



NTGCD

NORTHERN TRINITY
GROUNDWATER
CONSERVATION DISTRICT

Annual Report 2022

ntgcd.com

1100 Circle Dr, Ste. 300
Fort Worth, TX 76119
817.249.2062

Table of Contents

Message from the General Manager.....	3
Brief History	4
Mission Statement	4
District Staff.....	5
Board of Directors	6
Well Registrations	7
Groundwater Volume Report.....	7
Waste of Groundwater	8
Online Access	9
Water Use Fees	10
Priority Groundwater Management Area	10
Regional Water Planning Participation	12
Joint Planning	13
Natural Resource Issues.....	14
Drought Conditions.....	20
Conservation Information to District Consumers, Recharge Enhancement, Rainwater Harvesting, and Brush Control Plan	25
Groundwater Monitoring Program	26
Annual Audit for Fiscal Year Ending December 31, 2022.....	62
References.....	98



Tarrant County

Message from the General Manager



In 2022 the Northern Trinity GCD continued the implementation of the District's permanent rules through the issuance of Grandfathered Use Permits and Operating Permits. District staff has worked with permittees and well owners to preserve and manage groundwater resources in Tarrant County while meeting the needs of an ever-expanding population. Notices outlining the requirements and deadlines for seeking Grandfathered Use Permits were sent to all registered non-exempt well owners.

Throughout 2022, District staff and the District Board of Directors worked to identify improvements to support the District's efforts in managing our groundwater resources. As a result, the Board of Directors adopted amendments to the District's Rules, which added TCEQ Compliance Order language, clarifications to well spacing exceptions, revisions to hydrogeologic report thresholds and guidelines, streamlined application/permit extensions, addressed variable frequency drive pumps, over-pumping of permits, and float valves on surface impoundments.

2022 brought change to the Northern Trinity GCD Board of Directors with the appointment of William Gladbach, representing Precinct 3. Like his predecessor, Johan Petterson, Mr. Gladbach is a registered Professional Engineer with an extensive background in civil engineering. He studied business, architecture, and civil engineering at the University of Texas. Mr. Gladbach's expertise and guidance have already aided the District.

The District website also saw several changes in an effort to be more user-friendly. The site now contains an FAQ page that answers the most commonly fielded questions from well owners, well drillers, and local realtors. The FAQs also address general questions frequently asked of District staff. District staff continued the development of its Database tools, the most significant of which is a database mapping tool that can be used by both the District staff and the public. The map will combine multiple sources of information into one user-friendly GIS map. The map will display registered wells, TWDB well reports, plugging reports, and historic wells. The map will be made available in early 2023.

The Northern Trinity GCD Staff and Board of Directors intend to build upon the successes of 2022 in achieving the District's management objectives during the coming year. The District's continued focus will be meeting and exceeding management plan goals as we carry out our mission of conserving, preserving, protecting, and preventing waste of the groundwater resources in Tarrant County while respecting all landowners' property rights in groundwater.

On behalf of the Northern Trinity GCD, I would like to thank everyone for their efforts in 2022, and I look forward to continued advancement in 2023.

Corey Jones
Corey Jones

General Manager

Brief History

- ✓ In 2006, the Texas Commission on Environmental Quality recommended the designation of the North-Central Texas – Trinity and Woodbine Aquifers Priority Groundwater Management Area, which includes Tarrant County and surrounding counties.
- ✓ In 2007, the Northern Trinity Groundwater Conservation District (District) was created by the 80th Texas Legislature in 2007 with the enactment of House Bill 4028.
- ✓ On February 18, 2009, TCEQ designated North-Central Texas Trinity and Woodbine Aquifers a Priority Groundwater Management Area.
- ✓ On March 11, 2010, the Board of Directors of the District adopted the Temporary Rules for Water Wells in Tarrant County, Texas.
- ✓ On May 13, 2010, the Board of Directors adopted the District Management Plan.
- ✓ On May 7, 2015 the Groundwater Management Plan for the District was adopted by the Board of Directors.
- ✓ On January 25, 2018, the Board of Directors adopted the Desired Future Conditions (DFCs) for the relevant aquifers within the District and Groundwater Management Area 8.
- ✓ On December 17, 2018, the Board of Directors of the District adopted Permanent Rules for Water Wells in Tarrant County, Texas.
- ✓ In 2020, the Board of Directors adopted a revised District Management Plan as required by Chapter 36 of the State Water Code.
- ✓ November 4, 2021, GMA-8 Adopted Desired Future Conditions

Mission Statement

The mission of the District is to manage, preserve, and protect the groundwater resources of Tarrant County, Texas. The District will work to minimize future drawdown of the water table, prevent the waste of groundwater, prevent the interference between wells, protect the existing and historic use of groundwater, prevent the degradation of the quality of groundwater, use public education to promote water conservation, give consideration to the needs of municipal water utilities and the agricultural community, and carry out the power and duties conferred under Chapter 36 of the Texas Water Code. Any action taken by the District shall only be after full consideration and respect has been afforded to the individual property rights of all citizens of the District.

Northern Trinity Groundwater Conservation District

District Staff



Corey Jones
GM

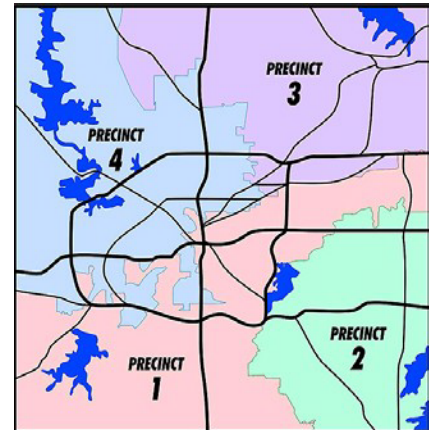


Hi Newby
Field Technician



Laura Schumacher
Administrative Assistant

The Board of Directors of the District is composed of four members, one from each of the four precincts, appointed by the County Commissioners, and one member appointed at-large by the County Judge.



The Board of Directors are as follows:

L. Russell Laughlin	President	At-Large	Appointed July 31, 2007	Term expiring December 31, 2023
Randall G. Cozart	Vice President	Precinct 1	Appointed February 23, 2010	Term expiring December 31, 2025
Thomas Haster, P.E.	Director	Precinct 2	Appointed January 30, 2018	Term expiring December 31, 2025
William Gladbach, P.E.	Director	Precinct 3	Appointed March 22, 2022	Term expiring December 31, 2023
H. Wayne Merritt	Secretary	Precinct 4	Appointed September 5, 2017	Term expiring December 31, 2023

The Groundwater Management Plan for the District sets forth a methodology for tracking the District's progress in achieving management goals. The Plan requires the District to prepare an Annual Report to the District's Board of Directors, which must contain an update on the District's performance regarding the achievement of management goals and objectives. This



report is intended to satisfy the annual reporting requirements of the District's Groundwater Management Plan.

After adoption by the Board of Directors, the Annual Report is made available to the public. Both documents, the Groundwater Management Plan and the Annual Report, can be found in the District webpage: <http://ntgcd.com/>

Well Registrations

A.1 Objective – The District will require all new water wells constructed within the District to be in accordance with the District Rules.

A.1 Performance Standard - The number of water wells registered by the District for each year will be included in the Annual Report submitted to the Board of Directors of the District.

The Temporary Rules for Water Wells in Tarrant County, Texas required registration of all existing non-exempt wells by October 1, 2010 (District Rule 2.1). Owners of existing exempt wells as of October 1, 2010, may elect to register the well with the District to provide the owner with evidence that the well existed before October 1, 2010. All new exempt and non-exempt wells drilled in the District on or after October 1, 2010, must be registered. New wells registered with the District in 2022 are summarized in Table 1.

Table 1. Well Registrations in 2022

Exempt Wells	Non-Exempt Wells	Total Number of Wells
300	13	313

Groundwater Volume Report

A.2 Objective - The District will regulate the production of groundwater by maintaining a database of groundwater usage for non-exempt wells through the collection of groundwater production reports each year pursuant to the District Rules.

A.2 Performance Standard – The District will include a summary of the volume of water produced in the County from non-exempt wells annually that will be included in the Annual Report.

District rules require owners of non-exempt wells to report groundwater production no later than January 31st and July 31st for the previous 6-month periods each calendar year, beginning January 1, 2022. The reported pumping volume for 2022 is 3,693,402,777 gallons, which is approximately 11,335 acre-feet. Public Supply use accounts for the majority of the reported non-exempt production.

Waste of Groundwater

B.1 Objective - The District will annually provide information to the public on eliminating and reducing wasteful practices in the use of groundwater by one of the following methods:

- a. Provide newspaper articles for publication;
- b. Publish a newsletter;
- c. Conduct public presentations;
- d. Set up displays at public events;
- e. Distribute brochures/literature.

B.1 Performance Standard - The District's Annual Report will include information on the method and type of information supplied to the public.

B.2 Objective – The District will encourage the elimination and reduction of groundwater waste through the collection of a water-use fee for non-exempt production wells within the District.

B.2 Performance Standard – Annual reporting of the total fees paid and the total volume used by users of non-exempt wells will be included in the Annual Report provided to the Board.

The District has continued to distribute brochures addressing waste and the conservation of groundwater. Information supplied to the public was provided by the District in 2022.

The District submitted a press release encouraging residents to save groundwater by offering two free 50-gallon rain barrels to residents of Tarrant County. This release was sent to 7 environmental media contacts in the DFW area. Green Source DFW posted the press release to their website on November 4, 2022.

District staff also presented to the Mustang Creek HOA, located in the County's southwestern corner. The presentation included information about the District, aquifer information within the HOA's bounds, and various conservation techniques for domestic wells. Staff was able to pass out various TWDB brochures for household water conservation, outdoor water conservation, and landscape water conservation.



Online Access

The website for the District is www.ntgcd.com. The website gives the public access to new and existing well registration forms, the District's rules, water production report forms, and Grandfathered and Operating Permit Applications. The website is promoted through District information. An educational video illustrating the conservation and protection of groundwater may be viewed on the District website. This video or other NTGCD website forms or content may be presented to other groups and special events.

In 2022 the District introduced an online Water Production Reporting tool that allows non-exempt users to submit groundwater pumping figures to the District electronically. This tool automates the process and calculates production totals and assumed fees based on the reported figures.

The District also added an FAQ page to the website. The FAQs are divided into four groups, General questions, Well Owner questions, Driller questions, and Realtor questions.



Water Use Fees

To encourage the elimination and reduction of groundwater waste, the District's Board of Directors set a fee for groundwater use of 15.5 cents per 1,000 gallons (\$0.155/1,000 gallons) for non-exempt wells. Non-exempt wells are defined as public supply wells and all wells or well systems with a capacity, as equipped, to produce more than 17.36 gallons per minute that are used in whole or in part for any purpose of use other than solely for domestic use, livestock use, poultry use, or agricultural irrigation use. Groundwater used in the District by the oil and gas industry for drilling or exploration and by the surface coal mining industry is reported to the District; however, the rules exempt this industry from water use fees. The total water use fees collected in 2022 were \$572,697.

Priority Groundwater Management Area

To effectively manage the state's groundwater resources in areas where critical groundwater problems exist or may exist in the future, the Texas Legislature has authorized the Texas Commission on Environmental Quality (TCEQ) to study, identify, and delineate Priority Groundwater Management Areas (PGMA)s. A PGMA is an area designated by TCEQ that is experiencing or is expected to experience critical groundwater problems, including shortages of surface water or groundwater, land subsidence resulting from groundwater withdrawal, or contamination of groundwater supplies.

Since the ultimate purpose of designating a PGMA is to ensure the management of groundwater in areas of the state with critical groundwater problems, a PGMA evaluation will consider the need for creating Groundwater Conservation Districts (GCDs) and different options for doing so. Such districts are authorized to adopt policies, plans, and rules that can address critical groundwater problems. If a study area is designated as a PGMA, TCEQ will make a specific recommendation on groundwater conservation district creation.

After contested case and public hearings, TCEQ designated Collin, Cooke, Dallas, Denton, Ellis, Fannin, Grayson, Hood, Johnson, Montague, Parker, Tarrant, and Wise counties as the Northern Trinity and Woodbine Aquifers PGMA on February 18, 2009. The PGMA's in Texas are shown in Figure 1 below.

Texas Priority Groundwater Management Areas (PGMAs)

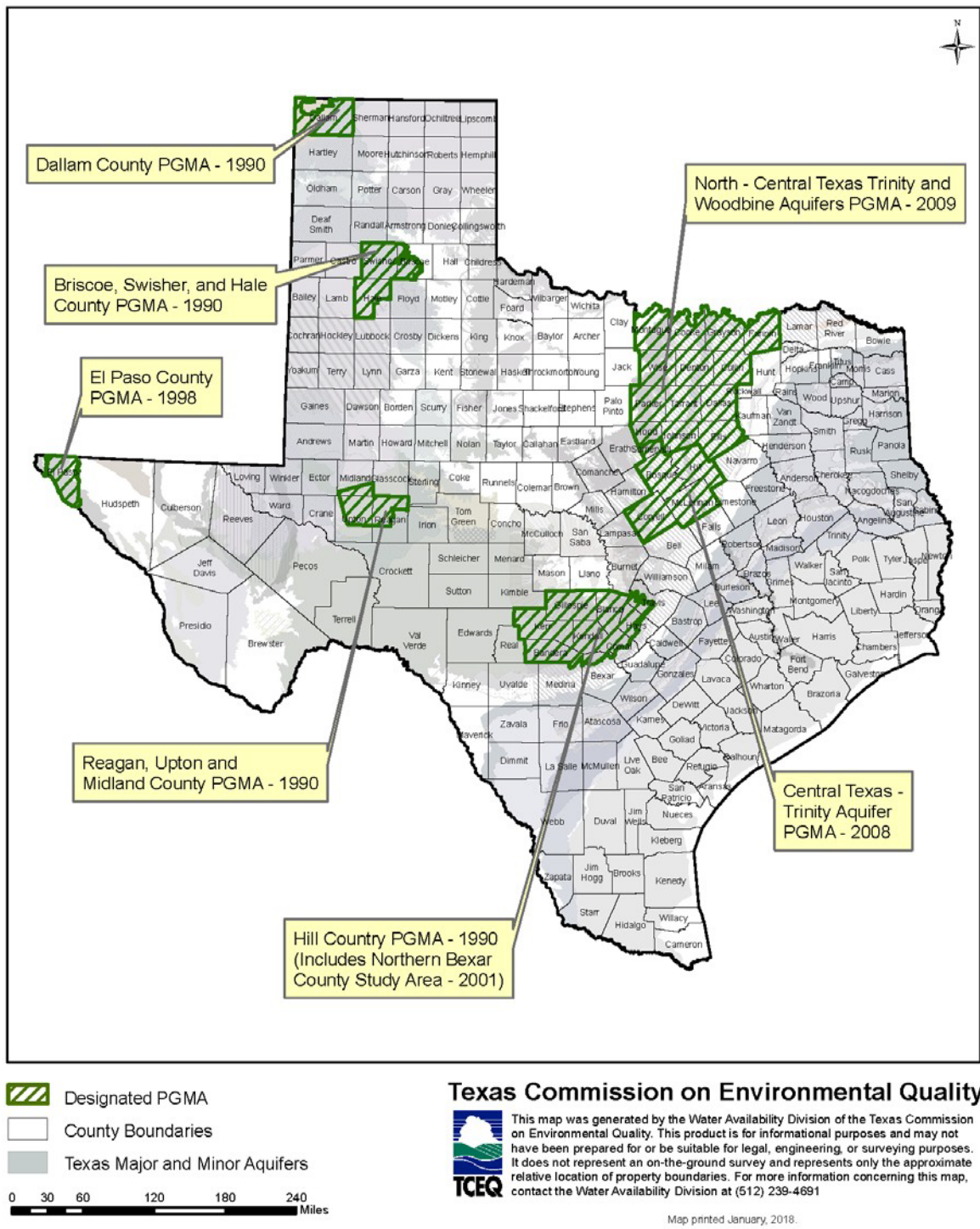


Figure 1. Priority Groundwater Management Areas in Texas

Regional Water Planning Participation

C.1 Objective – Each year, the District will participate in the regional planning process by attending at least one Region C Regional Water Planning Group meeting each year.

C.1 Performance Standard - The attendance of a District representative at the Region C Regional Water Planning Group meeting(s) will be noted in the Annual Report along with the total number of meetings conducted by the Region C Regional Water Planning Group for that year.

The District General Manager attended and reviewed meeting materials for the May 23rd and November 7th, 2022 Region C Regional Water Planning Group meetings. Figure 2 below shows the boundaries of the Region C Regional Water Planning Area.

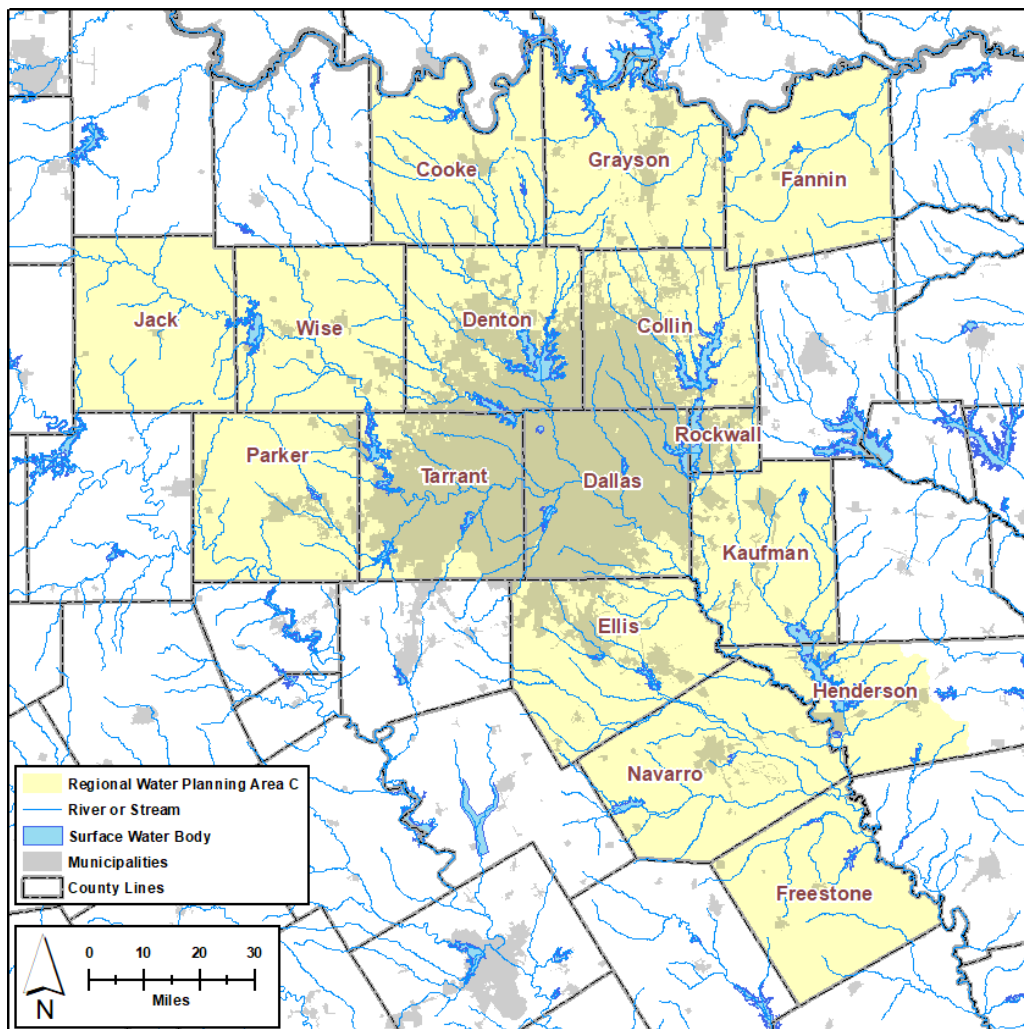


Figure 2. Region C Regional Water Planning Area

Joint Planning

The District has actively participated in the Groundwater Management Area 8 (GMA-8) Joint Planning process for many years. The District's General Manager is currently the District representative for GMA-8. The districts in GMA- 8 began the current round of joint planning in 2019. They met once in 2022 (July 26th). GMA- 8 meeting agendas and minutes can be found on the GMA 8 website: www.gma8.org

The current adopted desired future conditions for the aquifers in Northern Trinity GCD are:

Table 2. Desired future conditions in Northern Trinity GCD

Average Water Level Decrease in Tarrant County from 2010 through 2080 (feet)				
Paluxy	Glen Rose	Twin Mountains	Antlers	Woodbine
105	163	348	177	6



Natural Resource Issues

D.1 Objective - The District will collect and test groundwater quality samples from newly-drilled wells and existing wells.

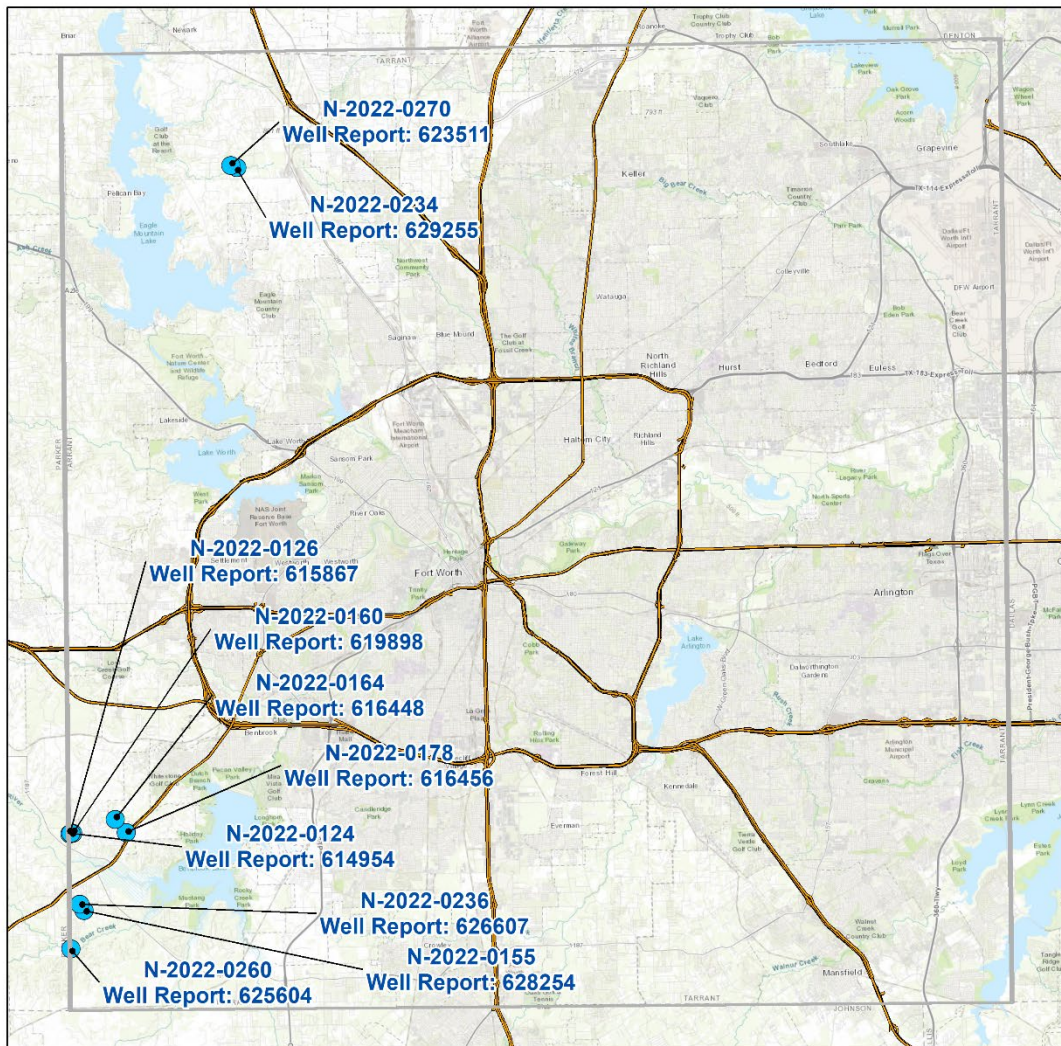
D.1 Performance Standard – Each year, District staff will sample and have analyzed the water quality in at least 5 wells. The General Manager will provide the lab analysis reports to the Board of Directors. The water quality results will also be summarized in the District Annual Report.

D.2 Objective – The District will submit at least one request annually to the Texas Railroad Commission asking for the location of existing salt water and/or disposal injection wells which have been permitted by the Texas Railroad Commission within the District within the most recent fiscal year.

D.2 Performance Standard – A copy of each request letter that was submitted to the Texas Railroad Commission asking for the location of existing salt water or disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District for each fiscal year and the Annual Report will also include the information supplied by the Railroad Commission, if any.

Water quality samples were collected from five wells on December 28th, 2022, by the District. These wells are located in the southwestern part of Tarrant County as shown in Figure 3. Laboratory analysis results for these wells are presented in Table 3. Samples with a value exceeding the EPA MCL, Primary, or Secondary Drinking Water Standard are bold in the table. Three of the wells have very hard water (> 180 mg/L), and three have soft water (< 60 mg/L). Two wells exceed the EPA secondary drinking water standards for both iron (0.3 mg/L) and manganese (0.05 mg/L). Five additional wells exceed the EPA secondary drinking water standard for iron only. Nine out of ten wells had detectable total coliform. The National Primary Drinking Water Regulation for total Coliform is 0 MPN/100 mL. One well was reported as having measurable E. Coli at the detection limit. These results were presented to the Board of Directors at the March 29, 2023 Board Meeting.





Wells Sampled for Water Quality by the District in 2022

- Wells Sampled in 2022
- Major Roads
- Tarrant County

0 5 10
Miles



Figure 3. Location of Wells Sampled for Water Quality by the District in 2022

NTGCD ID	N-2022-0270	N-2022-0234	N-2022-0164	N-2022-0178	N-2022-0160
SDR Database Tracking Number	623511	629255	616448	616456	619898
Total Hardness* (mg/L as CaCO ₃)	252	<40	68.8	<40	178
Specific Conductance at 25°C (ohms/cm)	575	686	630	638	591
Calcium* (mg/L)	75.2	6.41	15.2	5.93	43.8
Temperature (°C)	20.2	20.2	20.1	21.1	21.4
pH at 25°C	7.1	8.5	7.9	8.4	7.6
Total Dissolved Solids (mg/L)	360	421	378	386	323
Chloride (mg/L)	8.42	12.3	11.2	10.1	11.6
Fluoride (mg/L)	0.13	0.53	0.12	0.13	0.2
Nitrate as N (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate (mg/L)	40.6	51.1	43.5	39.3	44.1
Manganese (mg/L)	0.070	0.018	0.016	0.006	0.0335
Iron (mg/L)	0.554	0.756	0.224	0.471	0.413
Total Coliform (MPN/100mL)	1050	>2420	<1	127	2
E. Coli (MPN/100mL)	<1	<1	<1	<1	<1

* Lab comments for all Hardness and Calcium samples indicate the samples were analyzed without chemical preservation.

Table 3a. Water quality samples collected by Northern Trinity GCD on Dec 28, 2022

*The following standards, NPWDWR and NSDWR, only apply to Public Water Systems, not private water wells.
EPA contaminate levels for reference only.*

National Primary Drinking Water Regulations- Maximum Contaminant Level (MCL):
Fluoride= 4.0 mg/L Nitrate= 10 mg/L Total Coliforms= zero E. Coli= zero*

*National Secondary Drinking Water Standards- representing non-enforceable guidelines:
PH= 6.5-8.5 TDS= 500 mg/L Chloride= 250 mg/L Fluoride= 2.0 mg/L
Sulfate= 250 mg/L Manganese= 0.05 mg/L Iron= 0.3 mg/L*

NTGCD ID	N-2022-0124	N-2022-0126	N-2022-0236	N-2022-0260	N-2022-0155
SDR Database Tracking Number	614954	615867	626607	625604	628254
Total Hardness* (mg/L as CaCO ₃)	65	112	53.9	222	197
Specific Conductance at 25°C (ohms/cm)	637	626	614	579	752
Calcium* (mg/L)	14.7	25.6	13.5	59.6	45.2
Temperature (°C)	21.3	21.5	21.8	22.4	22.3
pH at 25°C	8.1	8.1	8.2	7.8	7.7
Total Dissolved Solids (mg/L)	318	334	340	311	443
Chloride (mg/L)	10.6	11.3	12.4	14.4	11.8
Fluoride (mg/L)	0.21	0.29	0.23	0.27	0.23
Nitrate as N (mg/L)	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate (mg/L)	48.3	46.5	50.1	39.3	144
Iron (mg/L)	0.482	<0.075	0.078	0.789	0.443
Manganese (mg/L)	0.0129	0.0179	0.0179	0.038	0.135
Total Coliform (MPN/100mL)	1	2	156	15	411
E. Coli (MPN/100mL)	<1	<1	1	<1	<1

* Lab comments for all Hardness and Calcium samples indicate the samples were analyzed without chemical preservation.

