



Clearwater Underground Water Conservation District

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Clearwater Staff Reports

September 16, 2020

1. Drought Status
2. Educational Outreach Update
3. Monitoring Wells
4. Rainfall/Drought Conditions
5. Well Registrations
6. Non-Exempt Monthly Well Production

Edwards BFZ Aquifer—Drought Status Report

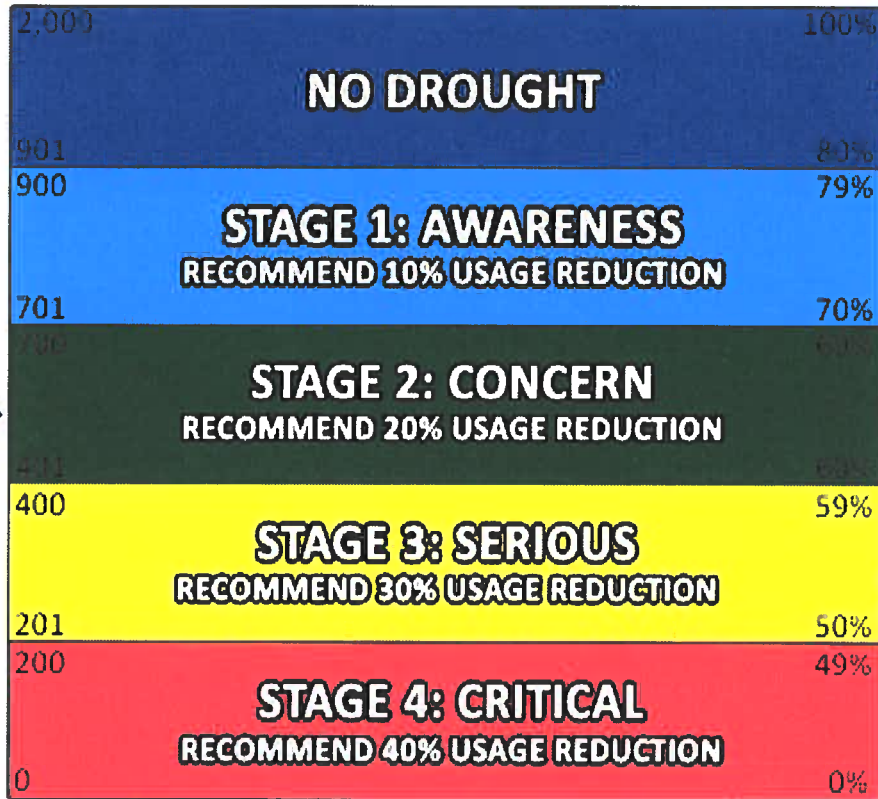
STAGE 2 - CONCERN

Salado Creek
Spring Discharge

Precipitation Deficit
Index (PDI)

(Expect reductions to remain in place until October 14, 2020)

967.54 ac-ft
(month)
16.26 cfs



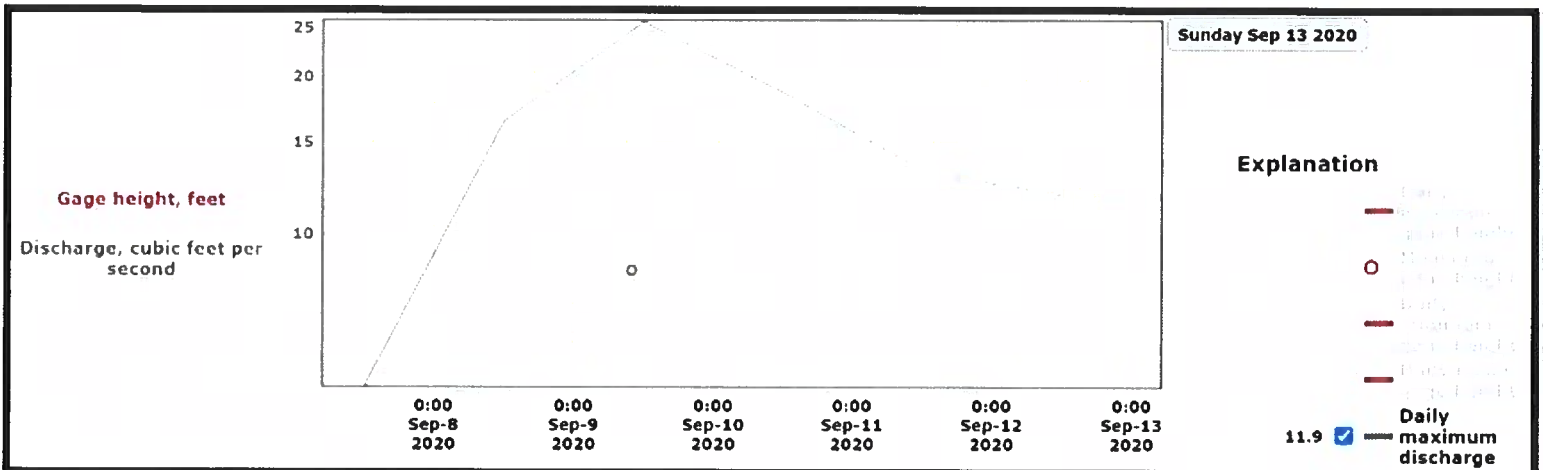
30.15 PDI
91.35 %

PDI is based on a 33" normal yearly average and is a 365 day running total.

AS OF 9/14/2020

USGS 08104300 Salado Ck at Salado, TX

Gage height, feet Discharge, cubic feet per second



- ◆ Limit watering of landscape (lawns, trees, shrubs, etc.) to only once every 5 to 7 days. Agriculture and horticulture operations are exempted from this measure but are encouraged to reduce tree, plant, and crop watering by 20%.
- ◆ Continue or increase voluntary reduction in various uses.
- ◆ Check for and correct all plumbing leaks.
- ◆ Re-use or re-circulate water whenever possible.
- ◆ No filling of ponds, lakes, tanks, reservoirs, swimming pools or other surface impoundments for holding water that have a total capacity of more than 50,000 gallons, except for public water supply systems. Public water supply systems are encouraged to implement measures to achieve a 20% reduction in water usage.
- ◆ Only water landscape at night between the hours of 7 pm and 7 am.
- ◆ Keep swimming pools, landscape or decorative ponds and fountains covered (where possible), re-circulate water, and wait 5 to 7 days to refill.
- ◆ Wash vehicles at car wash only as needed.
- ◆ Do not wash buildings, driveways, streets, patios, or other outdoor surfaces except as required for human or animal health and safety needs, or for fire prevention.
- ◆ Water livestock in leak-proof troughs as much as practical.

Edwards BFZ Aquifer

Initiation and Termination of Drought Stages

Initiation of Stages: The Precipitation Deficit Index (PDI), the daily maximum spring discharge, and average spring discharge values shall be monitored and presented to the District Board at the monthly Board meeting. Drought stages shall be triggered when either the PDI or the average spring discharge measured via stream flow gauges in Salado Creek fall below the trigger level for the periods described below:

***PDI:** Monitored daily on a running-year basis over a defined area consisting generally of the area of the Edwards aquifer and contributing areas in Bell and portions of Williamson Counties and which is based on NEXRAD rainfall data provided by the National Oceanic and Atmospheric Administration. The PDI trigger condition must be exceeded for a period of 28 consecutive days.*

***Spring Discharge:** Monitored daily with the daily maximum discharge values averaged over a period of five consecutive days on a running five day basis.*

Termination of Stages: Drought stage in effect shall be reduced or terminated when both the PDI and the average spring discharge values are greater than the trigger conditions of the drought stage in effect for the periods described below:

***PDI:** Monitored daily on a running-year basis over a defined area consisting generally of the area of the Edwards aquifer and contributing areas in Bell and portions of Williamson Counties and which is based on NEXRAD rainfall data provided by the National Oceanic and Atmospheric Administration. The PDI trigger condition must be exceeded for a period of 42 consecutive days.*

***Spring Discharge:** Monitored daily with the daily maximum discharge values averaged over a period of seven consecutive days on a running seven day basis.*

Trinity Aquifer—Drought Status Report

STAGE 1 - AWARENESS

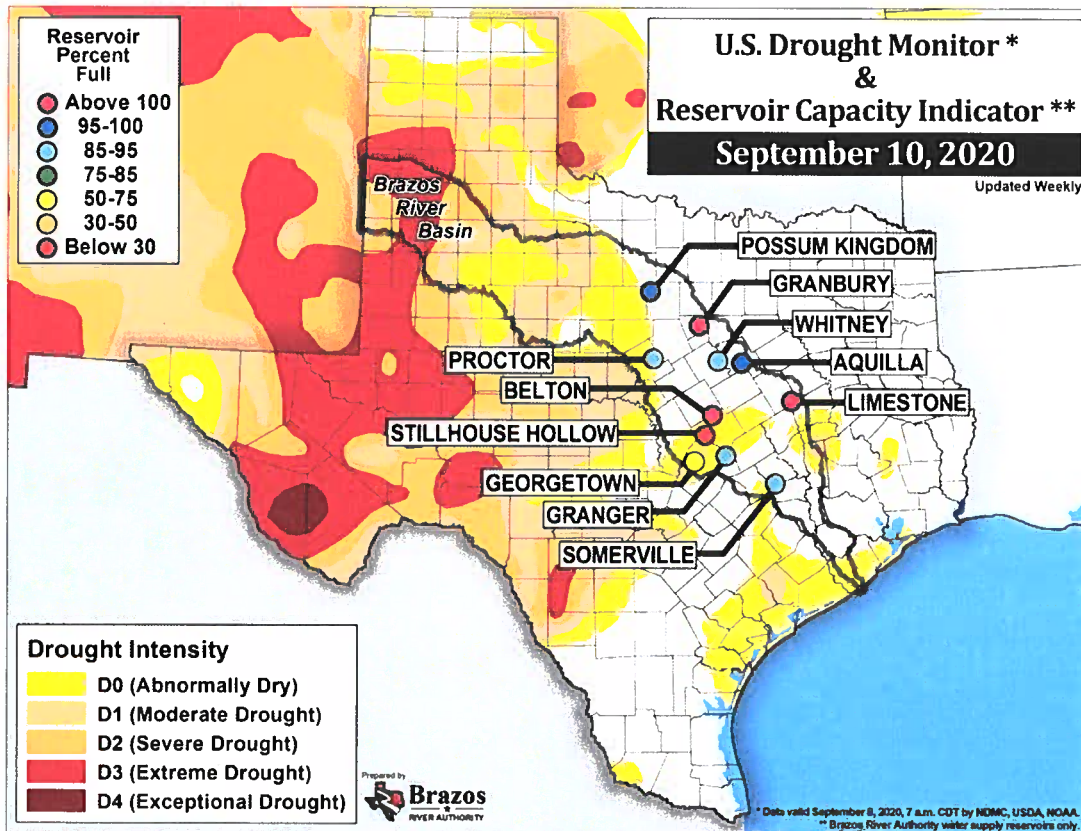
(Expect reductions to remain in place until October 14, 2020)



32.45 PDI
98.33 %
Precipitation Deficit Index (PDI)

PDI is based on a 33" normal yearly average and is a 365 day running total.

AS OF 9/14/2020



- Continue or increase voluntary reduction in various uses.
- Check for and correct all plumbing leaks.
- Re-use or re-circulate water whenever possible.
- No filling of ponds, lakes, tanks, reservoirs, swimming pools or other surface impoundments for holding water that have a total capacity of more than 50,000 gallons, except for public water supply systems. Public water supply systems are encouraged to implement measures to achieve a 10% reduction in water usage.

