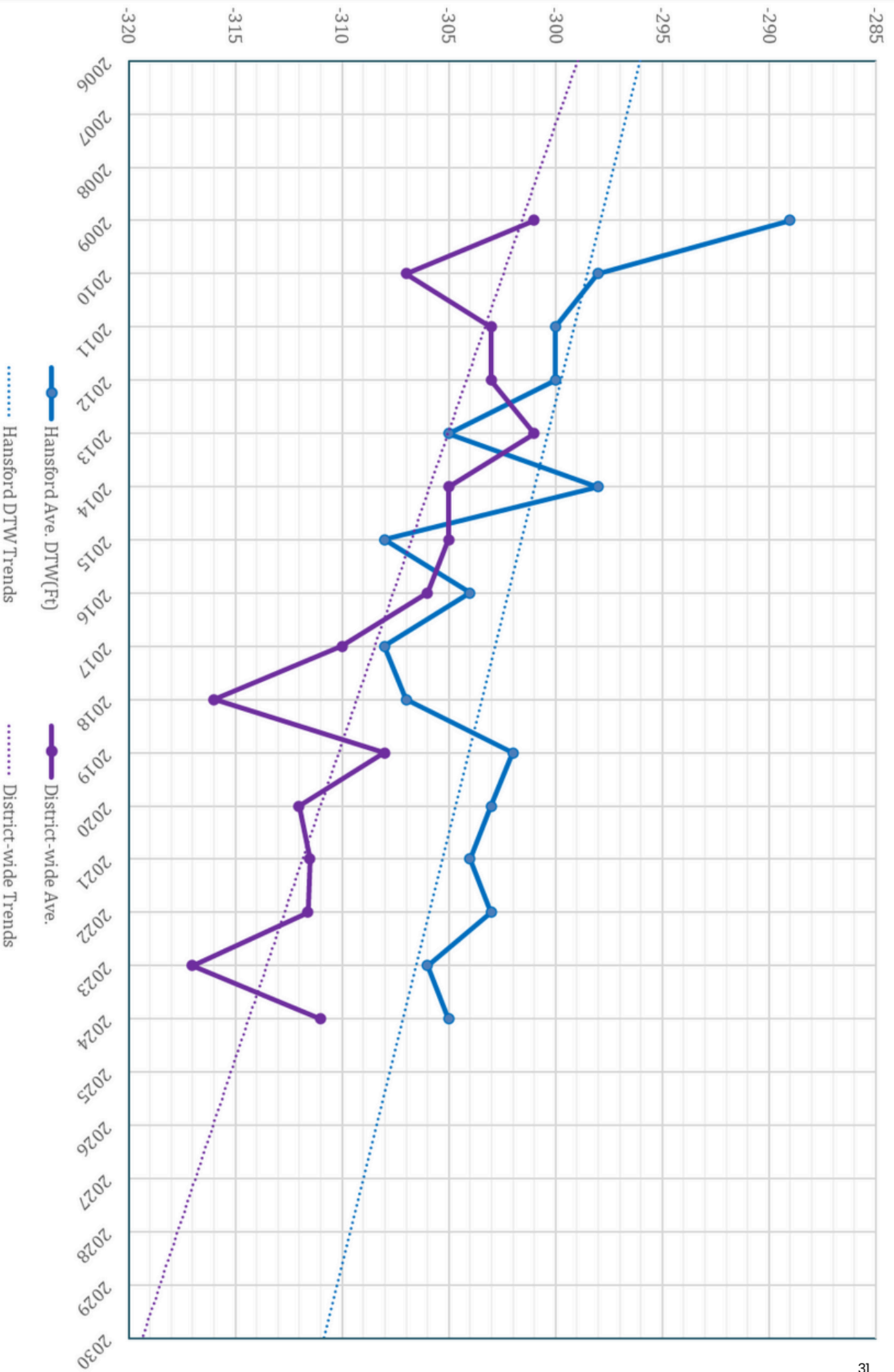
Hartley DTW Trends vs. District Trends



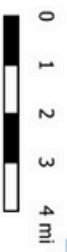
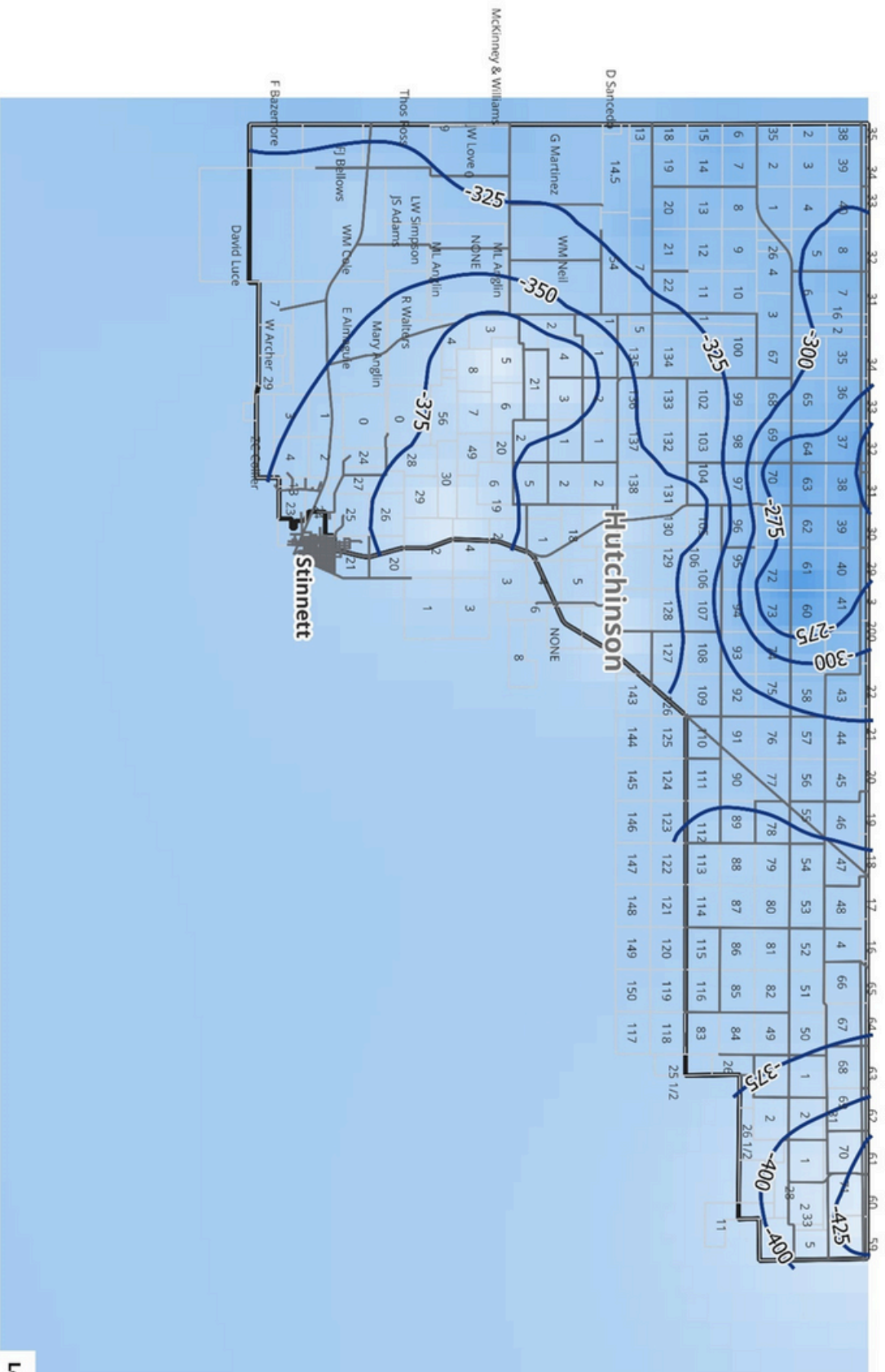
Hansford County Estimated Depth to Water End 2024



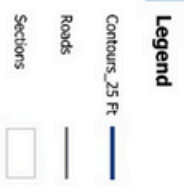
Hansford DTW Trends vs. District Trends



Hutchinson County Estimated Depth to Water End 2024

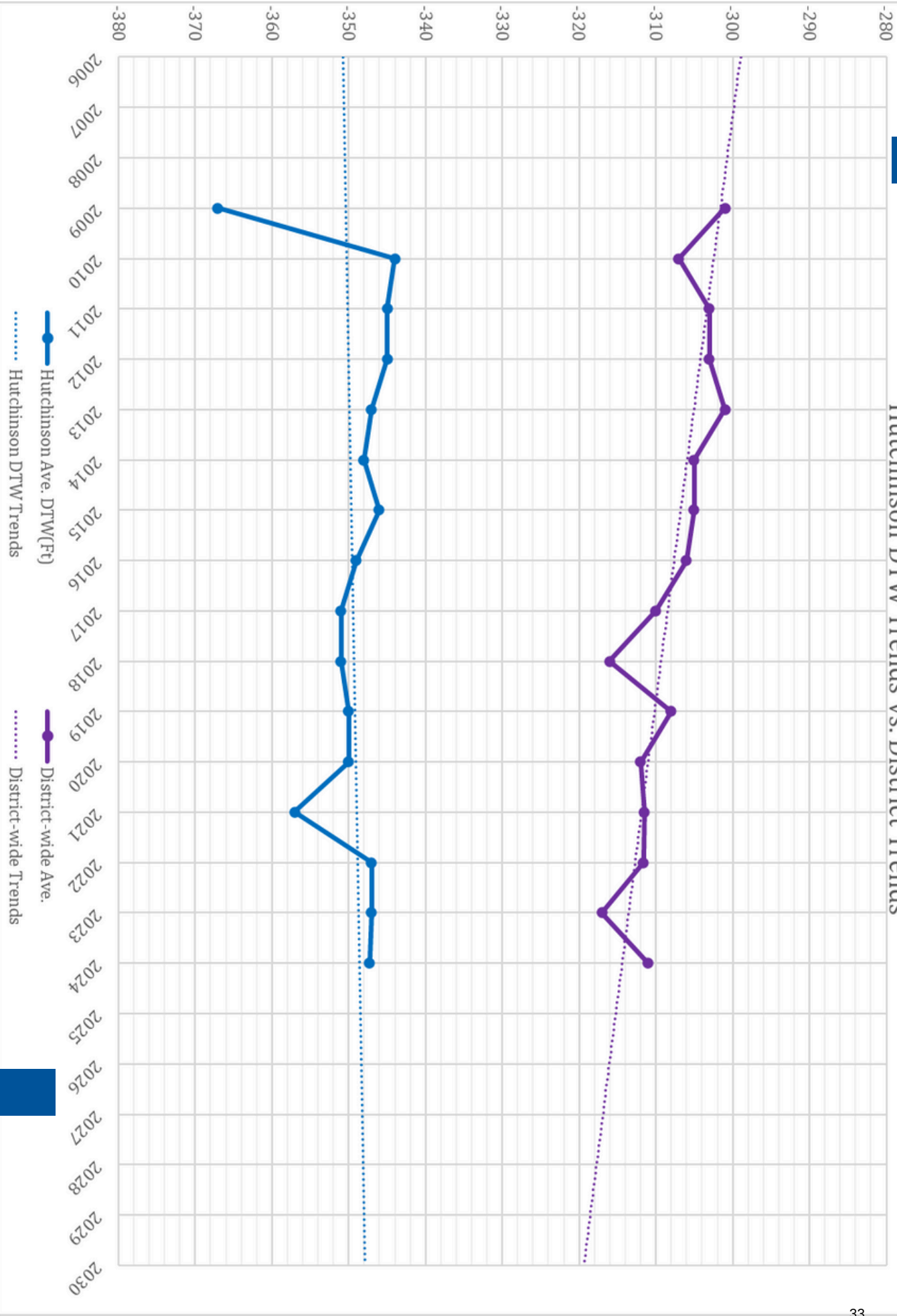


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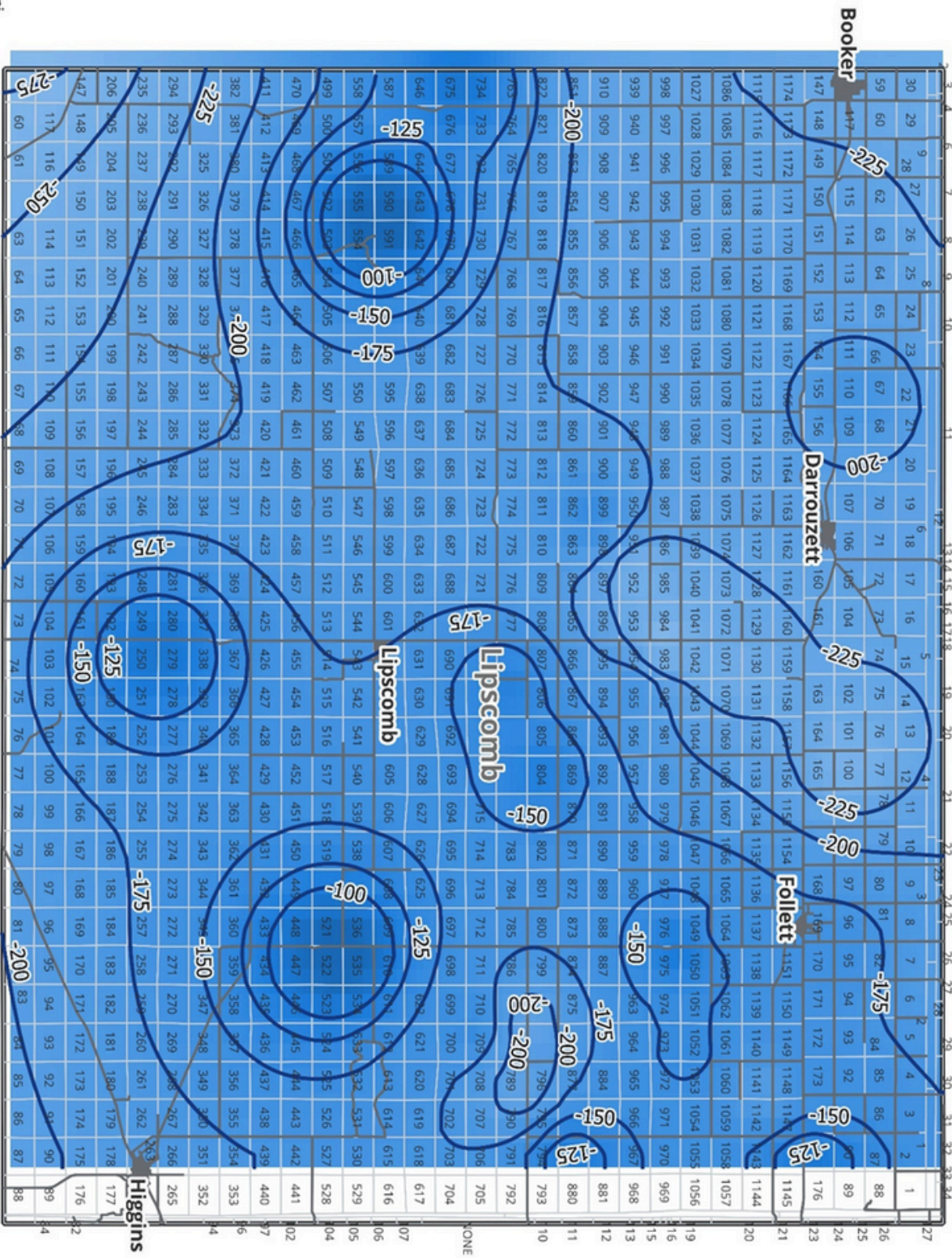