Table 3b. Water quality samples collected by Northern Trinity GCD on Dec 28, 2022

*The following standards, NPWDWR and NSDWR, only apply to Public Water Systems, not private water wells.
EPA contaminate levels for reference only.*

National Primary Drinking Water Regulations- Maximum Contaminant Level (MCL):
Fluoride= 4.0 mg/L Nitrate= 10 mg/L Total Coliforms= zero E. Coli= zero*

*National Secondary Drinking Water Standards- representing non-enforceable guidelines:
PH= 6.5-8.5 TDS= 500 mg/L Chloride= 250 mg/L Fluoride= 2.0 mg/L
Sulfate= 250 mg/L Manganese= 0.05 mg/L Iron= 0.3 mg/L*

A copy of the letter to the Railroad Commission regarding injection/disposal wells is shown in Figure 4. The database of injection wells maintained by the Texas Railroad Commission was queried for salt water injection wells and waste disposal injection wells. That query yielded fourteen salt water disposal/injection wells and their statuses. A map showing the locations of the salt water disposal wells is shown in Figure 5.



1100 Circle Drive, Suite 300 Fort Worth, TX 76119
817.249.2062 Voice Fax 817.249.2918

April 4, 2022

Railroad Commission of Texas
P. O. Box 12967
Austin, Texas 78711-2967

RE: Location of all permitted disposal and injection wells in Tarrant County permitted by the Railroad Commission of Texas.

The Northern Trinity Groundwater Conservation District adopted its Management Plan on May 20, 2020. The following language is included in the District's management plan:

X. Management Goals and Performance Standards

D. Addressing Natural Resource Issues that Impact the Use and Availability of Groundwater and Which are Impacted by the Use of Groundwater—31 TAC § 356.52(a)(1)(E) and TWC § 36.1071(a)(6)

2. Objective – The District will submit at least one request annually to the Texas Railroad Commission asking for the location of existing saltwater and/or waste disposal injection wells that have been permitted by the Texas Railroad Commission within the District within the most recent fiscal year.

Performance Standard – A copy of each request letter that was submitted to the Texas Railroad Commission asking for the location of existing saltwater or waste disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District for each fiscal year and the Annual Report will also include the information supplied by the Texas Railroad Commission, if any.

To accomplish the objective and performance standard established within its management plan, the District requests that the Commission provide the District with the location of all new saltwater or waste disposal wells permitted to operate within Tarrant County, Texas.

Regards,

A handwritten signature in blue ink, appearing to be "Corey Jones", written over a blue circular stamp or seal.

Corey Jones
General Manager, Northern Trinity GCD

Figure 4. Letter to Railroad Commission.

Drought Conditions

E.1 Objective – Quarterly, the District reviews drought conditions by going to TWDB Drought Page (<http://www.waterdatafortexas.org/drought/>) which compiles many sources of valuable information on drought conditions in Texas.

E.1 Performance Standard – The District will assess the status of drought conditions in the District and will prepare a briefing to the Board of Directors at regular Board Meetings. Any information compiled and presented at Board Meetings will be in the District Annual Report.

Drought conditions were assessed using the Palmer Drought Severity Index and the Texas Drought Monitor, both of which can be accessed through the Texas Water Development Board (TWDB) Drought page. The Palmer Drought Severity Index map for the end of each quarter in 2022 can be obtained directly from the National Oceanic and Atmospheric Administration, National Weather Service, Climate Prediction Center website:

<https://www.ncdc.noaa.gov/temp-and-precip/drought/historical-palmers/>

Those maps, which cover the contiguous United States, are shown in Figures 6 through 9.

In addition, drought monitoring data specifically for Texas were obtained from the National Drought Mitigation Center website:

<https://droughtmonitor.unl.edu/Maps/MapArchive.aspx>

Those maps are shown in Figures 10 through 13. The Palmer Drought Severity Index indicates that the surrounding region varied between extreme or severe drought in the first half of the year then transitioned to a moderate or abnormal drought towards the end of 2022 (see Figures 6 through 9). The Texas-specific data indicate that Tarrant County oscillated between being in an extreme drought to experiencing abnormally dry conditions throughout the year (Figures 10 through 13).



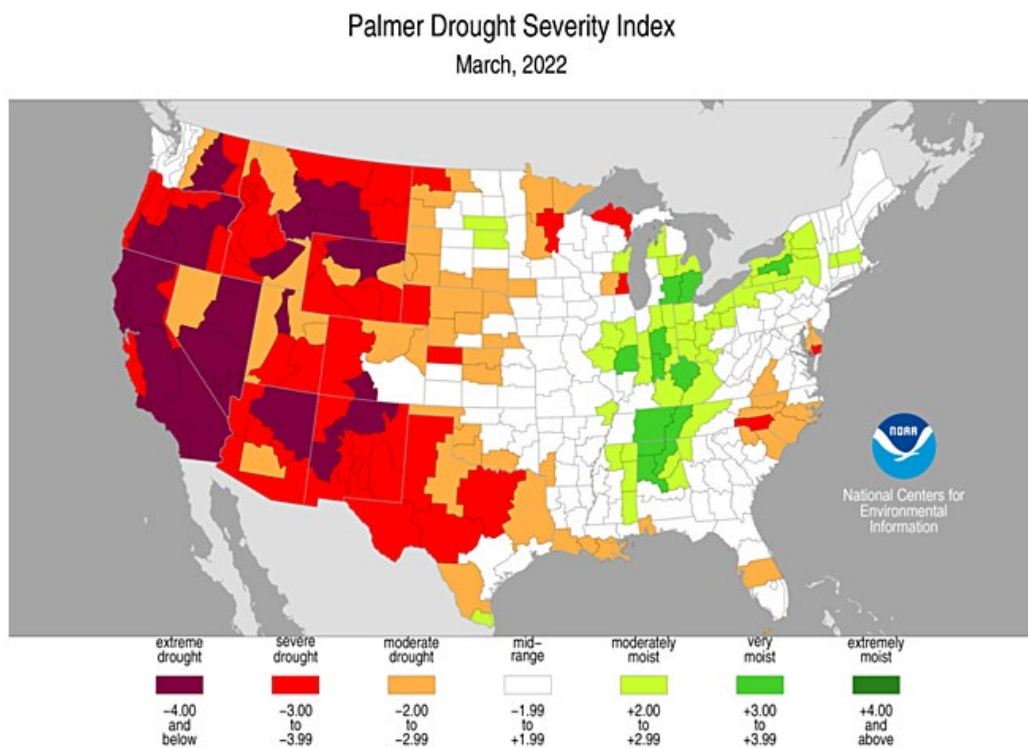


Figure 6. Palmer Drought Severity Index map for March 2022.

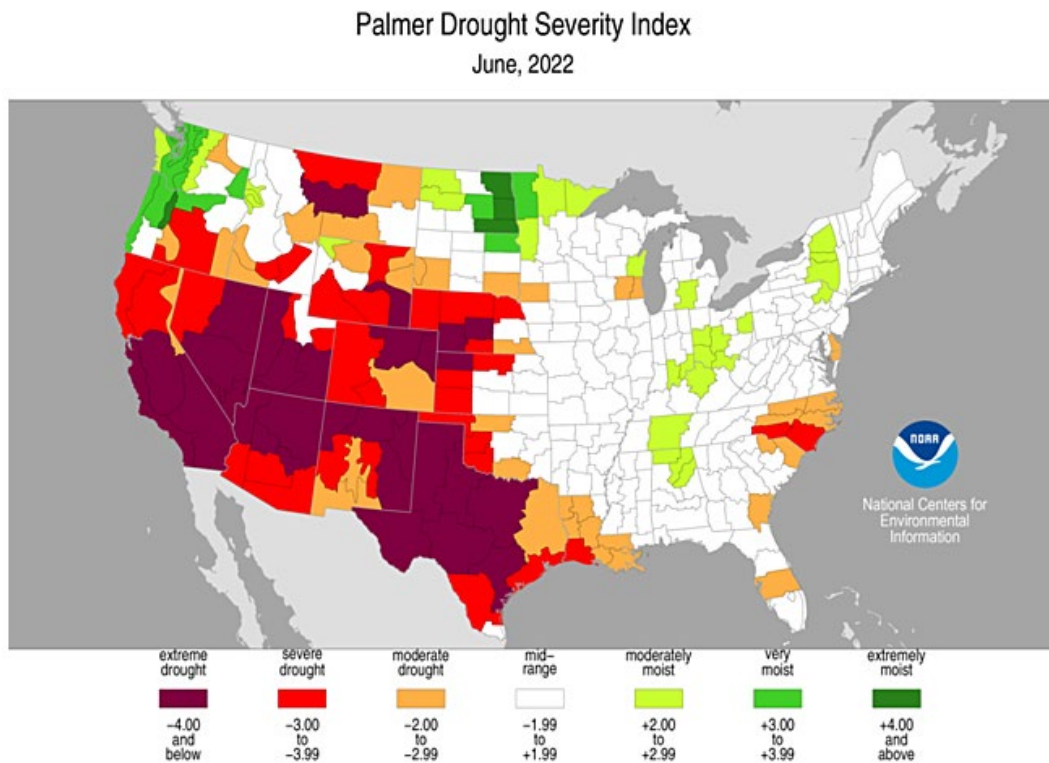


Figure 7. Palmer Drought Severity Index map for June 2022.

Palmer Drought Severity Index
September, 2022

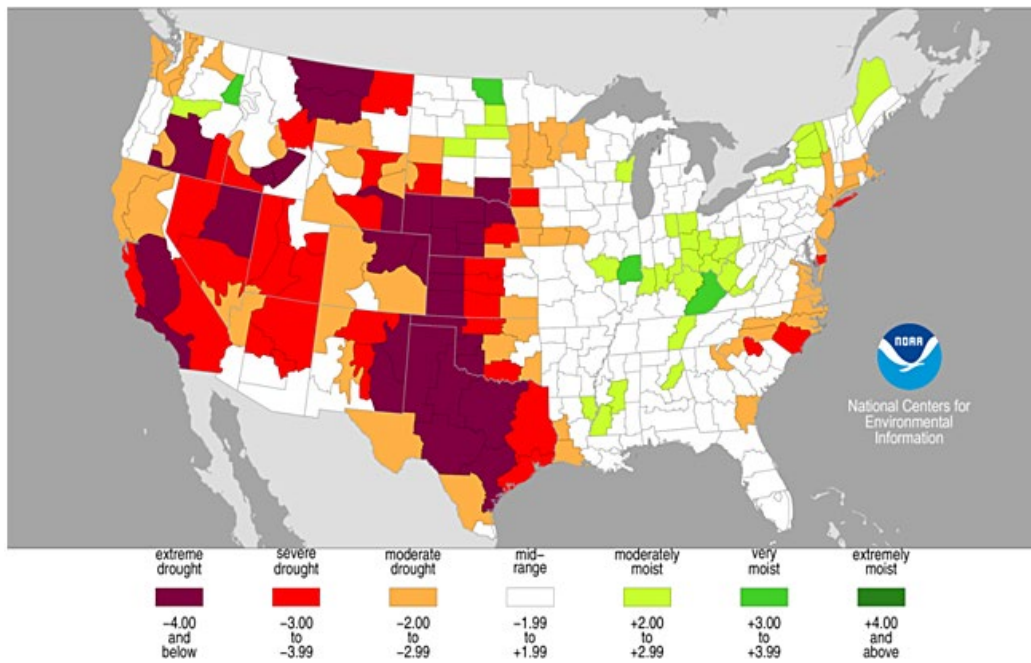


Figure 8. Palmer Drought Severity Index map for September 2022.

Palmer Drought Severity Index
December, 2022

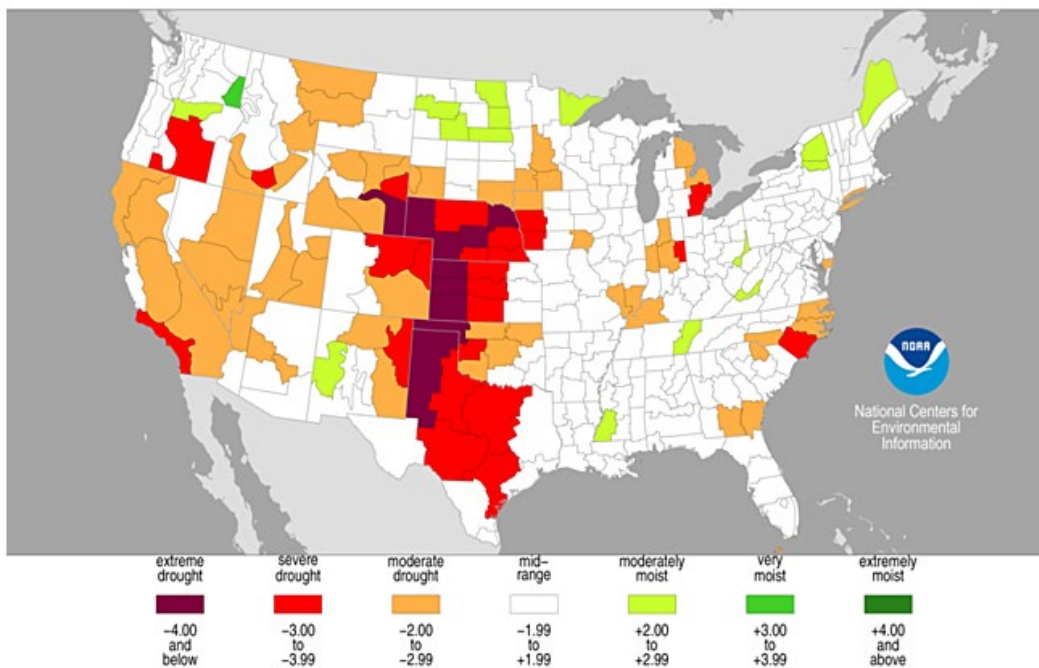
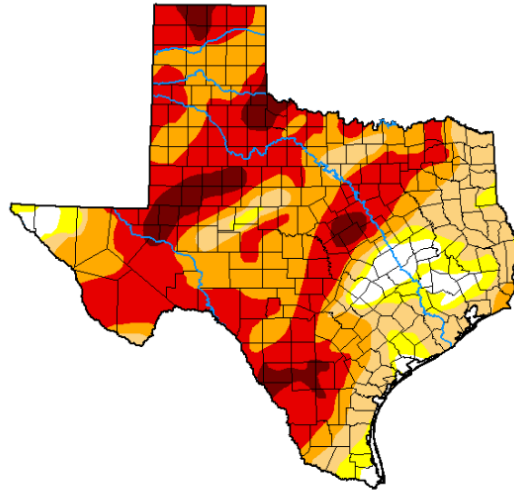


Figure 9. Palmer Drought Severity Index map for December 2022.

U.S. Drought Monitor Texas



March 29, 2022
(Released Thursday, Mar. 31, 2022)
Valid 8 a.m. EDT

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.90	95.10	88.22	70.79	42.10	7.03
Last Week 03-22-2022	4.28	95.72	88.24	71.31	40.38	6.20
3 Months Ago 12-28-2021	13.02	86.98	67.27	36.58	10.65	0.00
Start of Calendar Year 01-04-2022	7.58	92.42	79.83	54.25	16.69	0.00
Start of Water Year 09-28-2021	45.57	54.43	7.26	0.27	0.00	0.00
One Year Ago 03-30-2021	10.72	89.28	69.20	34.25	20.38	6.85

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

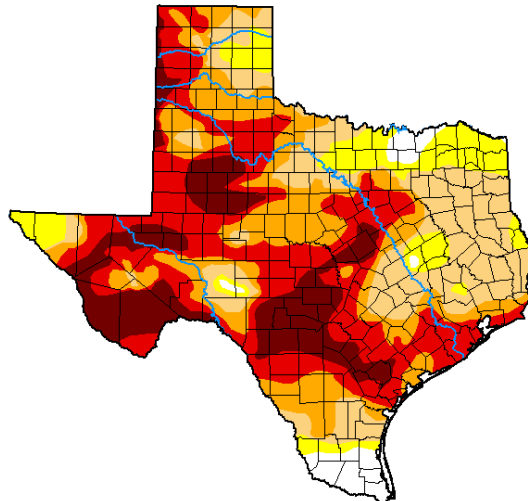
Deborah Bathke
National Drought Mitigation Center



droughtmonitor.unl.edu

Figure 10. Drought conditions in Texas on March 29, 2022.

U.S. Drought Monitor Texas



June 28, 2022
(Released Thursday, Jun. 30, 2022)
Valid 8 a.m. EDT

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.71	96.29	86.39	64.99	43.79	15.82
Last Week 06-21-2022	7.01	92.99	81.18	64.62	43.83	17.11
3 Months Ago 03-29-2022	4.90	95.10	88.22	70.79	42.10	7.03
Start of Calendar Year 01-04-2022	7.58	92.42	79.83	54.25	16.69	0.00
Start of Water Year 09-28-2021	45.57	54.43	7.26	0.27	0.00	0.00
One Year Ago 06-29-2021	81.56	18.44	9.00	5.67	1.17	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

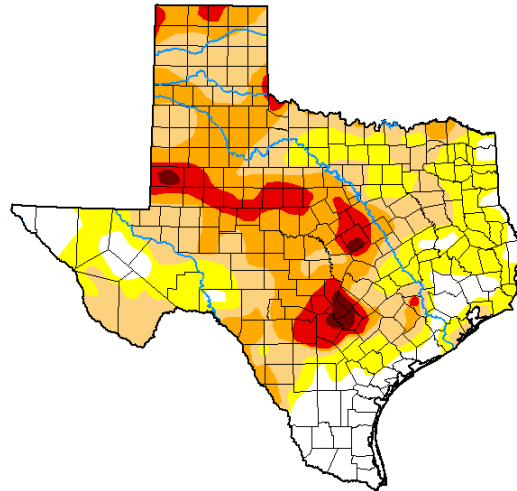
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

Figure 11. Drought conditions in Texas on June 28, 2022.

U.S. Drought Monitor Texas



September 27, 2022
(Released Thursday, Sep. 29, 2022)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.96	85.04	61.36	31.61	8.82	1.06
Last Week 09-20-2022	21.16	78.84	60.11	31.76	8.34	0.62
3 Months Ago 06-28-2022	3.71	96.29	86.39	64.99	43.79	15.82
Start of Calendar Year 01-04-2022	7.58	92.42	79.83	54.25	16.69	0.00
Start of Water Year 09-28-2021	45.57	54.43	7.26	0.27	0.00	0.00
One Year Ago 09-28-2021	45.57	54.43	7.26	0.27	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

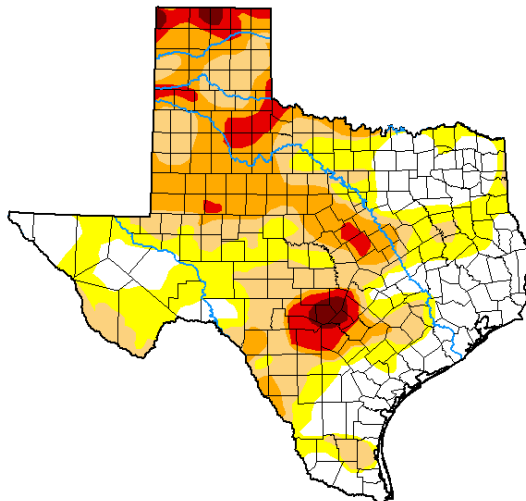
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NCEI/NOAA



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Figure 12. Drought conditions in Texas on September 27, 2022.

U.S. Drought Monitor Texas



December 27, 2022
(Released Thursday, Dec. 29, 2022)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	27.57	72.43	48.59	25.88	7.13	1.24
Last Week 12-20-2022	27.57	72.43	48.59	25.88	7.13	1.24
3 Months Ago 09-27-2022	14.96	85.04	61.36	31.61	8.82	1.06
Start of Calendar Year 01-04-2022	7.58	92.42	79.83	54.25	16.69	0.00
Start of Water Year 09-27-2022	14.96	85.04	61.36	31.61	8.82	1.06
One Year Ago 12-28-2021	13.02	86.98	67.27	36.58	10.65	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Richard Heim
NCEI/NOAA



droughtmonitor.unl.edu

Figure 13. Drought conditions in Texas on December 27, 2022.

Conservation Information to District Consumers, Recharge Enhancement, Rainwater Harvesting, and Brush Control Plan

F.1 Objective - The District will submit at least one article regarding water conservation annually to at least one newspaper of general circulation in Tarrant County.

F.1 Performance Standard – A copy of the article regarding water conservation submitted for publication regarding water conservation will be included in the Annual Report submitted to the Board.

F.2 Objective - The District will provide information on the District website relating to recharge enhancement at least once each year.

F.2 Performance Standard - The Annual Report will include a copy of the information provided by the District related to recharge enhancement.

F.3 Objective - The District will provide information on rainwater harvesting on the District website at least once each year.

F.3 Performance Standard - The Annual Report will provide a copy of the information on rainwater harvesting that was posted by the District in the previous year.

F.4 The District will evaluate the State Brush Control Plan on an annual basis to determine the necessity of projects within the District and whether projects within the District would increase the groundwater resources of the District.

F.4 Performance Standard - The Annual Report will include a copy of the most recent brush control information pertaining to the District and the District's conclusions regarding the necessity of projects and whether certain projects would increase the District's groundwater resources.

The District has provided conservation information to District consumers by direct mailings and email notices to local drillers and non-exempt well owners. TWDB conservation brochures will continue to be offered to the general public. Education materials are available to Tarrant County schools for Middle School curriculum by the District. An educational video promoting groundwater conservation is posted on the front page of the District's website (ntgcd.com). The website also contains additional educational materials such as Major Rivers, basics of Rainwater Harvesting, and Recharge Enhancement.

The District has completely re-designed its database for storing and evaluating hydrogeologic and water well information. Basic well details and permit information are now available at ntgcd.halff.com. Additional GIS mapping will be accessible to the public via the website at ntgcd.halff.com in early 2023.

The District website also contains many useful links to external sites such as the TWDB, WaterIQ.org, and information on water testing in Tarrant County. The website will be updated soon to include additional educational materials on the District's Education webpage.

Groundwater Monitoring Program

G.1 Objective – Within 3 years of the adoption of this plan the District will develop a Groundwater Monitoring Program within the District.

G.1 Performance Standard – The District's Annual Report will include a discussion of the District's progress on developing and implementing a Groundwater Monitoring Program.

G.2 Objective – Once the Groundwater Monitoring Program is established, annually, the District will measure the water levels in at least five monitoring wells within the District. At least four of the monitoring wells will be located within the Trinity aquifer and one will be monitoring the Woodbine aquifer.

G.2 Performance Standard – The District's Annual Report will include the water level measurement data from the monitoring wells and an assessment of water level trends and the adequacy of the monitoring network to monitor aquifer conditions within the District and comply with the aquifer Desired Future Conditions.

G.3 Objective – The District will estimate non-exempt pumping within the District for use in evaluating compliance with Desired Future Conditions.

G.3 Performance Standard – The District's Annual Report will include an estimate of groundwater use in the District by non-exempt wells.

The District has invested significantly in the advancement of the state of knowledge of aquifer science in Tarrant County. The District funded the development of an updated northern Trinity and Woodbine aquifers GAM for the purposes of planning and groundwater management in GMA 8. The GAM development effort is unique in Texas in that the entire effort was organized and funded by four GCDs in GMA 8. Because of the District's desire to make improvements and updates to the 2004 GAM, and to enhance understanding of the northern Trinity and Woodbine aquifers, the District joined three other GCDs within GMA 8 and entered into an inter-local agreement in 2012 to support and fund a new and updated GAM for the northern Trinity and Woodbine aquifers in GMA 8. The partner districts were the North Texas, Prairielands, and Upper Trinity GCDs.

The updated GAM for the northern Trinity and Woodbine aquifers (Kelley and others, 2014) offers improvements to the 2004 GAM, including the incorporation of newly collected data and results from recent studies in the region and implementation of the model at a scale that provides a bridge between the scale needed by individual GCDs and that needed by regional joint planning. The research that went into developing the new GAM provides a significant advancement in the hydrogeological framework and understanding of these aquifers. The updated GAM and the information collected and interpreted to support the study provide the District with the best available science to inform final rule-making, groundwater management within District boundaries, and joint planning.

Groundwater Resources in Tarrant County

Groundwater resources in Tarrant County include the Cretaceous-age northern Trinity and Woodbine aquifers (Figure 14). Sediments in the Washita and Fredericksburg groups and the Paleozoic-age sediments are general confining units but do produce water locally. A generalized stratigraphic section representative of the hydrogeology of the District is provided in Table 4. The northern Trinity and Woodbine aquifers are recognized by the TWDB as major and minor aquifers in Texas, respectively. The TWDB defines a major aquifer as one that supplies large quantities of water over large areas of the state and a minor aquifer as one that supplies relatively small quantities of water over large areas of the state or supplies large quantities of water over small areas of the state (George and others, 2011).

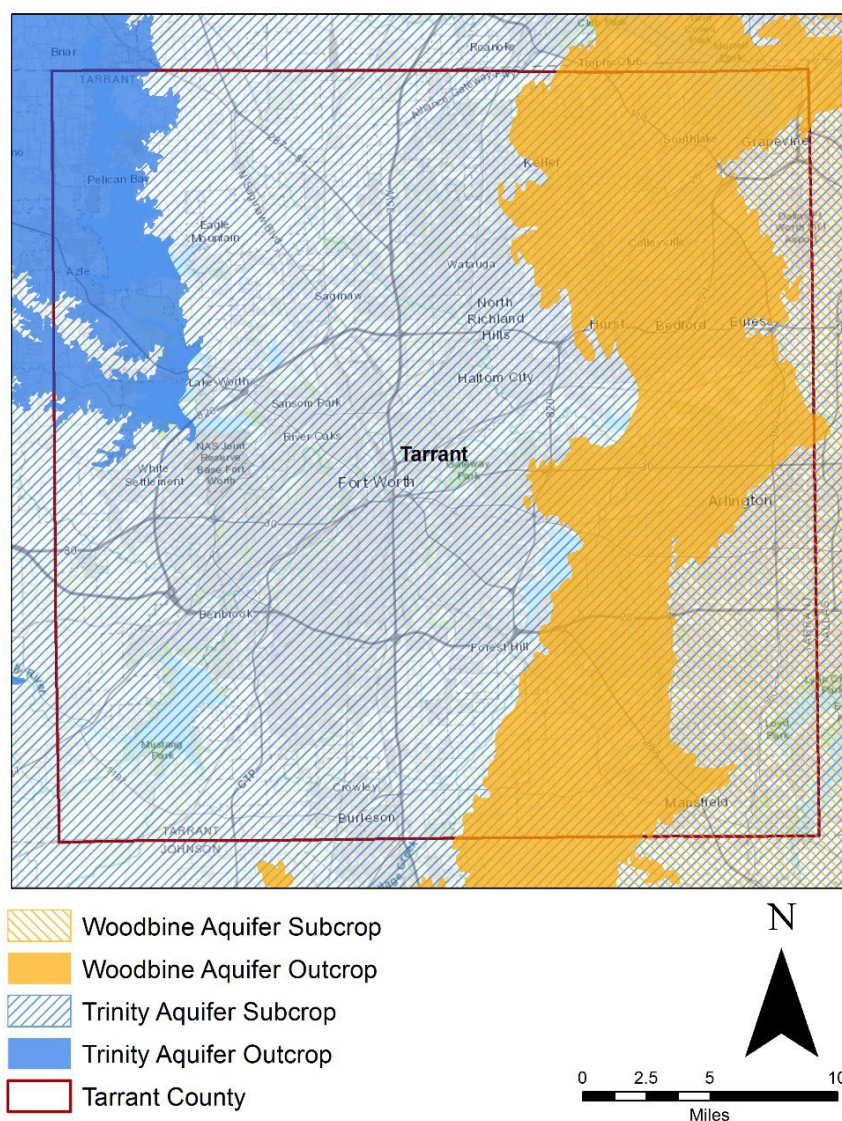


Figure 14. Outcrop and subcrop of the northern Trinity and Woodbine aquifers in the District.