Initiation and Termination of Drought Stages

Initiation of Stages: The Precipitation Deficit Index (PDI) values shall be monitored and presented to the District Board at the monthly Board meeting. Drought stages shall be triggered when the PDI falls below the trigger level for the period described below:

PDI: Monitored daily on a running-year basis over a defined area consisting generally of the area of the Trinity aquifer and contributing areas in Bell and portions of Williamson Counties and which is based on NEXRAD rainfall data provided by the National Oceanic and Atmospheric Administration. The PDI trigger condition must be exceeded for a period of 28 consecutive days.

Termination of Stages: Drought stage in effect shall be reduced or terminated when both the PDI and the average spring discharge values are greater than the trigger conditions of the drought stage in effect for the period described below:

PDI: Monitored daily on a running-year basis over a defined area consisting generally of the area of the Trinity aquifer and contributing areas in Bell and portions of Williamson Counties and which is based on NEXRAD rainfall data provided by the National Oceanic and Atmospheric Administration. The PDI trigger condition must be exceeded for a period of 42 consecutive days.



Education Outreach Highlights 8/16/20

1. **Goal: Improve our educational outreach efforts and expand our identified audiences (4th-5th grade, high school environmental sciences students, and the real-estate sales community).** Goals and objectives in the Management Plan (A:3, A:4, B,F:1,F:2 pages 22-26).
 - All educational events have been canceled due to COVID-19.

2. **Improve Communication and Reporting of Usage by well owners who are permitted (HEU or OP) by the district.** Goals and objectives in the Management Plan (A:1, A:2, A:3,G:1,G:2, pages 22-23).
 - Continue working with HALFF to make improvements to the new platform and correct flaws as needed.
 - Most of our permitted users are entering their monthly water usage online now.

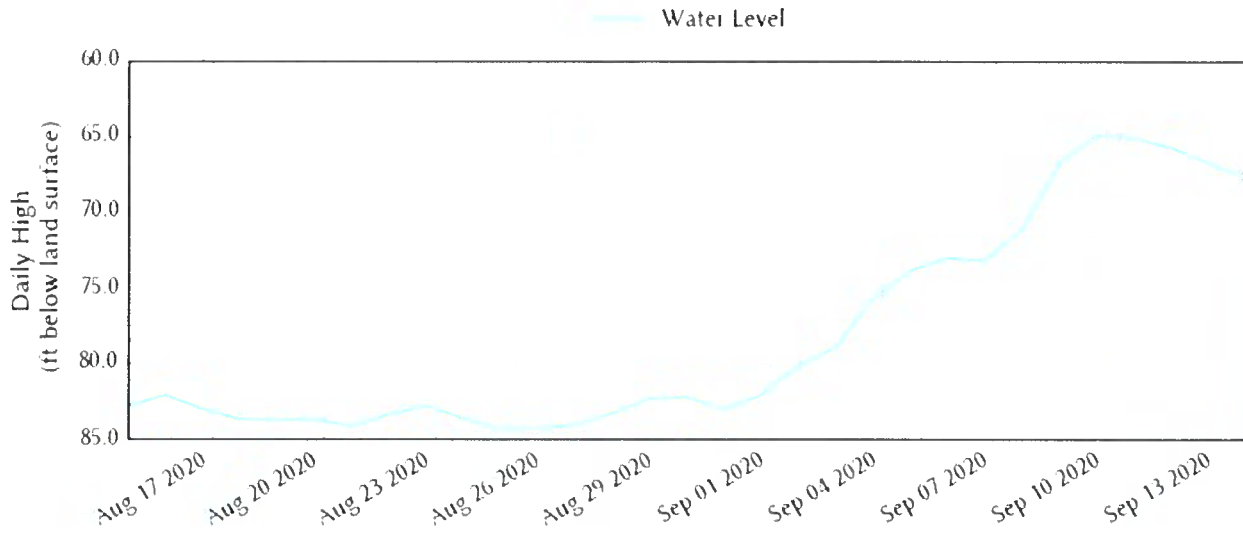
3. **Increase the District Communication strategically by expanding utilization of a media sources.** Goals and objectives in the Management Plan (A:1, A:2, A:3,G:1,G:2, pages 22-23).
 - Continually adding more information to the website to make it a valuable resource to Bell County along with utilizing more social media.

4. **Improve Annual Reporting accuracy and timeliness per State mandated Legislation and Management Plan.** Goals and objectives in the Management Plan (A:1,2,3,4; B; C; D; E; F; g pages 22-26).
 - The 2019 Annual Report was approved at the March meeting.