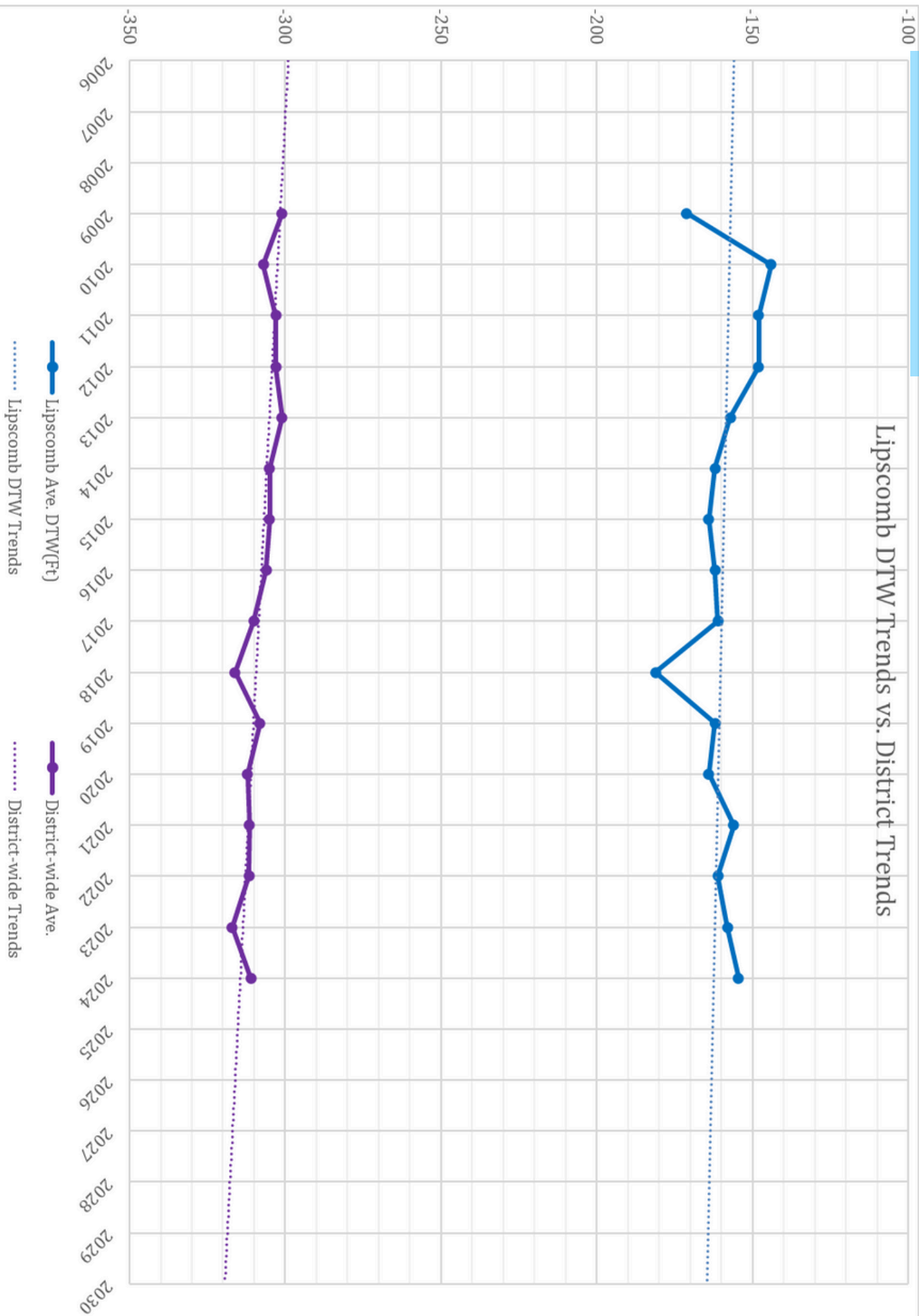
Hutchinson DTW Trends vs. District Trends



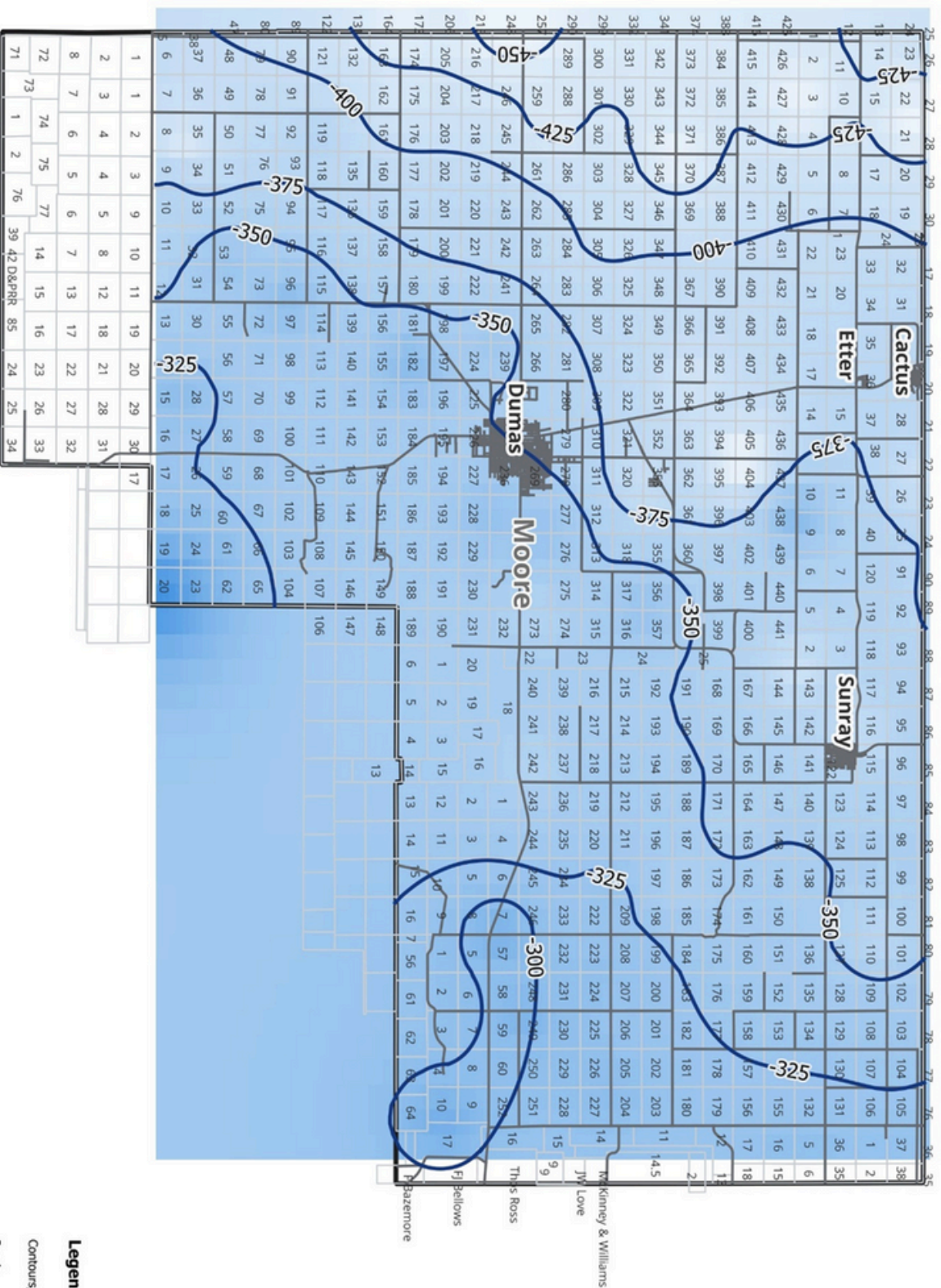
Lipscomb County Estimated Depth to Water End 2024



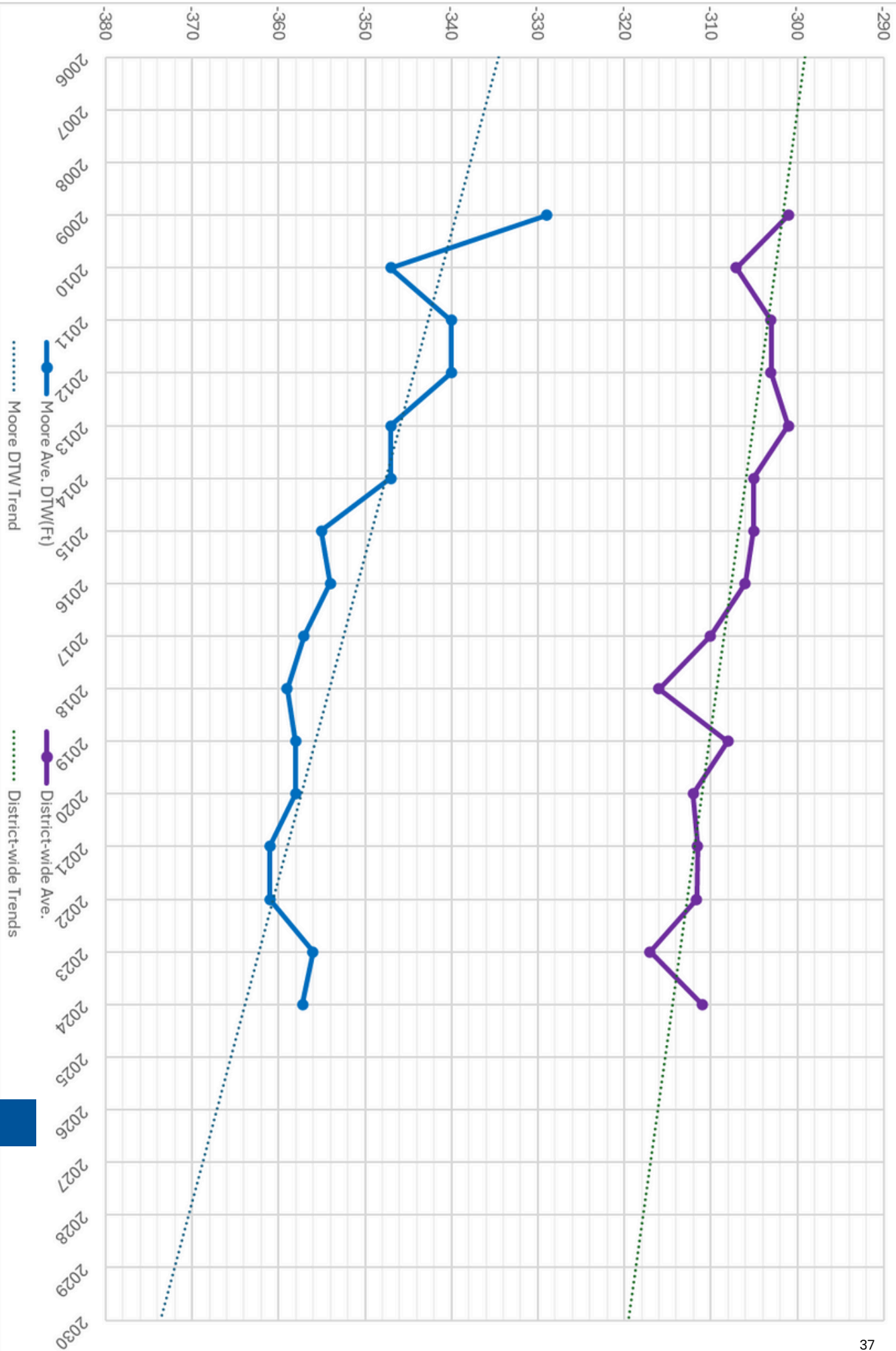
Lipscomb DTW Trends vs. District Trends



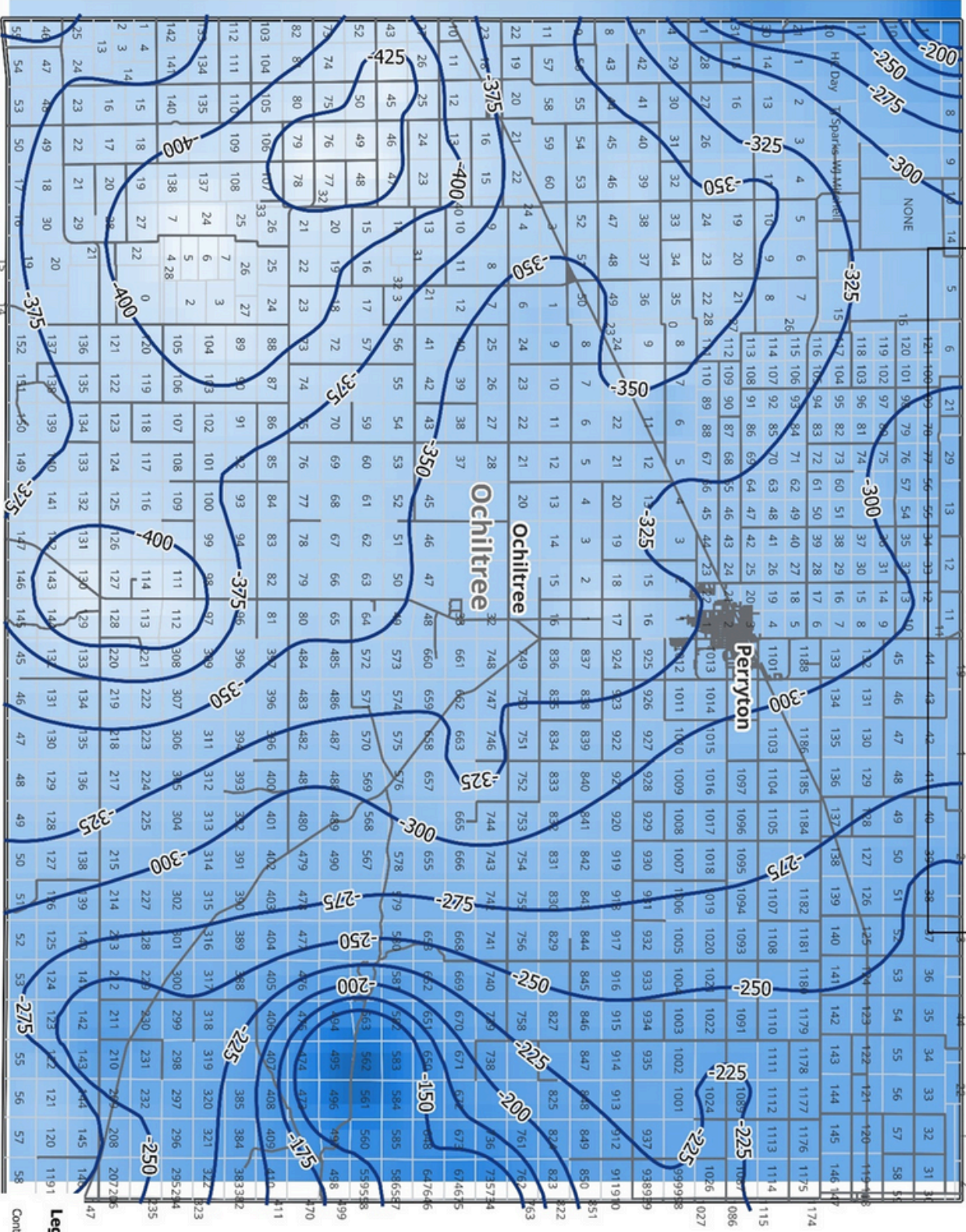
Moore County Estimated Depth to Water End 2024