Table 4. General stratigraphy and hydrogeology of the District (after Kelley and others, 2014).

System	Hydrogeologic Characteristic	Group	Formation	
Quaternary	Water-Bearing		alluvial deposits	
Cretaceous	Confining Unit	Eagle Ford	undifferentiated	
	Woodbine Aquifer	Woodbine	Lewisville	
			Dexter	
	Confining Unit (locally productive)	Washita	Grayson	
			Mainstreet	
			PawPaw	
			Weno	
			Denton	
			Fort Worth	
			Duck Creek	
	Confining Unit (locally productive)	Fredericksburg	Kiamichi	
			Edwards	
			Comanche Peak	
			Walnut	
	Trinity Aquifer	Trinity	Paluxy	
			Glen Rose	
Twin Mountains			Hensell	
			Pearsall	
	Hosston			
Paleozoic	Confining Unit (locally productive)	undifferentiated		

Major Aquifer –Trinity Aquifer

The northern Trinity aquifer is composed of several individual aquifers contained within the Trinity Group. In the District, the northern Trinity aquifer consists of the aquifers of the Paluxy and Twin Mountains formations separated by the predominantly confining Glen Rose Formation (Figure 15). South of the District, the upper and lower sands of the Twin Mountains Formation are locally referred to as the Hensell and Hosston aquifers; and the middle portion of the aquifer, which contains more shale relative to the upper and lower sands, is locally referred to as the Pearsall Formation. The Fredericksburg and Washita groups are considered confining units, although they can be locally productive, and overlie the downdip portion of the northern Trinity aquifer in the central portion of the District (see Figures 15 and 16). The northern Trinity aquifer is underlain by Paleozoic-age sediments, which can be locally productive.

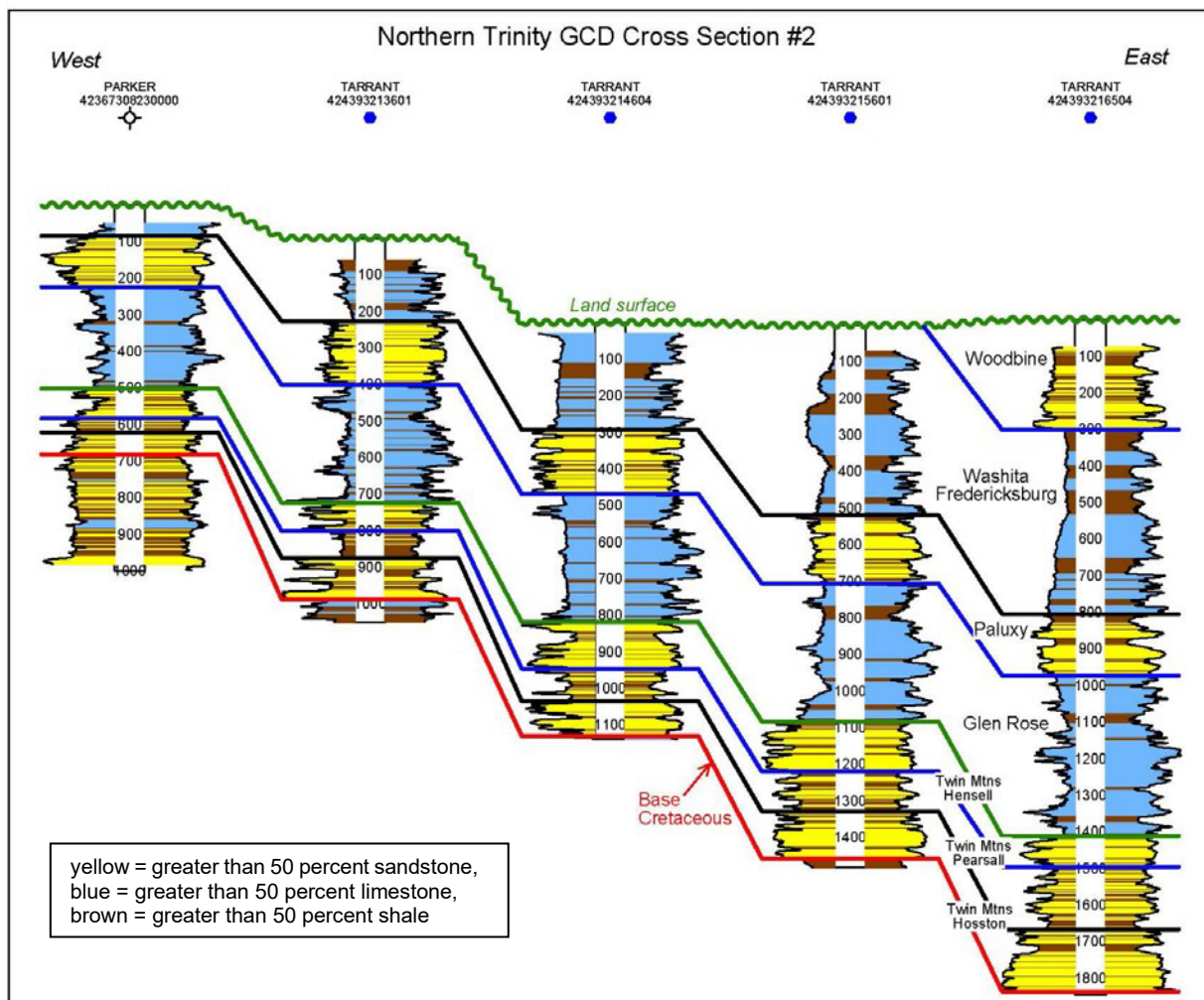
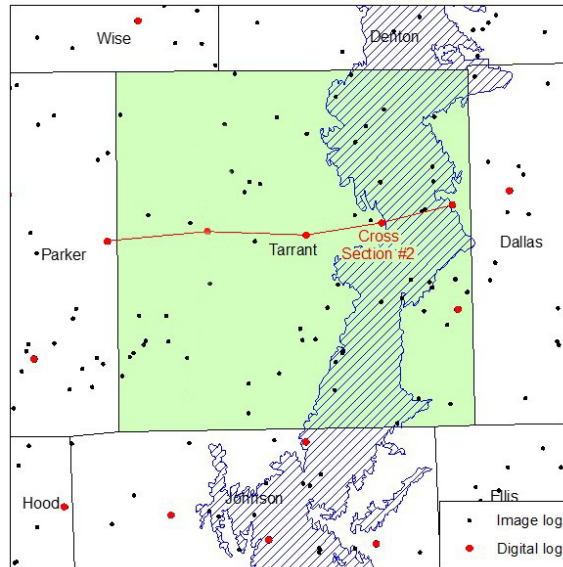


Figure 15. Digital cross section showing the stratigraphy in the District from ground surface to the base of the northern Trinity Aquifer.

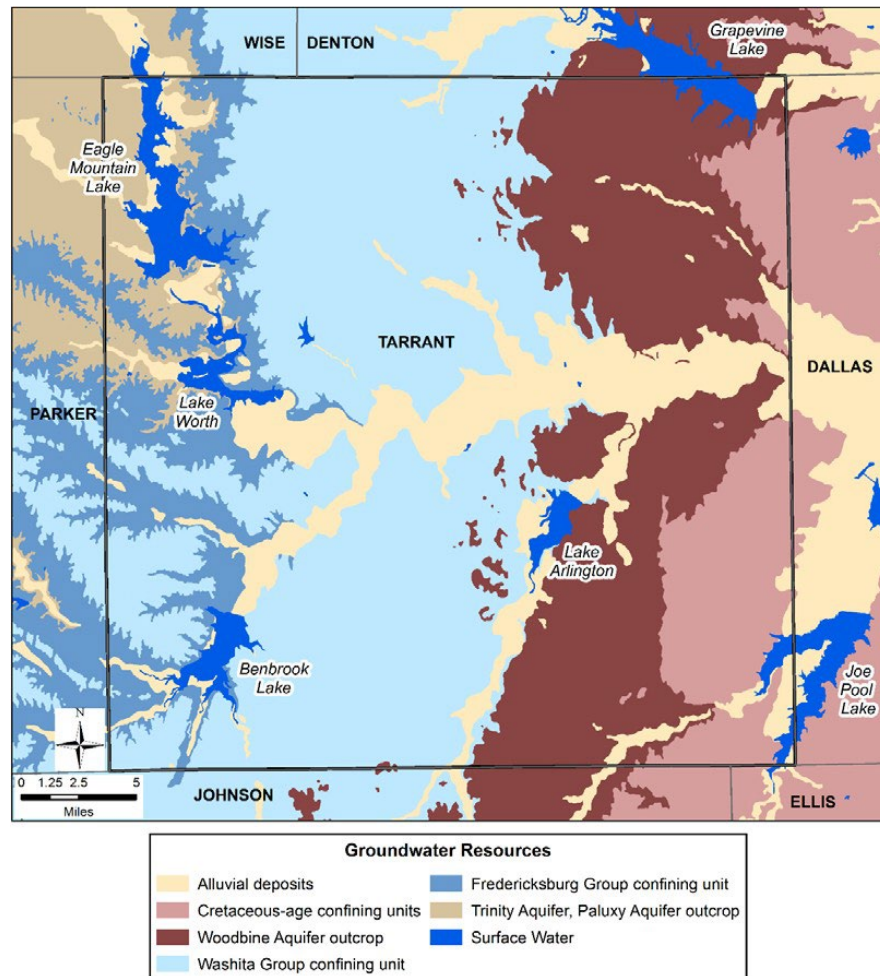


Figure 16. Surface expression of groundwater resources in the District.

The Paluxy aquifer consists of sand, silt, and clay, with fine-grained sand dominating. The Twin Mountains aquifer consists predominately of medium- to coarse-grained sand, silty clay, and conglomerates. The following description of the aquifers is taken from Kelley and others (2014). The sandstones in both aquifers are well developed in the District, comprising greater than 60 percent of the aquifers everywhere except in the northwest corner of the District. Sandstones in the Paluxy aquifer are located at surface to depths of 1,000 feet and in the Twin Mountains aquifer at depths of 500 to 2,000 feet. The depth to sandstone increases from west to east across the District following the structure dip of the Trinity Group. Major, east-oriented, fluvial channel axes in the Paluxy and Twin Mountains aquifers are expressed as thick-bedded sandstones (see Figure 15). The sandstones of the Paluxy aquifer and the lowermost sands of the Twin Mountains Formation (Hosston aquifer equivalent) form the most hydraulically conductive and transmissive units in the District.

The limestones of the Glen Rose Formation in the northern Trinity aquifer are confining layers in the District, where present. However, the formation does yield small quantities of water in localized areas. Where the Glen Rose limestone is not present, the entire Trinity Group is known locally as the Antlers aquifer.

Groundwater samples from wells in the District indicate that the water quality in the northern Trinity aquifer is fresh with total dissolved solids concentrations typically less than 1,000 milligrams per liter. The composition of the groundwater throughout the vertical extent of the aquifer is predominately sodium-bicarbonate in the District. Groundwater quality in the Woodbine aquifer in the District is highly variable, with measured total dissolved solids concentrations exceeding 1,500 milligrams per liter.

Groundwater use in the District is dominated by the municipal Water User Group (WUG). Figure 17 shows the most current Water Use Survey data for the northern Trinity aquifer from 1980 to 2019. Figure 18 shows the most current Water Use Survey data for the Woodbine aquifer from 1980 to 2020. The Woodbine aquifer increased as a municipal supply in 2011, but the majority of the production from 2017 through 2020 has been for irrigation supply. Data for 2021 and 2022 has not yet been posted to TWDB.

The TWDB Water Use Survey data does not include an estimate of rural domestic pumping. Estimates for rural domestic are based upon the Updated northern Trinity and Woodbine aquifers GAM (Kelley and others, 2014). The estimated rural domestic pumping was 198 acre-feet per year for the northern Trinity aquifer and 818 acre-feet per year in the Woodbine aquifer in 2013. Figure 19 shows the TWDB Water Use Survey data for uses reported as "Other Aquifer" or "Unknown. " Since this information is submitted by water users, these categories may include use out of the Trinity or Woodbine aquifers.

As discussed earlier, the reported production from non-exempt wells in the District in 2022 is approximately 11,335 acre-feet.

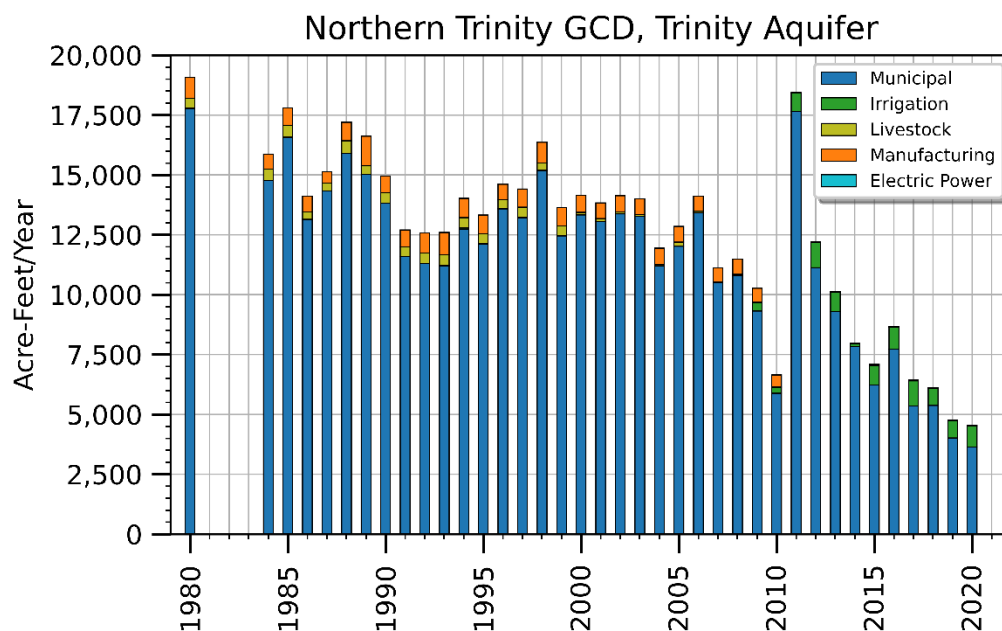


Figure 17. Texas Water Development Board Water Use Survey Data for the northern Trinity Aquifer in Tarrant County

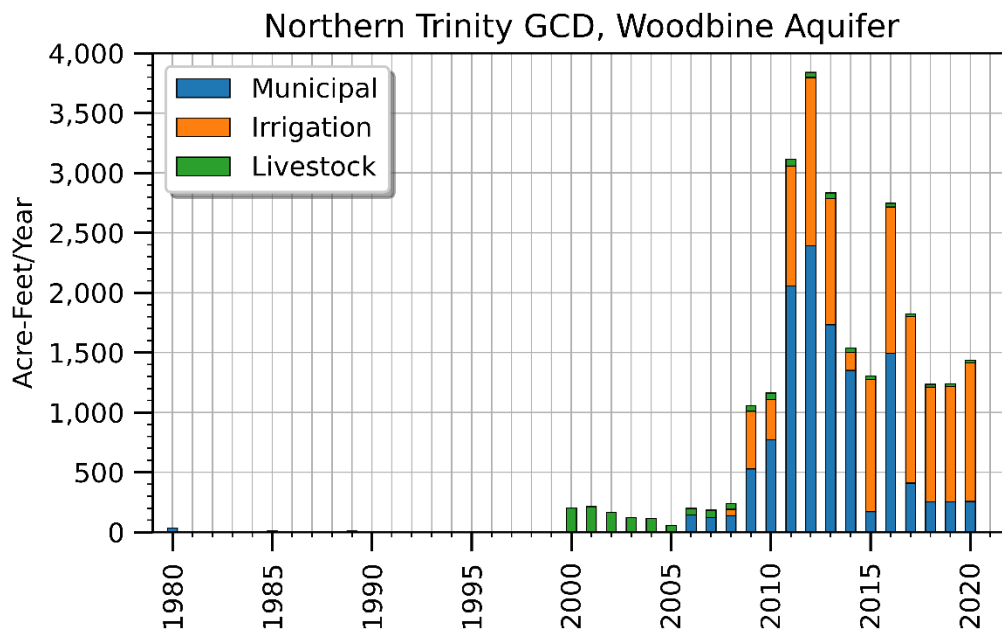


Figure 18. Texas Water Development Board Water Use Survey Data for the Woodbine Aquifer in Tarrant County

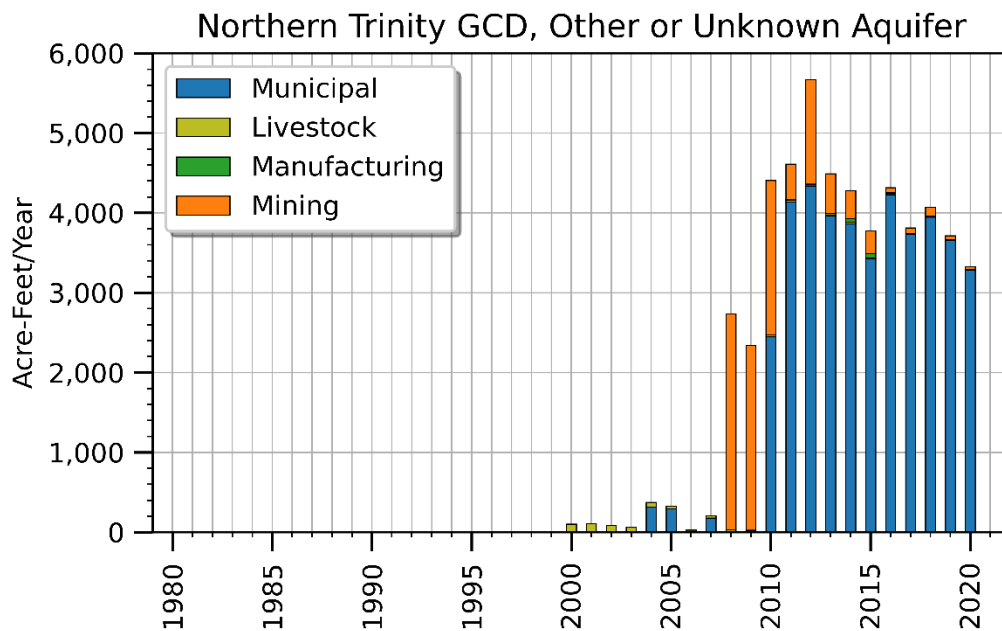


Figure 19. Texas Water Development Board Water Use Survey Data for Other Aquifers in Tarrant County

Groundwater Monitoring

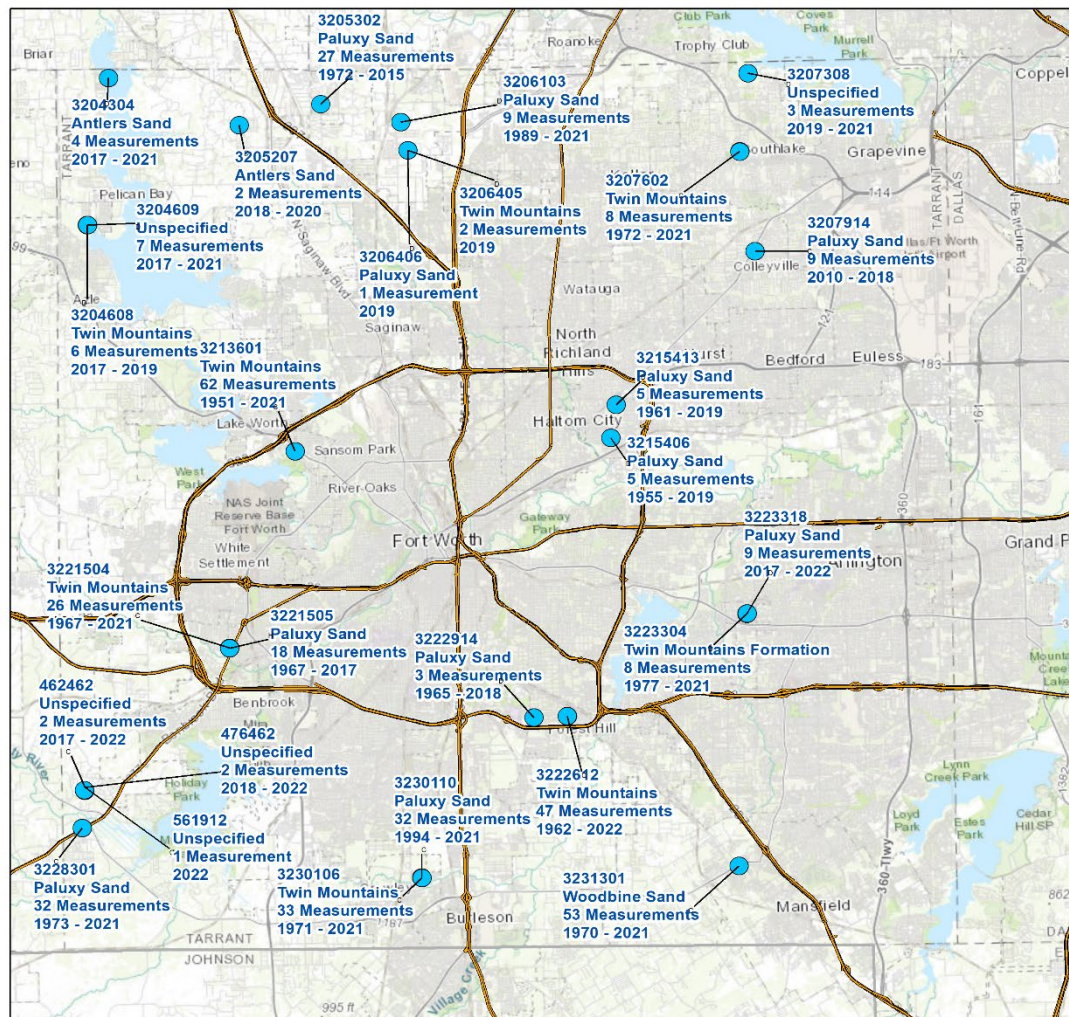
The TWDB, municipalities, and other entities monitored water levels in the District for many decades. The measurement of water levels is fundamental to the characterization of aquifer conditions. Water levels expressed as an elevation (termed hydraulic head) directly measure the potential energy in an aquifer at the well and screen location. Groundwater flows from high water-level elevation to low water-level elevation. As water levels decline, available drawdown also declines, which reduces well productivity and increases production energy costs.

Kelley and others (2014) provide a comprehensive review of water-level data for both the northern Trinity and Woodbine aquifers both regionally and specifically in the District. Most water-level measurements available in the District have been measured post-1940, a time which coincides with a steep increase in pumping in the northern Trinity aquifer in the District. The water-level decline in response to development in the northern Trinity aquifer is well documented in the District by many authors and most recently by Kelley and others (2014). Historical declines in water levels in the Woodbine aquifer are estimated to be locally as high as 200 feet in the confined portions of the aquifer in the eastern portion of the District and significantly less in outcrop areas. Historical declines in the Paluxy aquifer are estimated to be less than 100 feet in the outcrop in the northwestern portion of the District to approximately 600 feet in the far eastern portions of the District where the aquifer is confined. Estimated historical declines in the Hosston aquifer range between 500 and 600 feet in the western portion of the District to approximately 1,100 feet in the far eastern portions of the District.

Kelley and others (2014) calculated average decline or rebound rates of water levels based on historical water level monitoring data in the District. For the Paluxy aquifer, the average decline was 5.5 feet per year. For the Glen Rose Formation, the average rate of decline was approximately 14 feet per year. For the Hosston aquifer, the average rate of decline was approximately 16 feet per year. Generally speaking, declines in water levels in all aquifers are less in the outcrop portions of the aquifer and, as a result, tend to be greatest at depth (to the east) within any given aquifer.

Figure 20 shows a location map of wells historically monitored within the District and Figures 21 through 74 show water level hydrographs for these wells. Only measurements flagged as "publishable" by the TWDB or provided by the District are shown. Some wells include measurements collected in 2021 and 2022 by NTGCD that have not yet been updated in the TWDB Groundwater Database.