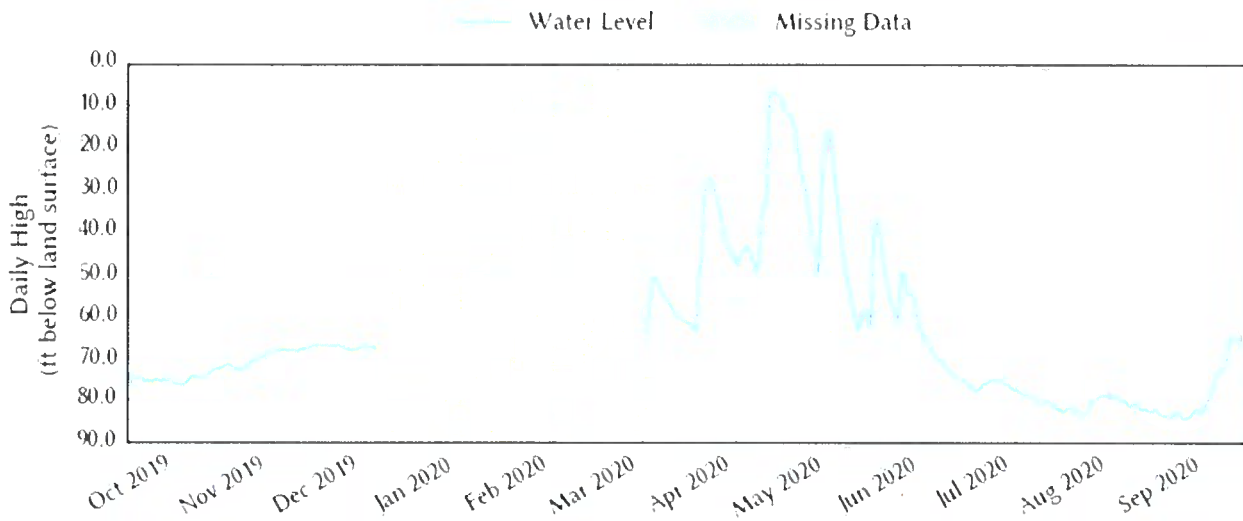
August 2020

**Continuous Monitoring Well # 5804628
(Salado Cemetery)
Edwards Aquifer**

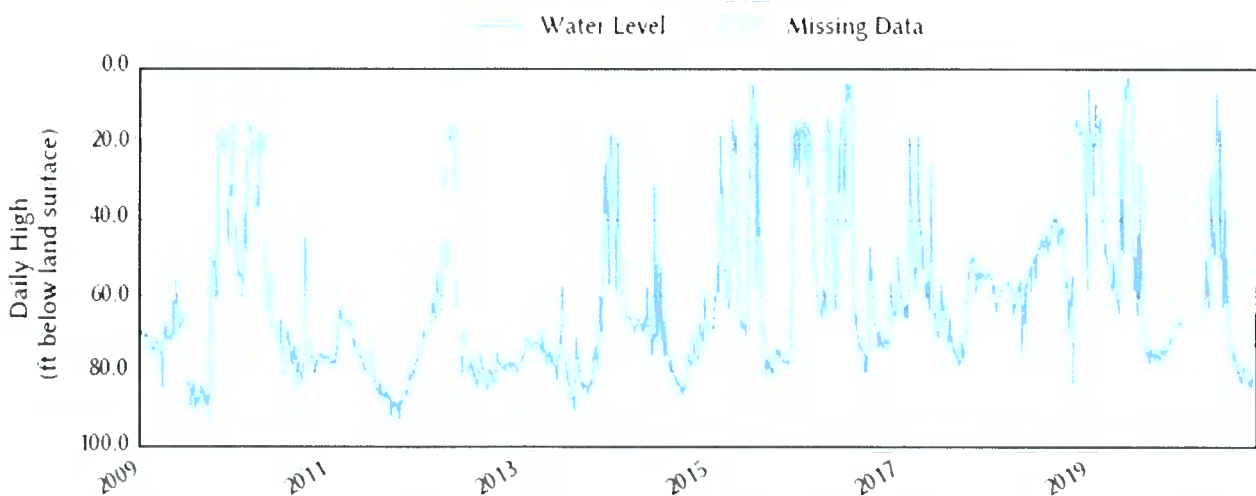
Last 30 Days



1 Year



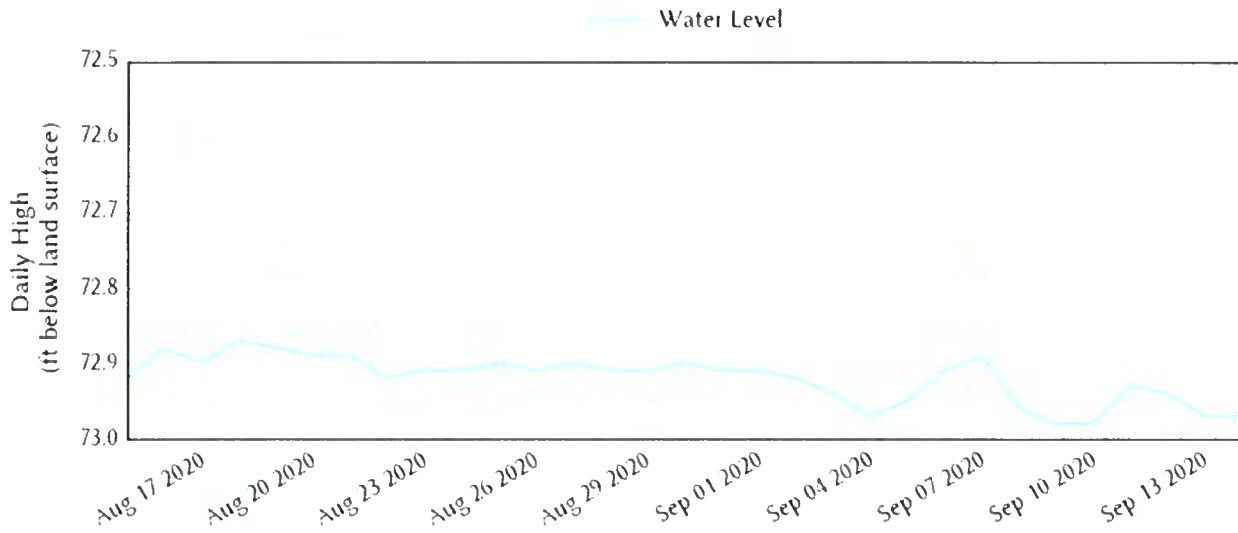
Period Of Record



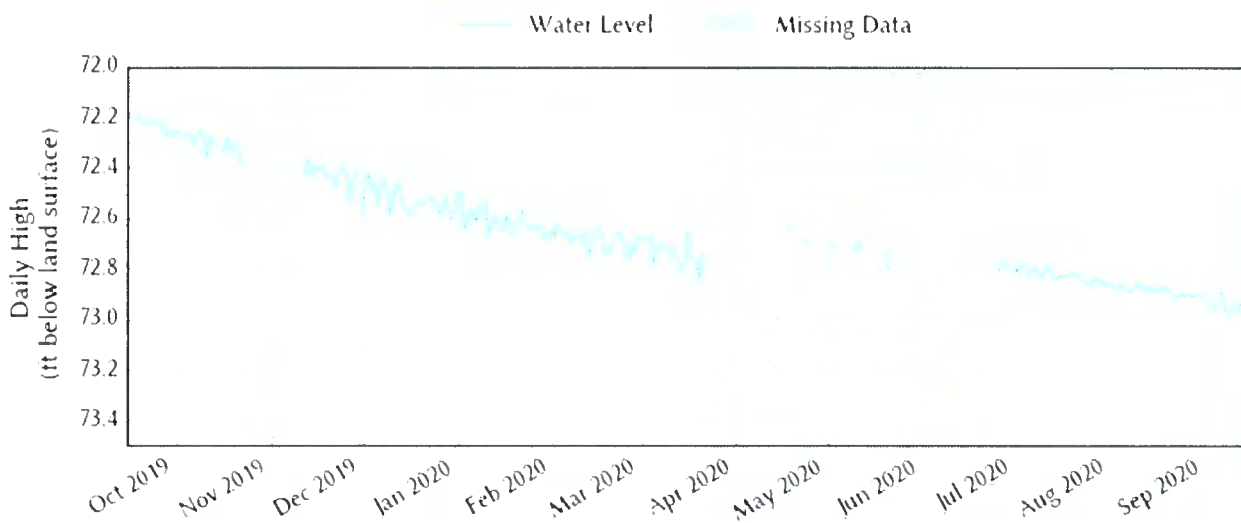
August 2020

**Continuous Monitoring Well # 5804702
(FM 2843 - Patterson's Crossing - Salado Creek)
Edwards Aquifer**

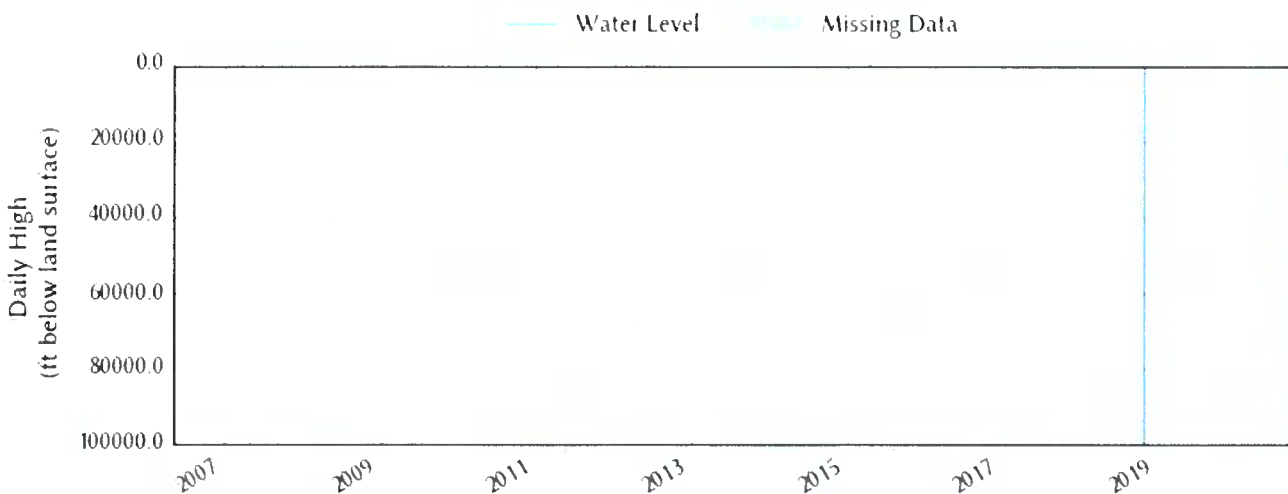
Last 30 Days



1 Year



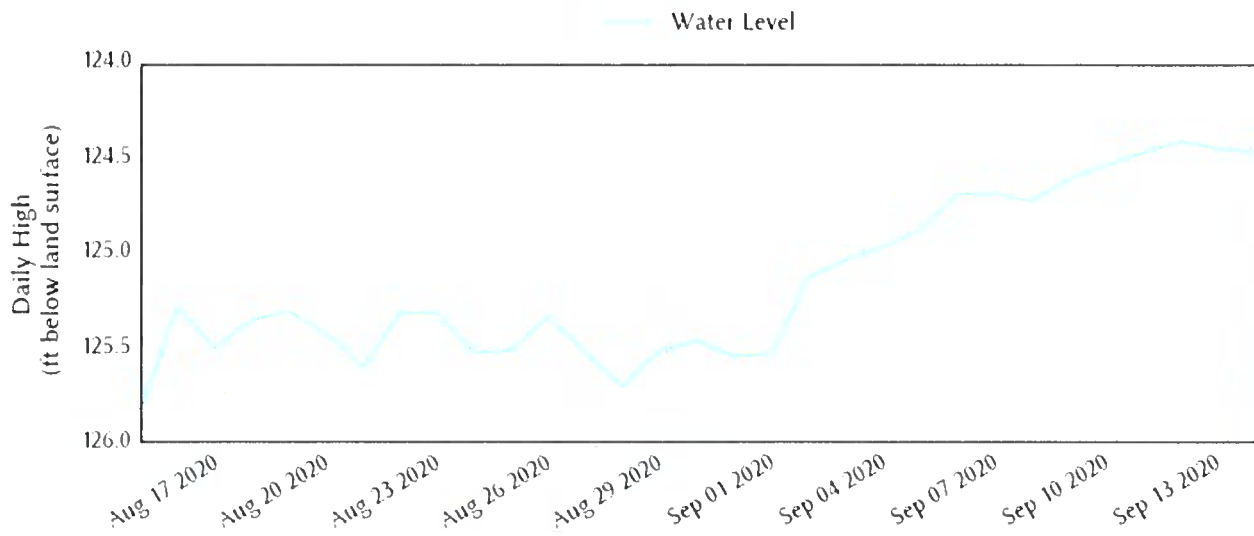
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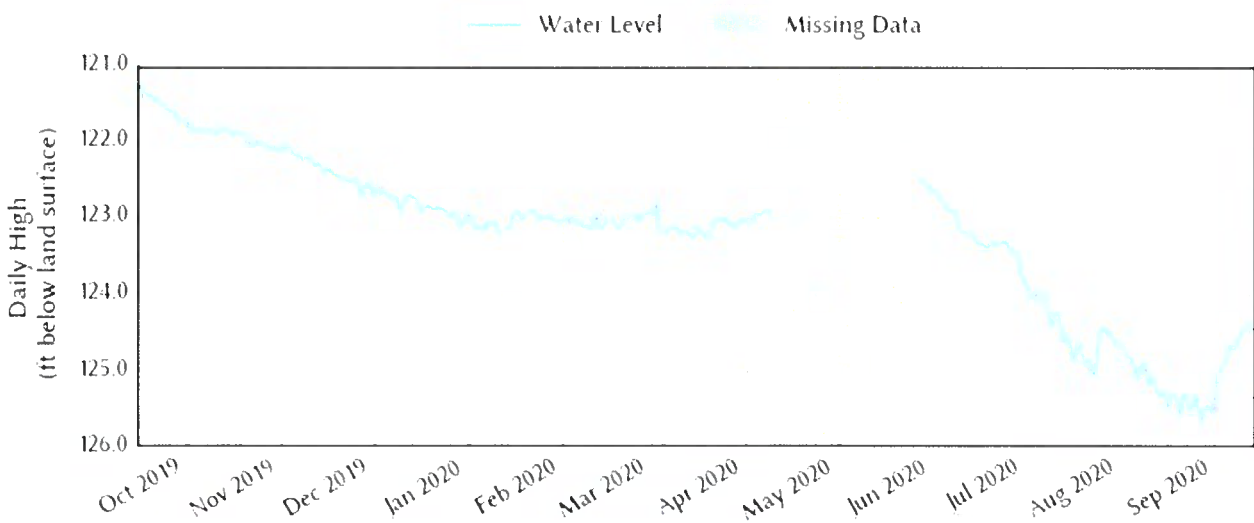
August 2020