Moore DTW Trend vs. District-wide Trends

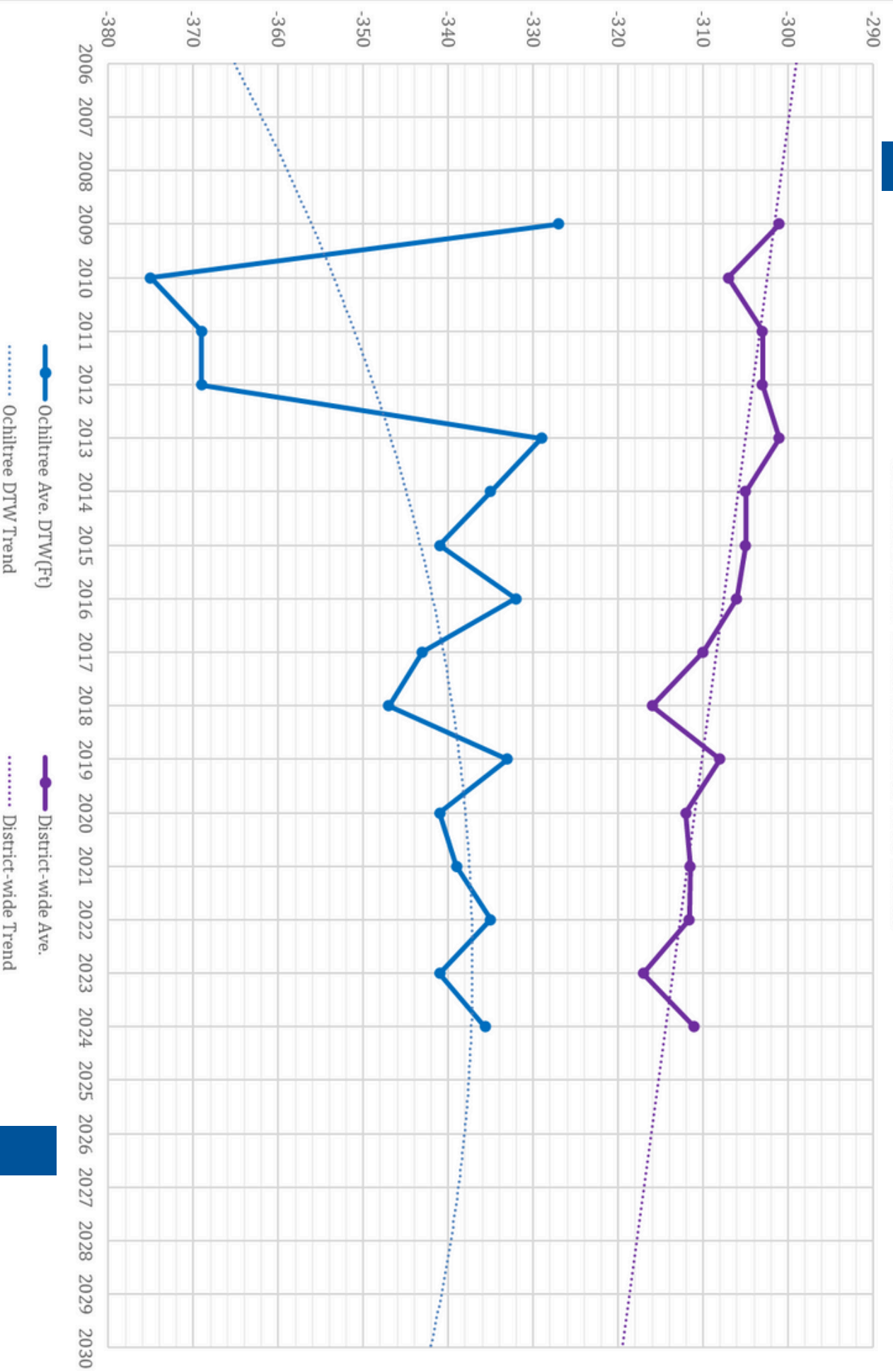


Ochiltree County Estimated Depth to Water End 2024

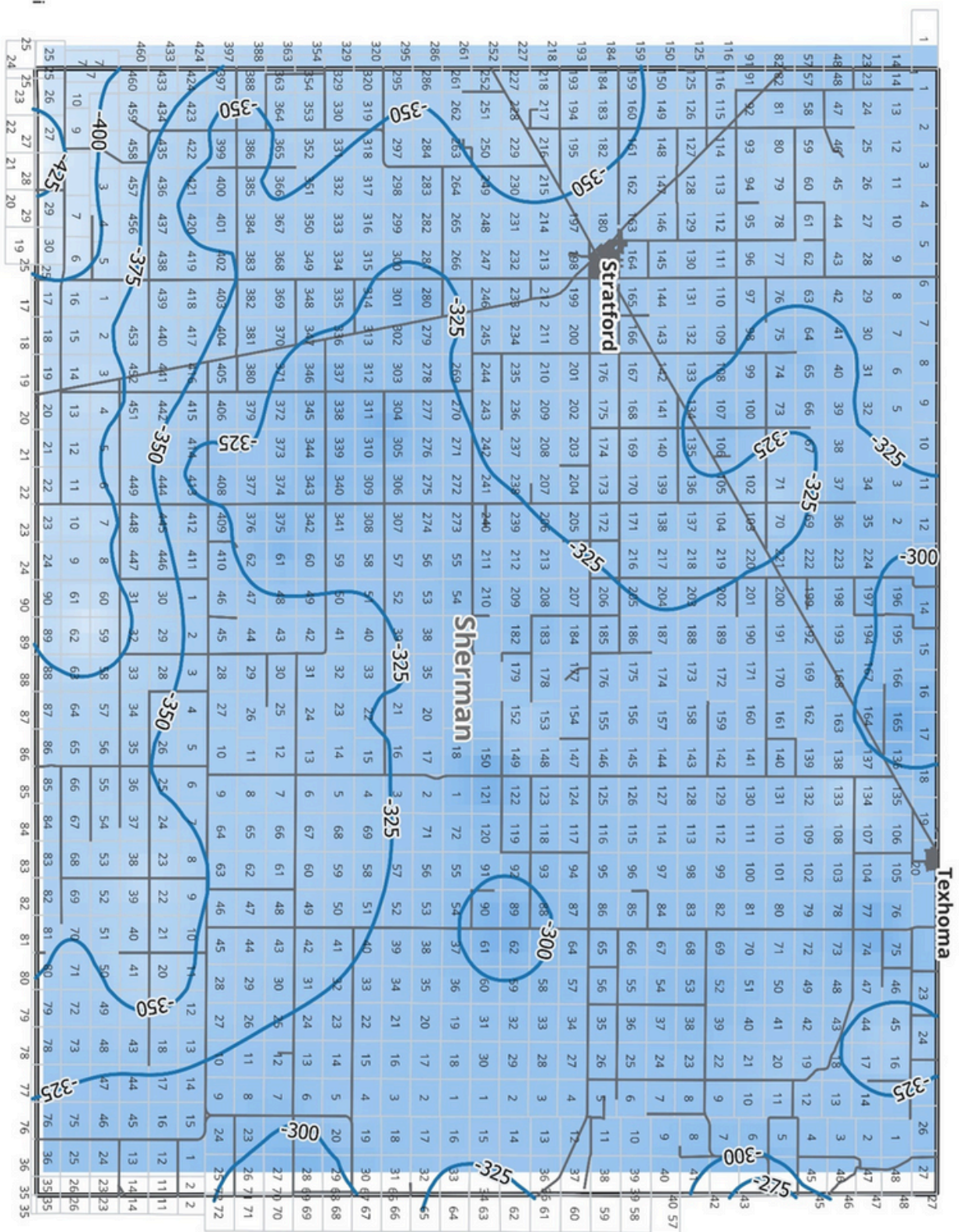




Ochiltree DTW Trend vs. District-wide Trends



Sherman County Estimated Depth to Water End 2024



Legend

Contours, 25 Ft

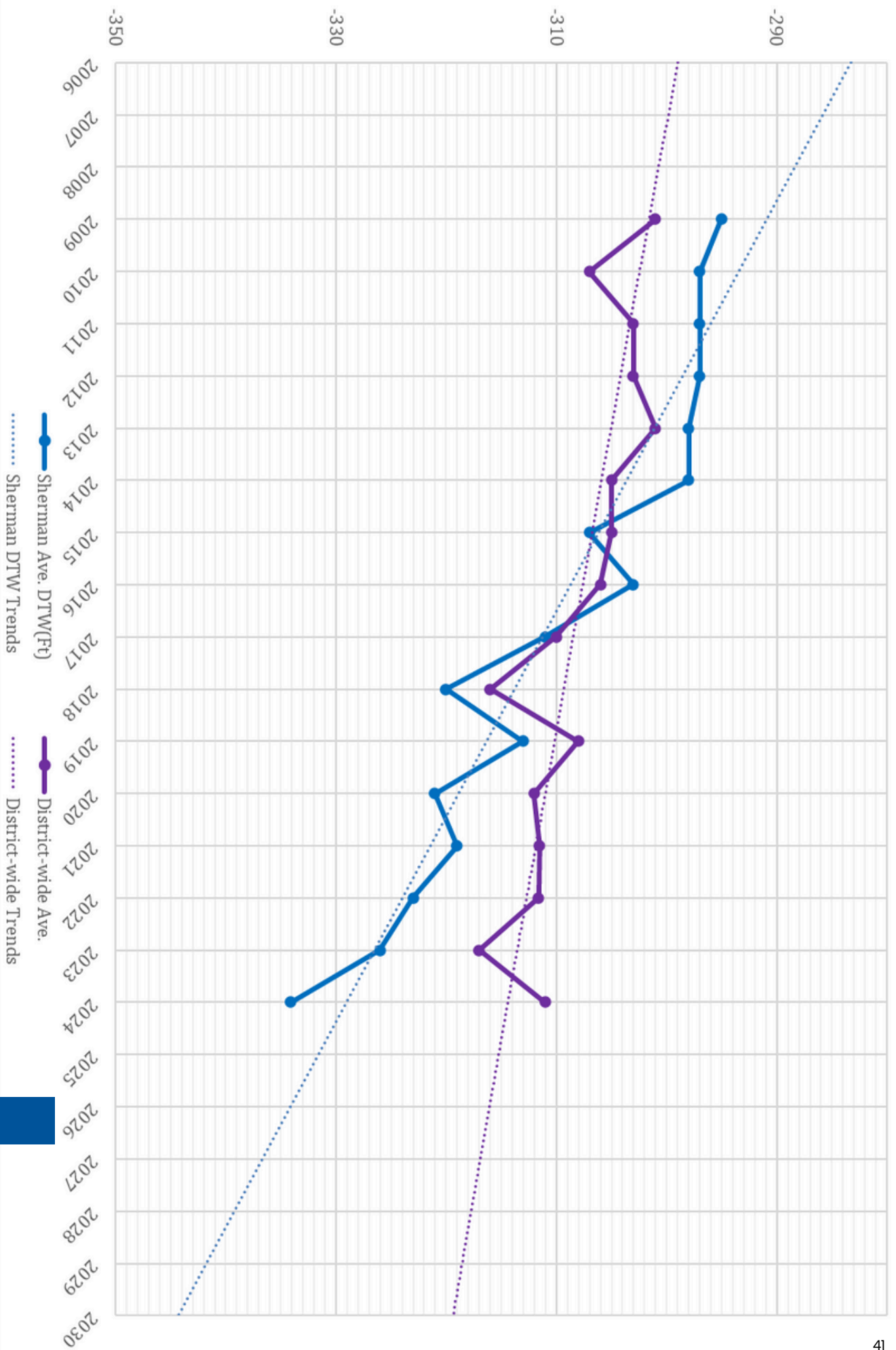
Roads

Sections

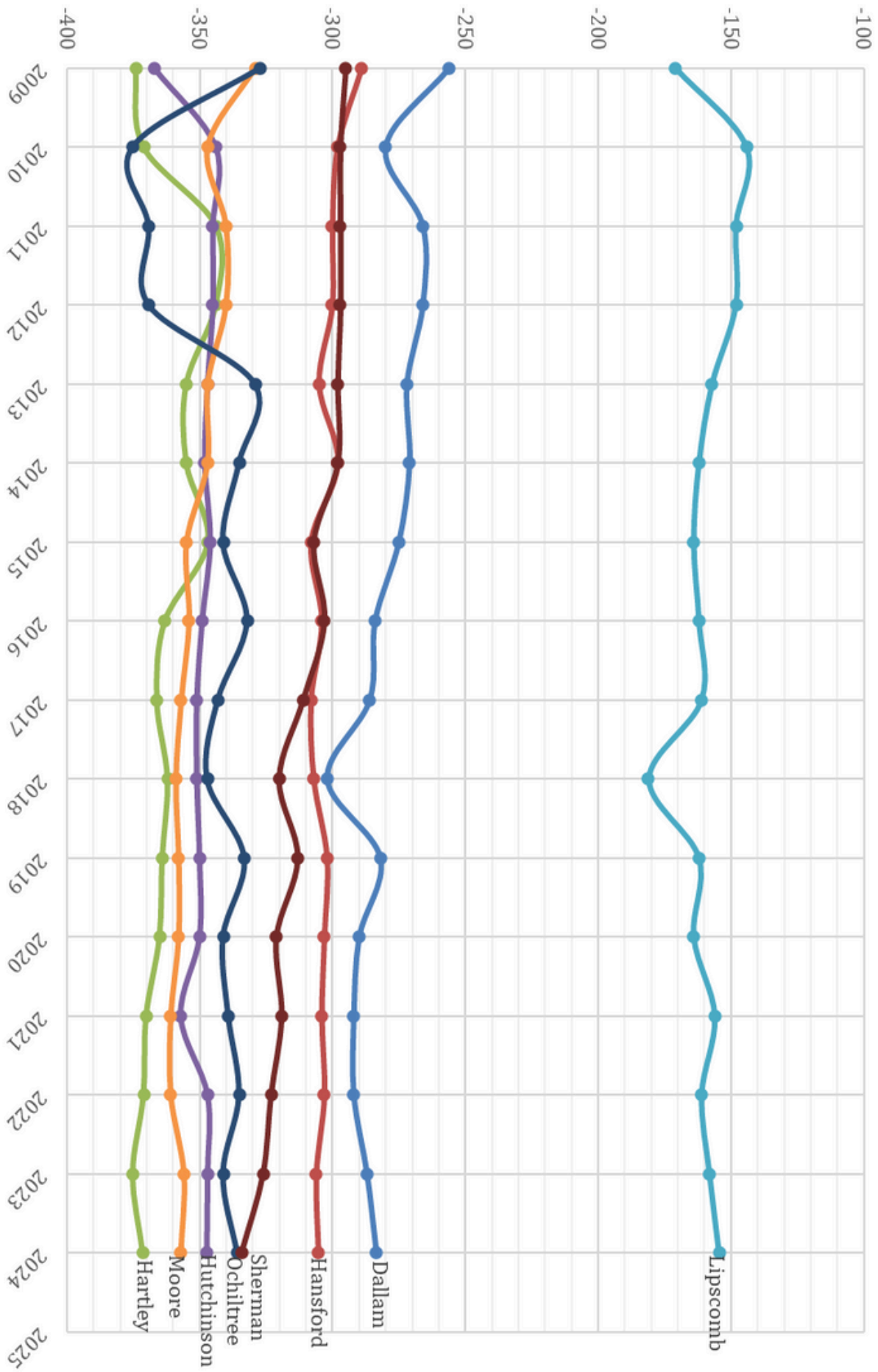


Odell Ward PG
NPGCD

Sherman DTW Trend vs. District-wide Trends



Depth to Water Comparison by County



ESTIMATED DECLINES (FROM 2024 PUMPING) IN MONITOR WELLS BY COUNTY

These maps do not include well measurements that indicate rises in water level. Rises may be valid for some specific areas, but generally statistical analyses are limited and do not indicate a high level of confidence in that data, therefore it is not used.

Maps depicting declines in monitor wells are created from a statistical analysis of current and historical water level measurements. The most recent water level measurements were taken in January and February of 2025. The declines represent declines resulting from the 2024 agricultural pumping season.

Declines are calculated using water level measurements taken from District observation wells which are located primarily in high pumping areas. Consequently, these measurements tend to show higher declines than what an estimated county-average-decline would show.



The graphs that follow each decline contour map represent four data sets, 1. the Managed Available Groundwater MAG (GAM Run 16-029 published by the Texas Water Development Board), 2. reported groundwater production, 3. Average county precipitation, and 4. The average aquifer declines reported for the counties from 2020 through 2030. The green trend line and associated data points represent the average annual reported production (Rep. Pro X 100,000 Ac-Ft) for the county. The purple trend and data points show the average rainfall amounts published by National Centers for Environmental Information (NCEI) at Typical District Monitor Well.

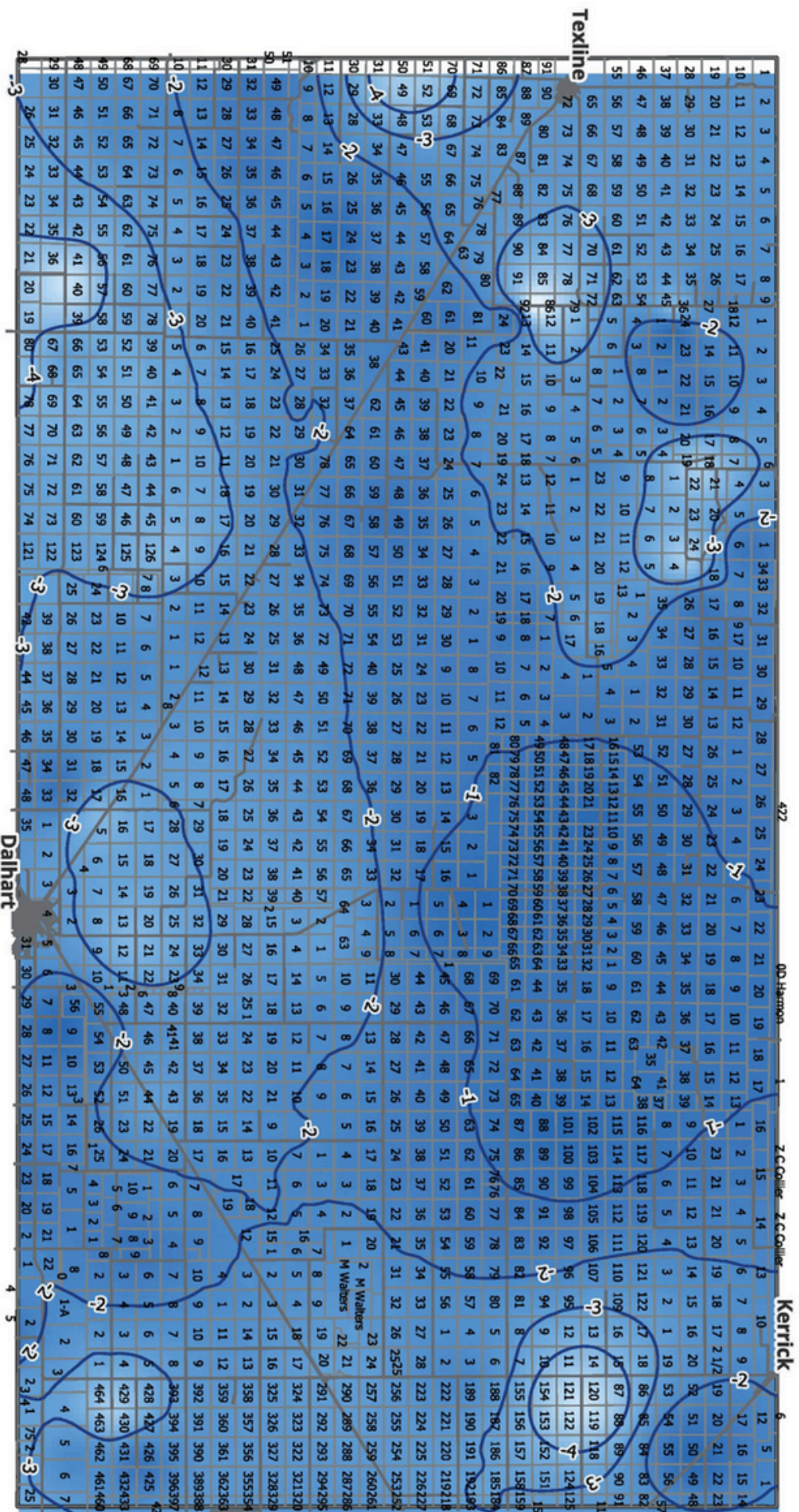
The drilled wells are non-production wells dedicated solely to data collection which provide information of more accuracy, reliability, and consistency than other types of wells the District monitors. They are also readily available, if needed, for conducting aquifer tests that cannot be easily conducted using other well types. for the county. The orange trend line and data points represent the average estimated declines in the aquifer for the county. The data is adjusted as shown in the legend of the graph to normalize the data to be viewable on the same scale. Groundwater production numbers should be multiplied by 100,000 and the inches of rainfall should be multiplied by 10.