Wells with Monitored Water Level Data

● Wells with Water Level Data

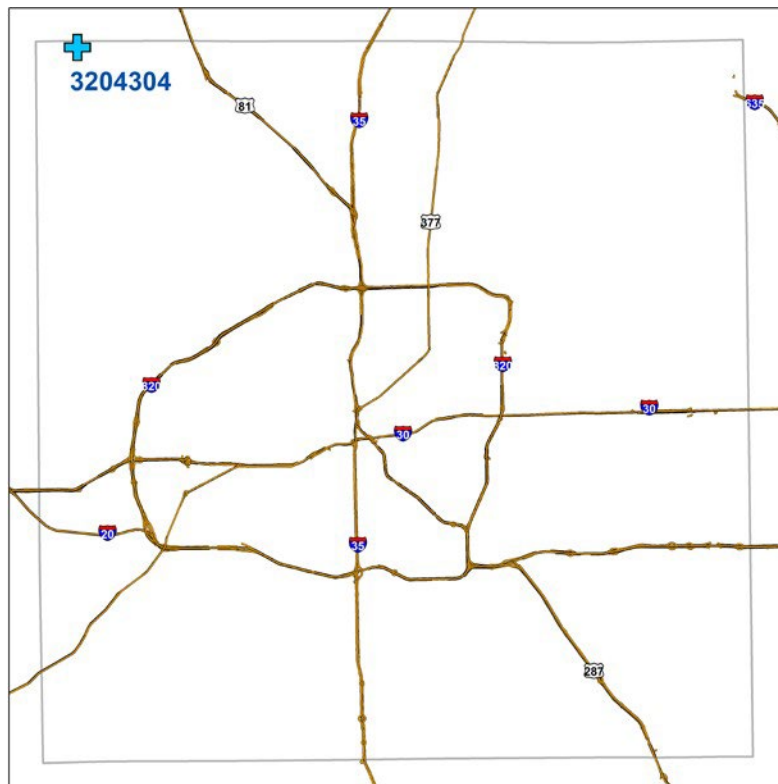
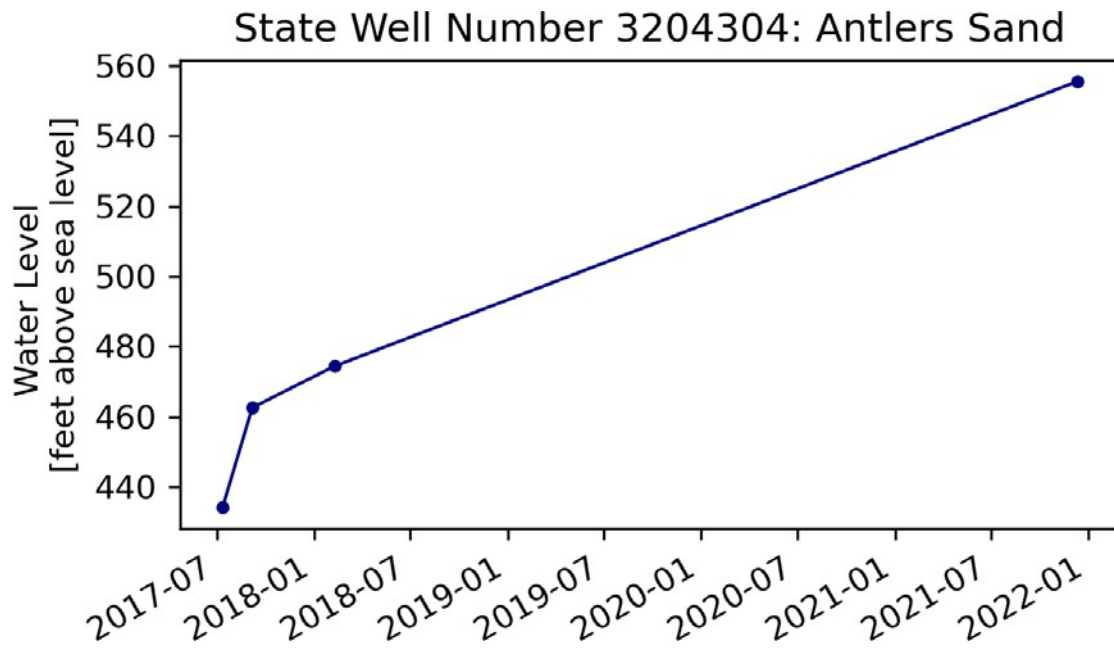
— Major Roads

□ Tarrant County

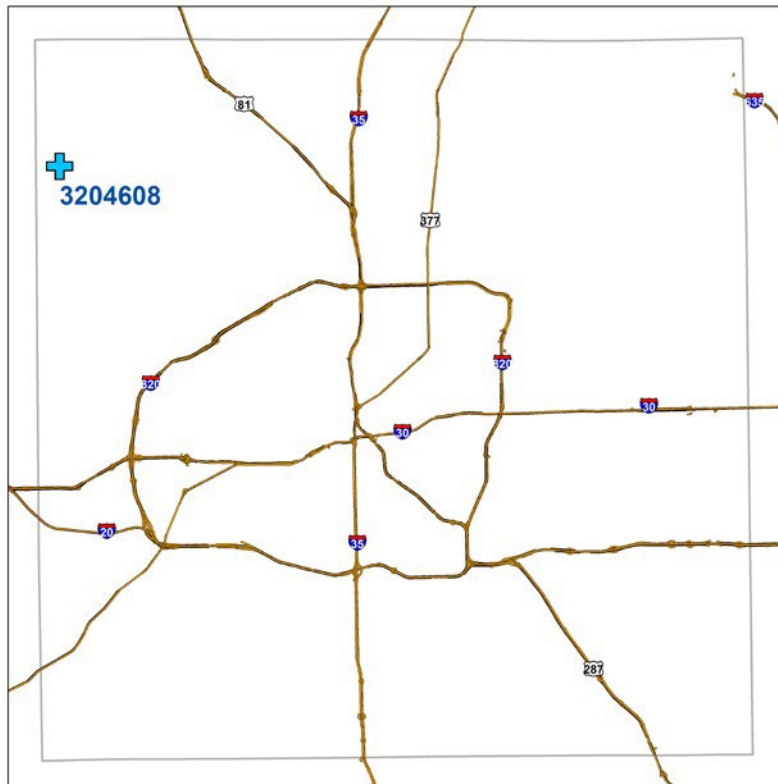
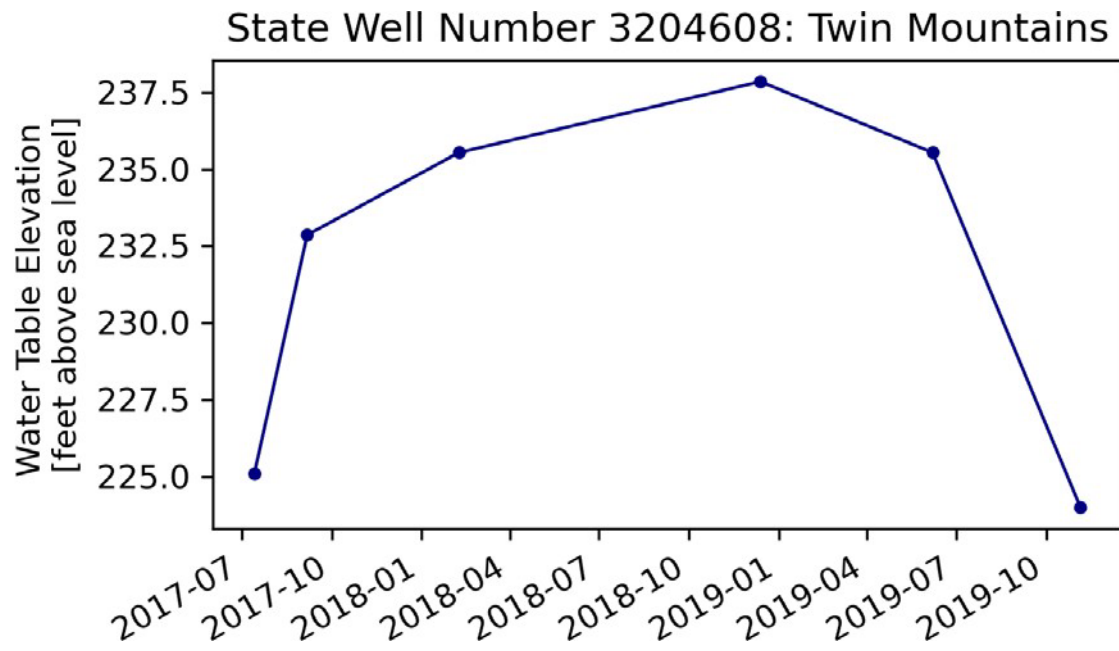
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Miles



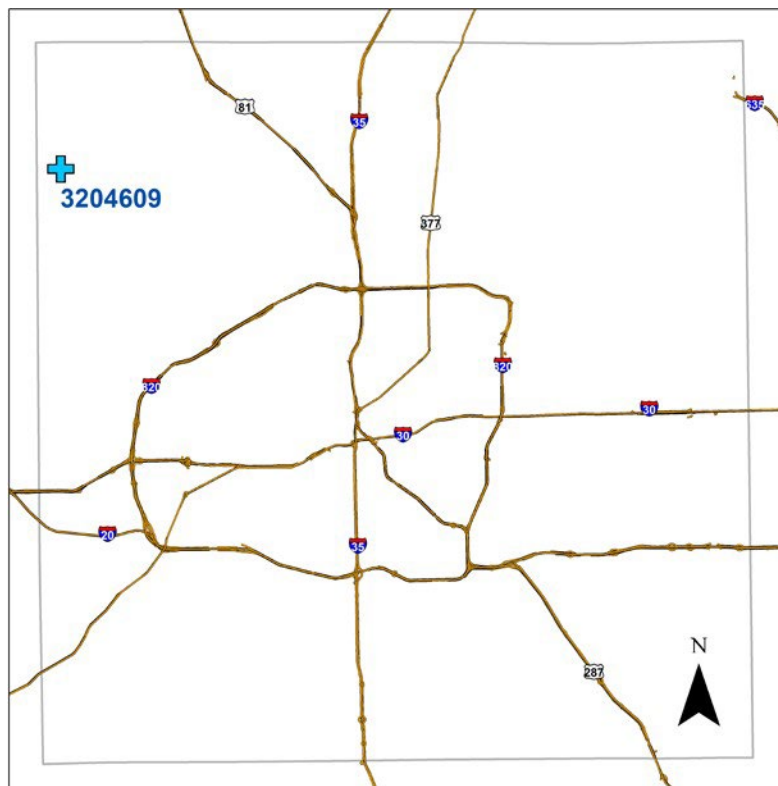
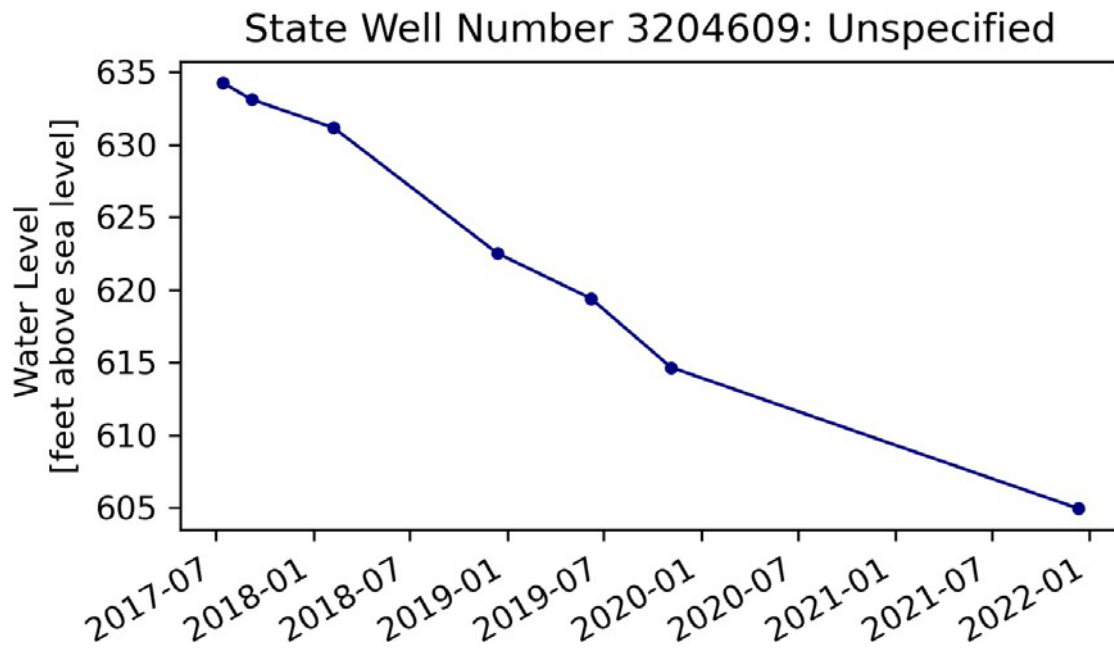
Figure 20. Location of Wells with Water Levels Reported by the Texas Water Development Board



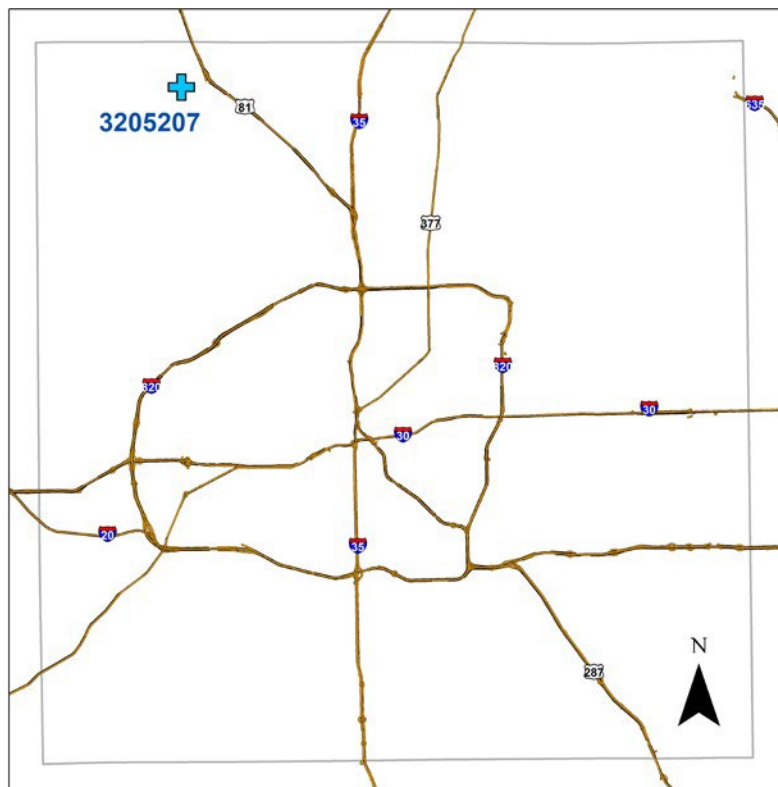
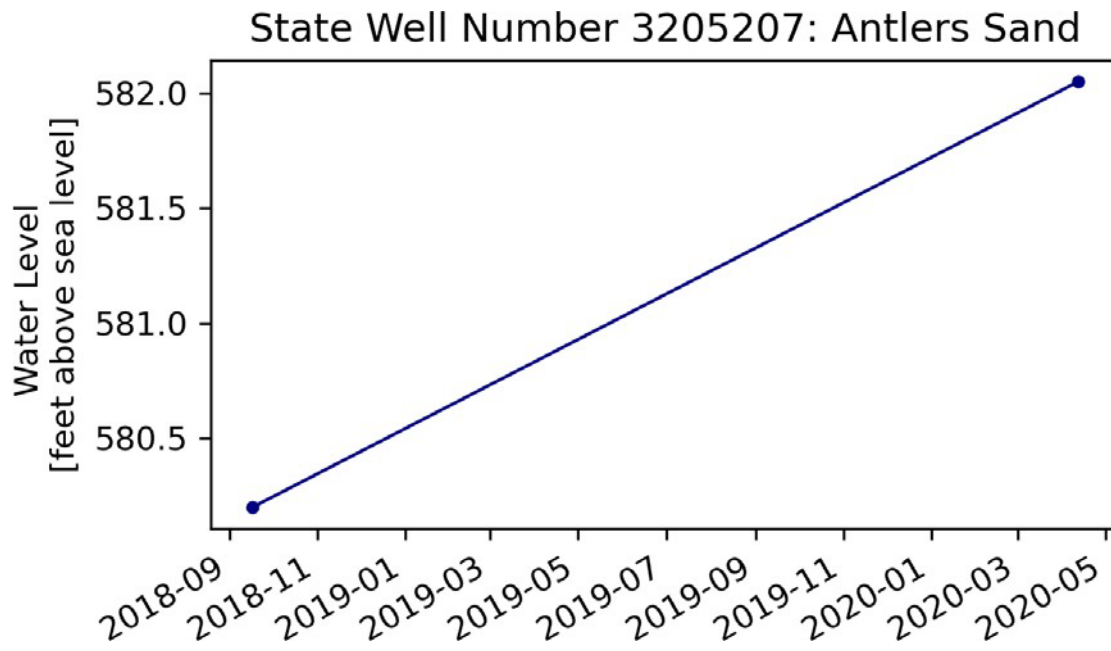
Figures 21, 22. Hydrograph and location of State Well Number 3204304



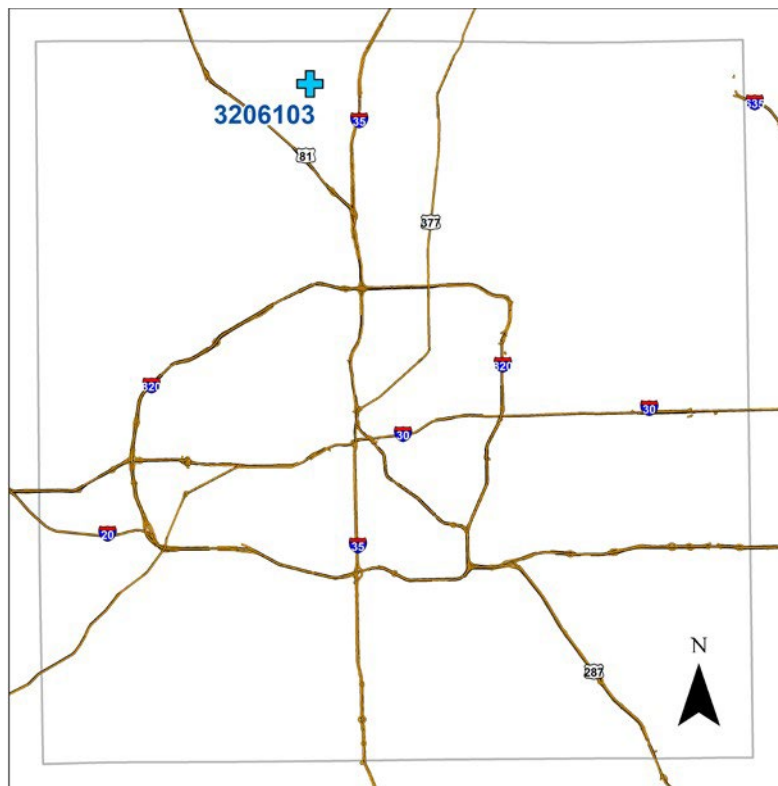
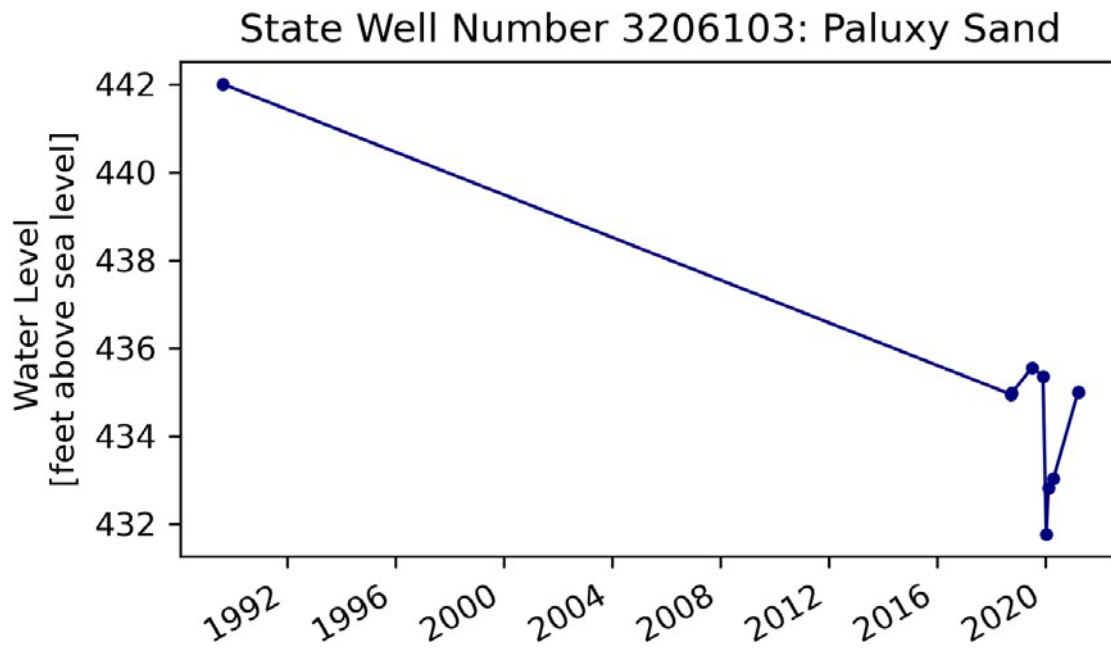
Figures 23, 24. Hydrograph and location of State Well Number 3204608



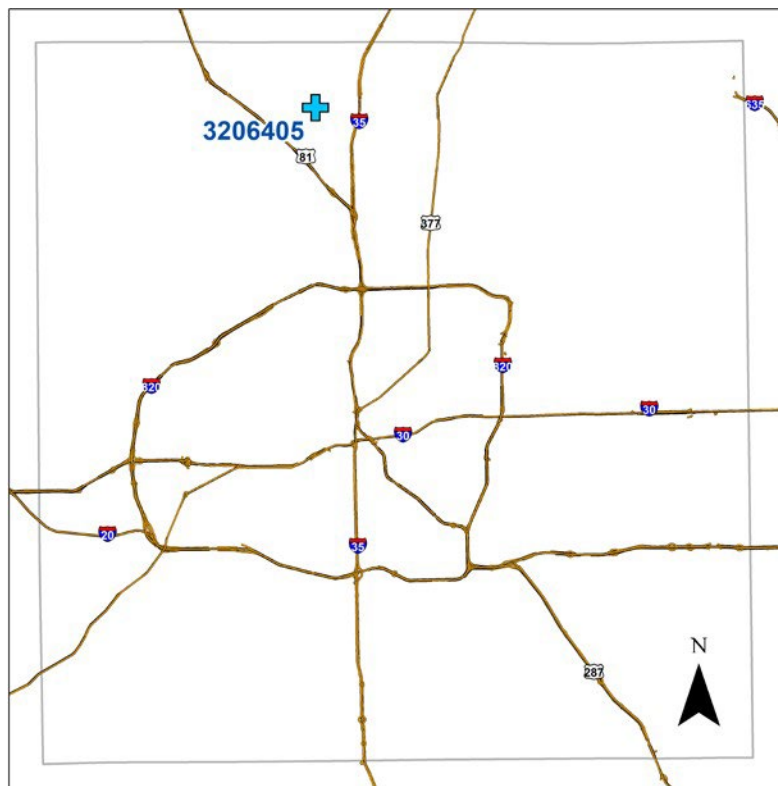
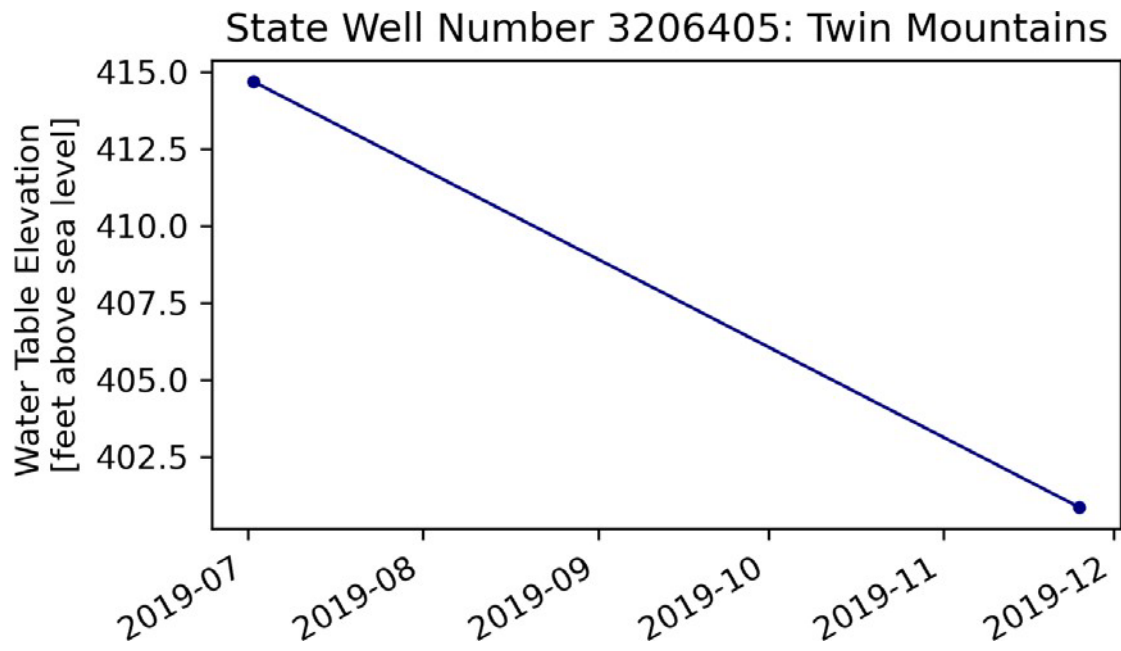
Figures 25, 26. Hydrograph and location of State Well Number 3204609



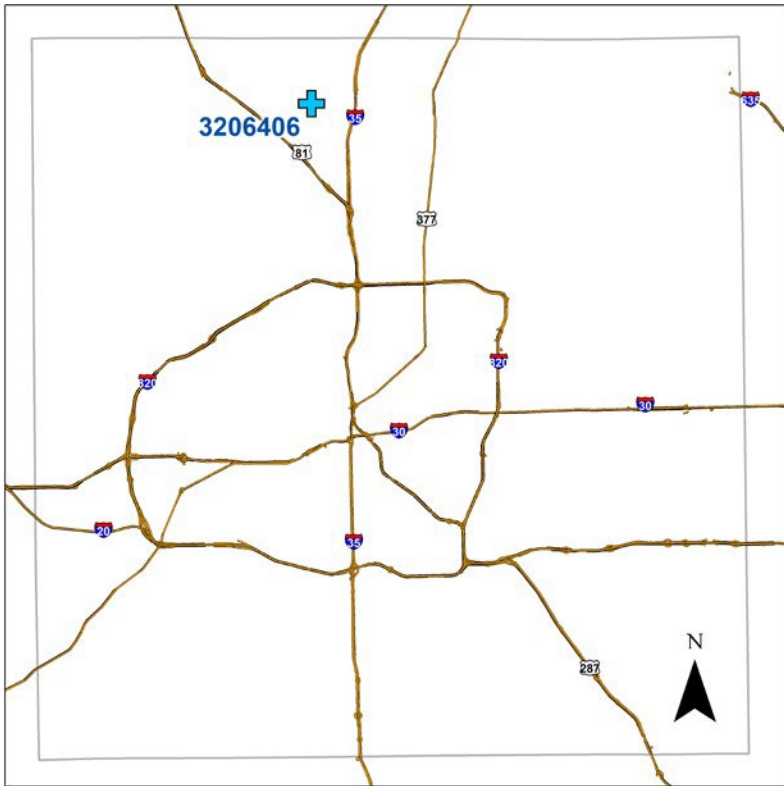
Figures 27, 28. Hydrograph and location of State Well Number 3205207



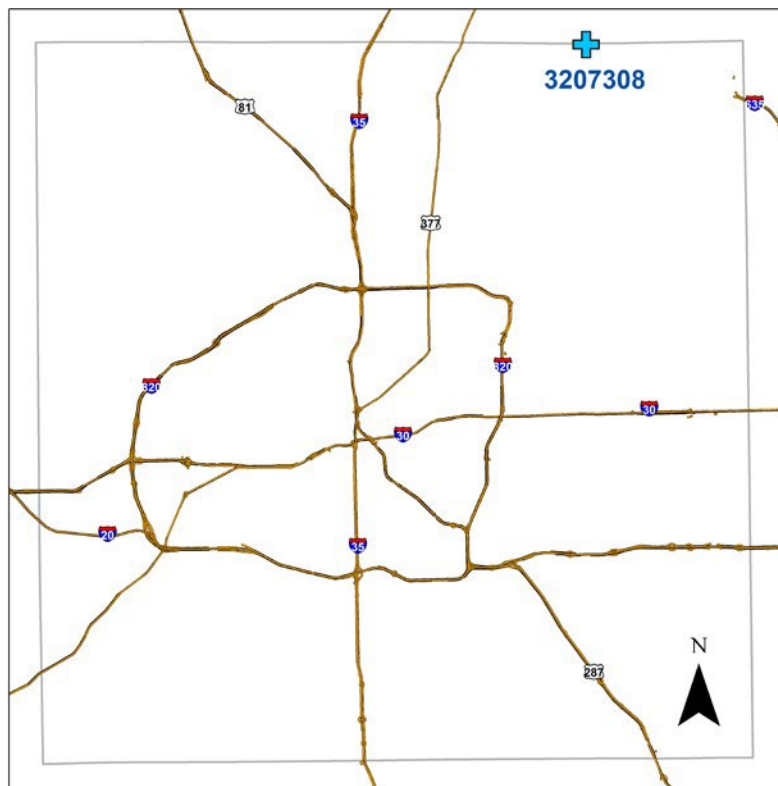
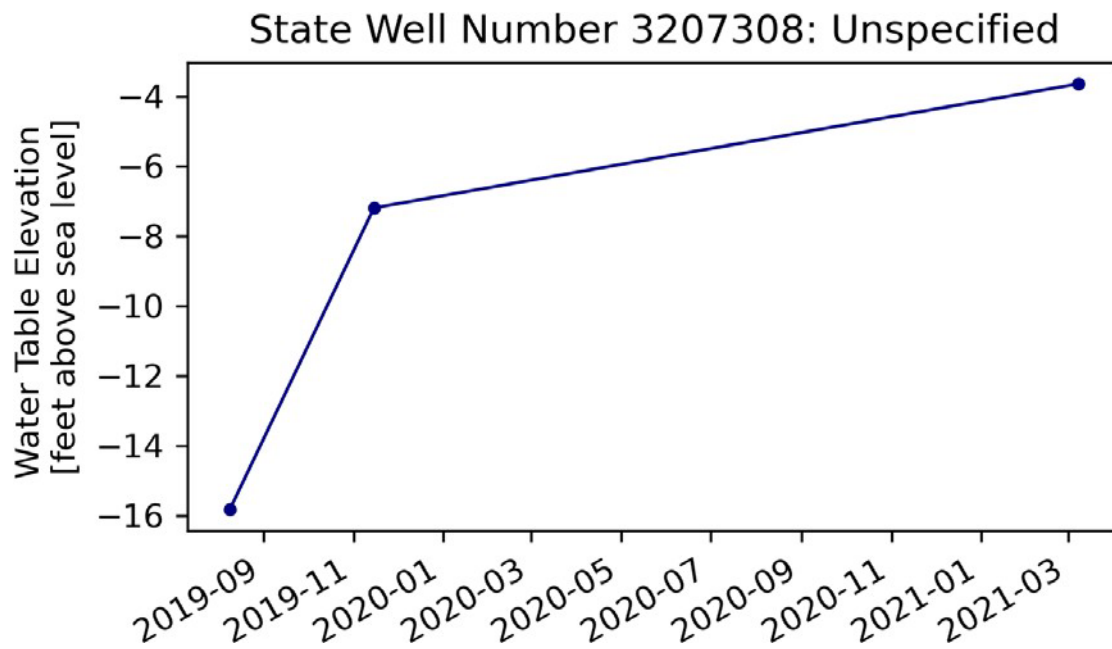
Figures 31, 32. Hydrograph and location of State Well Number 3206103