**Continuous Monitoring Well # 5804816
(IH-35 Rest Stop - West)
Edwards Aquifer**

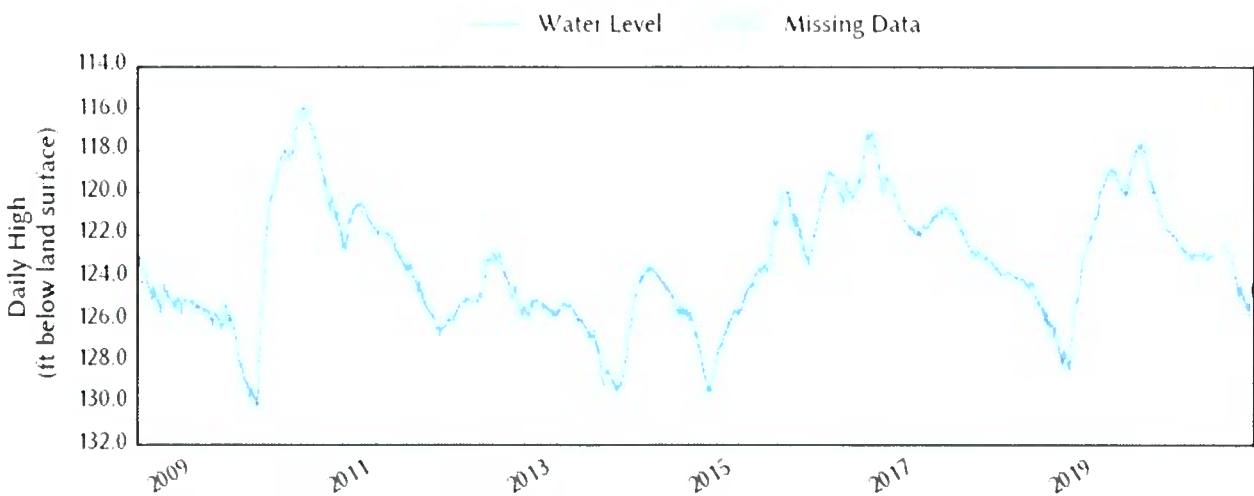
Last 30 Days



1 Year



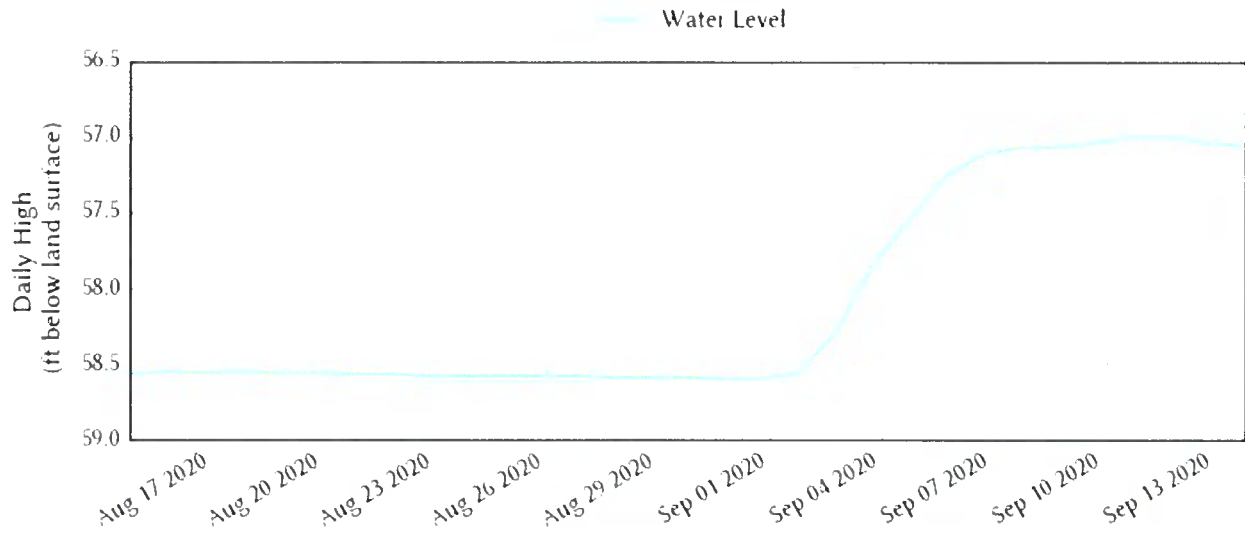
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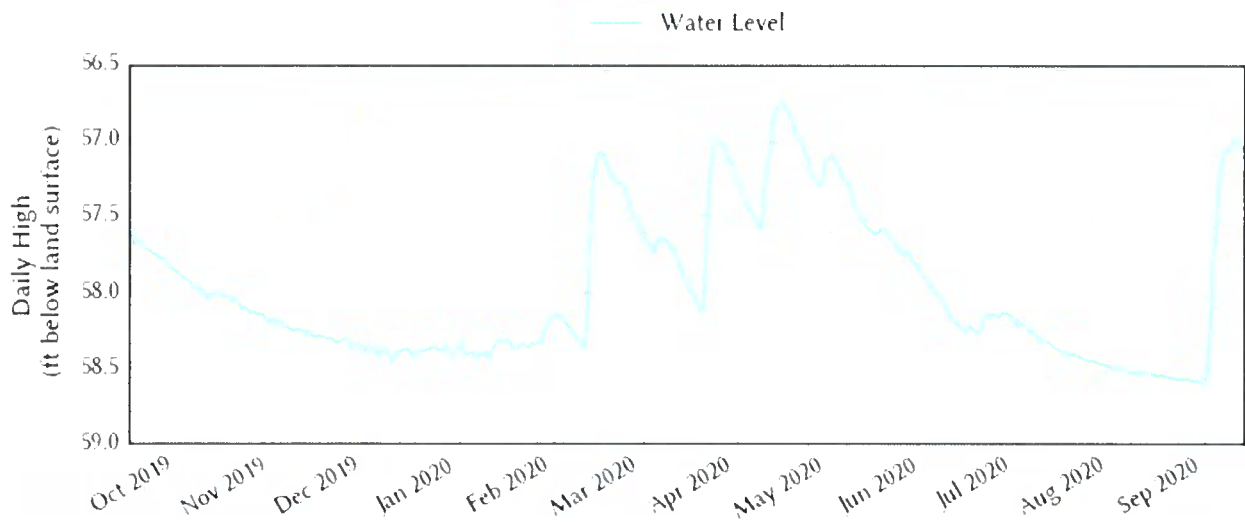
August 2020

**Continuous Monitoring Well # 5803702
(Gault Site - Williamson County)
Edwards Aquifer**

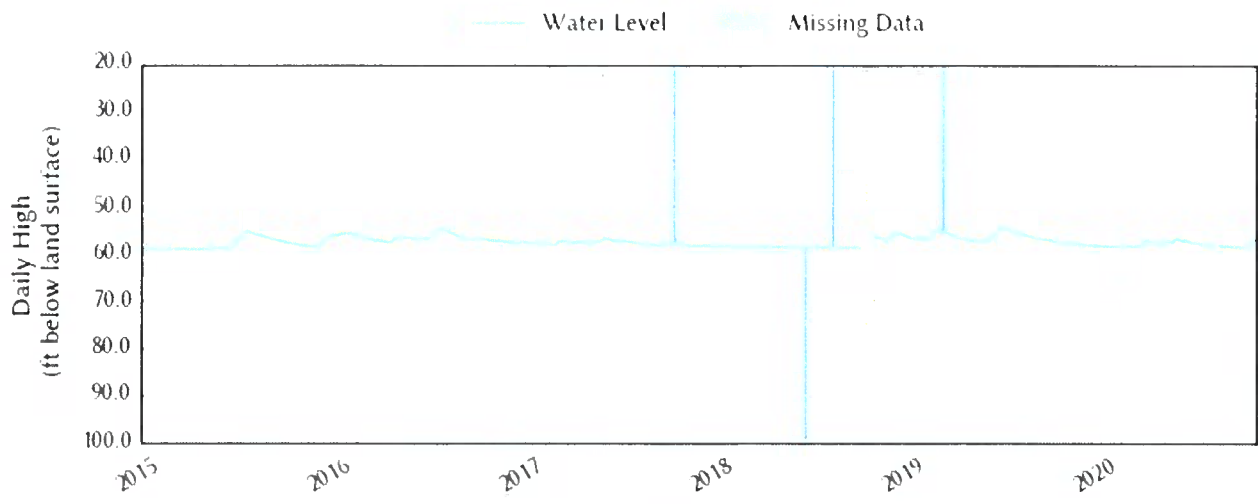
Last 30 Days



1 Year



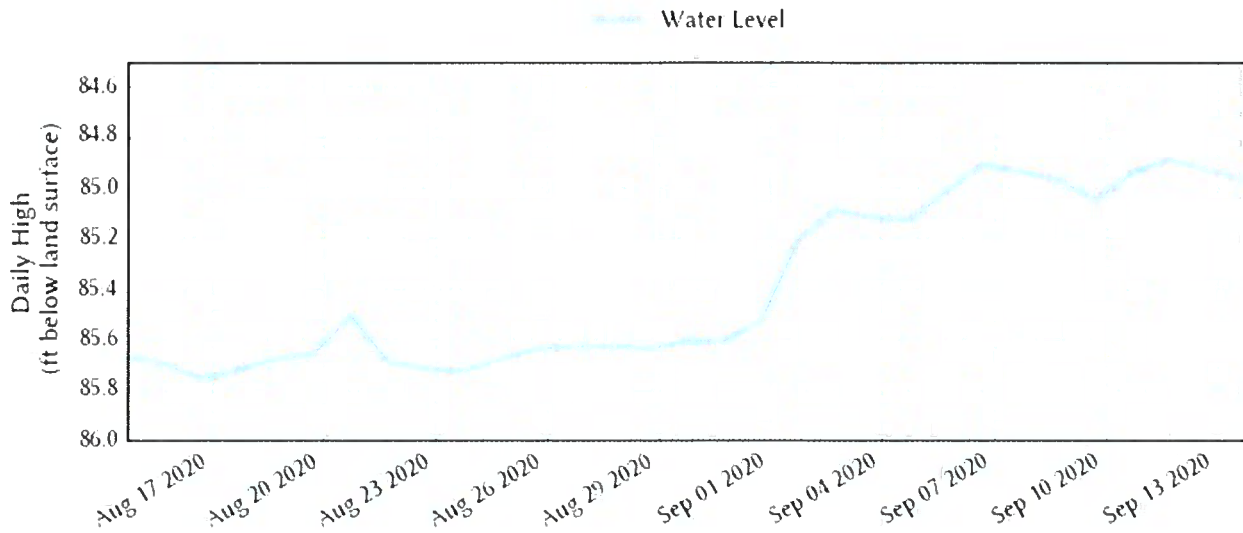
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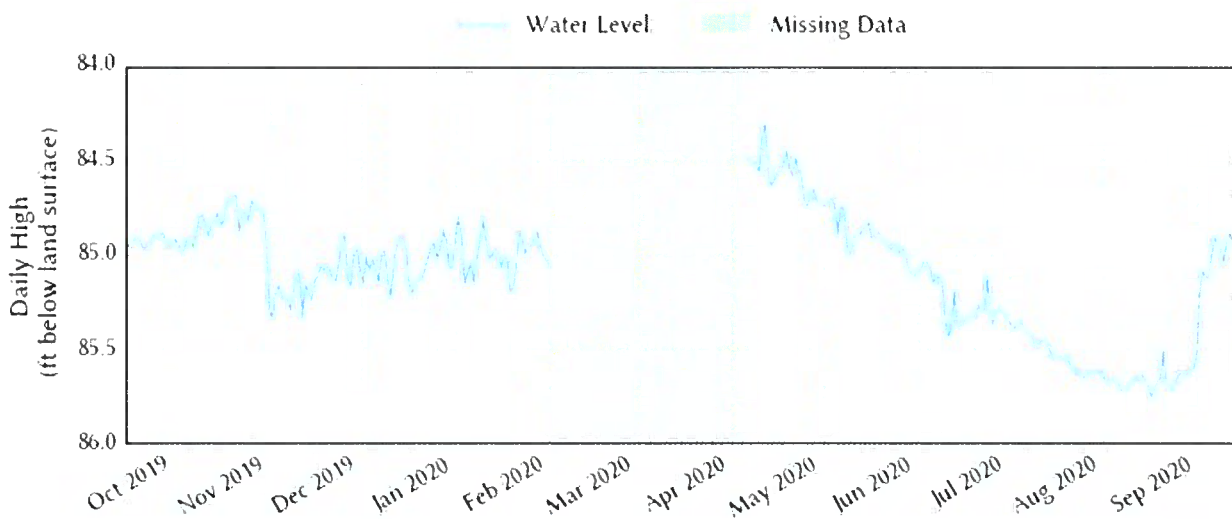
August 2020