It is important to note that these graphs are trends and not future predictions of what the Aquifer is doing or will do.

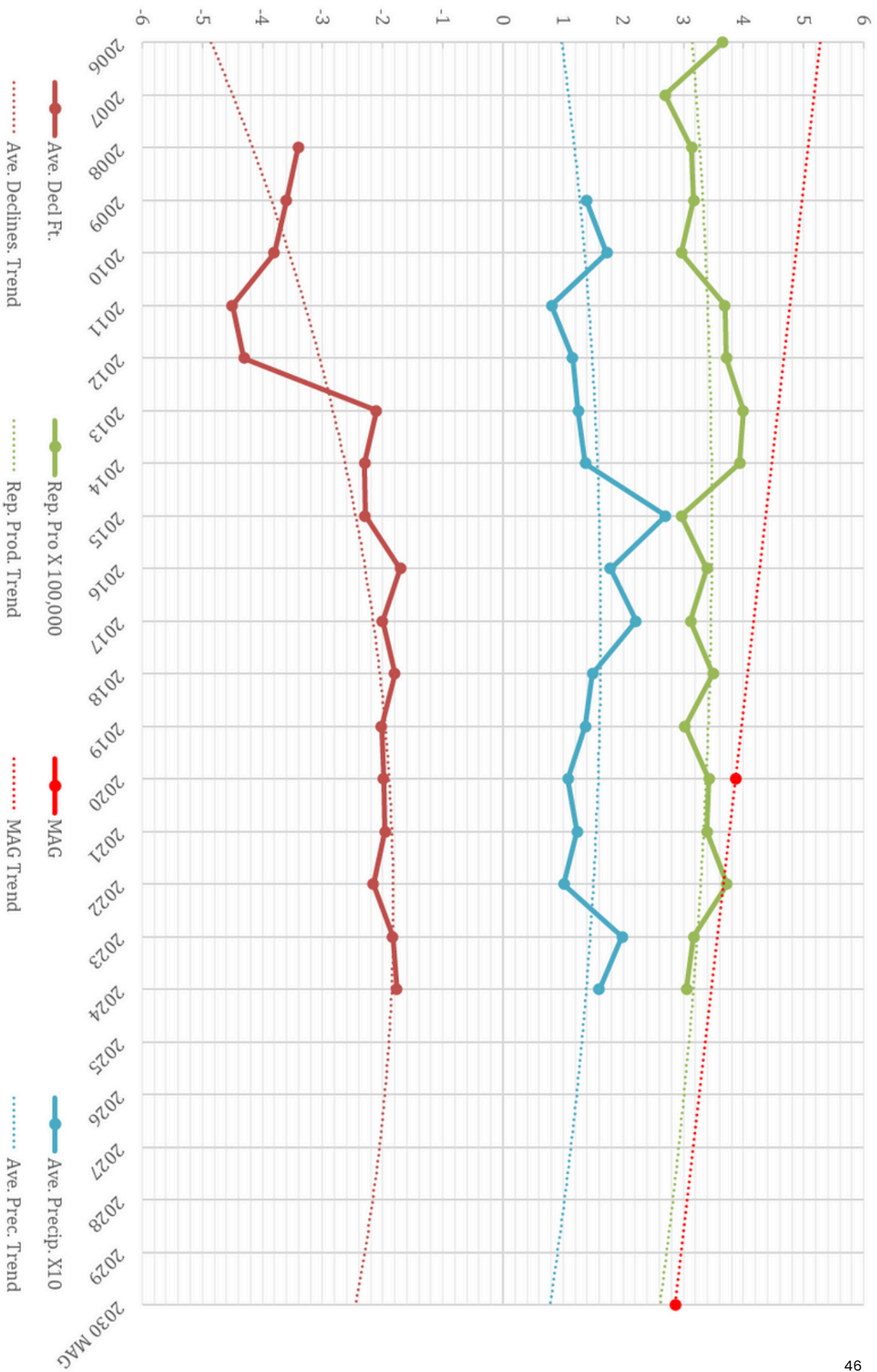
Accuracy: The accuracy of the decline maps is estimated to be +/- 2 feet.



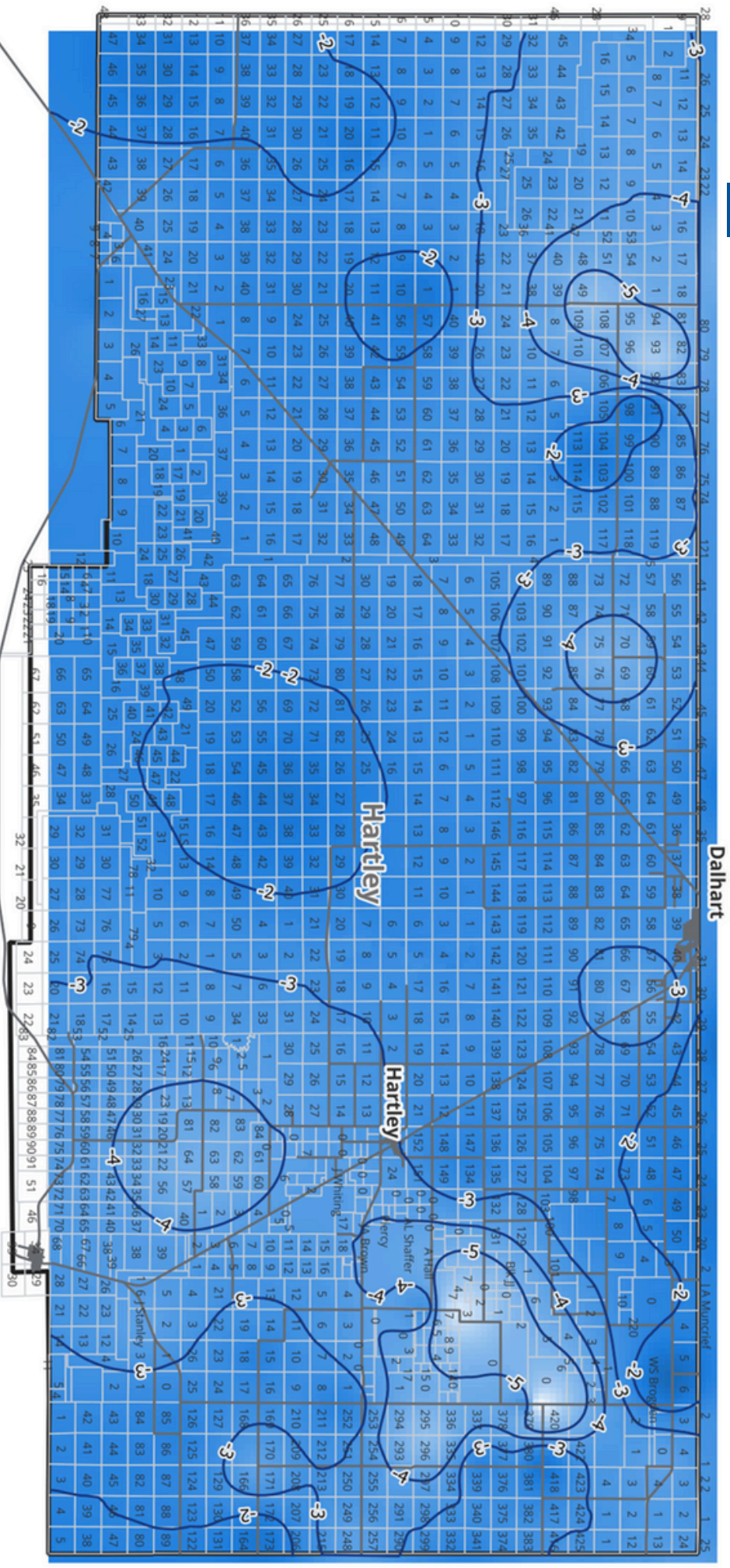
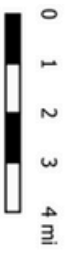
Dallam County Estimated Average Decline Ending 2024