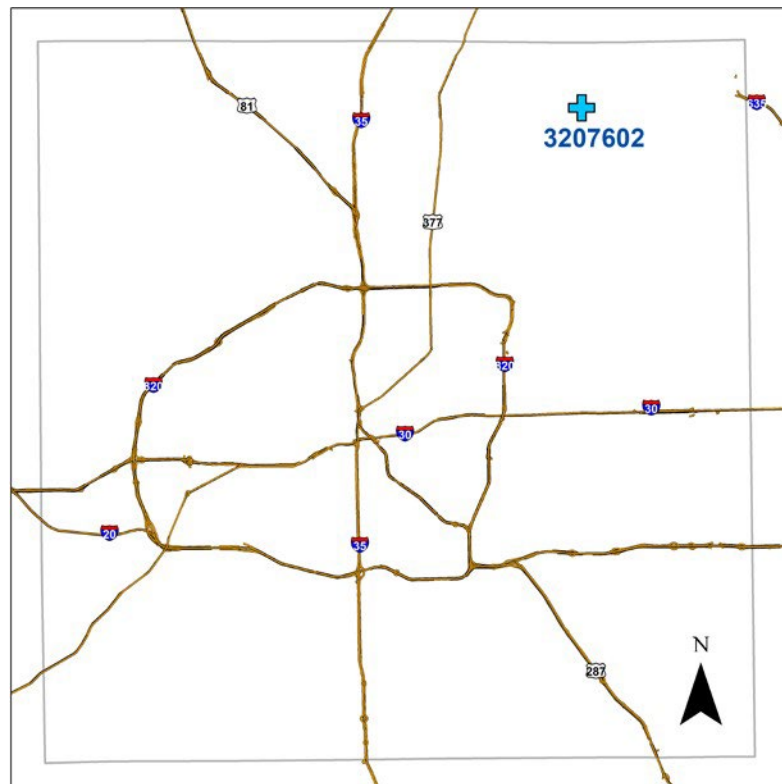
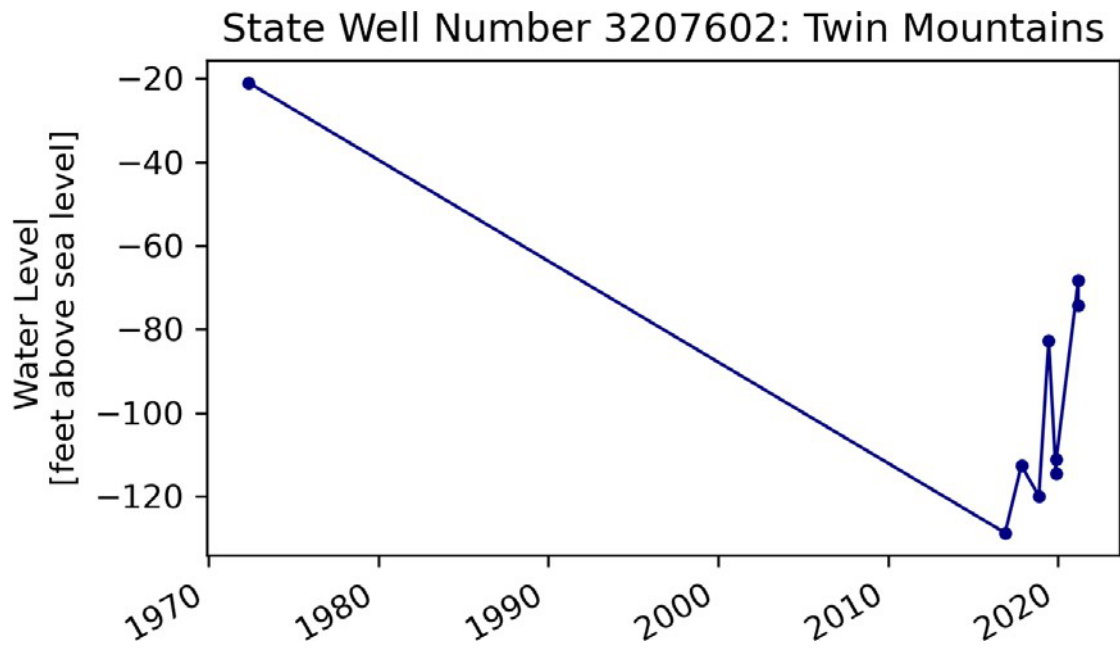
Figures 33, 34. Hydrograph and location of State Well Number 3206405



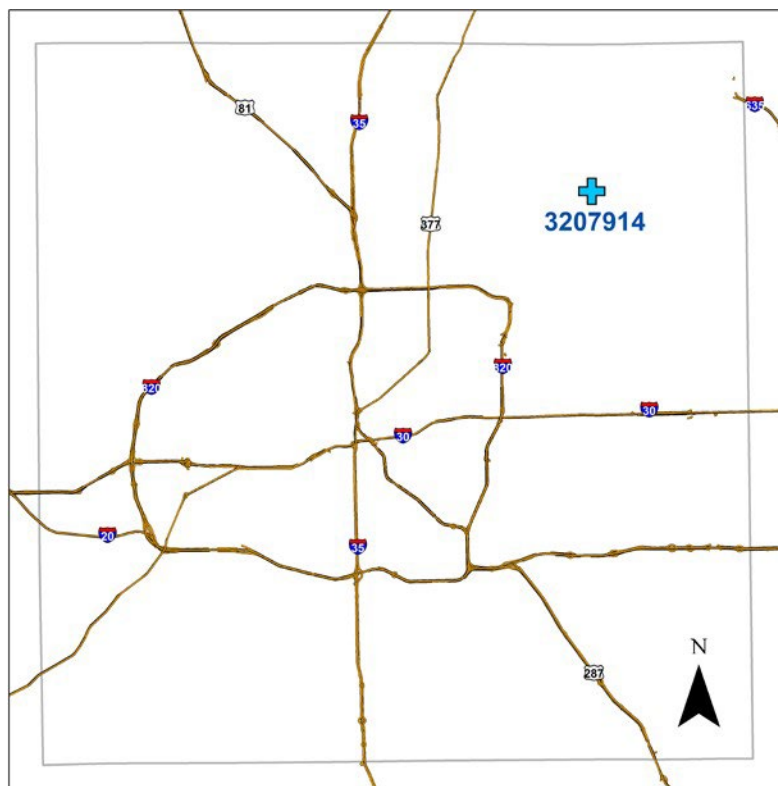
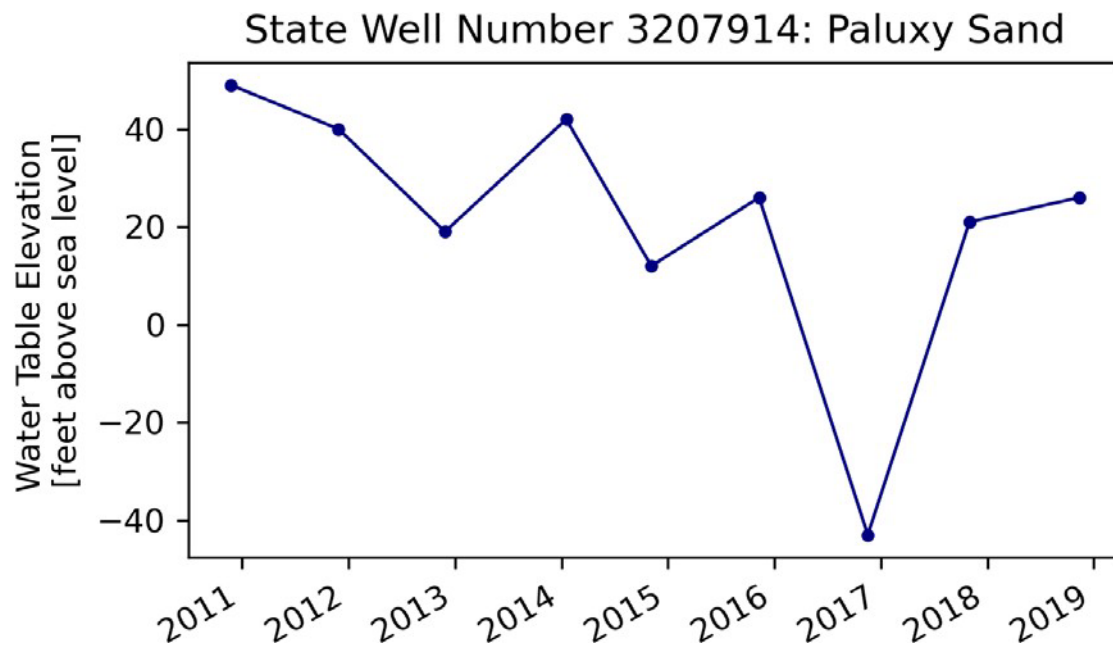
42 | NTGCD Annual Report



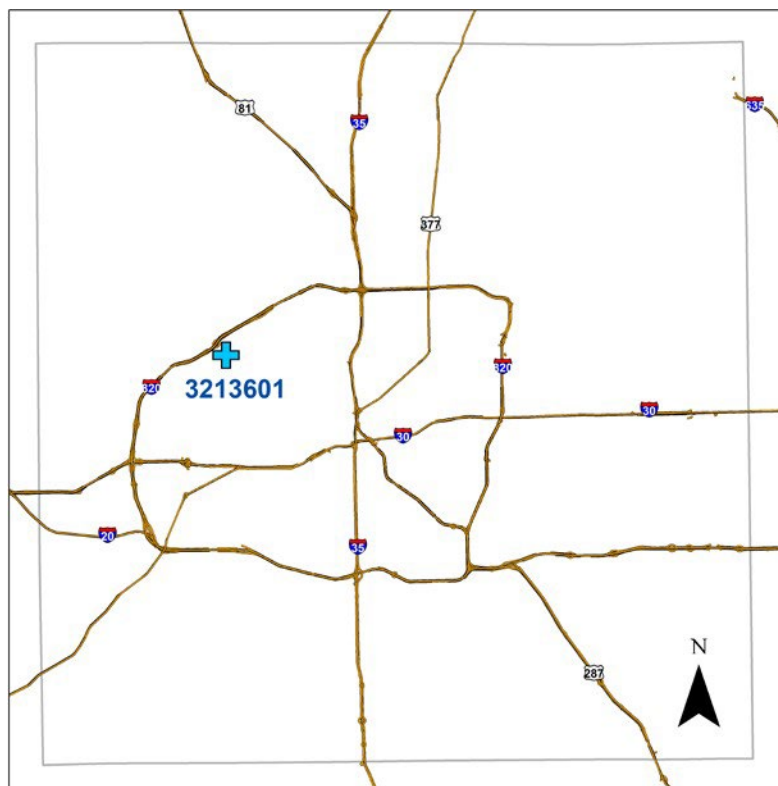
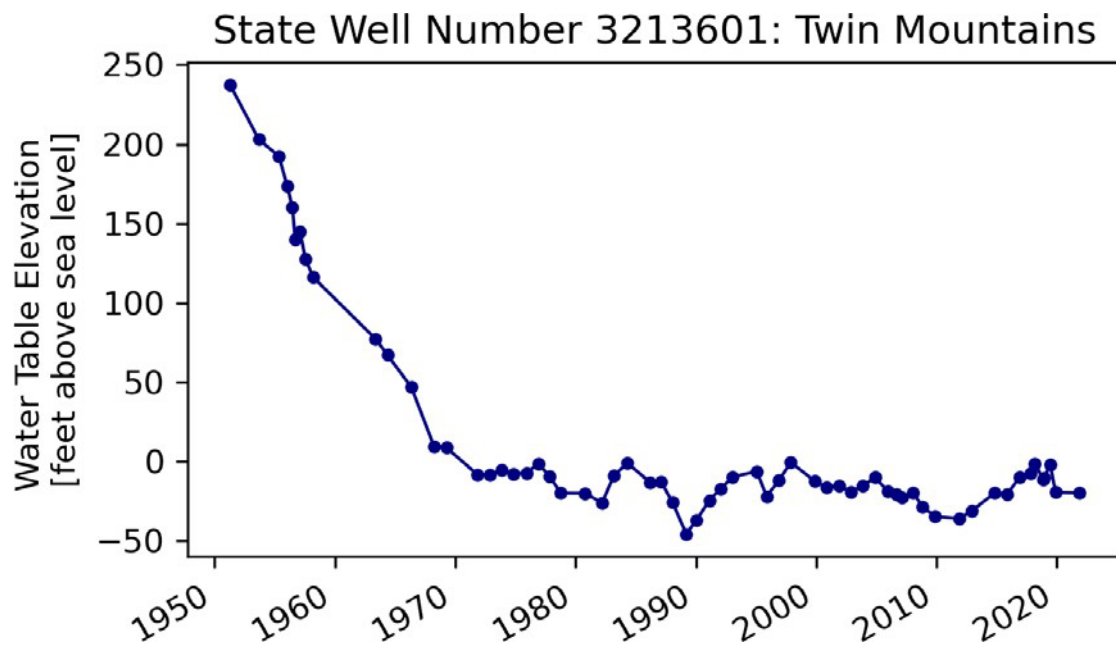
Figures 37, 38. Hydrograph and location of State Well Number 3207308



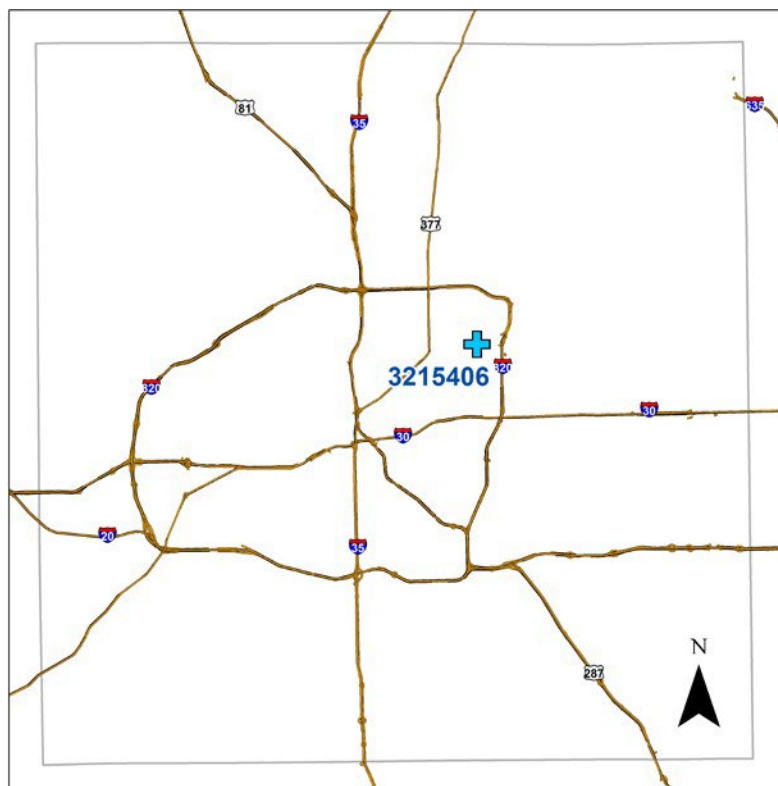
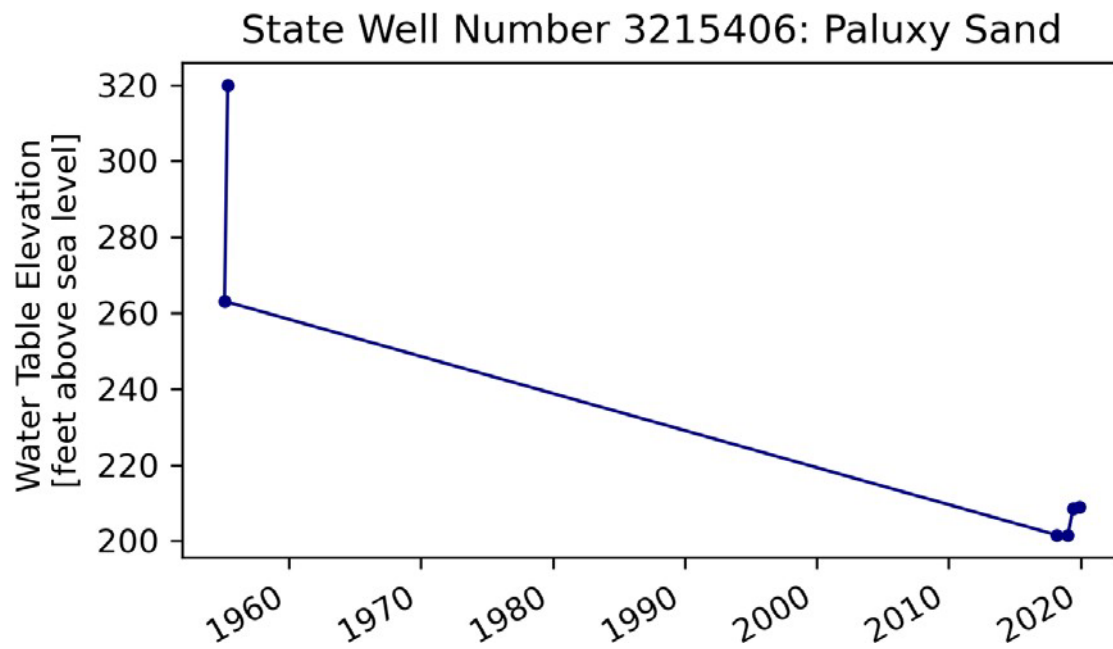
Figures 39, 40. Hydrograph and location of State Well Number 3207602



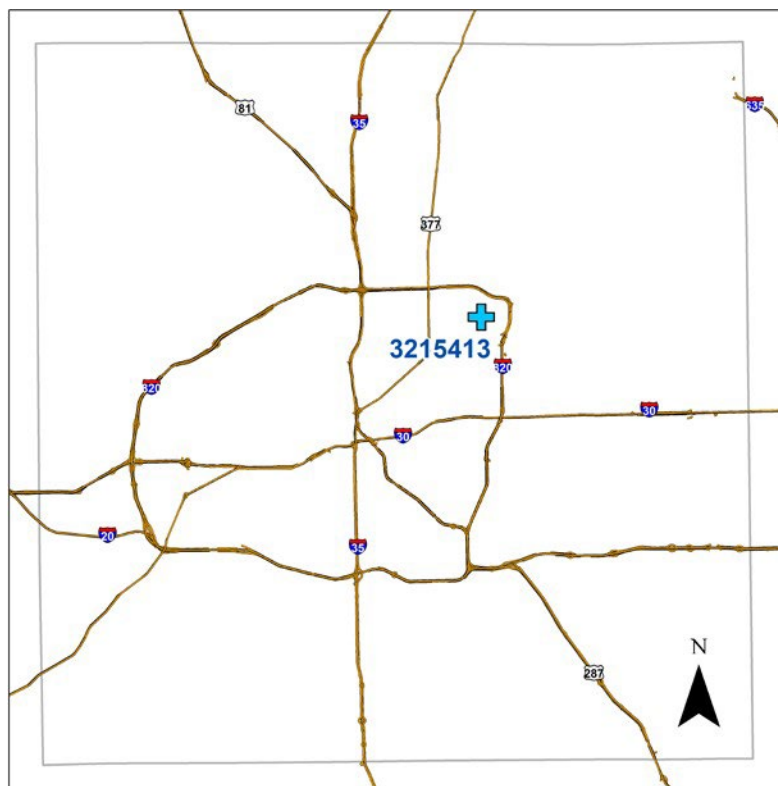
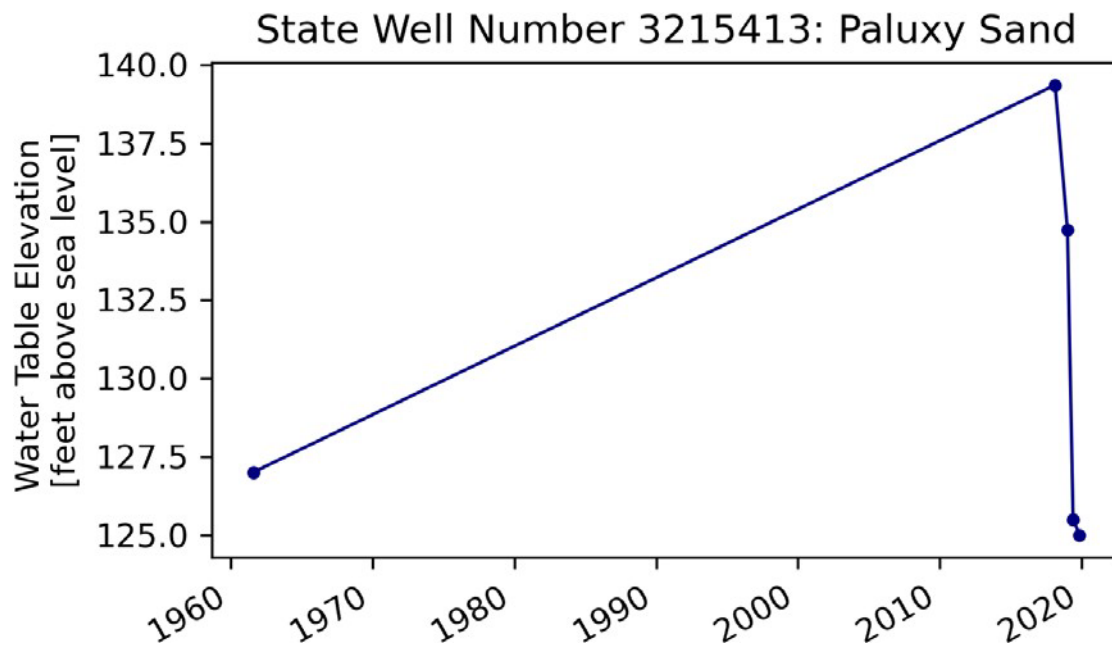
Figures 41, 42. Hydrograph and location of State Well Number 3207914



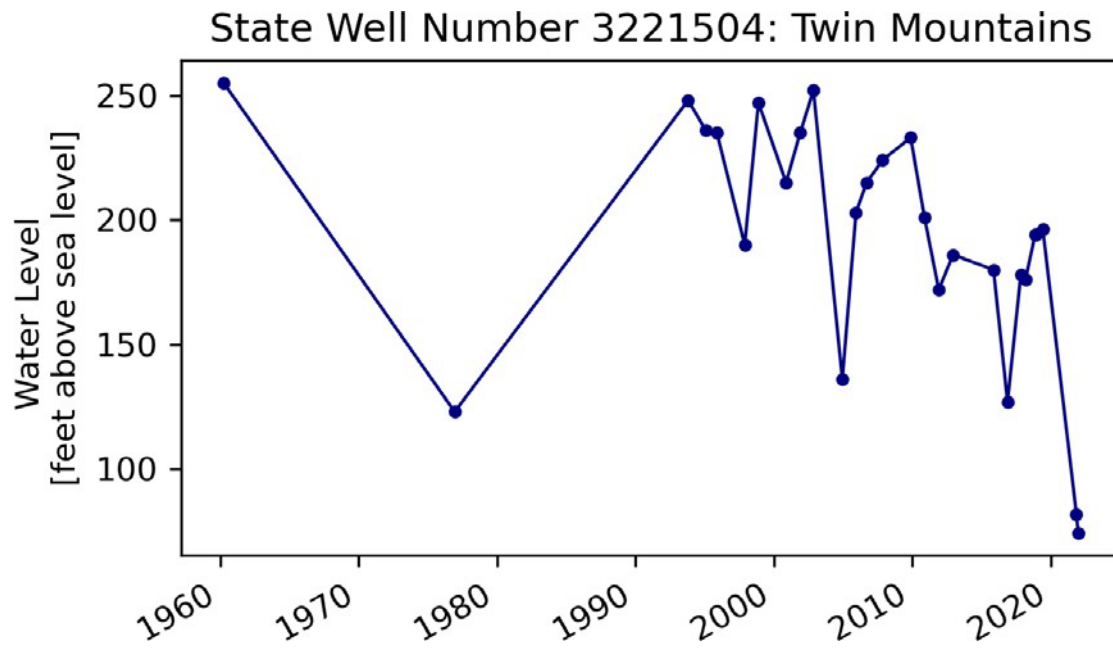
Figures 43, 44. Hydrograph and location of State Well Number 323601



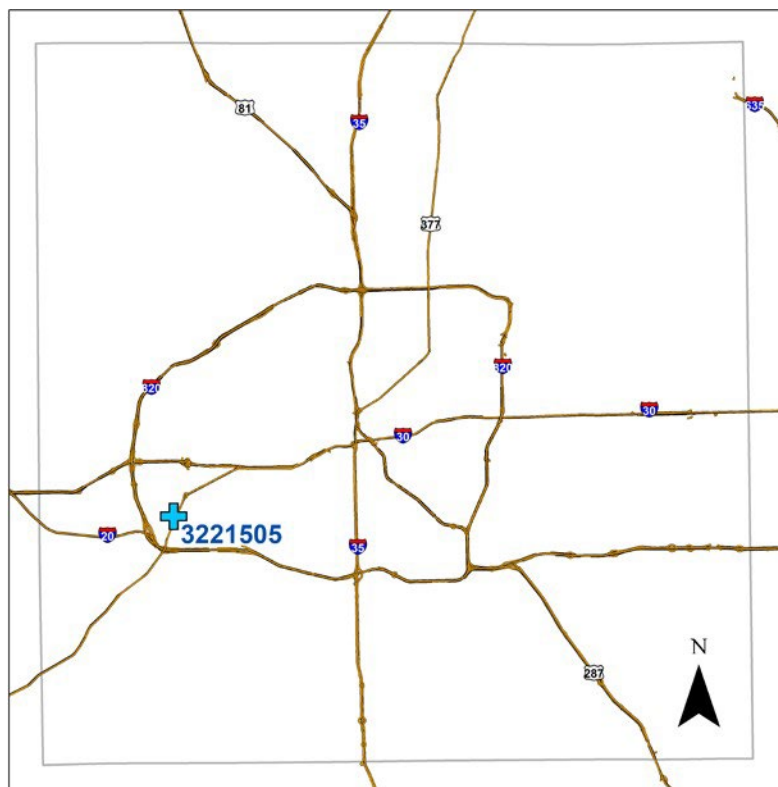
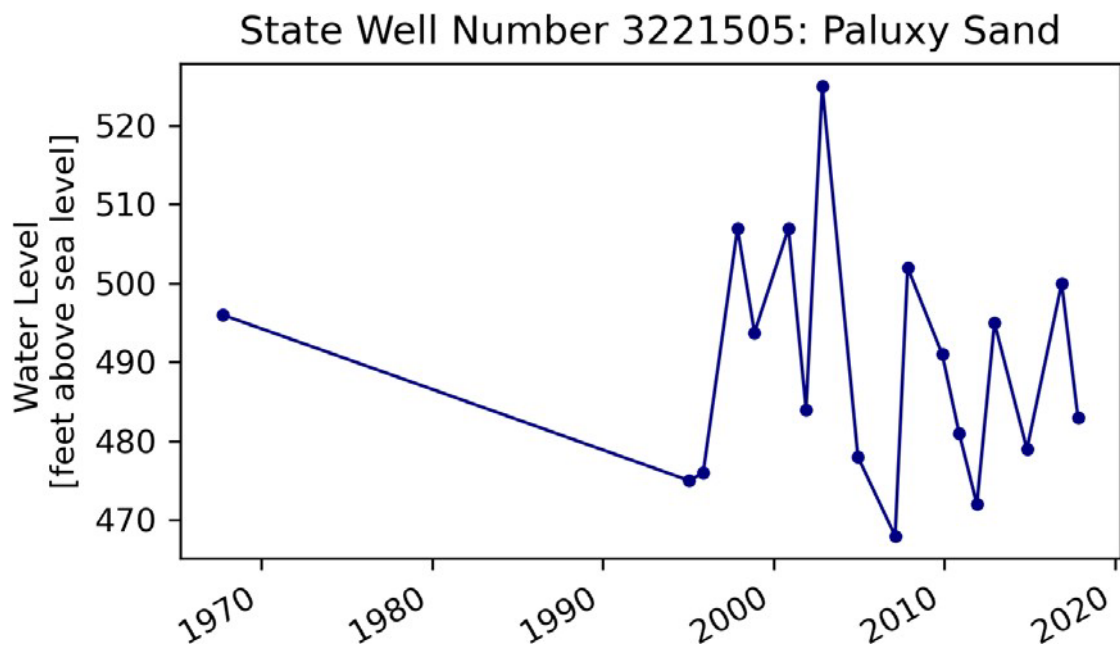
Figures 45, 46. Hydrograph and location of State Well Number 3215406