**Continuous Monitoring Well # 4058201
(Central Texas College - Ranch Rd)
Upper Trinity Aquifer**

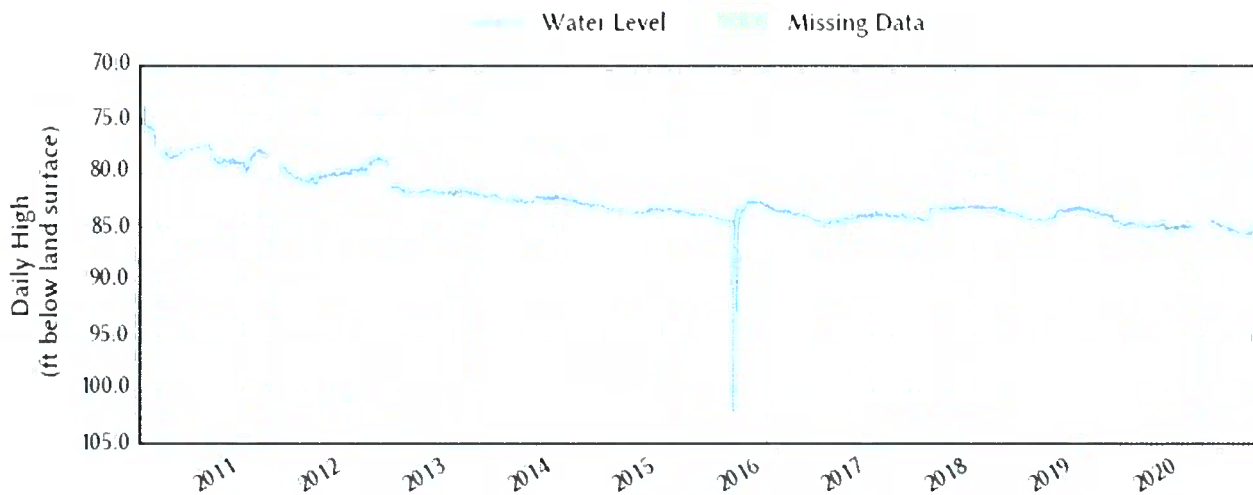
Last 30 Days



1 Year



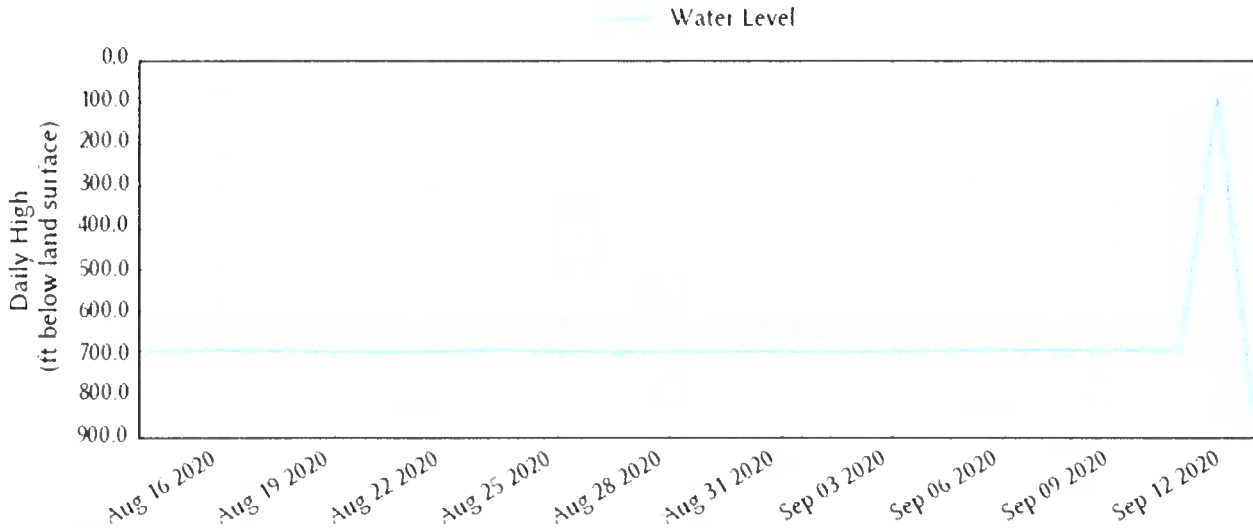
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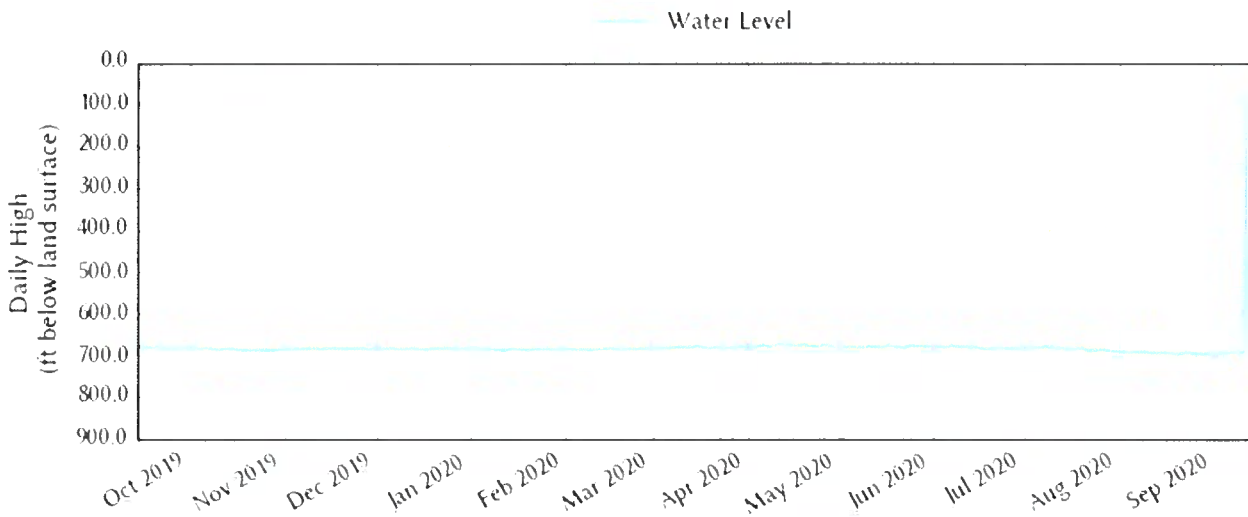
August 2020