Dallam Trends



Hartley County Estimated Average Decline End 2024



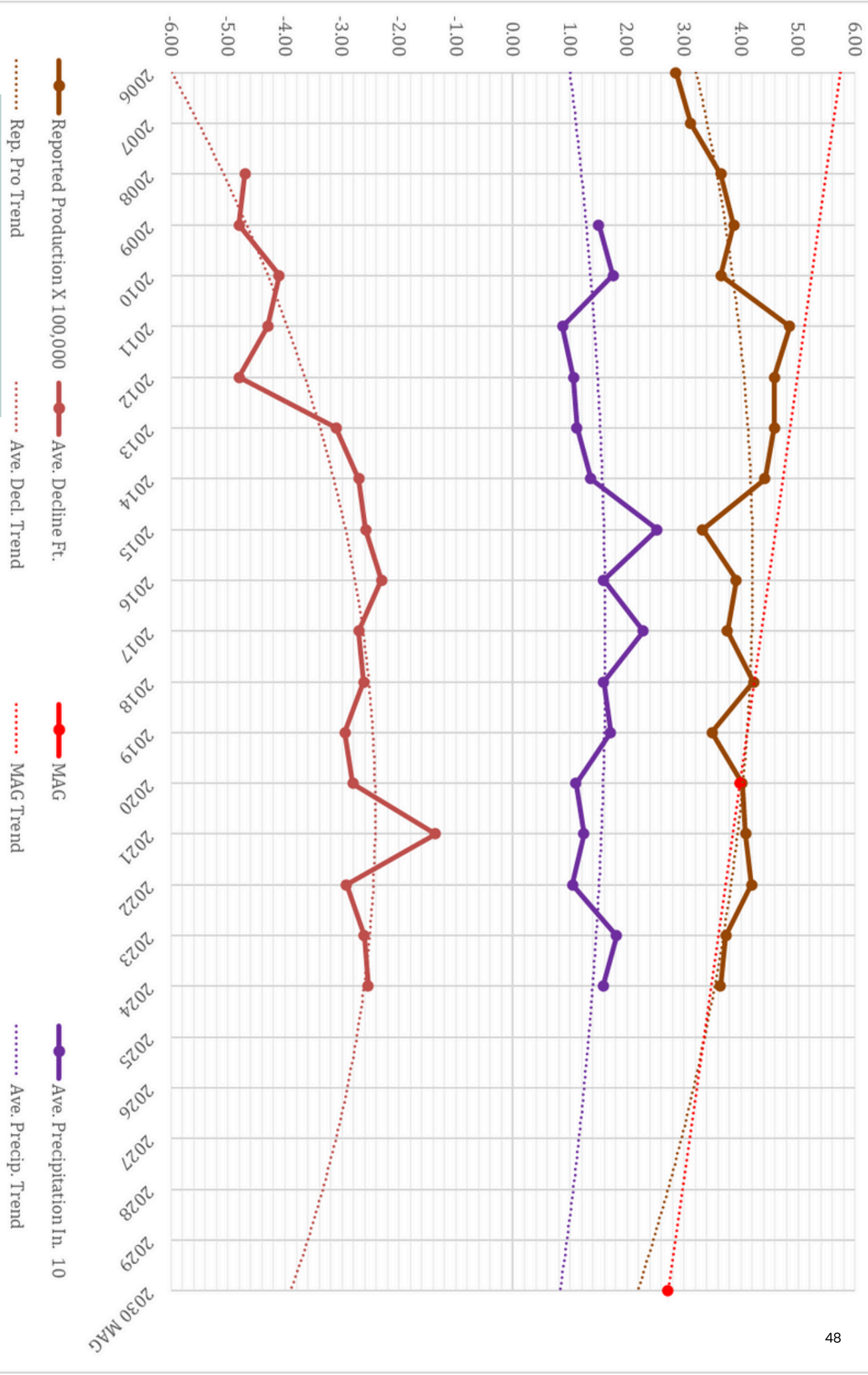
Legend

Contours, 50ft

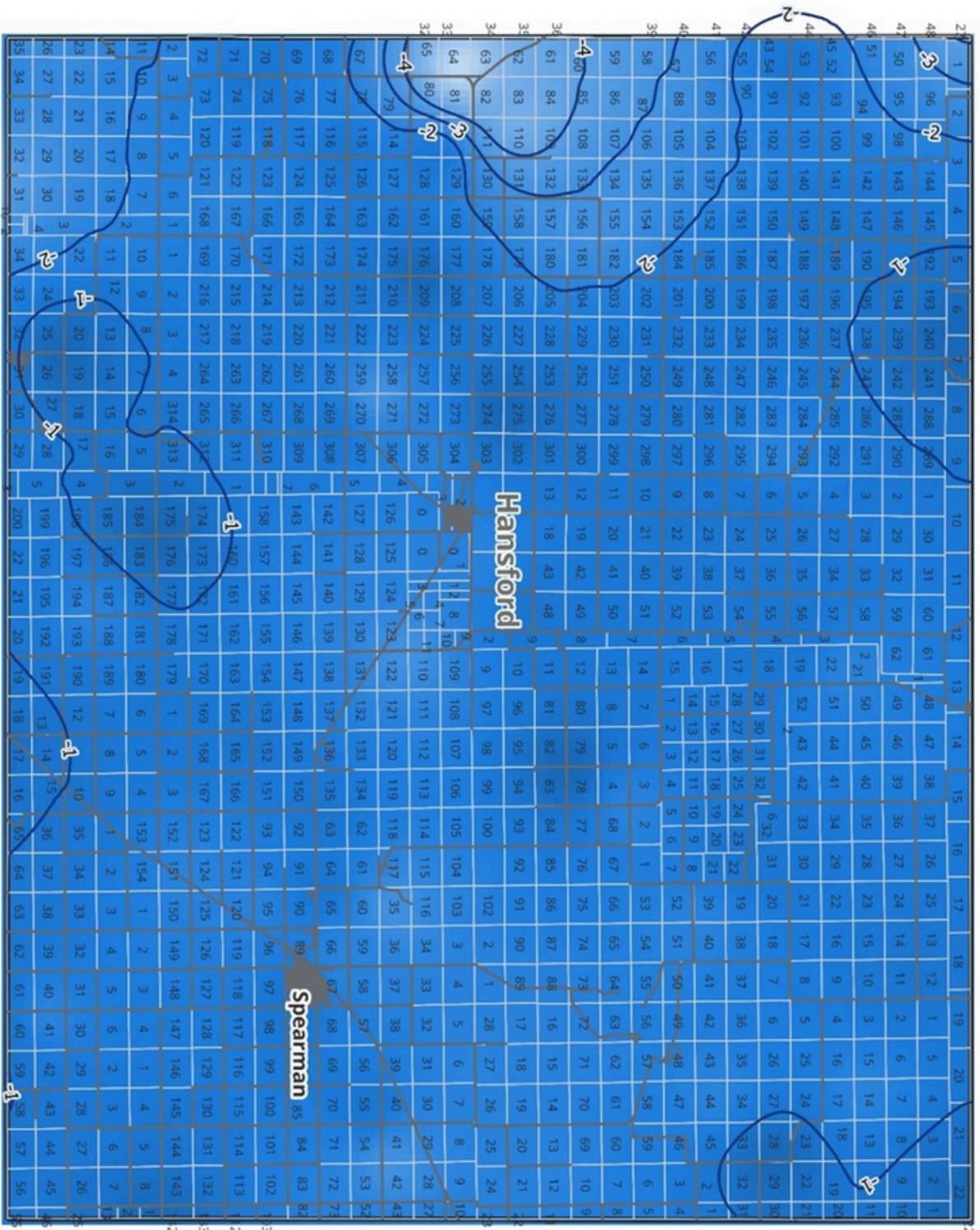
Roads

Sections

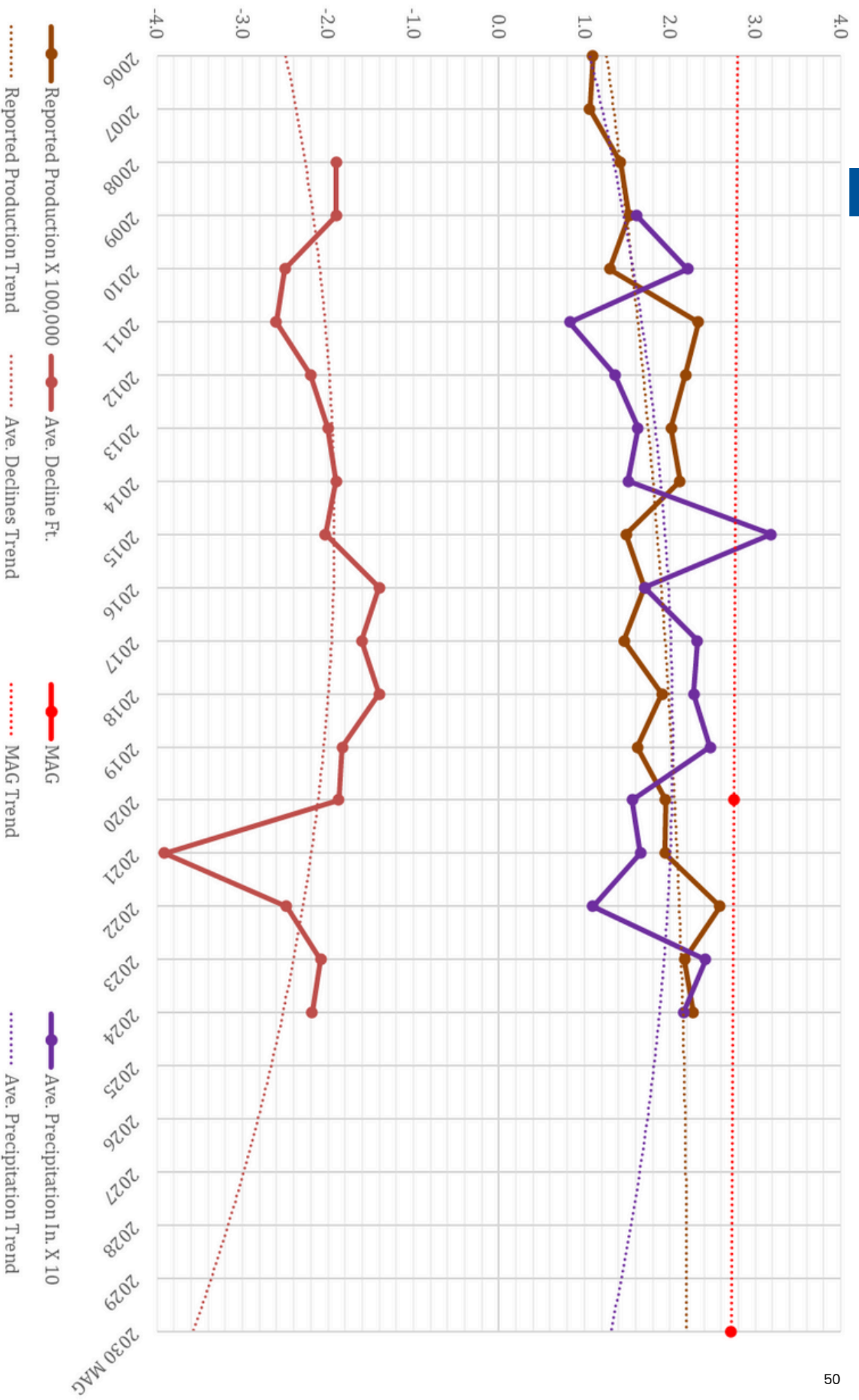
Hartley Trends



Hansford County Estimated Average Decline End 2024

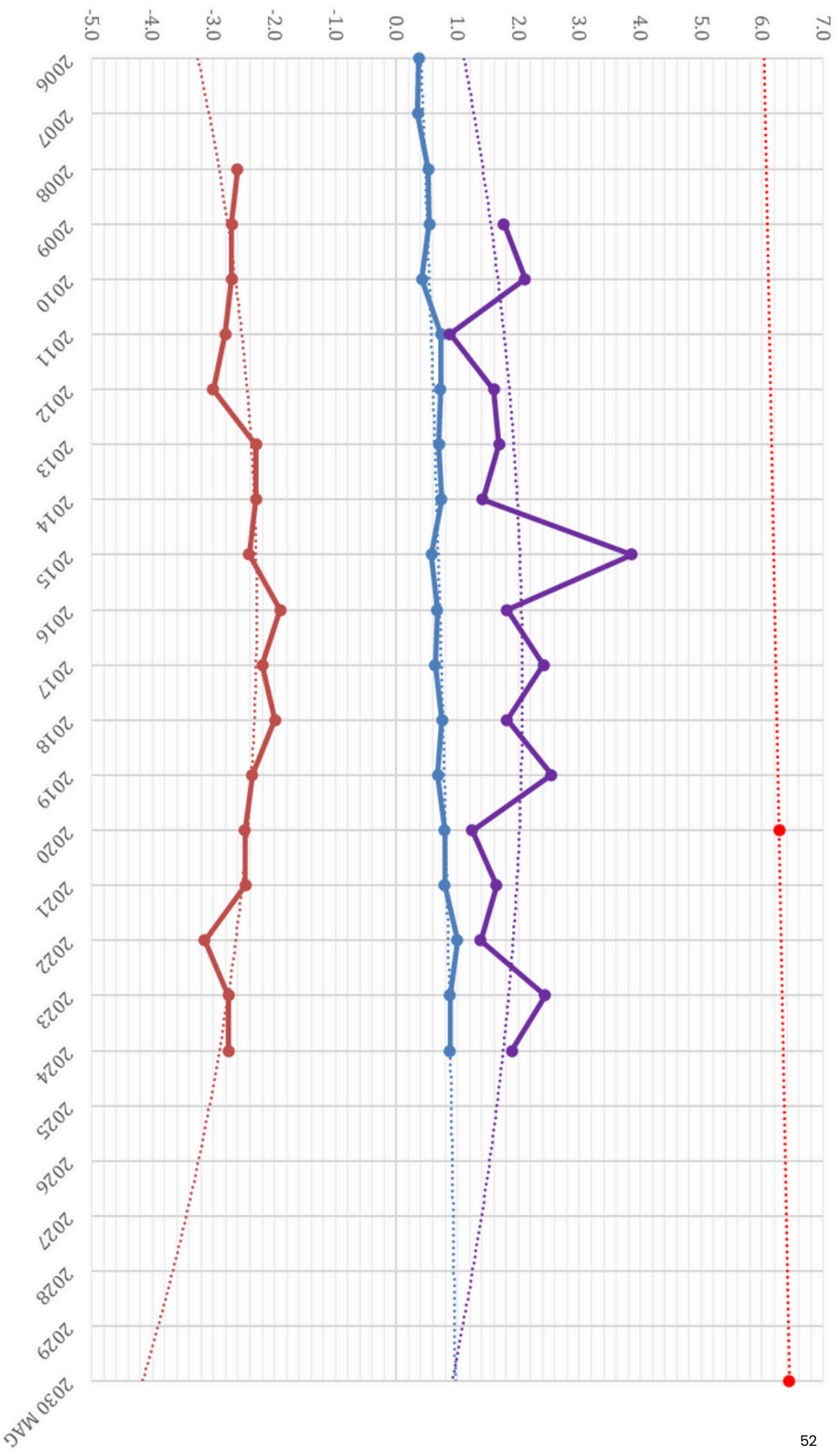


Hansford Trends

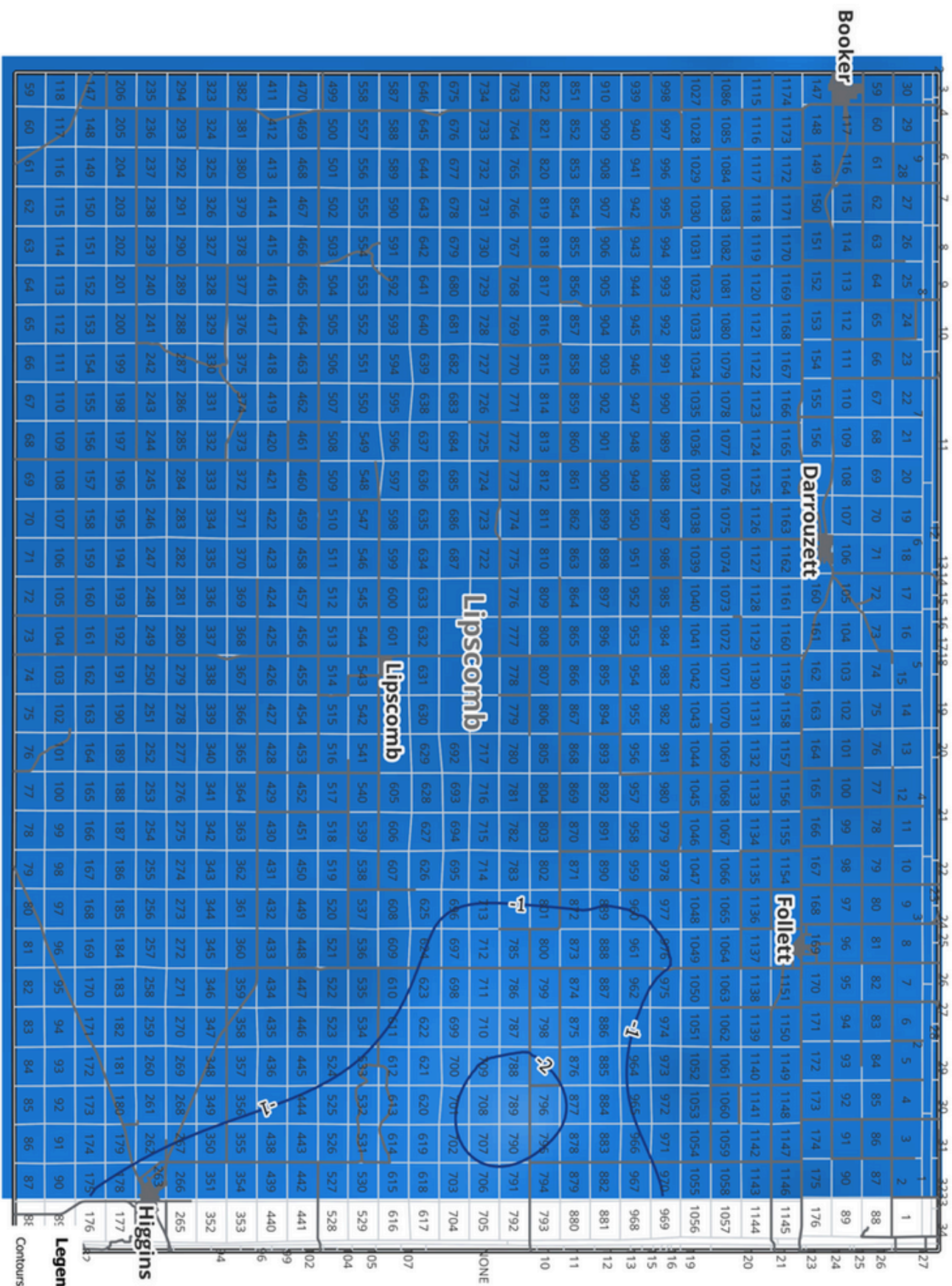




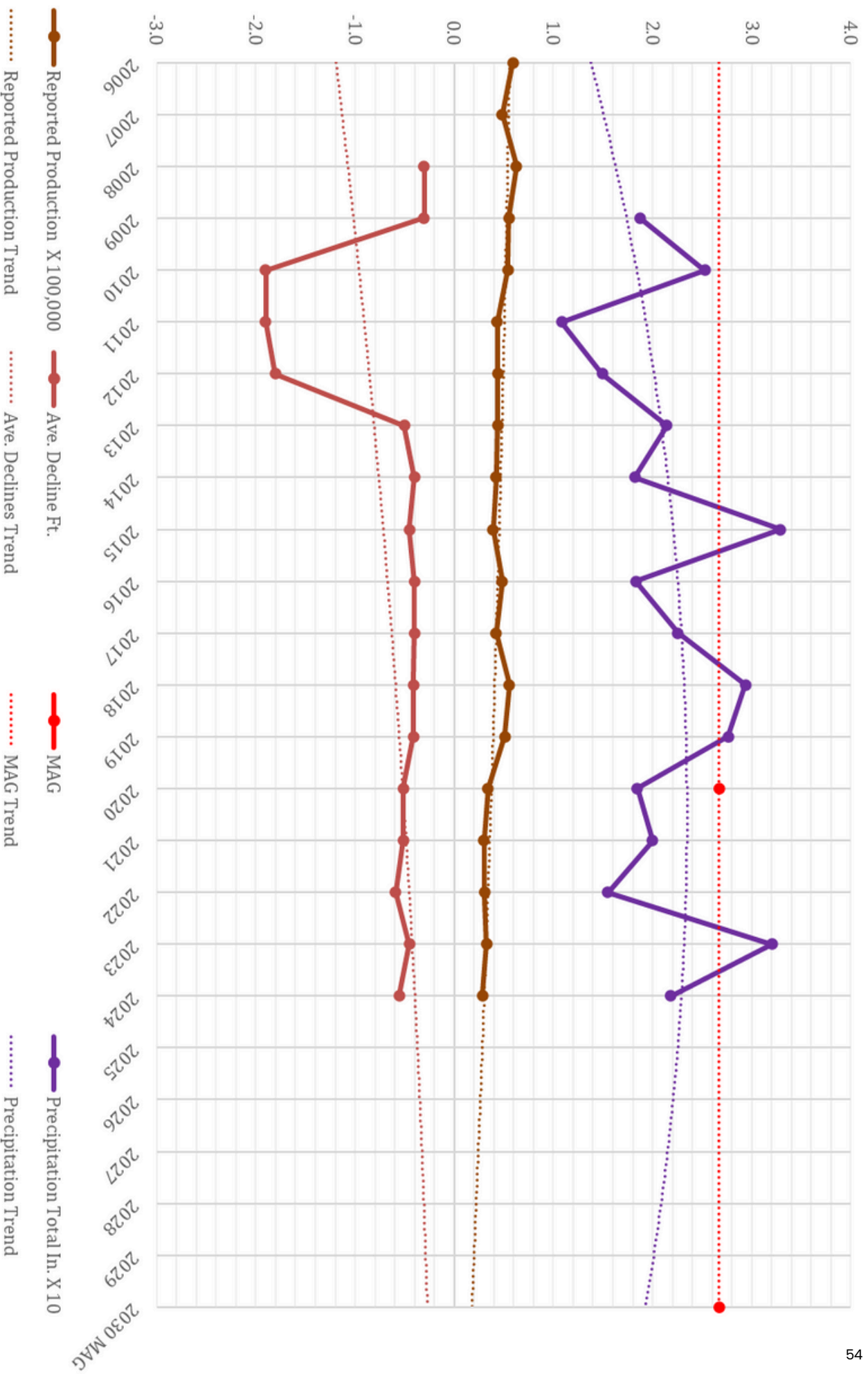