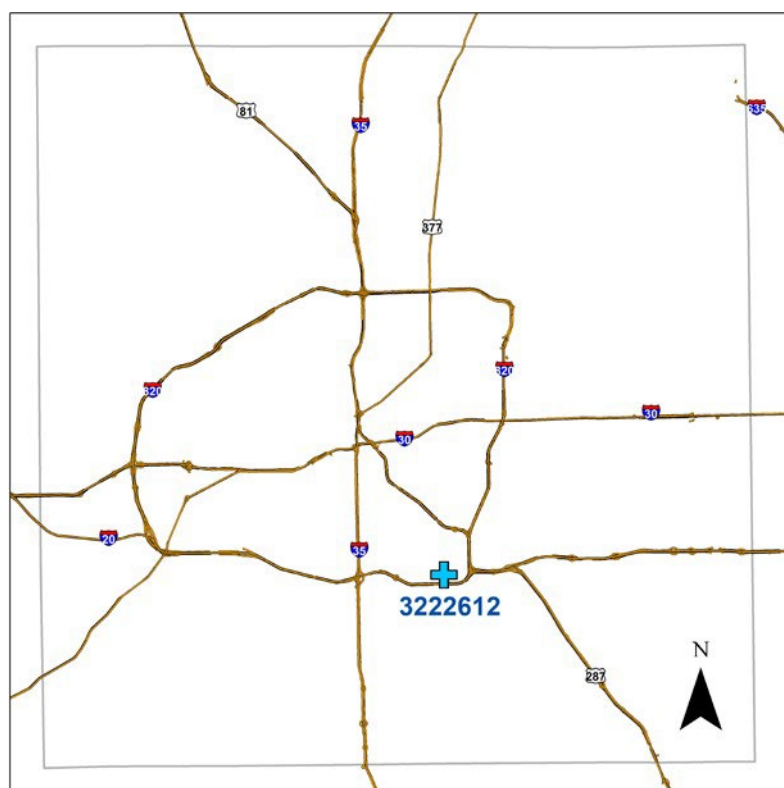
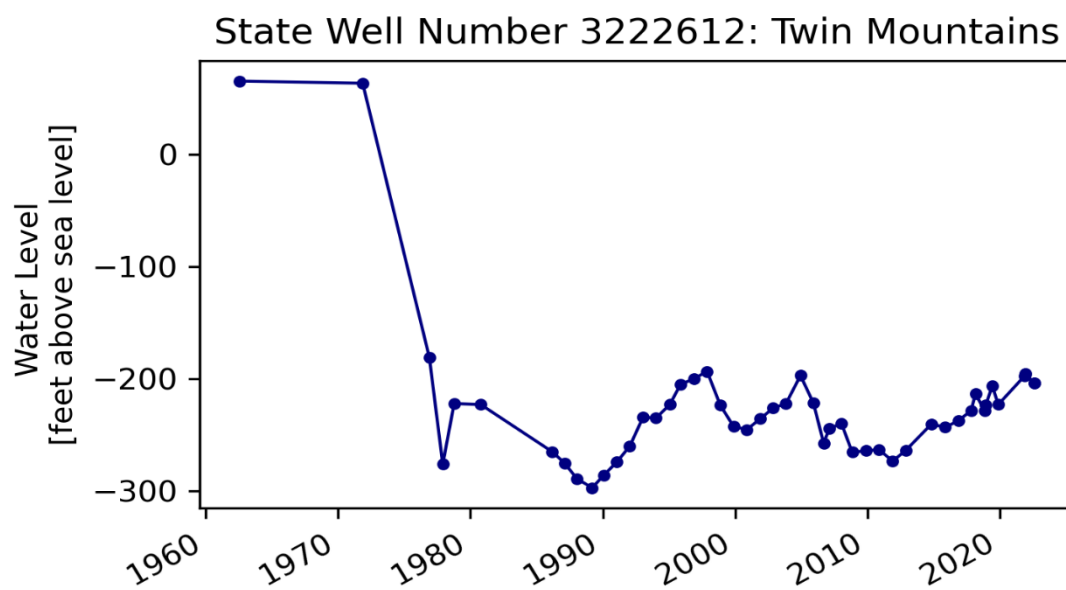
Figures 47, 48. Hydrograph and location of State Well Number 3215413



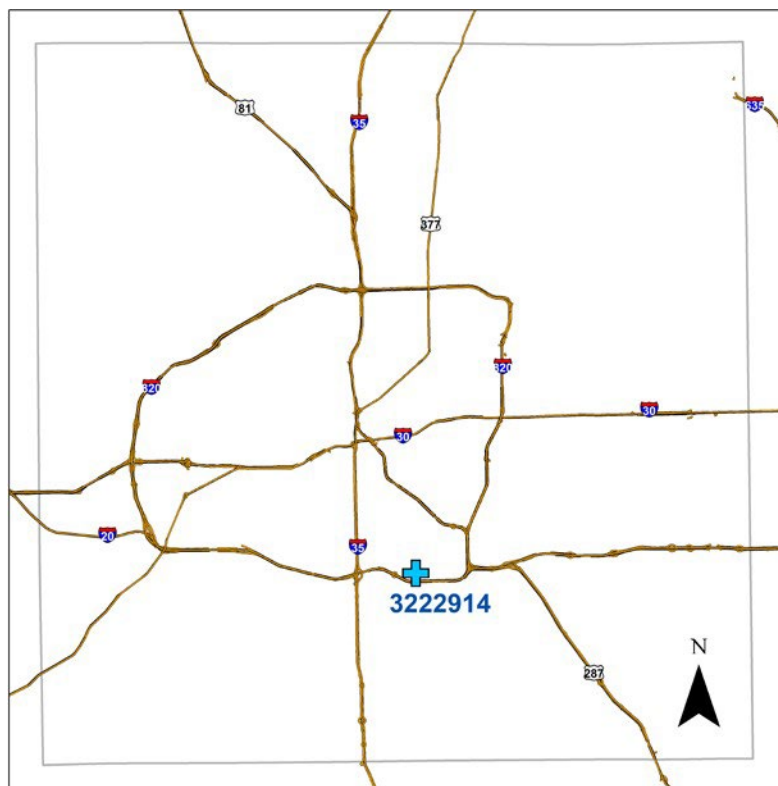
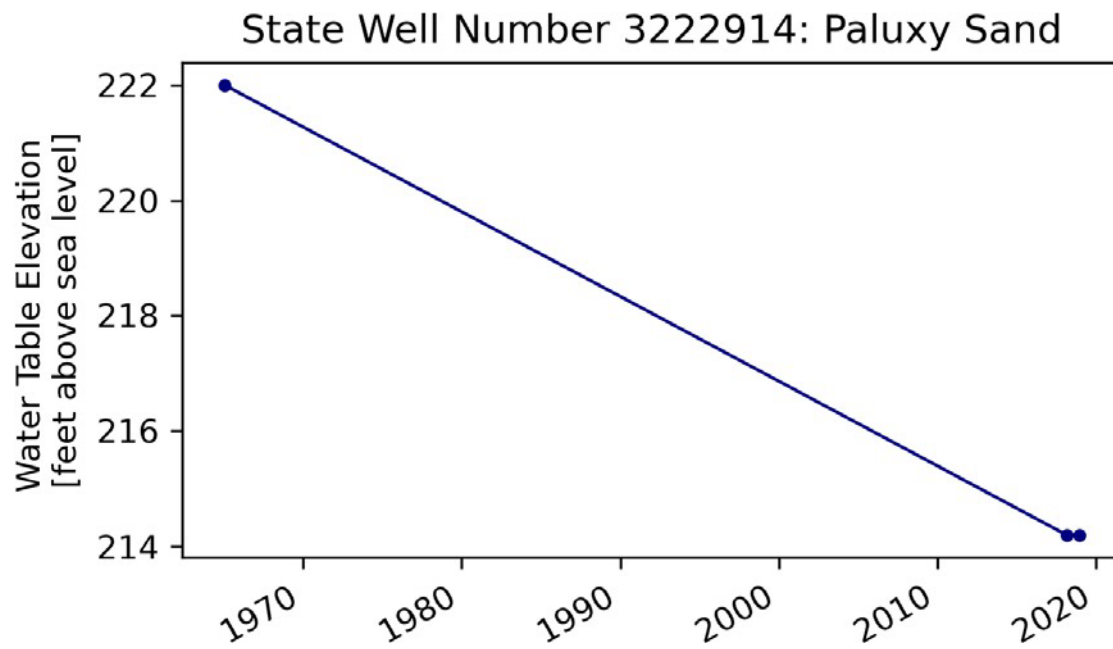
Figures 49, 50. Hydrograph and location of State Well Number 3221504



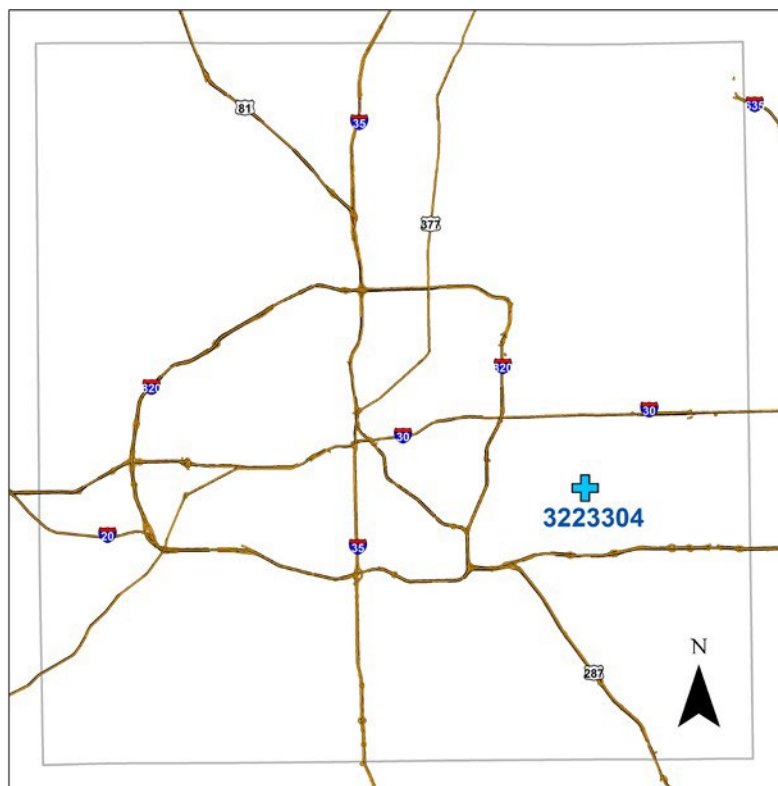
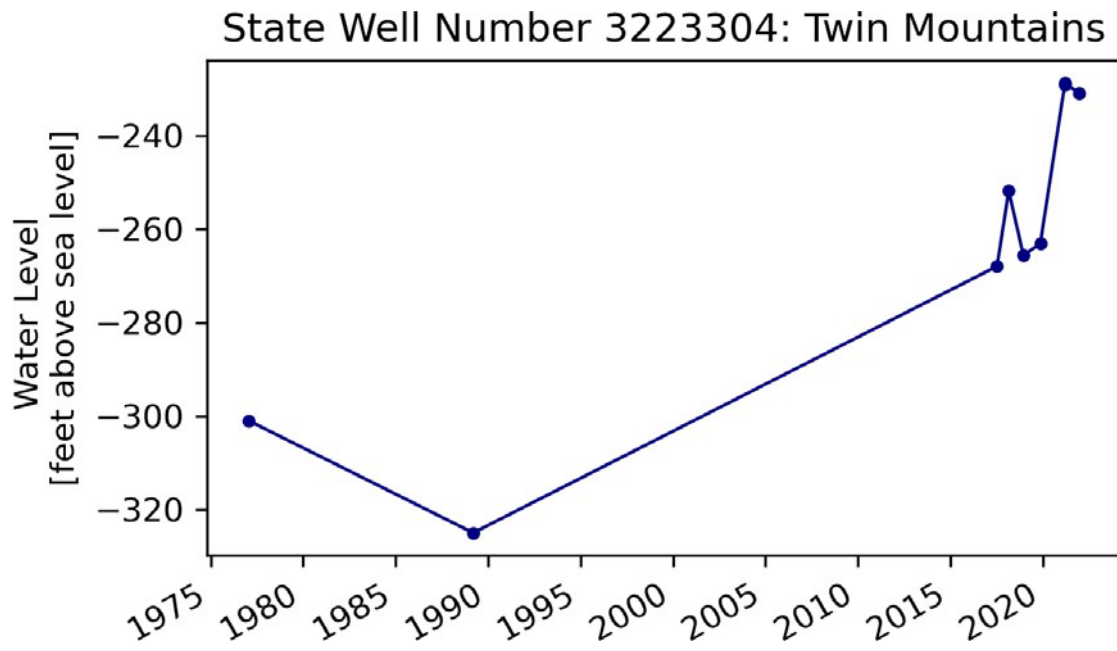
Figures 51, 52. Hydrograph and location of State Well Number 3221505



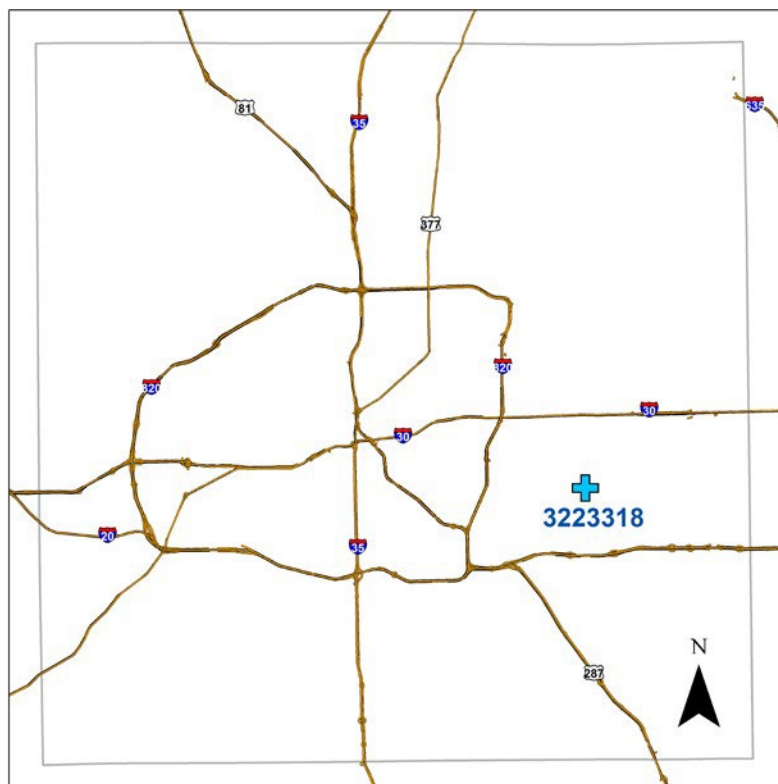
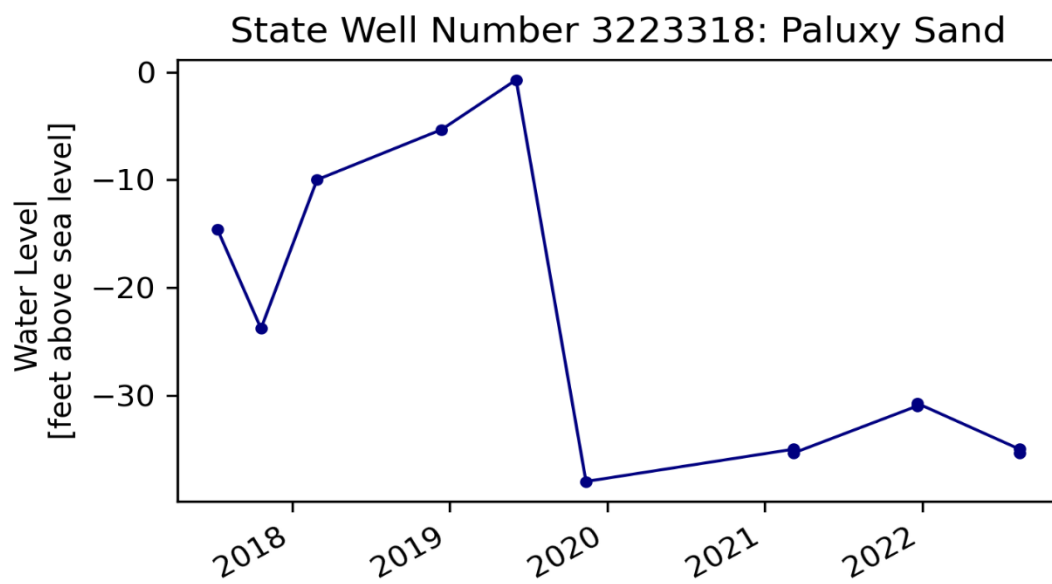
Figures 53, 54. Hydrograph and location of State Well Number 3222612



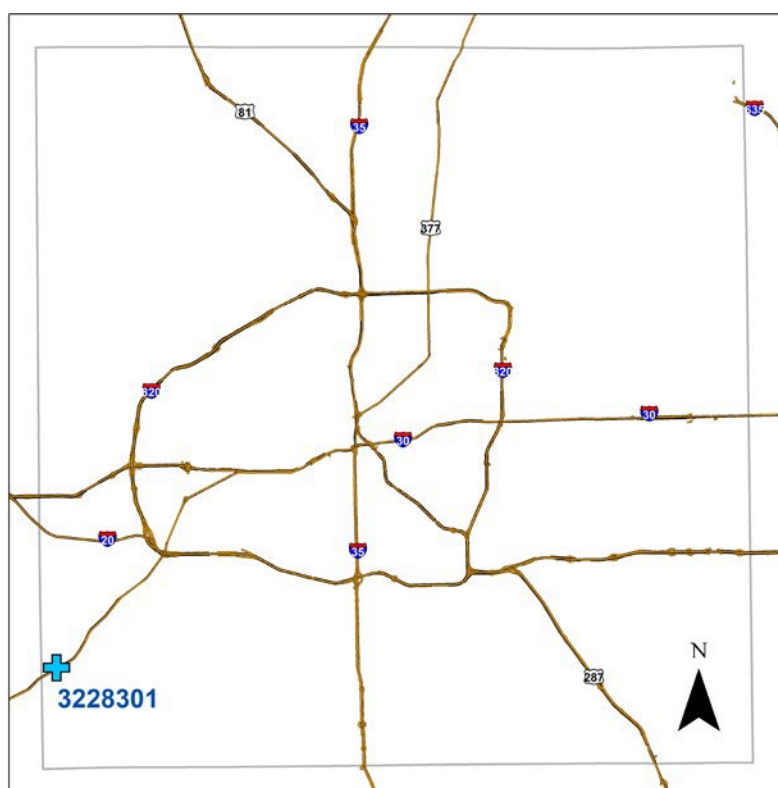
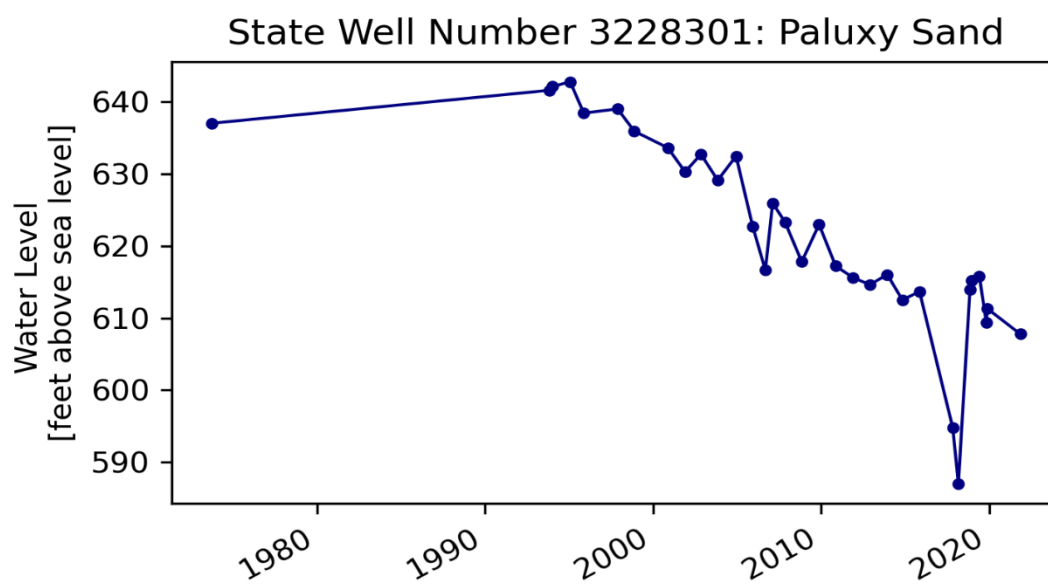
Figures 55, 56. Hydrograph and location of State Well Number 3222914



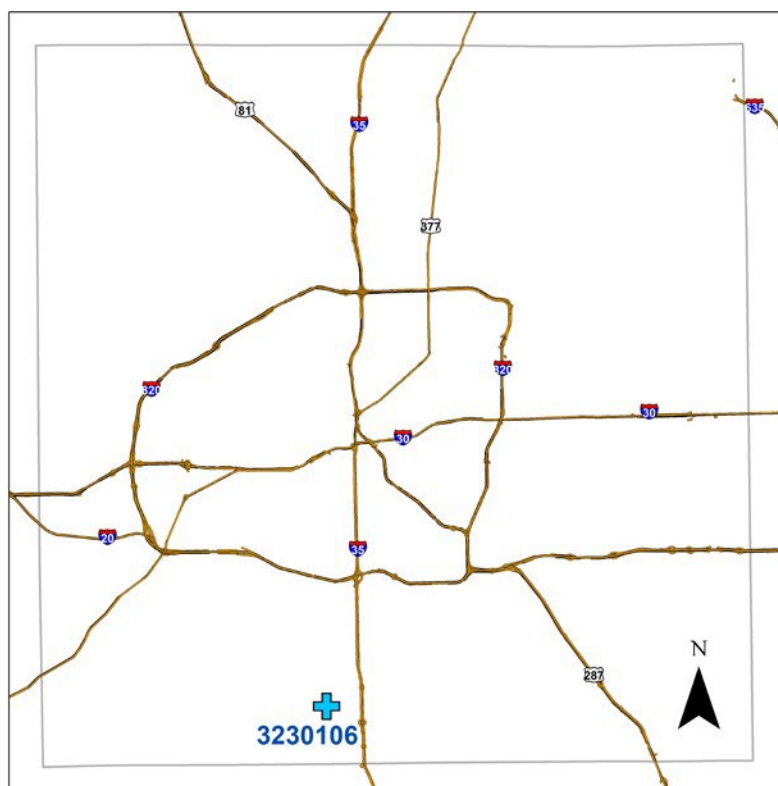
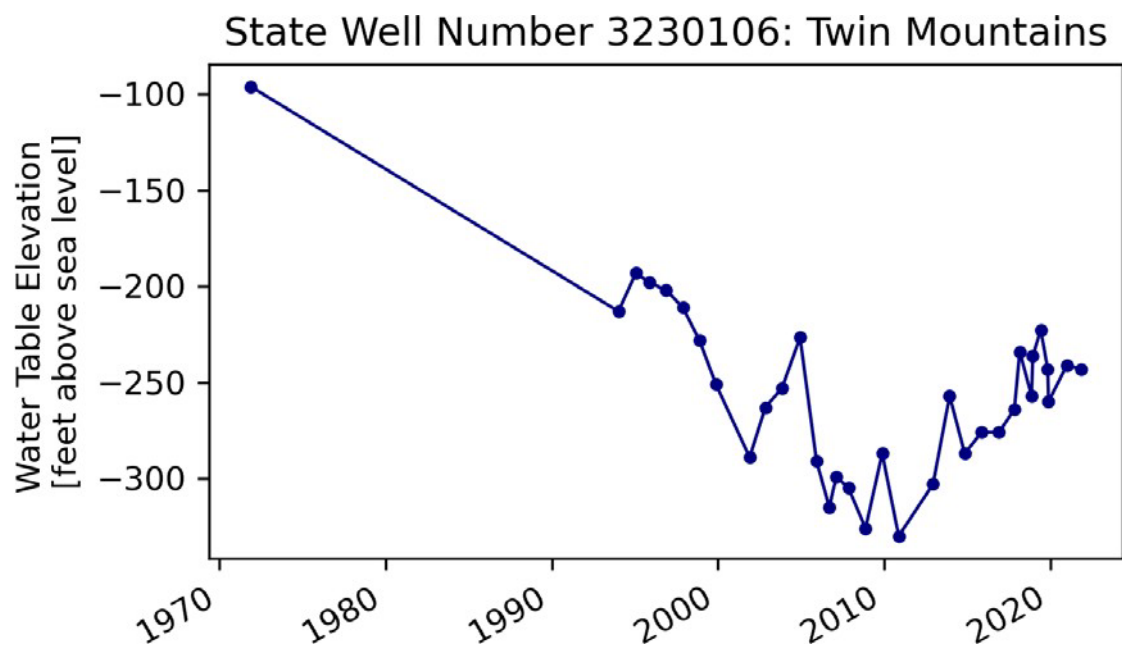
Figures 57, 58. Hydrograph and location of State Well Number 3223304



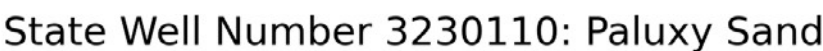
Figures 59, 60. Hydrograph and location of State Well Number 3223318



Figures 61, 62. Hydrograph and location of State Well Number 3228301

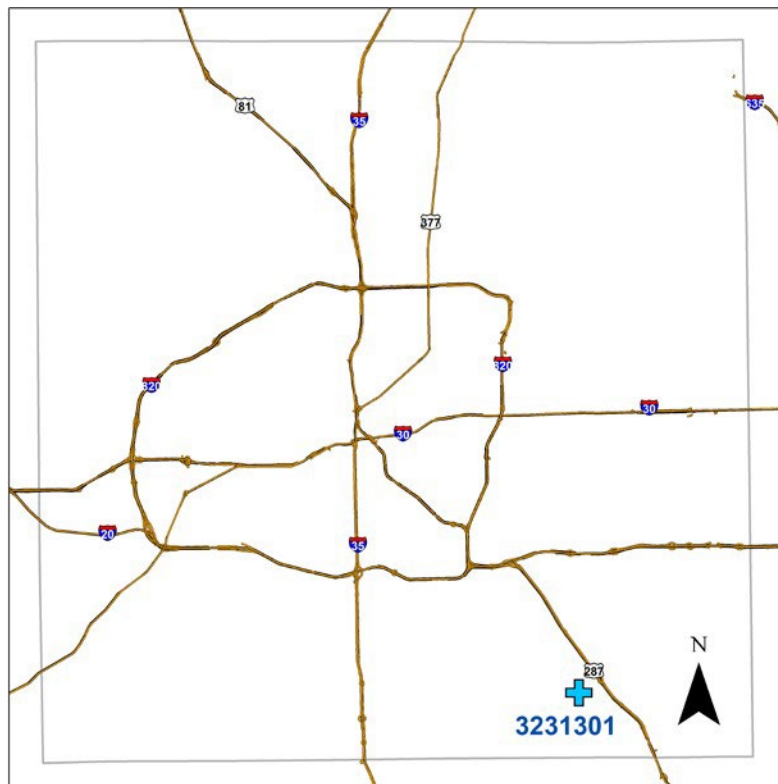
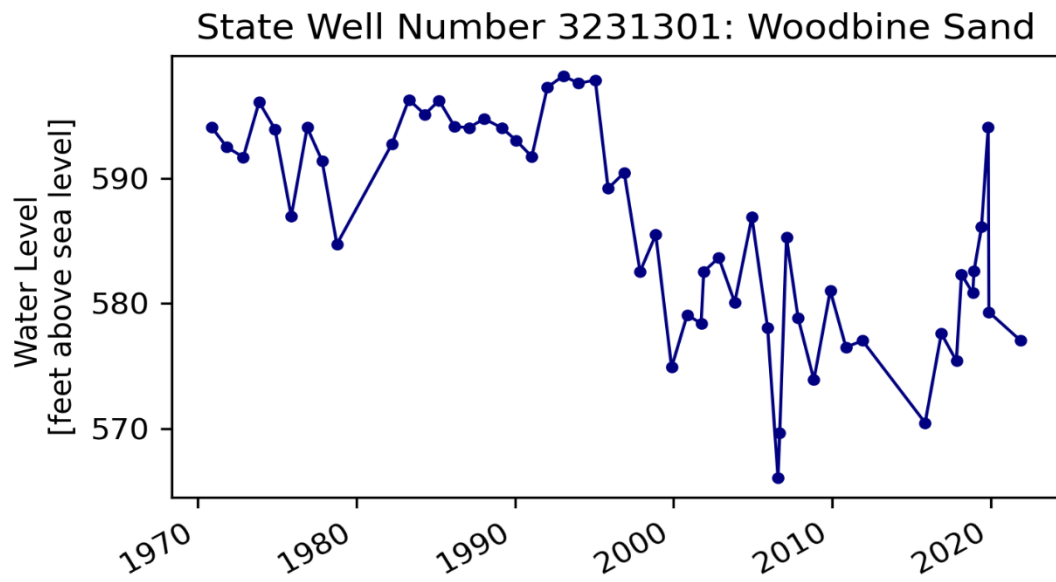