**Continuous Monitoring Well # 5803701
(Gault Site - Williamson County)
Middle Trinity Aquifer**

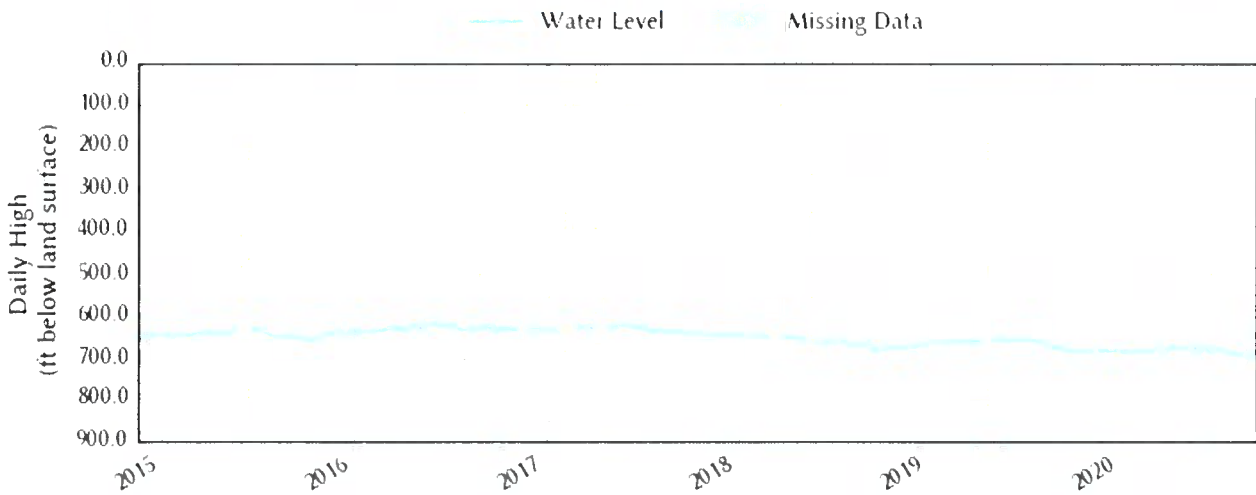
Last 30 Days



1 Year

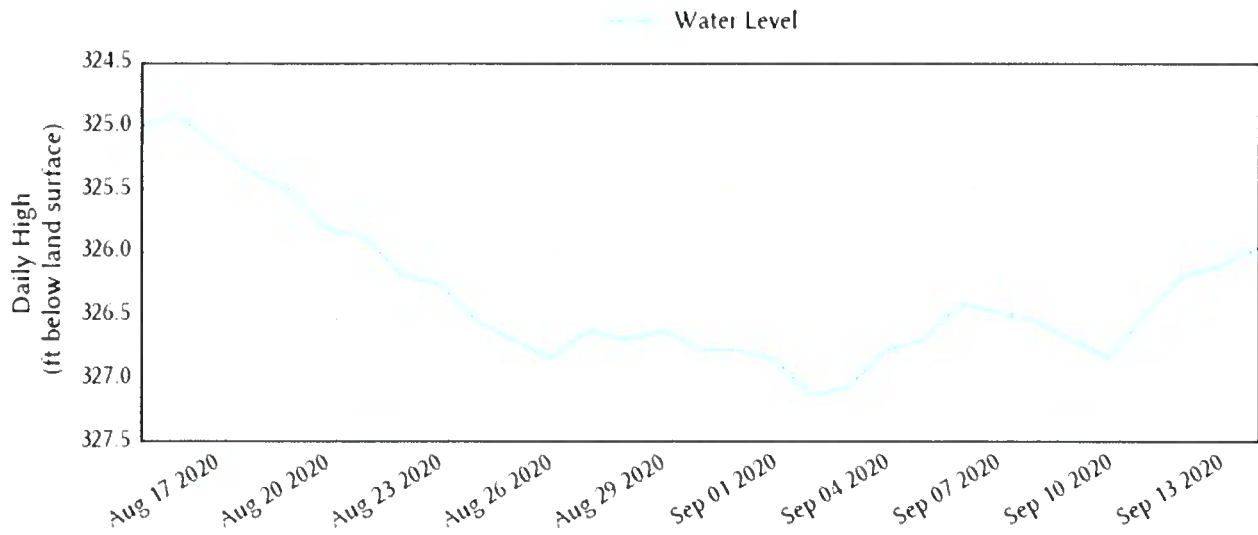


Period Of Record

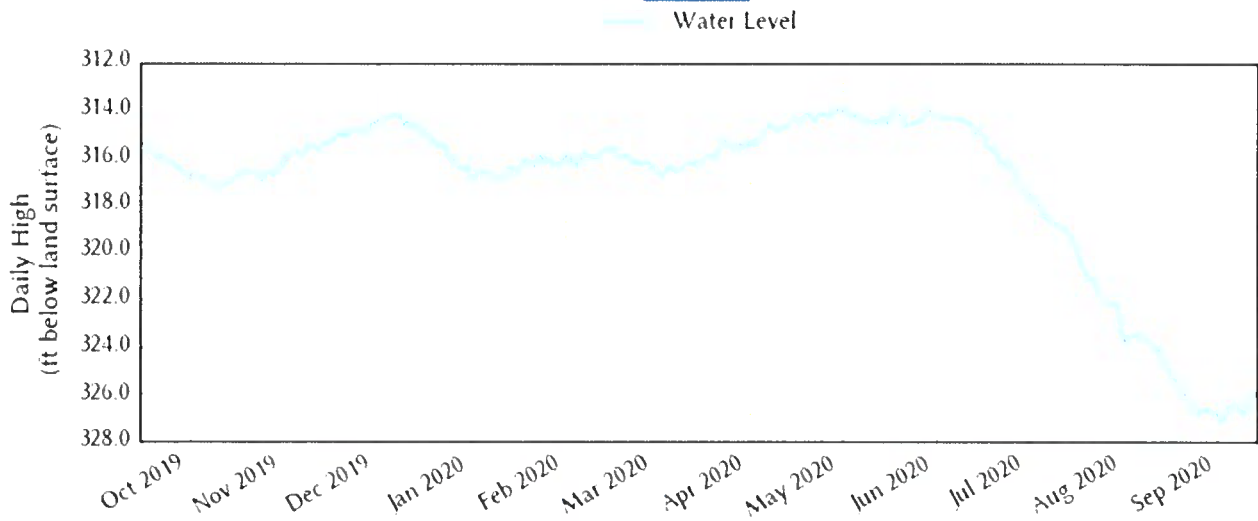


Continuous Monitoring Well # 4057601
(Copperas Cove)
Middle Trinity Aquifer

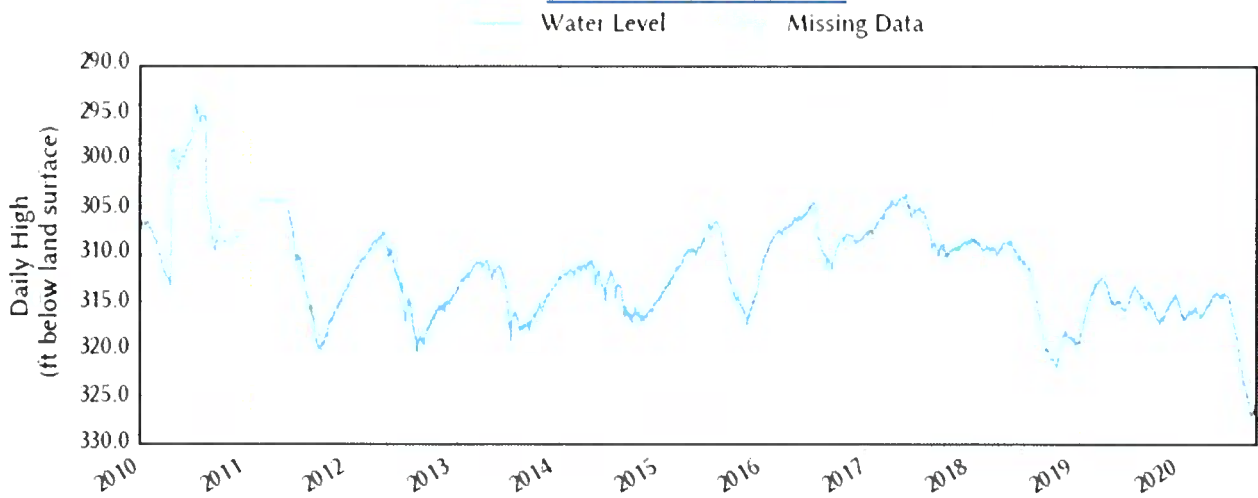
Last 30 Days



1 Year

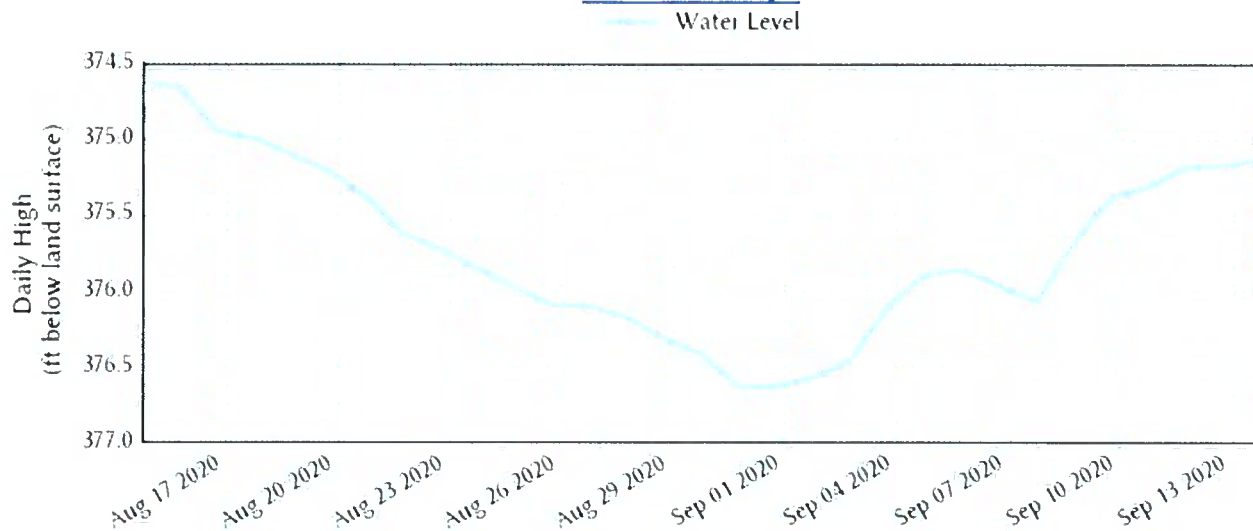


Period Of Record

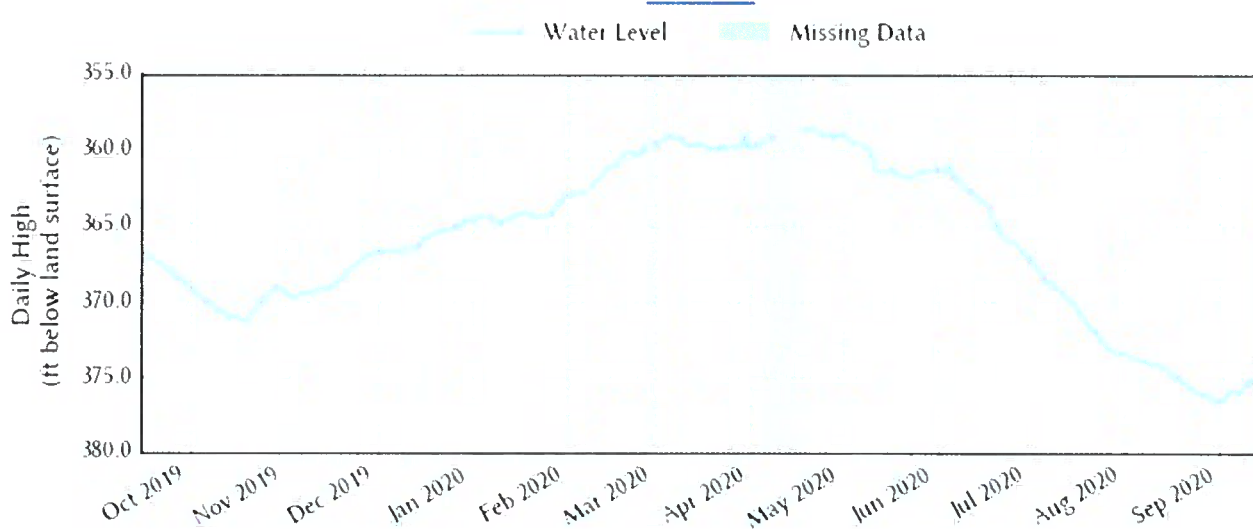


**Continuous Monitoring Well # 5802304
(Killeen - River Ridge Ranch Park Well #1)
Middle Trinity Aquifer**

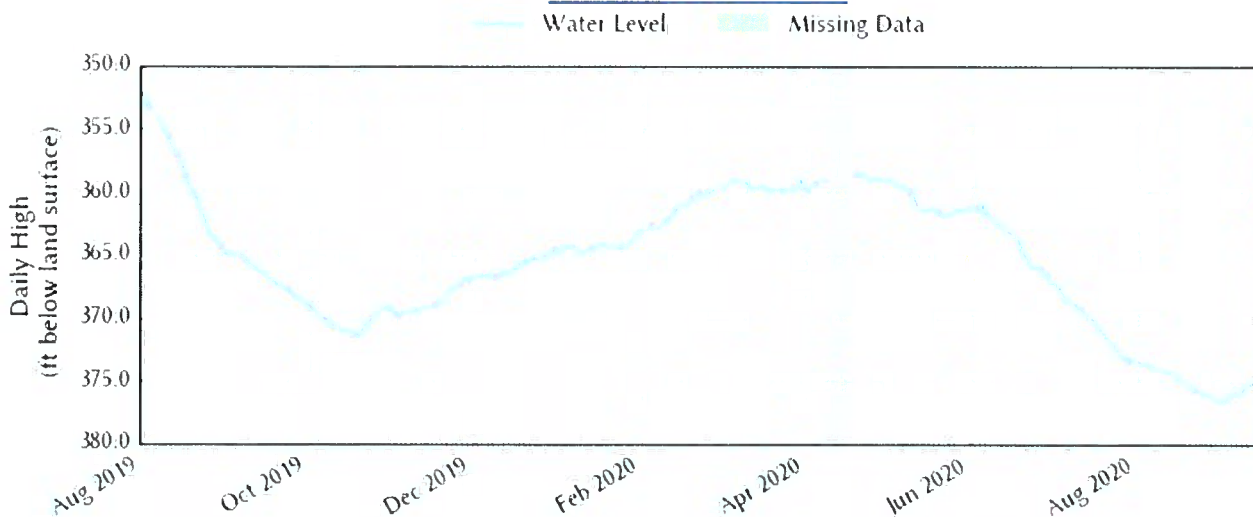
Last 30 Days



1 Year



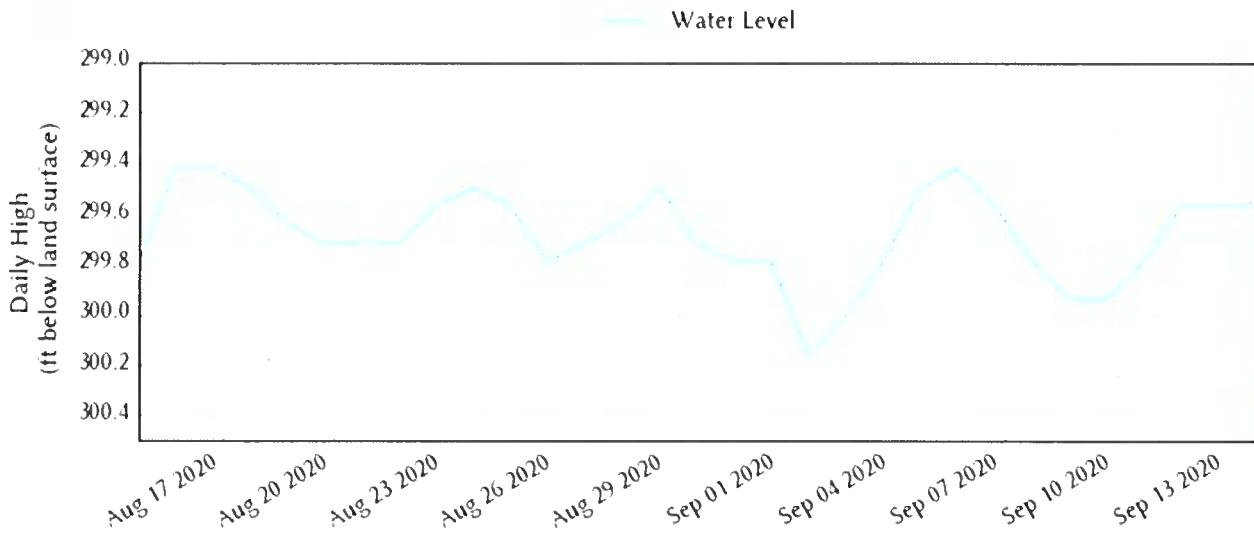