Hutchinson Trends



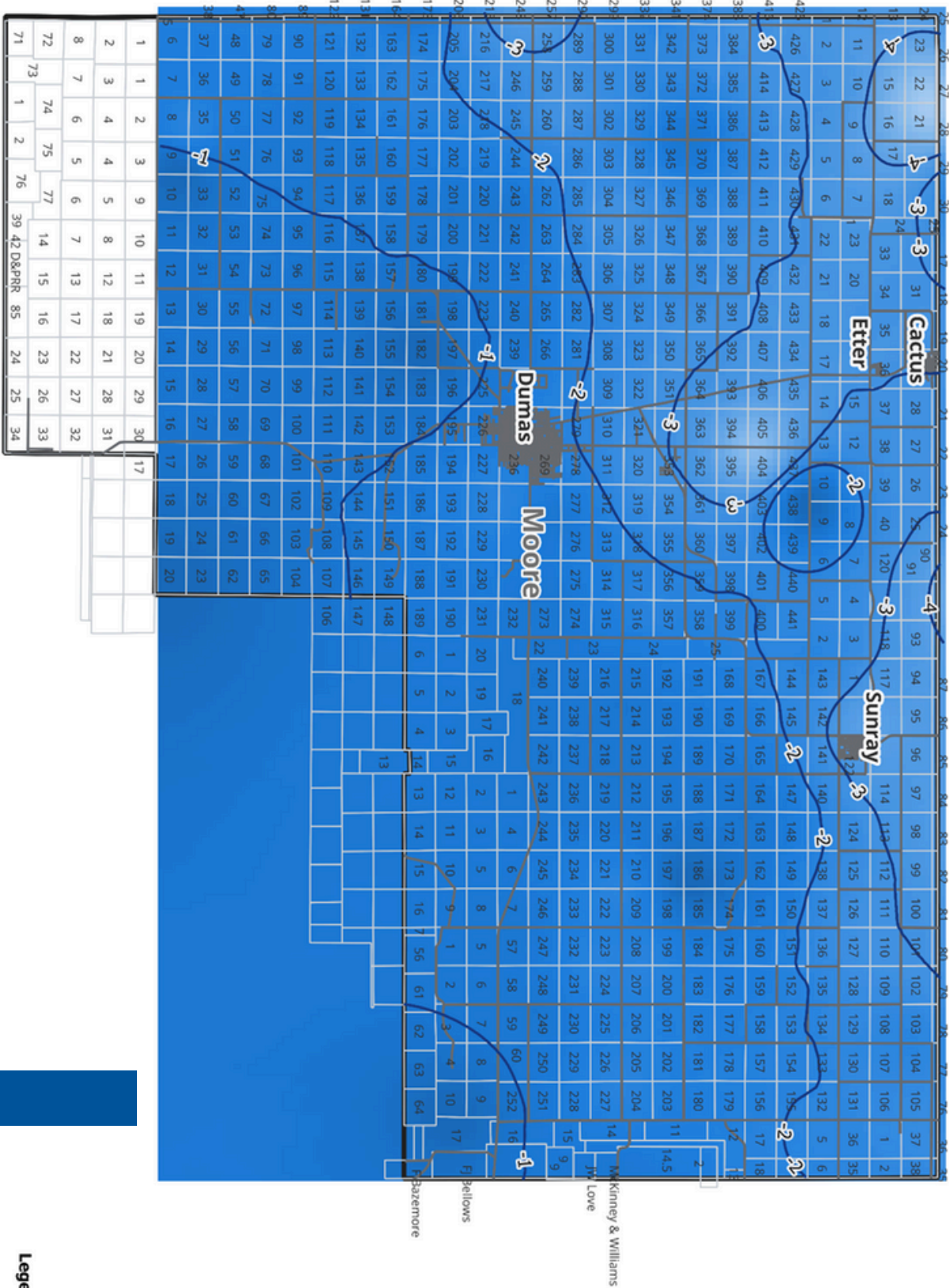
Lipscomb County Estimated Average Decline Ending 2024



Lipscomb Trends

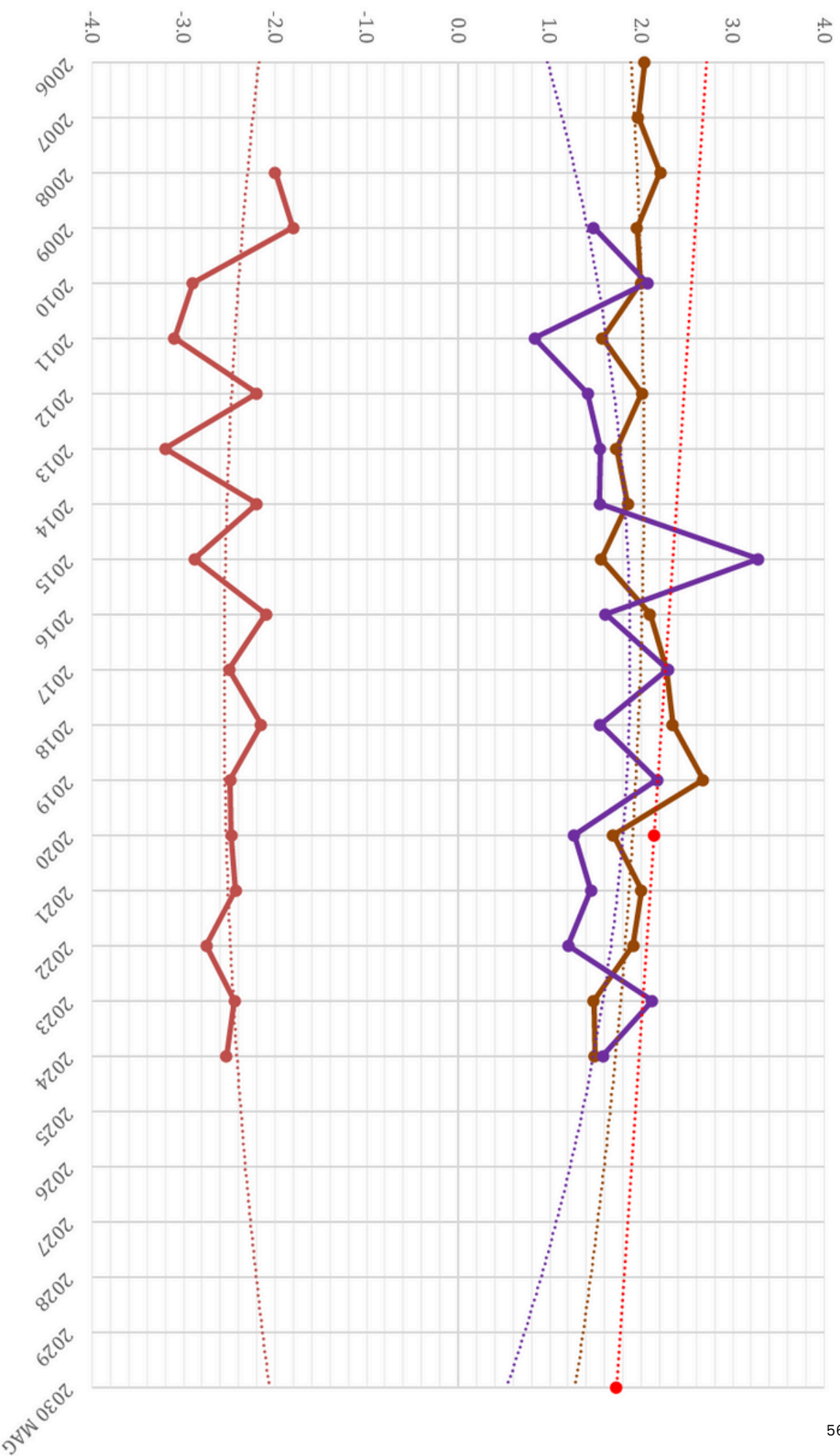


Moore County Estimated Average Decline End 2024

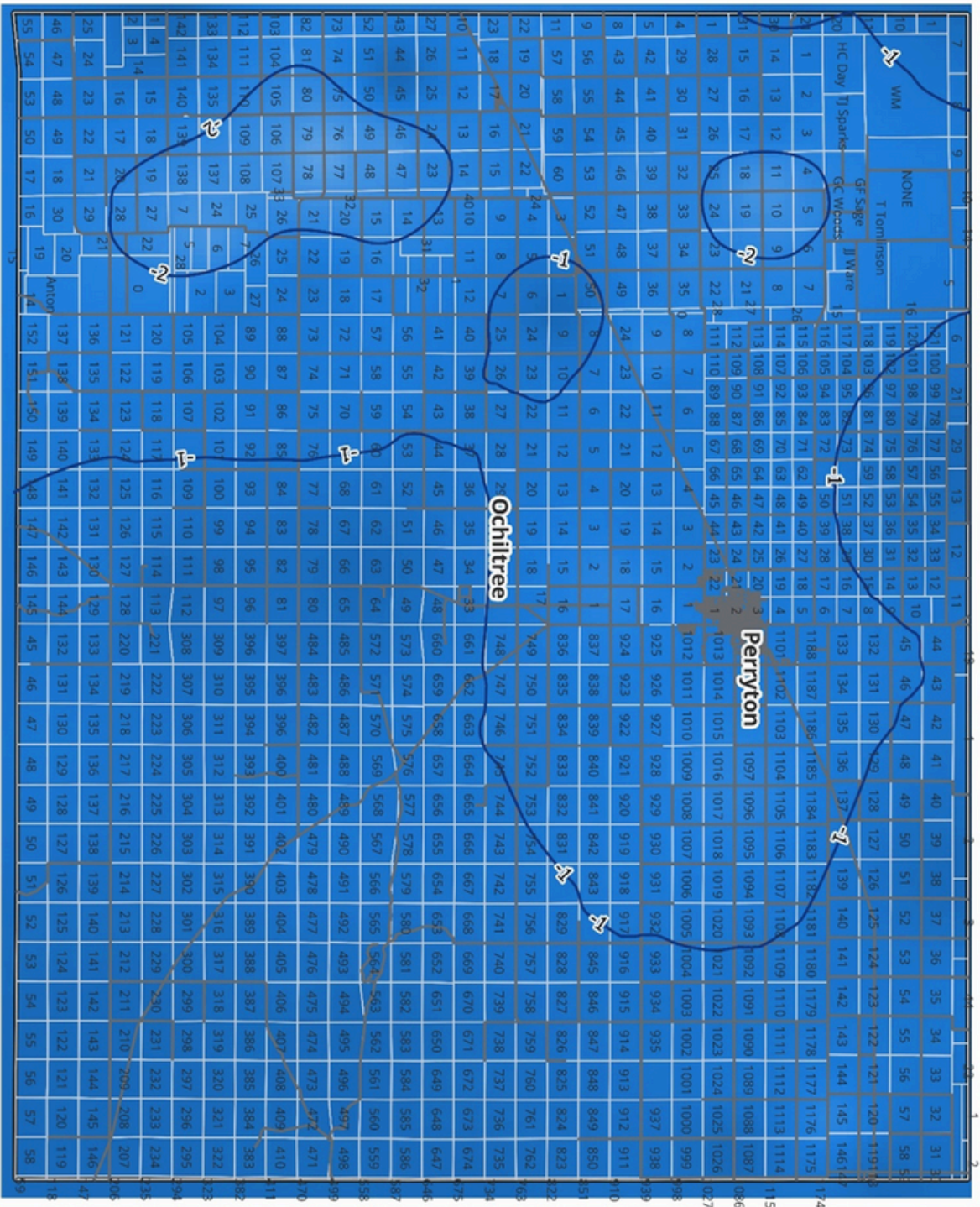


0 1 2 3 4 mi

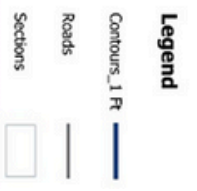
Moore Trends



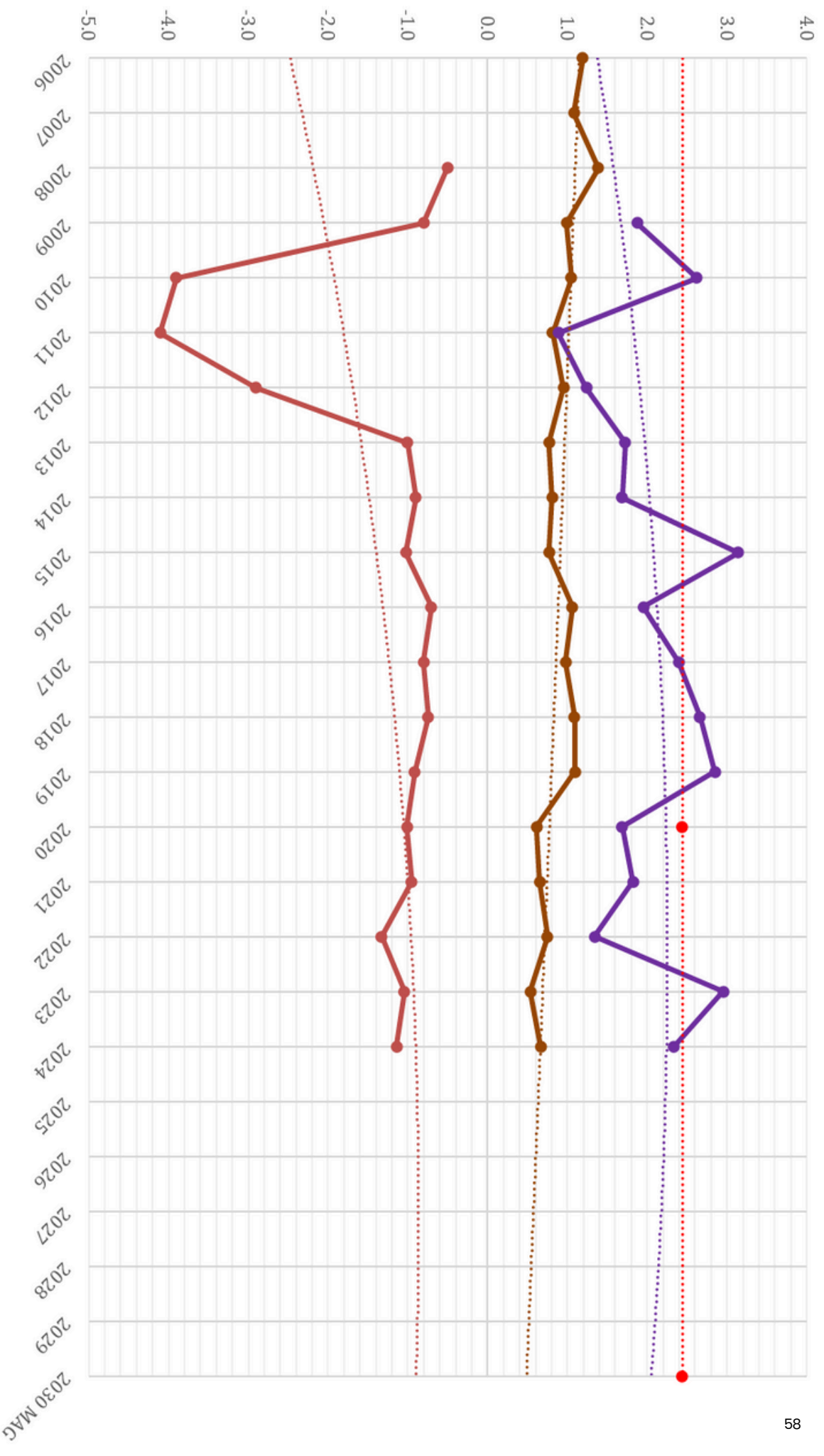
OchiltreeCounty Estimated Average Decline End 2024