Figures 63, 64. Hydrograph and location of State Well Number 3230106

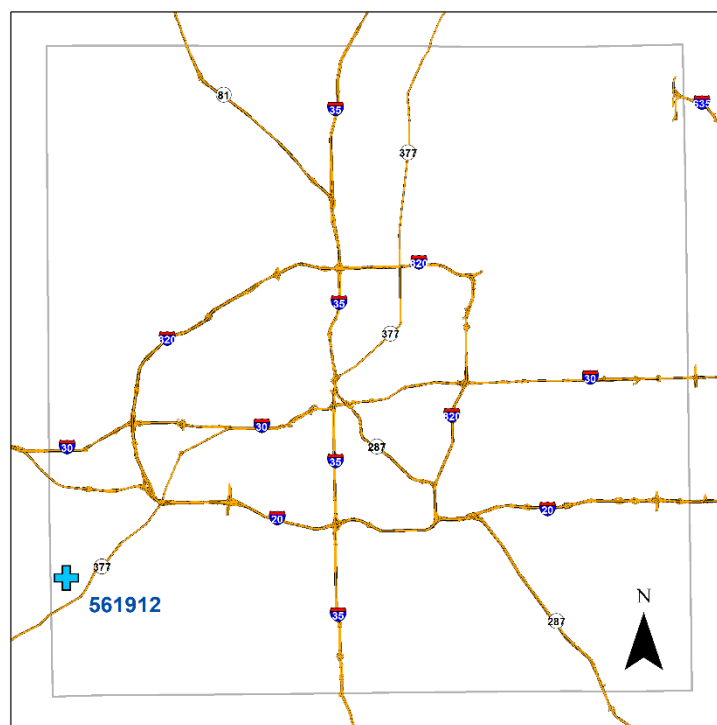
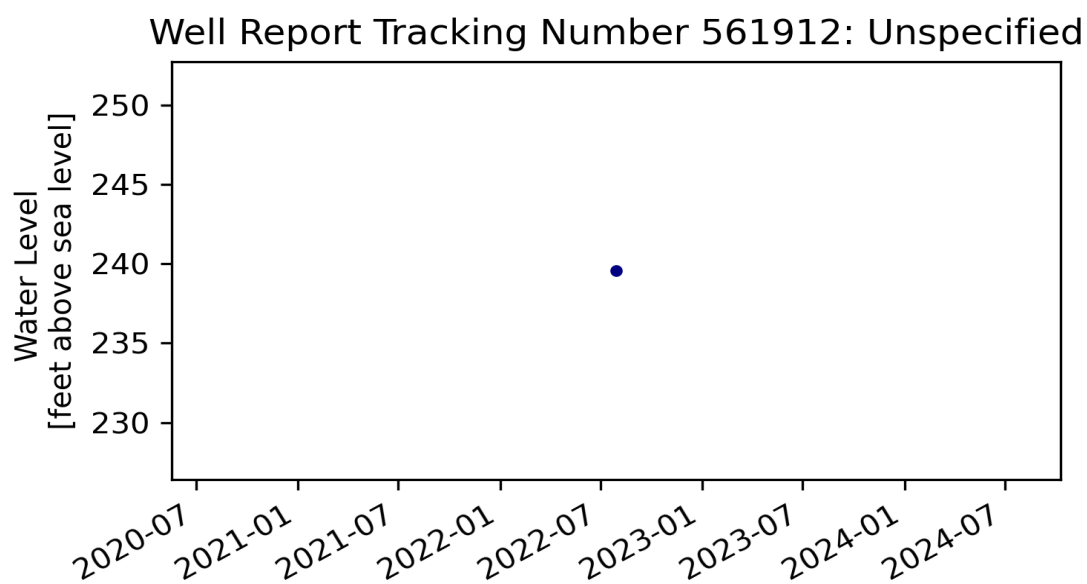


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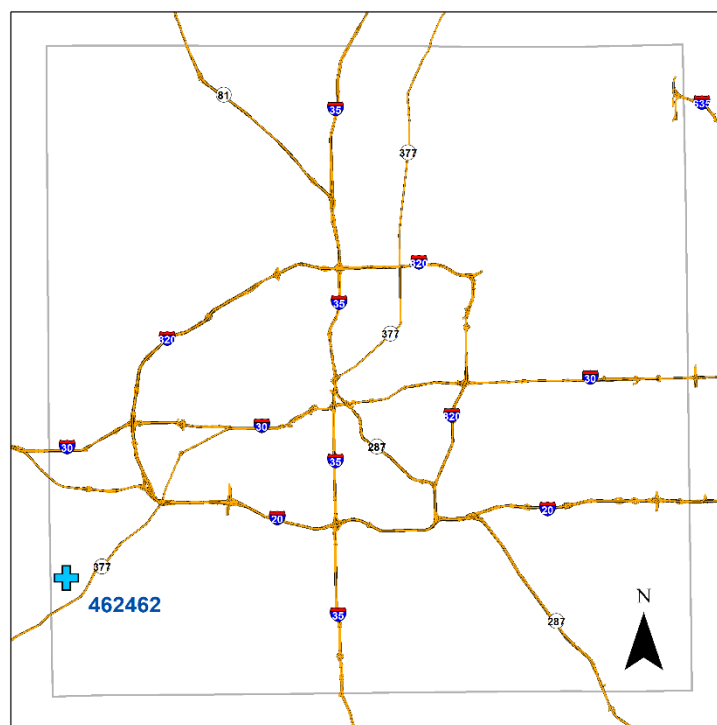
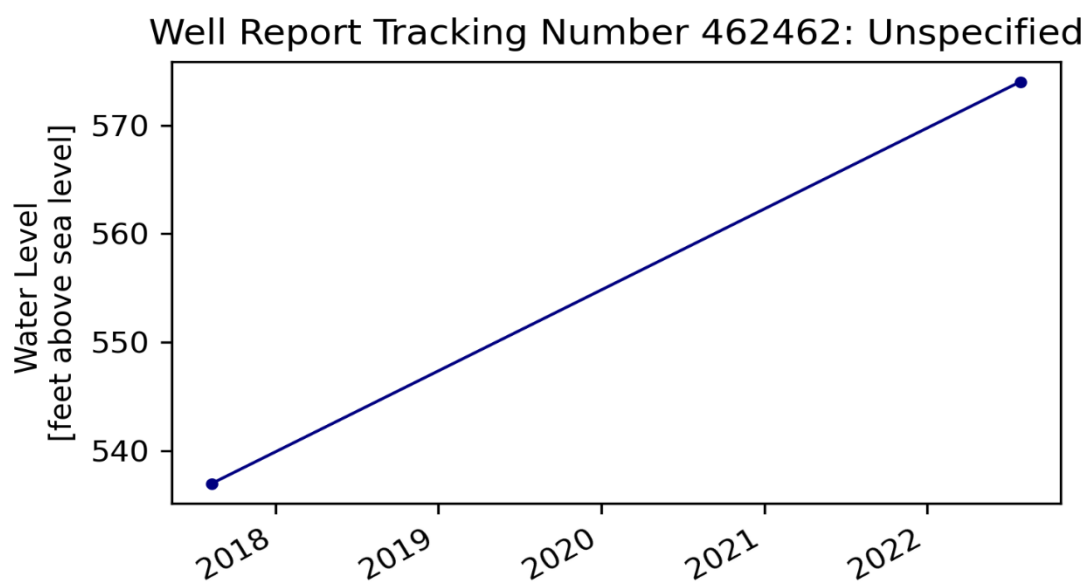




Figures 67, 68. Hydrograph and location of State Well Number 3231301



Figures 69, 70. Hydrograph and location of Well Report Tracking Number 561912



Figures 73, 74. Hydrograph and location of Well Report Tracking Number 462462

Annual Audit for Fiscal Year Ending December 31, 2022

Northern Trinity Groundwater Conservation District

ANNUAL FINANCIAL REPORT

DECEMBER 31, 2022 and 2021

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Annual Financial Report
For the Years Ended December 31, 2022 and 2021

TABLE OF CONTENTS

FINANCIAL SECTION	<u>Page</u>
Annual Filing Affidavit	1
Independent Auditors' Report	2
Management's Discussion and Analysis.....	5
 <u>Financial Statements</u>	
Statements of Net Position.....	9
Statements of Revenues, Expenses, and Changes in Net Position.....	10
Statements of Cash Flows.....	11
Notes to Financial Statements.....	13
 <u>Required Supplementary Information:</u>	
Texas County and District Retirement System:	
Schedule of Change in Net Pension Liability and Related Ratios.....	24
Schedule of Employer Contributions.....	25
Notes to Required Supplementary Information.....	26
 <u>Supplementary Information</u>	
Budgetary Comparison Schedules.....	27

ANNUAL FILING AFFIDAVIT

THE STATE OF TEXAS }
COUNTY OF Tarrant }

I, L. Russell Laughlin of the
(Name of Duly Authorized District Representative)

Northern Trinity Groundwater Conservation District
(Name of District)

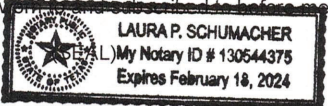
hereby swear, or affirm, that the District named above has reviewed and approved at a meeting of the Board of the Directors of the District on May 23, 2023, its annual audit report for the fiscal year or period ended December 31, 2022 and that copies of the annual audit report have been filed in the District's office, located at

1100 Circle Drive Suite 300, Fort Worth, TX 76119
(Address of District)

The annual filing affidavit and the attached copy of the audit report are being submitted to the Texas Commission on Environmental Quality in satisfaction of the annual filing requirements of Texas Water Code Section 49.194.

Date: May 23, 2023 By: [Signature]
(Signature of District Representative)

L. Russell Laughlin, President, Board of Directors

Subscribed and sworn to before me this 23rd day of May, 2023.
 [Signature]
(Signature of Notary)

My Commission Expires On: February 18, 2024
Notary Public in the State of Texas.



INDEPENDENT AUDITORS' REPORT

Board of Directors and General Manager
Northern Trinity Groundwater Conservation District
Fort Worth, Texas

Opinions

We have audited the accompanying financial statements of Northern Trinity Groundwater Conservation District (the District) as of and for the years ended December 31, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the District's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the District as of December 31, 2022 and 2021, and the respective changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the District, and to meet our ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Emphasis of Matter

As described in Footnote 2 to the financial statements, in fiscal year 2022 the District adopted new accounting guidance, Governmental Accounts Standards Board Statement No. 87, *Leases*. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the District's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the District's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the Texas County and District Retirement System schedules be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of the financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the District's basic financial statements. The Budgetary Comparison Schedules are presented for purposes of additional analysis, and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Budgetary Comparison Schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Annual Filing Affidavit but does not include the basic financial statements and our auditor's report thereon. Our opinions on the basic financial statements do not cover the information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.



Granbury, Texas
May 23, 2023

MANAGEMENT'S DISCUSSION AND ANALYSIS

**NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED DECEMBER 31, 2022**

Northern Trinity Groundwater Conservation District (the District) is pleased to present its financial statements. This required supplementary information presents a narrative overview and analysis of the financial activities of the District for the year ended December 31, 2022. Please read this section in conjunction with the basic financial statements following this section.

OVERVIEW OF THE FINANCIAL STATEMENTS:

This discussion and analysis is intended to serve as an introduction to the District's basic financial statements. The District's basic financial statements are comprised of two components: 1) financial statements, and 2) notes to the financial statements. This report also contains other supplementary information in addition to the basic financial statements themselves.

Financial Statements – The financial statements are designed to provide readers with a broad overview of the District's finances, in a manner similar to a private-sector business.

The Statement of Net Position presents information on all of the District's assets, deferred outflows, liabilities, and deferred inflows, with the difference between them reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the District is improving or deteriorating.

The Statement of Revenues, Expenses, and Changes in Net Position presents information showing how the District's net position changed during the fiscal year. All changes in net position are reported when the underlying event giving rise to the change occurs, regardless of the timing of related cash flow. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in the future fiscal periods.

The Statement of Cash Flows presents information showing how the District's cash and cash equivalents changed during the fiscal year, with cash flows being classified as operating, investing, or financing activities. The statement further reconciles the District's operating income to cash provided by (used in) operating activities by removing non-cash related transactions.

Notes to the Financial Statements – The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements.

FINANCIAL HIGHLIGHTS

- The District's total assets and deferred outflows at December 31, 2022 of \$2,576,602 exceeded total liabilities and deferred inflows of \$89,230, resulting in total net position of \$2,487,372. Total net position represents an increase of \$292,247 or 13.31% from the previous fiscal year end.
- Cash and cash equivalents of \$1,941,680 represents an increase of \$185,780 or 10.58% during the fiscal year.
- During the year, the District earned total operating revenues of \$880,211, representing an increase of \$302,068 from the previous fiscal year. Total operating revenues consisted primarily of charges for water production and charges for new wells of \$623,271 and \$155,500, respectively.
- Total operating expenses of \$605,601 consisted primarily of \$346,904 incurred for payroll and related taxes and benefits, \$63,471 in legal expenses, and \$49,686 for engineering expenses.

**NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED DECEMBER 31, 2022**

FINANCIAL ANALYSIS OF THE DISTRICT AS A WHOLE

Net position may serve over time as a useful indicator of a government's financial position. For the District, total net position was \$2,487,372 and represented an increase of \$292,247 over the previous fiscal year end. This increase was due to total customer revenues of \$880,211 that exceeded total operating expenses of \$605,601 and total non-operating income, net of expense totaling \$17,637. Below is a comparative condensed summary of the District's statements of net position as of December 31, 2022 and 2021.

	2022	2021	Total Percentage Change 2021-2022
ASSETS			
Cash and cash equivalents	\$ 1,899,030	\$ 1,726,750	9.98%
Accounts receivable	312,054	242,905	28.47%
Restricted cash	42,650	29,150	46.31%
Capital and right-to-use assets, net	236,894	192,094	23.32%
Net pension asset	18,397	-	
Total assets	<u>2,509,025</u>	<u>2,190,899</u>	14.52%
DEFERRED OUTFLOWS			
Deferred retirement contributions	17,398	14,197	22.55%
Deferred actual vs. assumption	48,804	33,297	46.57%
Deferred assumption/input changes	1,375	5,623	-75.55%
Total deferred outflows	<u>67,577</u>	<u>53,117</u>	27.22%
LIABILITIES			
Accounts payable and accrued liabilities	20,002	13,396	49.31%
Driller deposits	42,650	29,150	46.31%
Net pension liability	-	5,020	-100.00%
Lease liability	6,191	-	
Total liabilities	<u>68,843</u>	<u>47,566</u>	44.73%
DEFERRED INFLOWS			
Deferred investment experience	20,387	1,325	
Total deferred inflows	<u>20,387</u>	<u>1,325</u>	100.00%
NET POSITION			
Net investment in capital and right-to-use assets	230,703	192,094	20.10%
Unrestricted	<u>2,256,669</u>	<u>2,003,031</u>	12.66%
Total net position	<u>\$ 2,487,372</u>	<u>\$ 2,195,125</u>	13.31%

As of December 31, 2022, the District's total assets were comprised primarily of cash and cash equivalents. These assets are available for future use, with the exception of restricted cash reserves to repay driller deposits, and thus are a major component of unrestricted net position in the financial statements.

**NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED DECEMBER 31, 2022**

The District's liabilities consist of accounts payable and accrued liabilities for services received during the fiscal period, but not paid until after year end.

Unrestricted net position represents amounts available for future use.

CHANGES IN NET POSITION

The District's total revenues were \$880,211 and consisted primarily of charges for water production and charges for water wells of \$623,271 and \$155,500, respectively. Charges for water production are billed at a rate of \$0.155 per 1,000 gallons of water produced (an increase from \$0.125 from the previous year).

Total operating expenses of \$605,601 consisted primarily of payroll and related taxes and benefits of \$346,904, outside legal services of \$63,471, and engineering services of \$49,686.

A condensed summary of the District's statements of revenues, expenses, and changes in net position for years ended December 31, 2022 and 2021 is presented below.

	<u>2022</u>	<u>2021</u>	<u>Total Percentage Change 2021-2022</u>
OPERATING REVENUES			
Charges for water production fees	\$ 623,271	\$ 409,328	52.27%
Charges for new wells	155,500	125,400	24.00%
Forfeited driller deposits	9,150	-	100.00%
Penalties assessed	15,880	2,071	666.78%
Permit and exception fees	39,900	35,600	100.00%
Miscellaneous income	8,660	2,911	197.49%
Other	27,850	2,833	883.06%
Total operating revenues	<u>880,211</u>	<u>578,143</u>	52.25%
OPERATING EXPENSES			
Operating expenses	<u>605,601</u>	<u>516,246</u>	17.31%
Total operating expenses	<u>605,601</u>	<u>516,246</u>	17.31%
OPERATING INCOME	<u>274,610</u>	<u>61,897</u>	343.66%
NON-OPERATING INCOME (EXPENSE)			
Gain on disposal of capital assets	18,000	-	
Interest expense	<u>(363)</u>	<u>-</u>	
Total non-operating income (expense)	17,637	-	
Changes in net position	292,247	61,897	372.15%
NET POSITION, beginning of year	<u>2,195,125</u>	<u>2,133,228</u>	2.90%
NET POSITION, end of year	<u>\$ 2,487,372</u>	<u>\$ 2,195,125</u>	13.31%

**NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED DECEMBER 31, 2022**

ANALYSIS OF CHANGES IN CAPITAL ASSETS AND LONG-TERM DEBT

As of December 31, 2022 and 2021, the District's investment in capital and right-to-use assets totals \$230,703 and \$192,094, respectively, (net of accumulated depreciation/amortization) consisting of a vehicle that was purchased with a trade-in of the former vehicle for total cost of \$44,981 and software with a cost of \$272,893 and an addition furniture of \$1,799 and a right-to-use asset for the office space of \$11,221. For the year ended December 31, 2022, depreciation expense for the vehicle, furniture and equipment, software, and right-to-use asset amounted to \$4,498, \$107, \$21,063, and \$5,143, respectively. For the year ended December 31, 2021, depreciation expense for the vehicle and software amounted to \$0 and \$21,063, respectively

The District entered into a right-to-use lease liability totaling \$11,221 and made principal payments totaling \$5,030 during the year ended December 31, 2022. During the year ended December 31, 2021, the District did not procure any debt.

BUDGET, ECONOMIC ENVIRONMENT, AND RATES

The budget for the year ended December 31, 2023, was approved by the Board of Directors and adopted by NTGCD Resolution #022-002.

The budget for the fiscal year ending December 31, 2023, shows projected revenues of \$744,400 and operating expenses of \$737,028. The increase in projected revenues compared to the budget for the fiscal period ended December 31, 2022, is primarily due to an increase in reported production and the number of non-exempt reporting wells. Additionally, a slight increase in the projected number of new well applications result in increased income paid to the District.

Because revenues from water usage and new wells could decline if certain situations occur, the Board of Directors deem it prudent to accumulate sufficient funds to cover operations and unexpected expenses should the District lose any major water customers. As such, the District's immediate and long-term financial goals are to fund necessary groundwater planning program services, waste prevention programs, and public education with program revenues and safeguard cash on hand for future needs.

Political issues affecting the District include potential groundwater ownership legislative issues, additional planning goals, conservation, waste prevention, and discussions of the authority of certain groundwater conservation districts.

CONTACTING THE DISTRICT'S FINANCIAL MANAGEMENT

This financial report is designed to provide our citizens, customers, and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the money it receives. If you have questions about this report or need additional information, contact the District.

FINANCIAL STATEMENTS

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
STATEMENTS OF NET POSITION
DECEMBER 31, 2022 AND 2021

	<u>2022</u>	<u>2021</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 1,899,030	\$ 1,726,750
Accounts receivable	312,054	242,905
Total current assets	<u>2,211,084</u>	<u>1,969,655</u>
Noncurrent assets:		
Restricted cash	42,650	29,150
Capital and right-to-use assets, net	236,894	192,094
Net pension asset	18,397	-
Total assets	<u>2,509,025</u>	<u>2,190,899</u>
DEFERRED OUTFLOWS		
Deferred retirement contributions	17,398	14,197
Deferred actual vs. assumption	48,804	33,297
Deferred assumption/input changes	1,375	5,623
Total deferred outflows	<u>67,577</u>	<u>53,117</u>
 Total assets and deferred outflows	 <u>2,576,602</u>	 <u>2,244,016</u>
LIABILITIES		
Current liabilities:		
Accounts payable and accrued liabilities	20,002	13,396
Driller deposits	42,650	29,150
Long term liabilities		
Net pension liability	-	5,020
Lease liability - due within one year	5,703	-
Lease liability - due in more than one year	488	-
Total liabilities	<u>68,843</u>	<u>47,566</u>
DEFERRED INFLOWS		
Deferred investment experience	20,387	1,325
Total deferred inflows	<u>20,387</u>	<u>1,325</u>
NET POSITION		
Net investment in capital and right-to-use assets	236,406	192,094
Unrestricted	<u>2,250,966</u>	<u>2,003,031</u>
 Total net position	 <u>\$ 2,487,372</u>	 <u>\$ 2,195,125</u>

The accompanying notes are an integral part of the financial statements.

**NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION
YEARS ENDED DECEMBER 31, 2022 AND 2021**

	<u>2022</u>	<u>2021</u>
OPERATING REVENUES		
Charges for water production fees	\$ 623,271	\$ 409,328
Charges for new wells	155,500	125,400
Forfeited driller deposits	9,150	-
Penalties assessed	15,880	2,071
Permit and exception fees	39,900	35,600
Miscellaneous income	8,660	2,911
Other	27,850	2,833
Total operating revenues	<u>880,211</u>	<u>578,143</u>
OPERATING EXPENSES		
Accounting	14,500	14,975
Advertising	14,717	2,277
Auto expense	22,275	24,842
Engineering	49,686	27,374
GMA 8 contribution	1,877	2,651
Insurance	4,066	3,785
Legal	63,471	44,926
Office expense	26,812	24,172
Payroll and related taxes and benefits	346,904	341,871
Travel and training	7,738	3,376
Water well monitoring	12,920	2,029
Website services	2,175	150
Other	7,649	2,755
Depreciation and amortization	30,811	21,063
Total operating expenses	<u>605,601</u>	<u>516,246</u>
OPERATING INCOME	<u>274,610</u>	<u>61,897</u>
NON-OPERATING INCOME (EXPENSE)		
Gain on disposal of capital assets	18,000	-
Interest expense	(363)	-
Total non-operating income (expense)	<u>17,637</u>	<u>-</u>
Changes in net position	292,247	61,897
NET POSITION, beginning of year	<u>2,195,125</u>	<u>2,133,228</u>
NET POSITION, end of year	<u>\$ 2,487,372</u>	<u>\$ 2,195,125</u>

The accompanying notes are an integral part of the financial statements.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 2022 AND 2021

	<u>2022</u>	<u>2021</u>
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received from customers	\$ 824,562	\$ 578,715
Cash paid to suppliers	(221,280)	(154,961)
Cash paid to employees	(365,719)	(357,134)
Net cash provided by operating activities	<u>237,563</u>	<u>66,620</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Purchase of capital assets	(46,390)	(44,650)
Principal payments on lease liability	(5,030)	-
Interest payments on lease liability	(363)	-
Net cash used in capital and related financing activities	<u>(51,783)</u>	<u>(44,650)</u>
Net changes in cash and cash equivalents	185,780	21,970
CASH AND CASH EQUIVALENTS, beginning of year	<u>1,755,900</u>	<u>1,733,930</u>
CASH AND CASH EQUIVALENTS, end of year	<u>\$ 1,941,680</u>	<u>\$ 1,755,900</u>
RECONCILIATION OF OPERATING INCOME TO THE STATEMENT OF NET POSITION		
Cash and cash equivalents	\$ 1,899,030	\$ 1,726,750
Restricted cash	42,650	29,150
Total cash	<u>\$ 1,941,680</u>	<u>\$ 1,755,900</u>

The accompanying notes are an integral part of the financial statements.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
STATEMENTS OF CASH FLOWS
YEARS ENDED DECEMBER 31, 2022 AND 2021

RECONCILIATION OF OPERATING INCOME TO
NET CASH PROVIDED BY OPERATING ACTIVITIES

Operating income	\$	274,610	\$	61,897
Adjustments to reconcile operating income to net cash provided by operating activities				
Depreciation and amortization expense		30,811		21,063
Changes in assets and liabilities				
Accounts receivable		(69,149)		(9,178)
Deferred outflows		(14,460)		(20,780)
Accounts payable and accrued liabilities		6,606		(1,649)
Driller deposits		13,500		9,750
Net pension liability		(23,417)		4,615
Deferred inflows		19,062		902
Net cash provided by operating activities	\$	<u>237,563</u>	\$	<u>66,620</u>

SUPPLEMENTAL SCHEDULE OF NONCASH FINANCING,
CAPITAL AND INVESTING ACTIVITIES:

Value given for like-kind exchange	\$	<u>18,000</u>	\$	<u>-</u>
Issuance of lease liability for right-to-use asset	\$	<u>11,221</u>	\$	<u>-</u>

The accompanying notes are an integral part of the financial statements.

NOTES TO FINANCIAL STATEMENTS

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

1. Organization

The Northern Trinity Groundwater Conservation District (the District) is a political subdivision of the State of Texas created under the authority of Article XVI, Section 59, Texas Constitution, and operating pursuant to the provisions of the Texas Water Code, Chapter 36, and Senate Bill 1983, Acts of the 80th Legislature, Regular Session, 2007. The District commenced operations in 2010.

The District is governed by a Board of Directors, which is comprised of five appointed directors.

2. Summary of Significant Accounting Policies

The financial statements of the District are presented in accordance with U.S. generally accepted accounting principles (GAAP) applicable to independent enterprise agencies as prescribed by the Governmental Accounting Standards Board (GASB). The following is a summary of the nature of operations and significant accounting policies:

A. Nature of Operations

The primary objective of the District is to protect the groundwater resources within Tarrant County, Texas, to promote recharge of the aquifers, and to work with others to ensure a sustainable, adequate, high quality and cost effective supply of water.

B. Reporting Entity

The financial statements of the District include all activities of the primary government, organization and functions as required by accounting principles generally accepted in the United States of America. The District does not have any component units and does not meet the requirements, as defined in Governmental Accounting Standards Board Statements 14, 39, and 61, to be included as a component unit in any other governmental entities.