Period Of Record



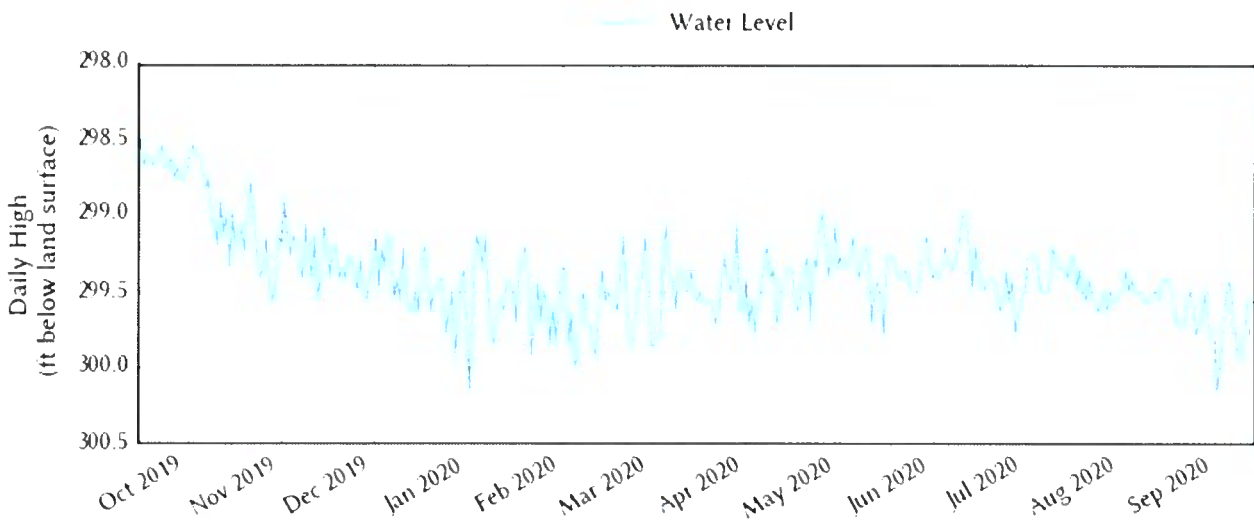
August 2020

**Continuous Monitoring Well # 4057602
(Copperas Cove)
Lower Trinity Aquifer**

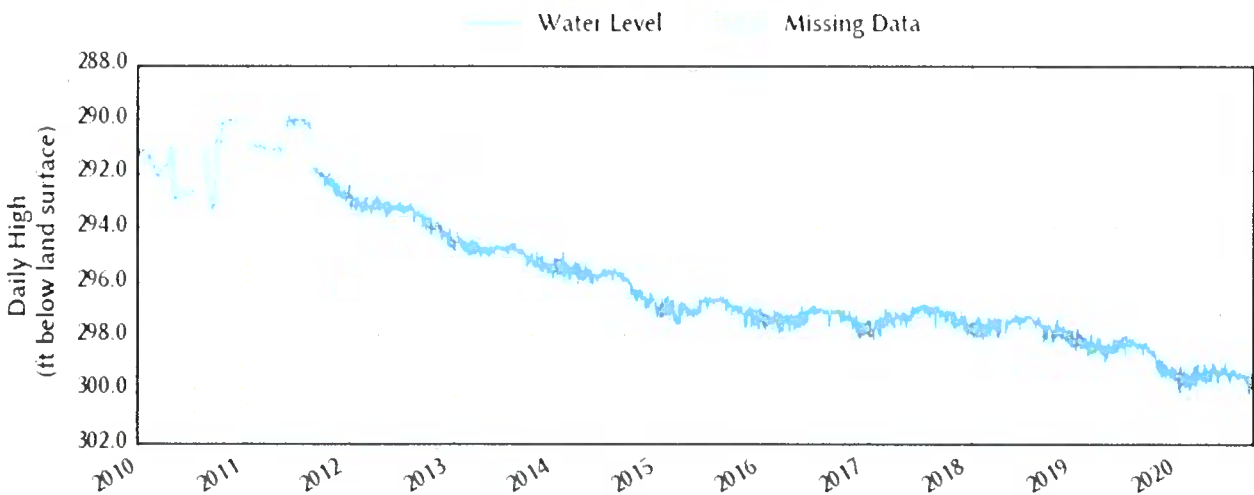
Last 30 Days



1 Year



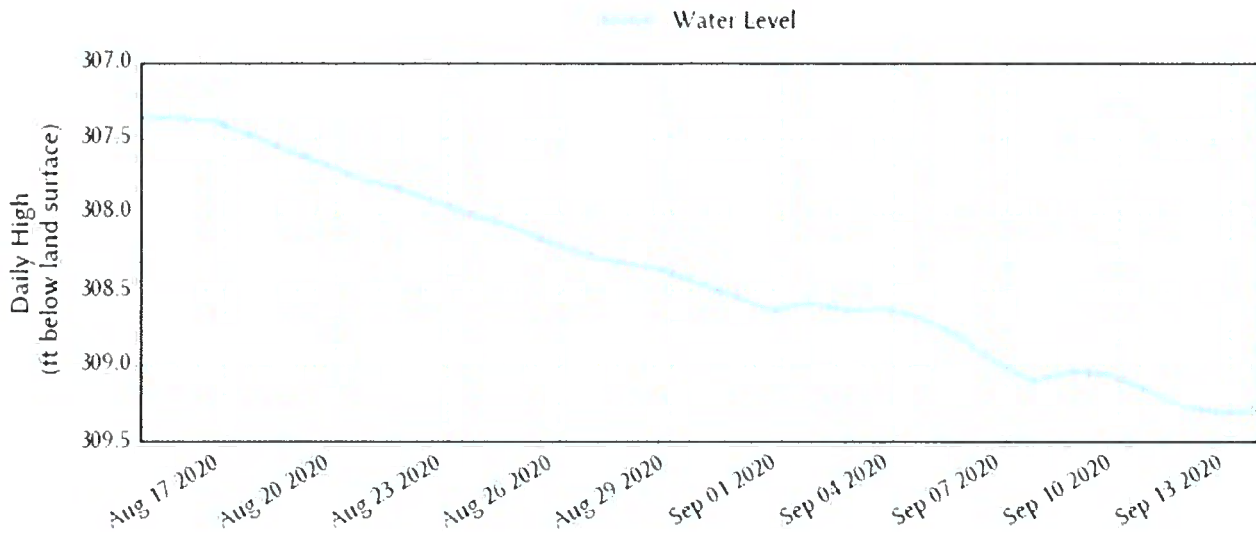
Period Of Record



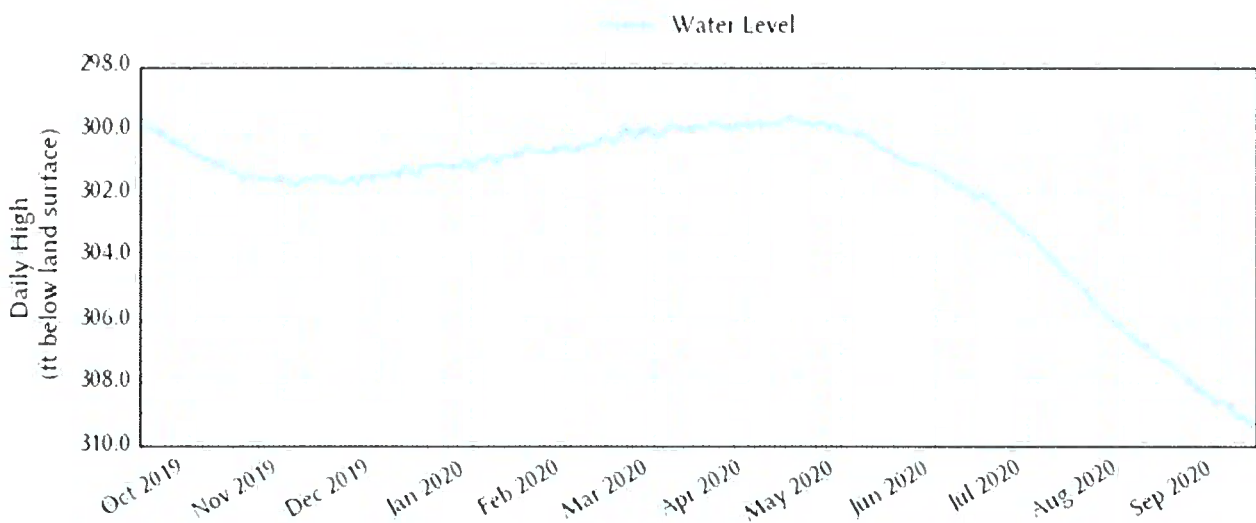
August 2020

**Continuous Monitoring Well # 5802303
(Killeen - River Ridge Ranch Park Well #2)
Lower Trinity Aquifer**

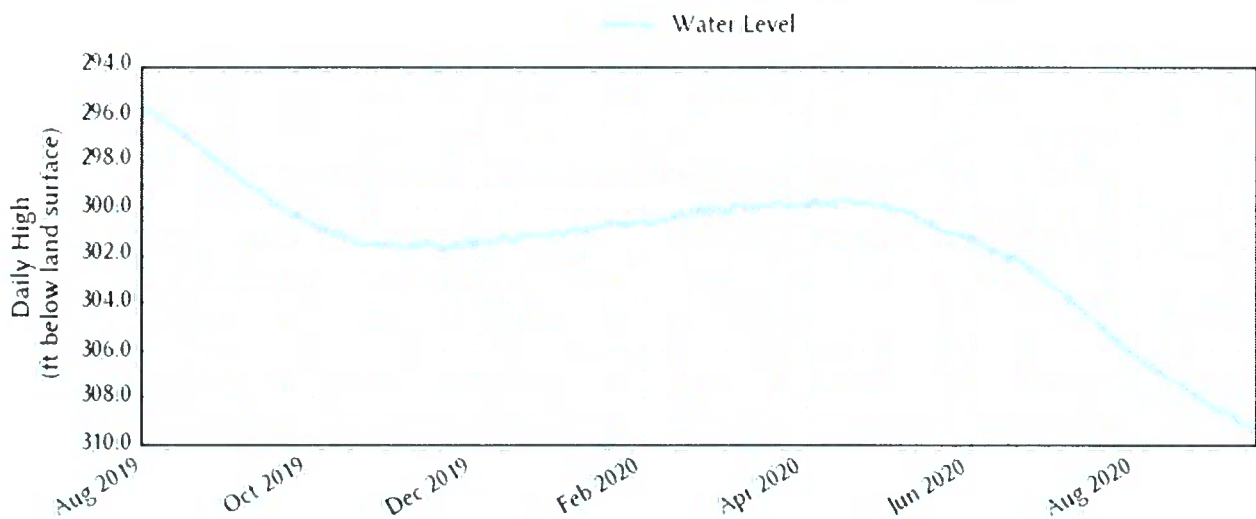
Last 30 Days



1 Year

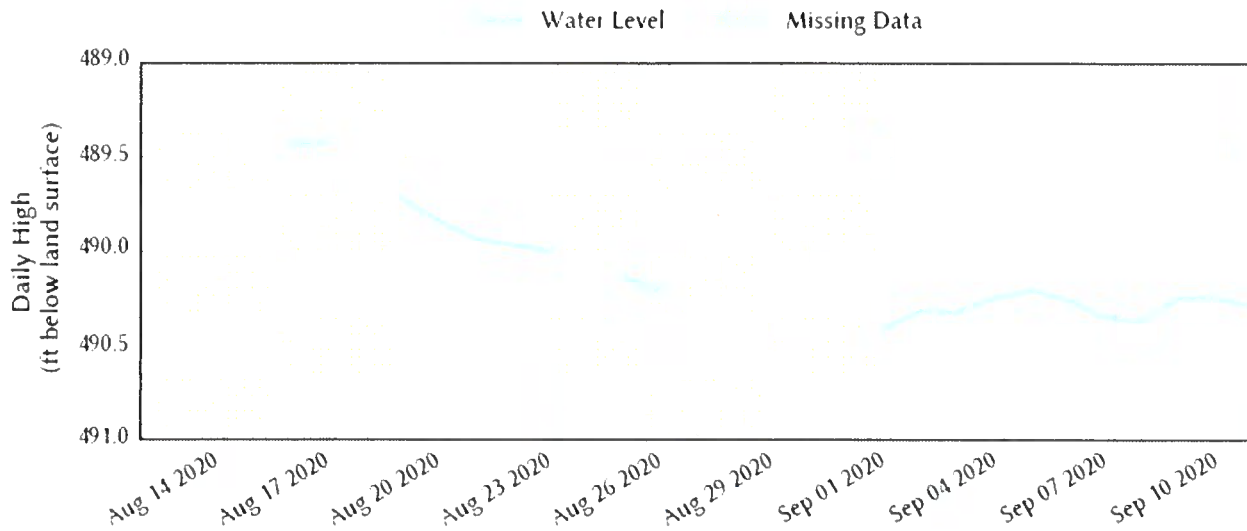


Period Of Record

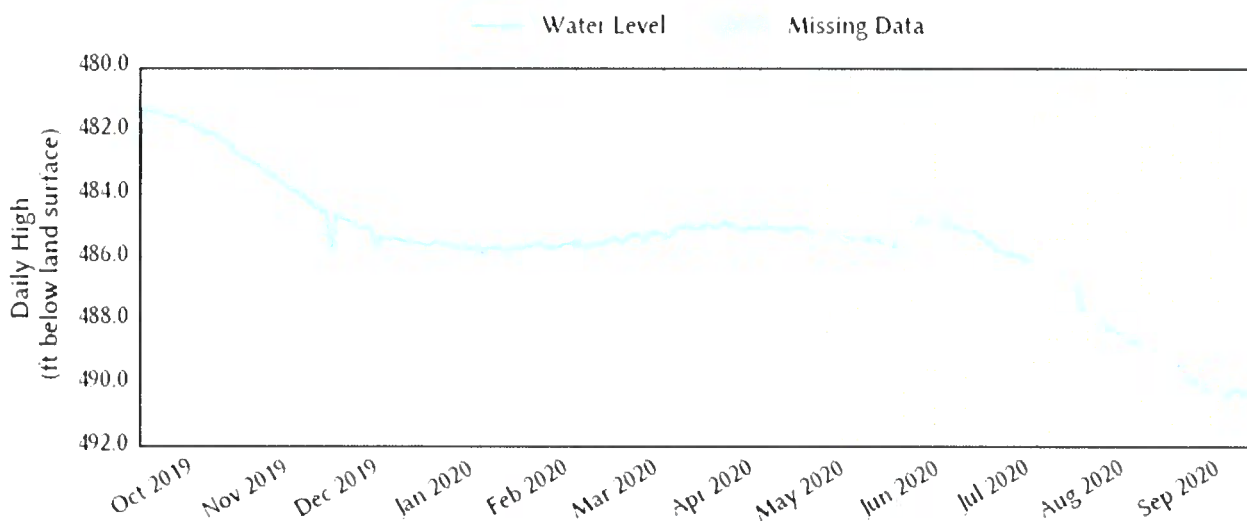


Continuous Monitoring Well # 4054701
(Temple - Cearley Well)
Lower Trinity Aquifer