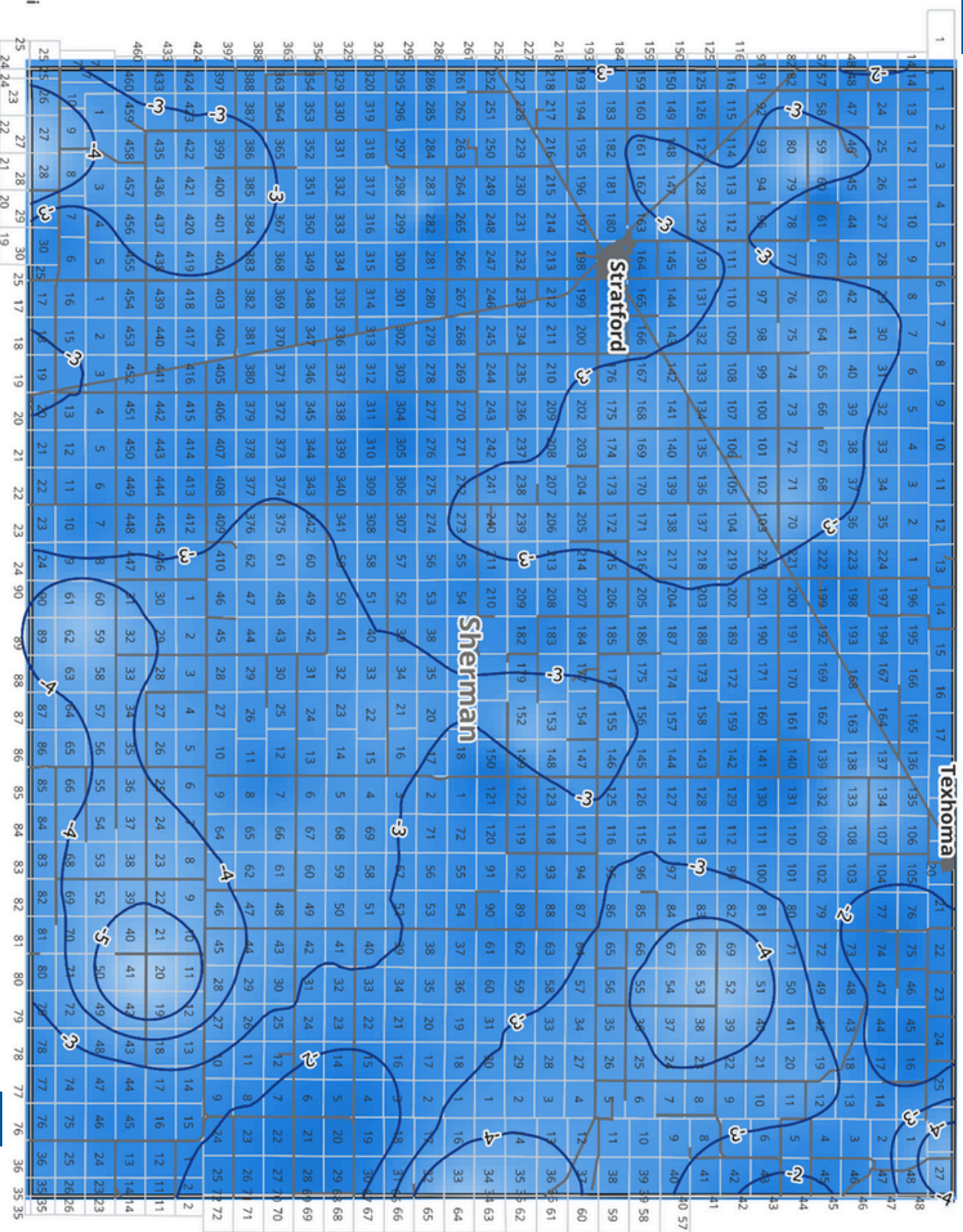
Odell Ward PG
NPGCD



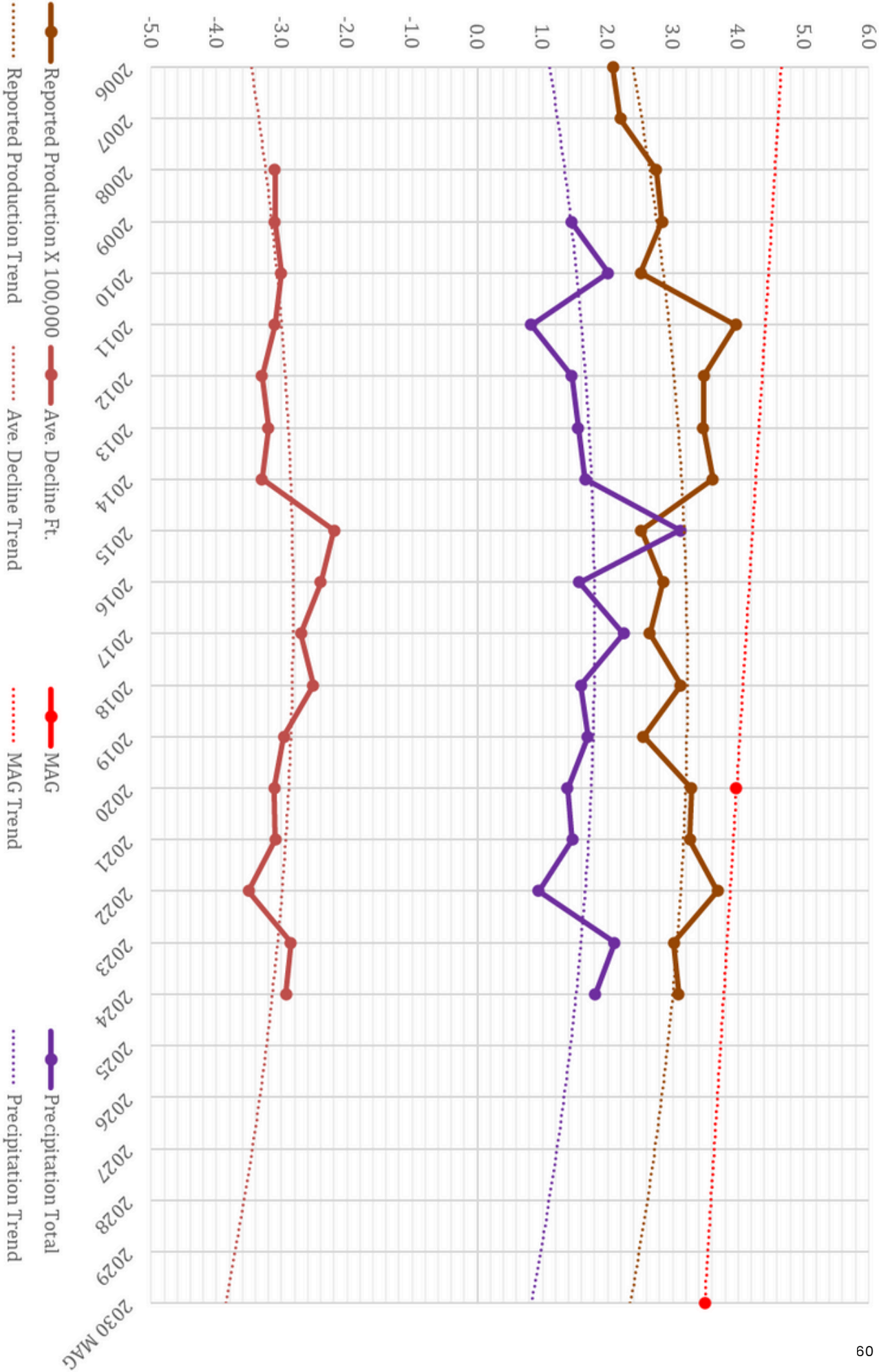
Ochiltree Trends



Sherman County Estimated Average Decline End 2024



Sherman Trends



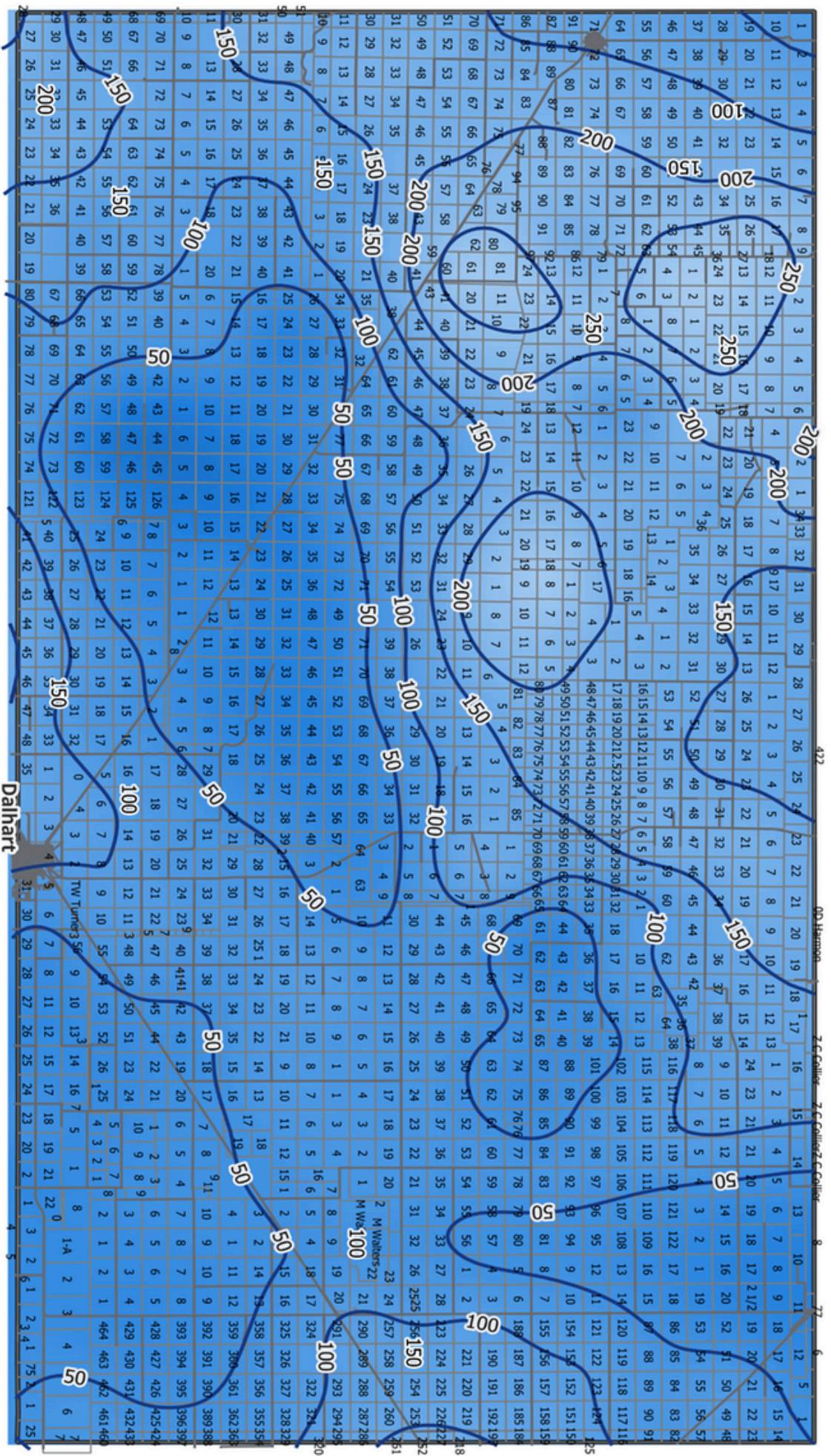
2024-2025 ESTIMATED (AVERAGE) SATURATED THICKNESS OF THE OGALLALA AQUIFER BY COUNTY:

Maps depicting estimated aquifer saturated thickness are created using geographical information mapping software and may be created by various methodologies. The most recent water measurements used in creating saturated thickness maps were taken in January, and February of 2024. The saturated material calculated represents the saturated material at the end of the 2023 pumping season and the beginning of the 2024 pumping season. The Saturated Thickness maps represent the saturated thickness at the beginning of 2024 and is considered reasonably accurate for a 3–5–year period. The next set of estimated aquifer thickness maps are scheduled to be created by mid-late Summer of 2026.

Accuracy: Map accuracy is estimated to be equal to ± 50 feet. In some areas data may have been included from the Rita Blanca or the Dockum Aquifers due to the uncertainty in delineating those boundaries. Inclusion of such data may increase the value of the saturated thickness above what may be encountered in the field.

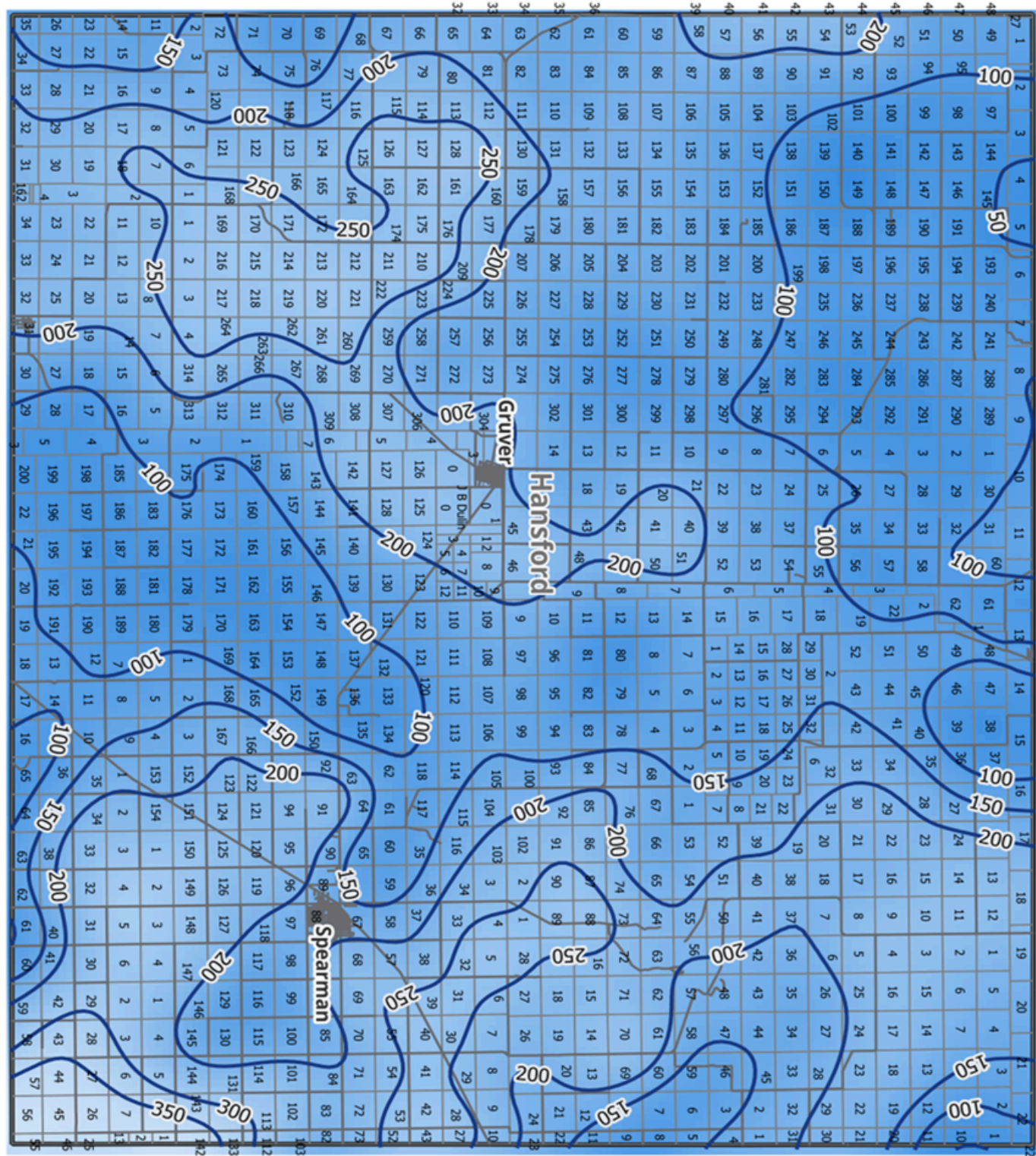
Dallam County Estimated Saturated Thickness