C. Basis of Accounting

The activities of the District are similar to those of enterprise funds of local jurisdictions and, therefore, are reported as an enterprise fund. Enterprise funds are accounted for using the economic resources measurement focus and the accrual basis of accounting. The accounting objectives are determinations of net income, financial position, and cash flow. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows.

D. Budgetary Data

The District maintains control over operating expenses by the establishment of an annual operating budget. Budgets are prepared on the accrual basis of accounting consistent with GAAP. An annual proposed budget is presented to the Board of Directors. Following discussion, the Board of Directors adopts the budget. The operating budget includes only proposed expenses and the means of financing them.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

2. Summary of Significant Accounting Policies (continued)

E. Financial Reporting

Revenues are distinguished between operating and non-operating. Operating revenues, such as charges for water production, result from exchange transactions associated with the principal activity of the District. Exchange transactions are those in which each party receives and gives up essentially equal values. Non-operating revenues, such as interest income, result from non-exchange transactions or ancillary activities. Expenses, such as interest expense, are considered non-operating expenses.

F. Cash and Cash Equivalents

Certain cash and cash equivalents of the District are classified as restricted assets on the statements of net position because their use is limited to the repayment of permit deposits of customers.

For purposes of the statements of cash flows, all highly liquid investments (including restricted assets) with a maturity of three months or less when purchased are considered to be cash equivalents.

G. Accounts Receivable

Receivables are carried at net realizable value. Management evaluates the collectability of the receivables based on prior experience, review of individual accounts, historical losses, existing economic conditions and other pertinent factors. Management charges off receivables when it becomes certain that the balance is uncollectible. Accounts considered uncollected are charged to the allowance. At December 31, 2022 and 2021, the District considers all amounts due from others to be fully collectible; therefore, no allowance has been recorded.

H. Capital and Right-to-Use Assets

The District capitalizes assets with an initial cost of \$1,500 or more with a useful life of more than one year. Purchased or constructed capital assets are reported at cost. Right-to-use lease assets are reported as present value of the future lease payments (lease liability), plus any ancillary cost to place the asset in service, plus any additional payments made at the beginning of the lease term, less any lease incentives received from the lessor prior to the commencement of the lease term. When capital assets are disposed, the cost and applicable accumulated depreciation are removed from the respective accounts, and the resulting gain or loss is recorded in operations. The cost of normal maintenance and repairs that do not add to the value of the asset or materially extend assets' lives are not capitalized. The estimated useful life vehicles is 5 years, software is 10 years, furniture and equipment is 7 years, and right-to-use asset is 24 months.

I. Net Position

When both restricted and unrestricted resources are available for use, it is the District's policy to use restricted resources first, then unrestricted resources as they are needed.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

2. Summary of Significant Accounting Policies (continued)

J. Revenue Recognition

The District recognizes revenue related to charges for water production in the period in which they can be reasonably estimated, which is the period in which the related production reports relate to. Revenue related to charges for new wells is recognized as received. Fees received that are applicable to future periods, if any, are recorded as unearned revenue.

K. Concentration of Credit Risk

The District is a political subdivision that regulates water well drilling of its customers, all of whom reside in Tarrant County, Texas. Credit risk is limited due to the large number of customers comprising the District's customer base.

L. Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

M. Implementation of New Standard

In the current fiscal year, the District implemented the following new standard. The applicable provisions of the new standards are summarized below. Implementation is reflected in the financial statements and the notes to the financial statements. There was no effect on beginning net position due to the implementation of this standard.

GASB Statement No. 87, *Leases*

The objective of this Statement is to better meet the information needs of financial statement users by improvement accounting and financial reporting for leases by governments. This Statement increases the usefulness of government' financial statements by requiring recognition of certain leased assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this Statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources, thereby enhancing the relevance and consistency of information about governments' leasing activities.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

3. Cash and Cash Equivalents

During the years ended December 31, 2022 and 2021, the District did not own any investments. All cash and cash equivalents are deposits with financial institutions. Details of the District's investment policy are discussed below.

Custodial Credit Risk

Custodial credit risk is the risk that in the event of a bank failure, the District's deposits may not be returned to it. The carrying amount and bank balance of the District's deposits at December 31, 2022 were \$1,941,680 and \$1,951,125, respectively and at December 31, 2021 were \$1,755,900 and \$1,785,733, respectively. As of December 31, 2022 and 2021, \$500,000 of the bank balance was covered by federal depository insurance, with the remaining balance covered by pledged collateral, leaving all accounts fully collateralized. The District believes it is not exposed to any significant credit risk on its cash and equivalent balances.

Interest Rate Risk

The District's investment policy requires investments be made in a manner to attain the maximum rate of return allowed through prudent and legal investing of District funds while preserving and protecting capital in the overall portfolio. The District's policy further controls interest rate risk by limiting the term of any single investment to a maximum of thirteen (13) months. As of December 31, 2022 and 2021, the District was not invested in any investments subject to interest rate risk.

Credit Risk and Concentration of Credit Risk

Credit risk is the risk that the issuer or other counterparty to an investment will not fulfill its obligations. It is the District's policy to allow for investments in obligations of the U.S. or its agencies and instrumentalities, certificates of deposit, and local government investment pools.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

4. Capital Assets

Capital asset activity for the year ended December 31, 2022 was as follows:

	Balance 1/1/2022	Additions	Retirements/ Adjustments	Balance 12/31/2022
Business-type activities:				
Capital assets not being depreciated/amortized				
Construction in progress	\$ 44,650	\$ 17,610	\$ (62,260)	\$ -
Total capital assets not being depreciated/amortized	<u>44,650</u>	<u>17,610</u>	<u>(62,260)</u>	<u>-</u>
Capital asset being depreciated/amortized				
Vehicles	30,383	44,981	(30,383)	44,981
Furniture and equipment	-	1,799	-	1,799
Software	210,633	-	62,260	272,893
Right-to-use asset	-	11,221	-	11,221
Total capital assets being depreciated/amortized	<u>241,016</u>	<u>58,001</u>	<u>31,877</u>	<u>330,894</u>
Less accumulated depreciation/amortization				
Vehicles	(30,383)	(4,498)	30,383	(4,498)
Furniture and equipment	-	(107)	-	(107)
Software	(63,189)	(21,063)	-	(84,252)
Right-to-use asset	-	(5,143)	-	(5,143)
Total accumulated depreciation/amortization	<u>(93,572)</u>	<u>(30,811)</u>	<u>30,383</u>	<u>(94,000)</u>
Total capital assets being depreciated/amortized, net	<u>147,444</u>	<u>27,190</u>	<u>62,260</u>	<u>236,894</u>
Business-type activities capital assets, net	<u>\$ 192,094</u>	<u>\$ 44,800</u>	<u>\$ -</u>	<u>\$ 236,894</u>

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

5. Long-Term Liabilities

The following is a summary of all long-term liability transactions of the District for the year ended December 31, 2022:

Description	Beginning Balance 1/1/2022	Increases	Decreases	Ending Balance 12/31/2022	Due Within One Year
Business-type activities					
Net pension liability (asset)	\$ 5,020	\$ -	\$ (23,417)	\$ (18,397)	\$ -
Lease liability	-	11,221	(5,030)	6,191	5,703
Total business-type activities	<u>\$ 5,020</u>	<u>\$ 11,221</u>	<u>\$ (28,447)</u>	<u>\$ (12,206)</u>	<u>\$ 5,703</u>

6. Leases

The District recognized the following lease in the current year due to the implementation of GASB Statement No. 87, *Leases*.

The lease is for office space with payments of \$490 payable in monthly installments with an interest rate of 5%.

There were no variable payments or residual value guarantees or penalties not included in the measurement of the lease. The District did not have any commitments under leases not yet commenced at year-end, components of losses associated with asset impairments or sublease transactions for the year ended December 31, 2022.

Year ended December 31	Principal	Interest	Total
2023	\$ 5,703	\$ 180	\$ 5,883
2024	488	2	490
	<u>\$ 6,191</u>	<u>\$ 182</u>	<u>\$ 6,373</u>

7. Contingencies

From time to time, the District may be a defendant in legal proceedings related to its operations as a groundwater conservation district. In the opinion of management, the ultimate outcome of such matters, if any, will not have a material effect on the financial condition of the District.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

8. Retirement Plan

Plan Description

The District provides retirement benefits for all of its full-time and part-time employees through a nontraditional defined benefit plan in the state-wide Texas County and District Retirement System (TCDRS). The Board of Trustees of TCDRS is responsible for the administration of the state-wide agent multiple-employer public employee retirement. TCDRS in the aggregate issues an annual comprehensive financial report (ACFR) on a calendar year basis. The ACFR is available upon written request from the TCDRS Board of Trustees at P.O. Box 2034, Austin, TX 78768-2034.

Benefits Provided

The plan provisions are adopted by the governing body of the employer, within the options available in the Texas state statutes governing TCDRS (TCDRS Act). Members can retire at age 60 and above with 5 or more years of service, with 30 years of service regardless of age, or when the sum of their age and years of service equals 80 or more, when vested. Members are vested after 5 years of service but must leave their accumulated contributions in the plan to receive any employer-financed benefit. Members who withdraw their personal contributions in a lump sum are not entitled to any amounts contributed by their employer.

Benefit amounts are determined by the sum of the employee's contributions to the plan, with interest, and employer-financed monetary credits. The level of these monetary credits is adopted by the governing body of the employer within the actuarial constraints improved by the TCDRS Act so that the resulting benefits can expect to be adequately financed by the employer's commitment to contribute. At retirement, death or disability, the benefit is calculated by converting the sum of the employee's accumulated contributions and the employer-financed monetary credits to a monthly annuity using annuity purchase rates prescribed by the TCDRS Act. There are no automatic post-employment benefit changes, including automatic COLAs.

At the December 31, 2021 valuation and measurement date, the following employees were covered by the benefit term

Inactive employees or beneficiaries currently receiving benefits	1
Inactive employees entitled to but not yet receiving benefits	0
Active employees	<u>3</u>
	<u>4</u>

Contributions

The District has elected the annually determined contribution rate (Variable Rate) plan provision of the TCDRS Act. The plan is funded by monthly contributions from both employee members and the employer based on the covered payroll of employee members. Under the TCDRS Act, the contribution rate of the employer is actuarially determined annually.

The District contributed using the actuarially required contribution rate of 6.23% for the calendar year. The deposit rate payable by the employee members for calendar year 2022 is the rate of 7.00% as adopted by the governing body of the District. The employee and employer deposit rates may be changed by the governing body of the District within the options available in the TCDRS Act.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

8. Retirement Plan (continued)

Net Pension Liability

The District's Net Pension Liability (NPL) for the year ended December 31, 2022, was measured as of December 31, 2021, and the Total Pension Liability (TPL) used to calculate the Net Pension Liability was determined by an actuarial valuation as of that date.

Actuarial Assumptions:

The Total Pension Liability in the December 31, 2021 actuarial valuation was determined using the following actuarial assumptions:

Inflation	2.50% per year
Overall payroll growth	4.7% per year
Investment Rate of Return	7.5%, net of administrative and investment expense, including inflation

The annual salary increase rates assumed for individual members vary by length of service and by entry-age group. The annual rates consist of a general wage inflation component of 3.00% (made up of 2.50% inflation and 0.5% productivity increase assumptions) and a merit, promotion and longevity component that on average approximates 1.7% per year for a career employee.

Mortality rates for depositing members were based on 135% of the Pub-2010 General Employees Amount-Weighted Mortality Table for males and 120% of the Pub-2010 General Employees Amount-Weighted Mortality Table for females as appropriate, both projected with 100% of the MP-2021 Ultimate scale after 2010. Service retirees, beneficiaries and non-depositing members were based on 135% of the Pub-2010 General Retirees Amount-Weighted Mortality Table for males and 120% of the Pub-2010 General Retirees Amount-Weighted Mortality Table for females, both projected with 100% of the MP-2021 Ultimate scale after 2010. Disabled retirees were based on 160% of the Pub-2010 General Disabled Retirees Amount-Weighted Mortality Table for males and 125% of the Pub-2010 General Disabled Retirees Amount-Weighted Mortality Table for females, both projected with 100% of the MP-2021 Ultimate scale after 2010.

All actuarial assumptions that determined the total pension liability as of the December 31, 2021 valuation were based on the results of an actuarial experience study for the period January 1, 2017 – December 31, 2020, except where required to be different by GASB 68.

The gross assumed long-term expected rate of return of 7.6% is determined by adding expected inflation to expected long-term real returns, and reflecting expected volatility and correlation. The capital market assumptions and information shown below are provided by TCDRS' investment consultant, Cliffwater LLC. The numbers shown are based on January 2022 information for a 10-year time horizon and are re-assessed in detail at a minimum every four years, and it is set based on a long-term time horizon; the most recent analysis was performed in 2021. The TCDRS Board of Trustees adopted the current assumption at their March 2021 meeting. The assumption for the long-term expected return is reviewed annually for continued compliance with the relevant actuarial standards of practice. Best estimates of geometric real rates of return are summarized below:

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

7. Retirement Plan (continued)

Net Pension Liability (continued)

		Target	Geometric Real
US Equities	Dow Jones U.S. Total Stock Market Index	11.50%	3.80%
Global Equities	MSCI World (net) Index	2.50%	4.10%
Int'l Equities - Developed Markets	MSCI World Ex USA (net) Index	5.00%	3.80%
Int'l Equities - Emerging Markets	MSCI Emerging Markets (net) Index	6.00%	4.30%
Investment-Grade Bonds	Blomberg Barclays U.S. Aggregate Bond Index	3.00%	-0.85%
Strategic Credit	FTSE High-Yield Cash-Pay Capped Index	9.00%	1.77%
Direct Lending	S&P/LSTA Leveraged Loan Index	16.00%	6.25%
Distressed Debt	Cambridge Associates Distressed Securities Index ⁽³⁾	4.00%	4.50%
REIT Equities	67% FTSE NAREIT All Equity REITs Index + 33% S&P Global REIT (net) Index	2.00%	3.10%
Master Limited Partnerships (MLPs)	Alerian MLP Index	2.00%	3.85%
Private Real Estate Partnerships	Cambridge Associates Real Estate Index ⁽⁴⁾	6.00%	5.10%
Private Equity	Cambridge Associates Global Private Equity & Venture Capital Index ⁽⁵⁾	25.00%	6.80%
Hedge Funds	Hedge Fund Research, Inc. (HFRI) Fund of Funds Composite Index	6.00%	1.55%
Cash Equivalents	90-Day U.S. Treasury	2.00%	-1.05%
Total		100.0%	

⁽¹⁾ Target asset allocation adopted at the March 2022 TCDRS Board meeting

⁽²⁾ Geometric real rates of return equal the expected return minus the asset class minus the assumed inflation rate of 2.6%, per Cliffwater's 2022 capital market assumptions.

⁽³⁾ Includes vintage years 2005-present of Quarter Pooled Horizon IRRs.

⁽⁴⁾ Includes vintage years 2007-present of Quarter Pooled Horizon IRRs.

⁽⁵⁾ Includes vintage years 2006-present of Quarter Pooled Horizon IRRs.

Discount Rate

The discount rate used to measure the Total Pension Liability was 7.60%. Using the alternative method, the projected fiduciary net position is determined to be sufficient compared to projected benefit payments based on the funding requirements under the District's funding policy and the legal requirements under the TCDRS Act.

1. TCDRS has a funding policy where the unfunded actuarial accrued liability (UAAL) shall be amortized as a level percent of pay over 20-year closed layered periods.
2. Under the TCDRS Act, the District is legally required to make the contribution specified in the funding policy.
3. The District assets are projected to exceed its accrued liabilities in 20 years or less. When this point is reached, the District is still required to contribute at least the normal cost.
4. Any increased cost due to the adoption of a COLA is required to be funded over a period of 15 years, if applicable.

Since the projected fiduciary net position is projected to be sufficient to pay projected benefit payments in all future years, the discount rate for purposes of calculating the total pension liability and the net pension liability of the District is equal to the long-term assumed rate of return on investments, net of investment expenses but gross of inflation.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

7. Retirement Plan (continued)

Net Pension Liability (continued)

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability / (Asset)
	(a)	(b)	(a) - (b)
Balance at 12/31/2020	\$ 154,605	\$ 149,585	\$ 5,020
Changes for the year:			
Service cost	16,874	-	16,874
Interest on total pension liability ⁽¹⁾	12,934	-	12,934
Effect of plan changes ⁽²⁾	-	-	-
Effect of economic/demographic gains or losses	21,832	-	21,832
Effect of assumptions changes or inputs	(3,702)	-	(3,702)
Refund of contributions	-	-	-
Benefit payments	(2,644)	(2,644)	-
Administrative expenses	-	(118)	118
Member contributions	-	19,875	(19,875)
Net investment income	-	36,469	(36,469)
Employer contributions	-	14,197	(14,197)
Other ⁽³⁾	-	932	(932)
Net changes	\$ 45,294	\$ 68,711	\$ (23,417)
Balance at 12/31/2021	\$ 199,899	\$ 218,296	\$ (18,397)

⁽¹⁾ Reflects the change in the liability due to the time value of money. TCDRS does not charge fees or interest.

⁽²⁾ No plan changes valued

⁽³⁾ Relates to allocation of system-wide items.

Sensitivity of the net pension liability to changes in the discount rate

The following presents the net pension liability of the District, calculated using the discount rate of 7.6%, as well as what the District's net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.6%) or 1-percentage point higher (8.6%) than the current rate:

	1% Decrease in Discount Rate (6.60%)	Discount Rate (7.60%)	1% Increase in Discount Rate (8.60%)
Total pension liability	\$ 220,437	\$ 199,899	\$ 182,164
Fiduciary net position	218,295	218,296	218,295
Net pension liability (asset)	\$ 2,142	\$ (18,397)	\$ (36,131)

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Financial Statements

7. Retirement Plan (continued)

Net Pension Liability (continued)

Pension Plan Fiduciary Net Position

Detailed information about the pension plan's Fiduciary Net Position is available in a separately-issued TCDRS financial report. That report may be obtained on the internet at www.tcdrs.org.

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended December 31, 2022, the District recognized pension expense/(income) of \$(1,417).

As of December 31, 2021, the District reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$ -	\$ 48,804
Changes of assumptions	3,438	4,813
Net difference between projected and actual earnings	20,387	-
Contributions subsequent to the measurement date	N/A	17,398
Total	\$ 23,825	\$ 71,015

\$17,398 reported as deferred outflows of resources related to pensions resulting from contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability for the year ending December 31, 2023. Other amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense as follows:

Valuation year ended December 31:	
2022	\$ 1,913
2023	1,192
2024	1,899
2025	2,093
2026	6,874
Thereafter	15,821

REQUIRED SUPPLEMENTARY INFORMATION

**NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
SCHEDULE OF CHANGE IN NET PENSION LIABILITY
AND RELATED RATIOS
Last 10 Measurement Years (will ultimately be displayed)**

Total Pension Liability	2021	2020	2019	2018	2017
Service Cost	\$ 16,874	\$ 14,964	\$ 14,280	\$ 30,702	\$ 24,660
Interest on total pension liability	12,934	9,603	6,309	4,685	1,997
Effect of plan changes	-	-	-	474	-
Effect of assumption changes or inputs	(3,702)	6,109	-	-	462
Effect of economic/demographic (gains) or losses	21,832	20,338	19,388	611	22
Benefit payments/refunds of contributions	(2,644)	-	-	-	-
Net Change in Total Pension Liability	45,294	51,014	39,977	36,472	27,141
Total Pension Liability, beginning	154,605	103,591	63,613	27,141	-
Total Pension Liability, ending (a)	\$ 199,899	\$ 154,605	\$ 103,590	\$ 63,613	\$ 27,141
Fiduciary Net Position					
Employer contributions	\$ 14,197	\$ 14,339	\$ 13,791	\$ 13,211	\$ 10,689
Member contributions	19,875	20,400	19,424	18,683	15,115
Investment income net of investment expenses	36,469	10,731	9,689	(138)	415
Benefit payments/refunds of contributions	(2,644)	-	-	-	-
Administrative expenses	(118)	(109)	(79)	(48)	(18)
Other	932	1,038	1,152	953	346
Net Change in Fiduciary Net Position	68,711	46,399	43,977	32,661	26,547
Fiduciary Net Position, beginning	149,585	103,186	59,208	26,547	-
Fiduciary Net Position, ending (b)	\$ 218,296	\$ 149,585	\$ 103,185	\$ 59,208	\$ 26,547
Net Pension Liability (Asset), ending = (a) - (b)	\$ (18,397)	\$ 5,020	\$ 405	\$ 4,405	\$ 594
Fiduciary net position as a % of total pension liability	109.20%	96.75%	99.61%	93.08%	97.81%
Pensionable covered payroll	\$ 283,934	\$ 291,435	\$ 277,492	\$ 266,894	\$ 215,934
Net pension liability as a % of covered payroll	-6.48%	1.72%	0.15%	1.65%	0.28%

Note: This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not reported in accordance with the standards of GASB 67/68, they should not be shown here. Therefore, we have shown only years for which the new GASB statements have been implemented.

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
SCHEDULE OF EMPLOYER CONTRIBUTIONS
Last 10 Fiscal Years

Year Ending December 31	Actuarially Determined Contribution	Actual Employer Contribution	Contribution Deficiency (Excess)	Pensionable Covered Payroll	Actual Contribution as a % of Covered Payroll
2013					
2014					
2015					
2016					
2017	10,689	10,689	-	215,934	5.0%
2018	13,211	13,211	-	266,894	4.9%
2019	13,791	13,791	-	277,492	5.0%
2020	14,339	14,339	-	291,435	4.9%
2021	14,197	14,197	-	283,934	5.0%
2022	15,476	15,476	-	248,411	6.2%

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
Notes to Required Supplementary Information

Retirement Schedules

Valuation Date

Actuarially determined contribution rates are calculated as of December 31, two years prior to the end of the fiscal year in which contributions are reported.

Methods and Assumptions Used to Determine Contribution Rates

Actuarial Cost Method	Entry Age
Amortization Method	Level percentage of payroll, closed
Remaining Amortization Period	19.2 years (based on contribution rate calculated in 12/31/2021 valuation)
Asset Valuation Method	5-year smoothed market
Inflation	2.50%
Salary Increases	Varies by age and service. 4.7% average over career including inflation
Investment Rate of Return	7.50%, net of administrative and investment expenses, including inflation
Retirement Age	Members who are eligible for service retirement are assumed to commence receiving benefit payments based on age. The average age at service retirement for recent retirees is 61.
Mortality	135% of the Pub-2010 General Retirees Table for males and 120% of the Pub-2010 General Retirees Table for females, both projected with 100% of the MP-2021 Ultimate scale after 2010.
Changes in Assumptions and Methods Reflected in the Schedule of Employer Contributions*	2015: New inflation, mortality and other assumptions were reflected 2017: New mortality assumptions were reflected 2019: New inflation, mortality and other assumptions were reflected.
Changes in Plan Provisions Reflected in the Schedule of Employer Contributions*	2015: No changes in plan provisions were reflected in the Schedule. 2016: No changes in plan provisions were reflected in the Schedule. 2017: New Annuity Purchase Rates were reflected for benefits earned after 2017. 2018: No changes in plan provisions were reflected in the Schedule. 2019: No changes in plan provisions were reflected in the Schedule. 2020: No changes in plan provisions were reflected in the Schedule. 2021: No changes in plan provisions were reflected in the Schedule.

**Only changes that affect the benefit amount and that are effective 2015 and later are shown in the Notes to Schedule*

SUPPLEMENTARY INFORMATION

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
BUDGETARY COMPARISON SCHEDULE
YEAR ENDED DECEMBER 31, 2022
(UNAUDITED)

	GAAP Basis			Variance -
	Budgeted Amounts			Positive
	Original	Final	Actual	(Negative)
Revenues:				
Charges for water production fees	\$ 510,756	\$ 510,756	\$ 623,271	\$ 112,515
Charges for new wells	135,000	135,000	155,500	20,500
Forfeited driller deposits	7,000	7,000	9,150	2,150
Penalties assessed	5,000	5,000	15,880	10,880
Permit and exception fees	51,650	51,650	39,900	(11,750)
Miscellaneous income	3,600	3,600	8,660	5,060
Other	5,000	5,000	27,850	22,850
Total operating revenues	718,006	718,006	880,211	162,205
Expenditures:				
Accounting	15,000	15,000	14,500	500
Advertising	15,000	15,000	14,717	283
Auto expense	56,600	52,569	22,275	30,294
Aquifer storage recovery	1,000	1,000	-	1,000
Engineering	80,000	98,100	49,686	48,414
GMA 8 contribution	6,000	4,945	1,877	3,068
Insurance	5,100	5,100	4,066	1,034
Legal	60,000	62,200	63,471	(1,271)
Office expense	41,650	38,600	26,812	11,788
Payroll	409,147	379,647	346,904	32,743
Travel and training	9,000	9,000	7,738	1,262
Water well monitoring	8,000	18,000	12,920	5,080
Website services	8,000	10,000	2,175	7,825
Other	3,500	8,836	7,649	1,187
Depreciation	-	-	30,811	(30,811)
Total operating expenses	717,997	717,997	605,601	112,396
Operating income	9	9	274,610	274,601
Non-operating income (expense):				
Gain on disposal of capital assets	-	-	18,000	18,000
Interest expense	-	-	(363)	(363)
Total non-operating income (expense)	-	-	17,637	17,637
Change in net position	9	9	292,247	292,238
Net position - beginning of year	2,195,125	2,195,125	2,195,125	-
Net position - end of year	<u>\$ 2,195,134</u>	<u>\$ 2,195,134</u>	<u>\$ 2,487,372</u>	<u>\$ 292,238</u>

NORTHERN TRINITY GROUNDWATER CONSERVATION DISTRICT
BUDGETARY COMPARISON SCHEDULE
YEAR ENDED DECEMBER 31, 2021
(UNAUDITED)

	GAAP Basis			Variance -
	Budgeted Amounts		Actual	Positive
	Original	Final		(Negative)
Revenues:				
Charges for water production fees	\$ 395,000	\$ 395,000	\$ 409,328	\$ 14,328
Charges for new wells	120,000	120,000	125,400	5,400
Forfeited driller deposits	6,000	6,000	-	(6,000)
Penalties assessed	5,000	5,000	2,071	(2,929)
Permit and exception fees	16,750	16,750	35,600	18,850
Miscellaneous income	3,600	3,600	2,911	(689)
Other	10,000	10,000	2,833	(7,167)
Total operating revenues	556,350	556,350	578,143	21,793
Expenditures:				
Accounting	15,000	15,000	14,975	25
Advertising	15,000	15,000	2,277	12,723
Auto expense	29,600	29,600	24,842	4,758
Aquifer storage recovery	5,000	-	-	-
Engineering	55,000	70,731	27,374	43,357
GMA 8 contribution	12,000	12,000	2,651	9,349
Insurance	5,100	5,100	3,785	1,315
Legal	60,000	53,619	44,926	8,693
Office expense	25,750	25,750	24,172	1,578
Payroll	379,232	379,232	341,871	37,361
Travel and training	9,000	9,000	3,376	5,624
Water well monitoring	8,000	8,000	2,029	5,971
Website services	4,500	150	150	-
Other	3,500	3,500	2,755	745
Depreciation	-	-	21,063	(21,063)
Total operating expenses	626,682	626,682	516,246	110,436
Operating income	(70,332)	(70,332)	61,897	132,229
Change in net position	(70,332)	(70,332)	61,897	132,229
Net position - beginning of year	2,133,228	2,133,228	2,133,228	-
Net position - end of year	<u>\$ 2,062,896</u>	<u>\$ 2,062,896</u>	<u>\$ 2,195,125</u>	<u>\$ 132,229</u>

References

George, P.G, Mace, R.E., and Petrossian, R., 2011, Aquifers of Texas: TWDB, Report 380.

Kelley, V.A., Ewing, J., Jones, T.L., Young, S.C., Deeds, N. and Hamlin, S., 2014, Updated groundwater availability model of the northern Trinity and Woodbine aquifers, Final Report: prepared for the TWDB by INTERA, Inc, the University of Texas Bureau of Economic Geology, and LBG-Guyton Associates.





TRINITY
AQUIFER

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NORTHERN TRINITY
GROUNDWATER
CONSERVATION DISTRICT

1100 Circle Dr, Ste. 300
Fort Worth, TX 76119
817.249.2062