Ending 2023

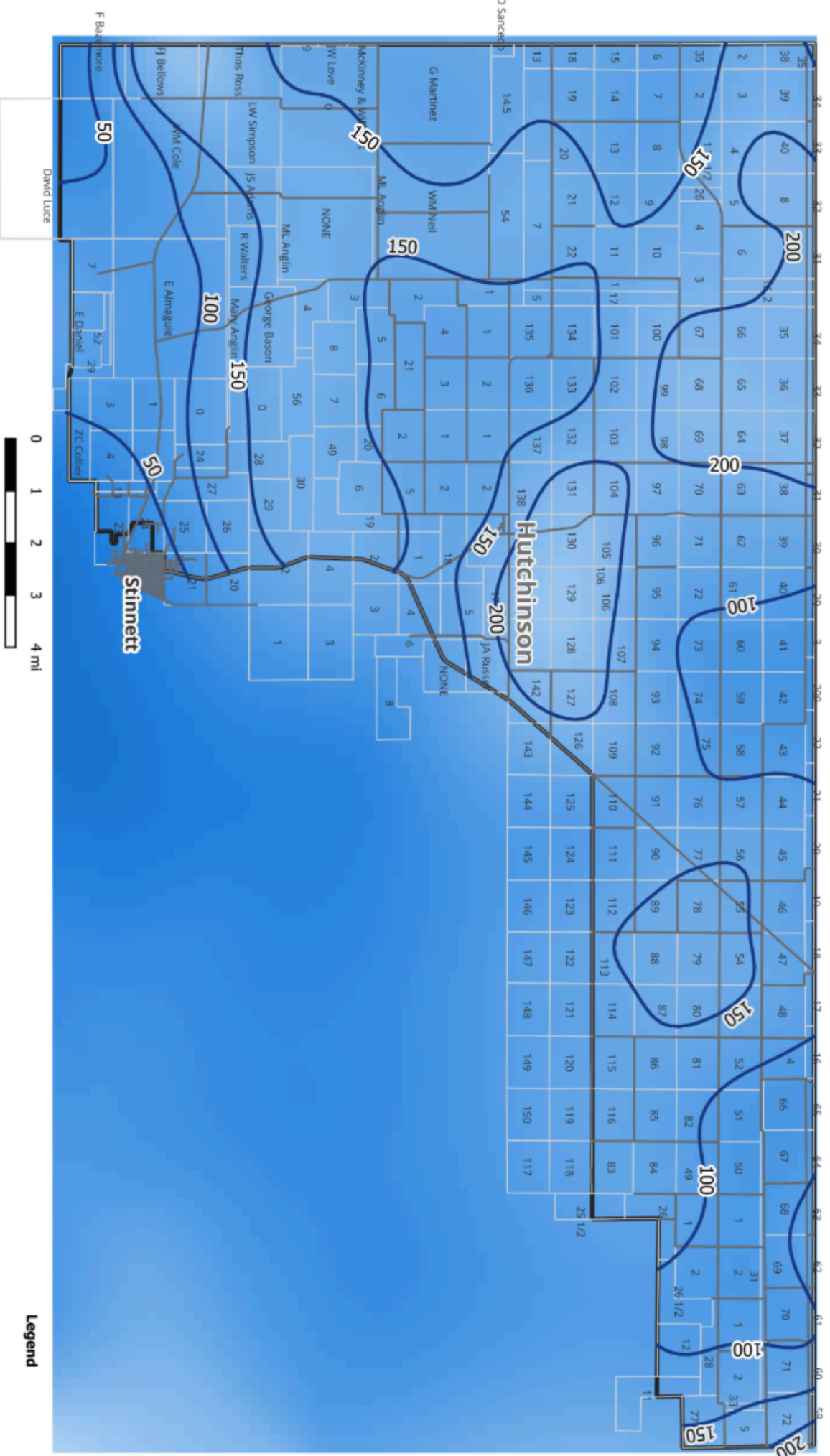




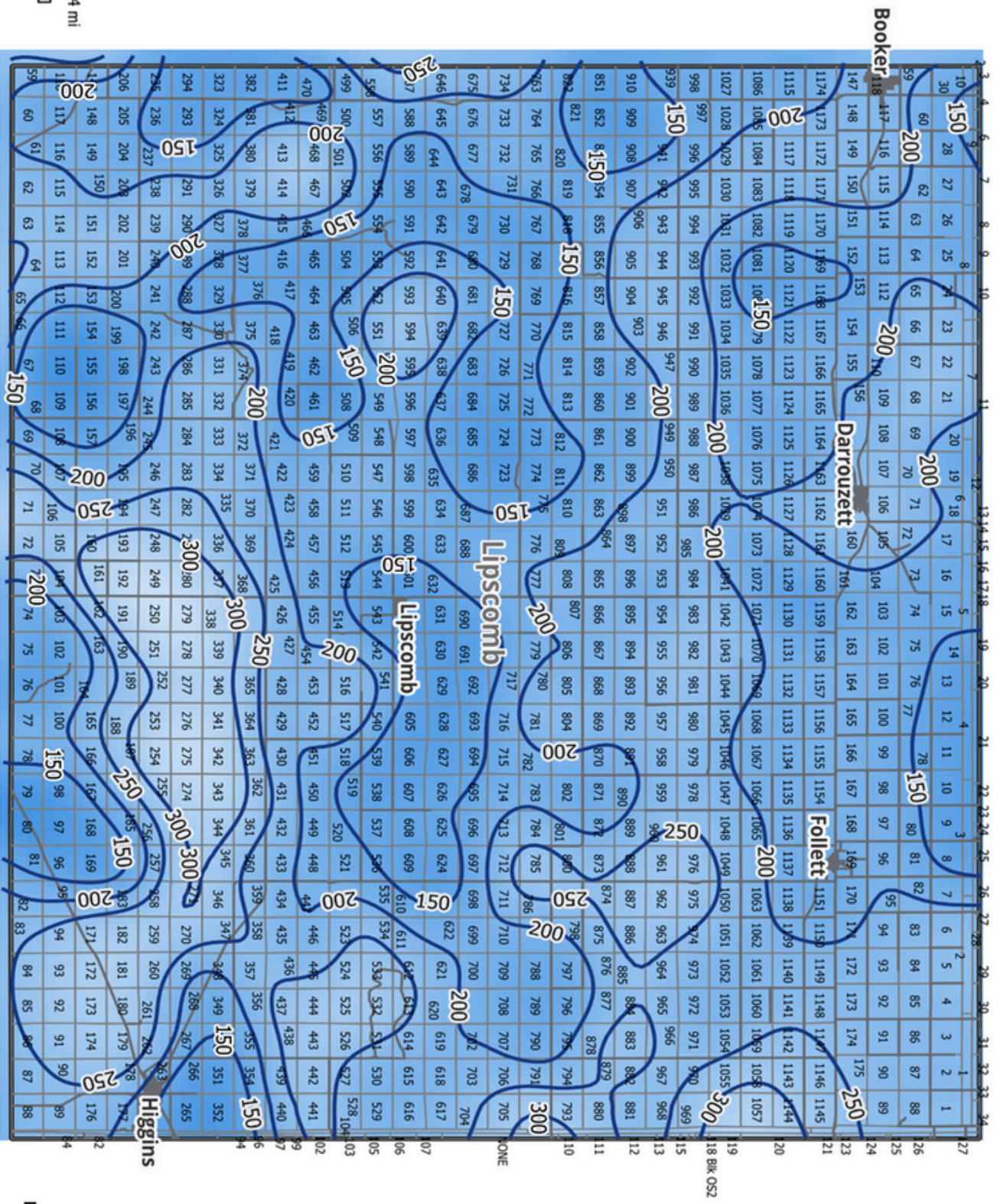
Hansford County Estimated Saturated Thickness End 2023



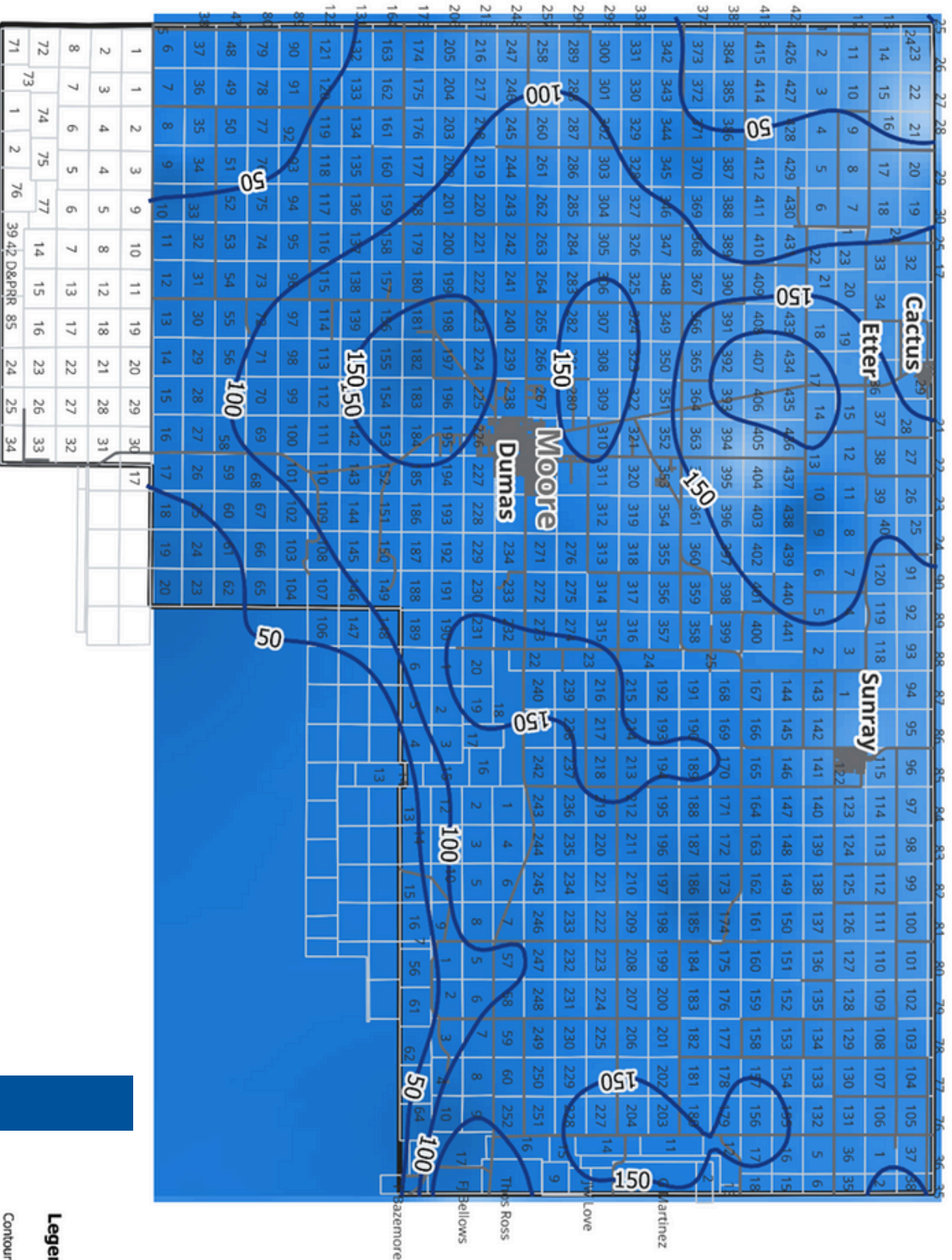
Hutchinson County Estimated Saturated Thickness End 2023



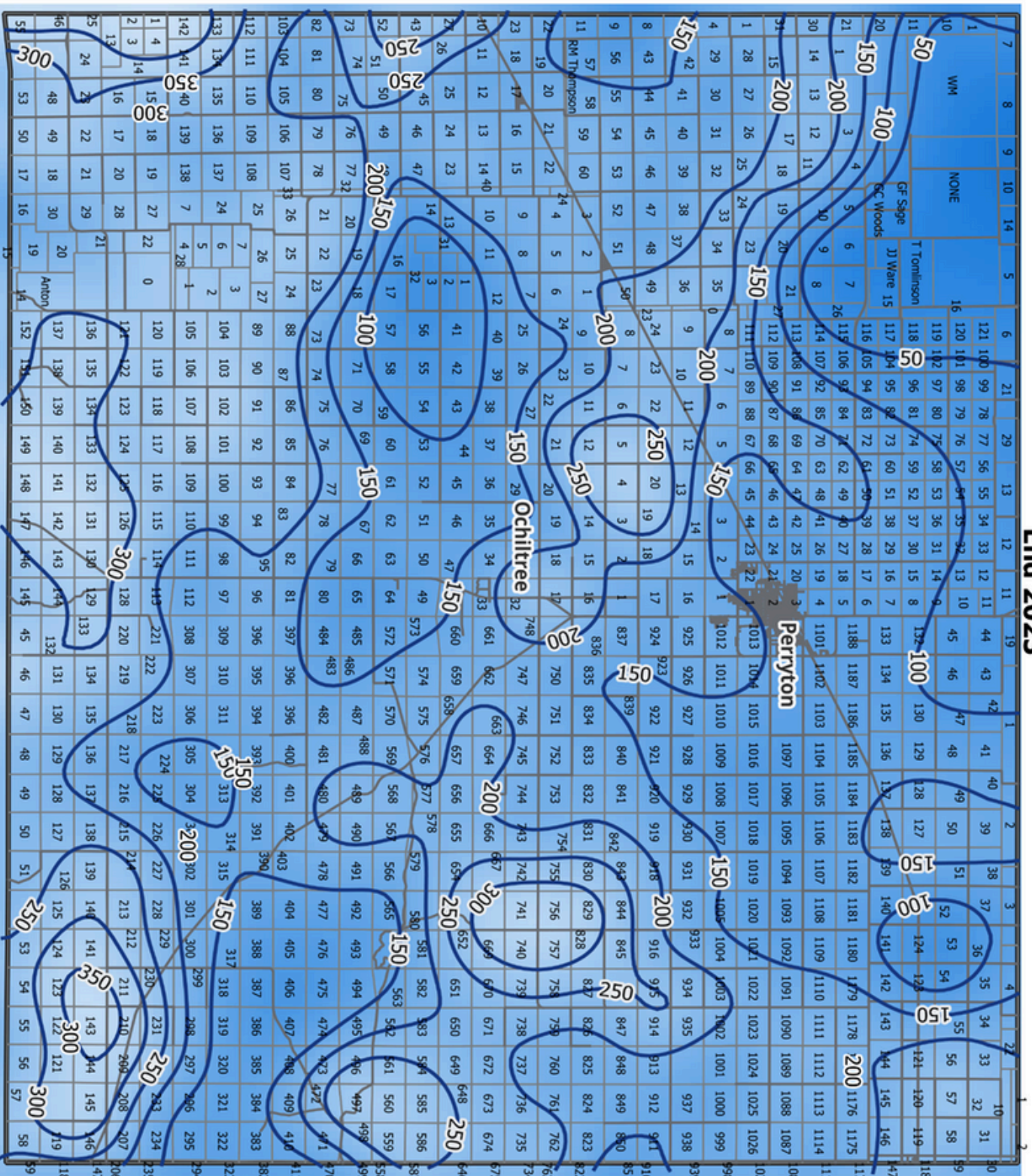
Lipscomb County Estimated Saturated Thickness End 2023



Moore County Estimated Saturated Thickness End 2023

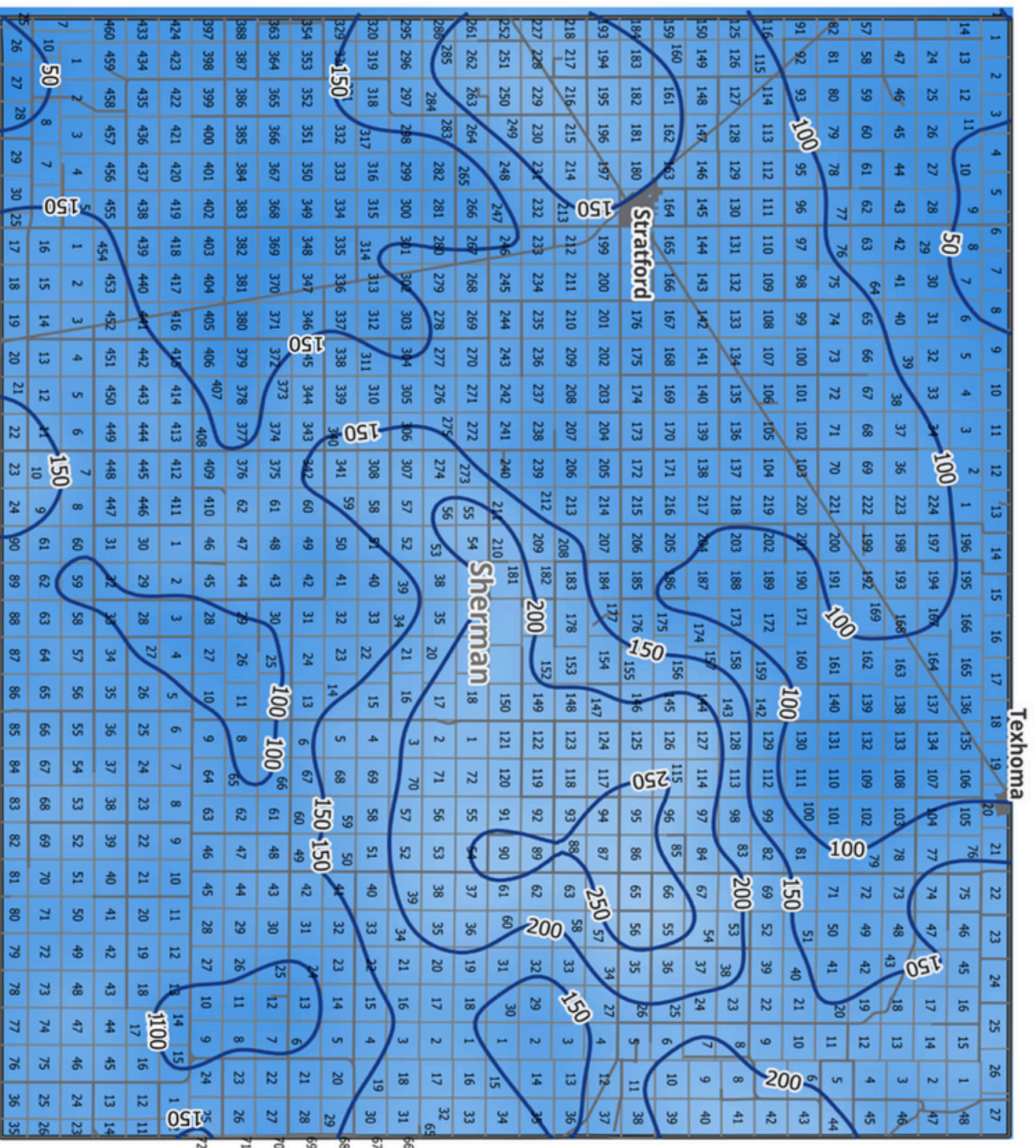


Ochiltree County Estimated Saturated Thickness End 2023



0 1 2 3 4 mi

Sherman County Estimated Saturated Thickness End 2023



CONTRIBUTORS TO HYDROLOGY AND GROUNDWATER RESOURCES 2024-2025

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