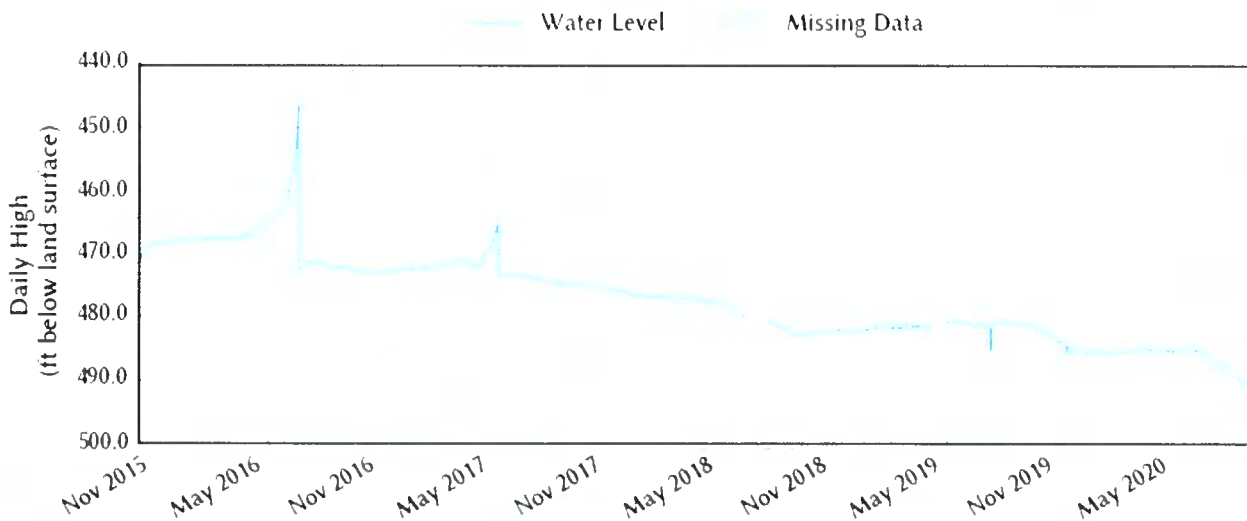
Last 30 Days



1 Year



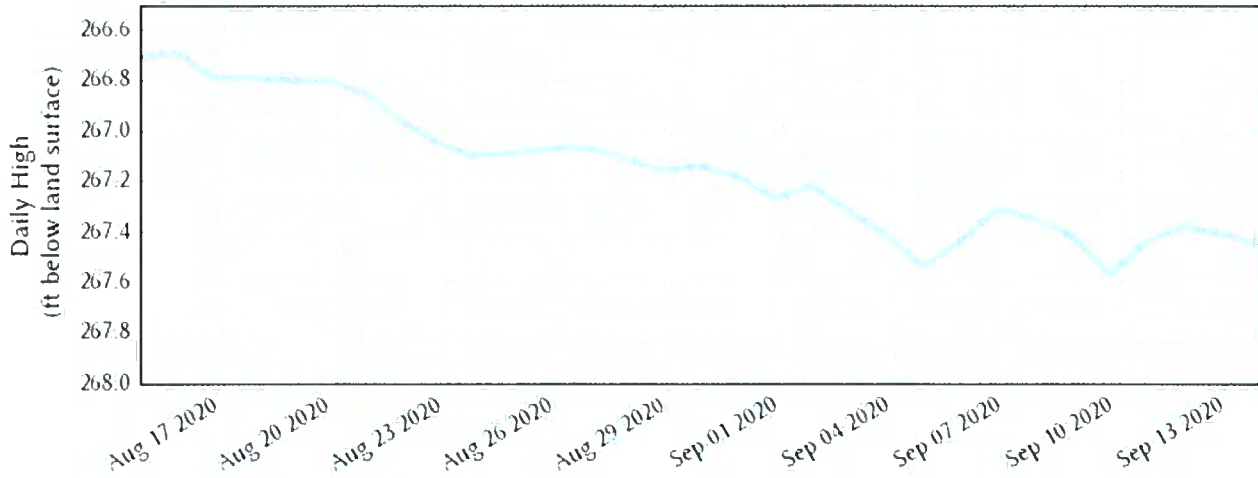
Period Of Record



Continuous Monitoring Well # 4061509
(Temple - Pea Ridge Well)
Lower Trinity Aquifer

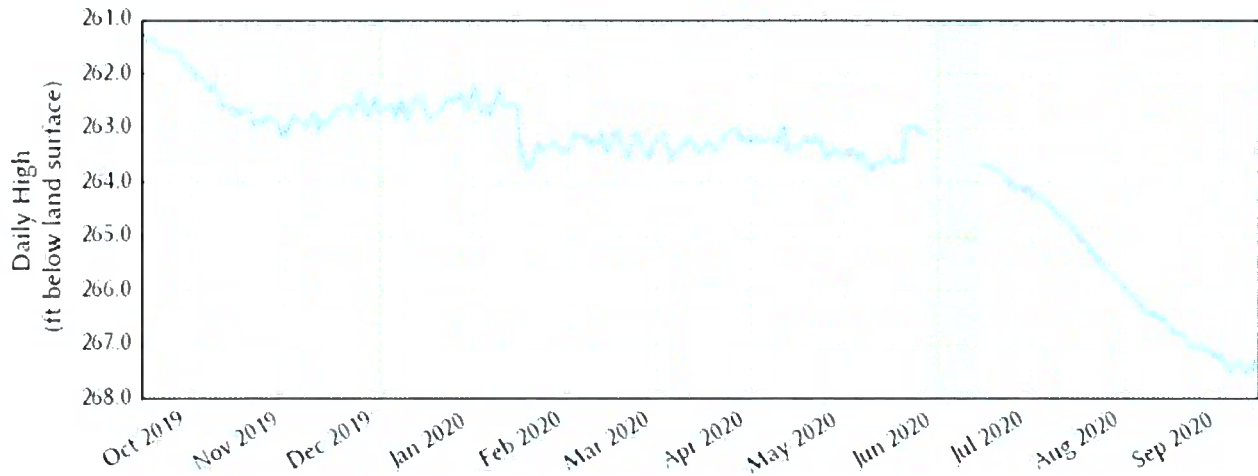
Last 30 Days

Water Level



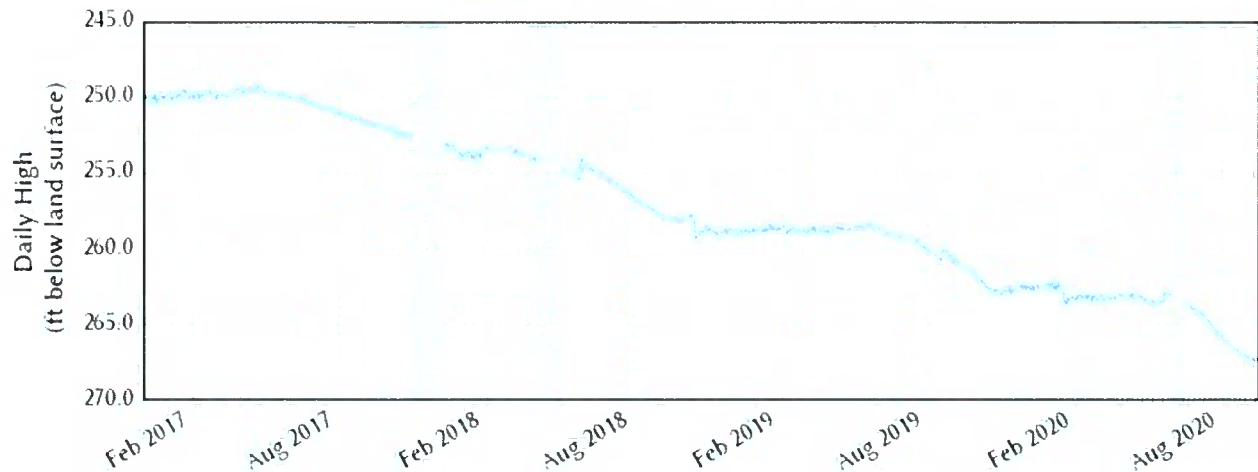
1 Year

Water Level Missing Data



Period Of Record

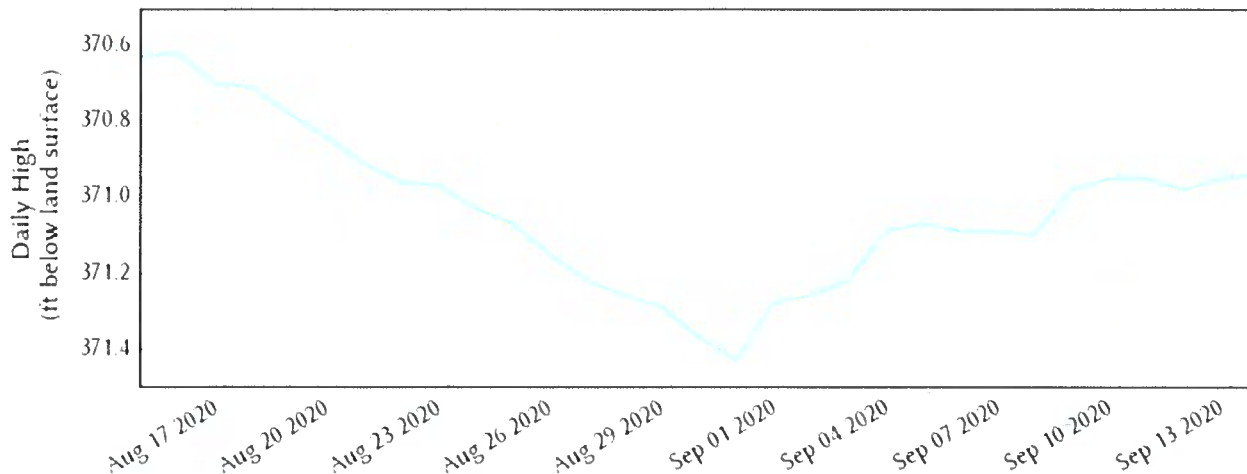
Water Level Missing Data



**Continuous Monitoring Well # 4062501
(Temple - Acres Well)
Lower Trinity Aquifer**

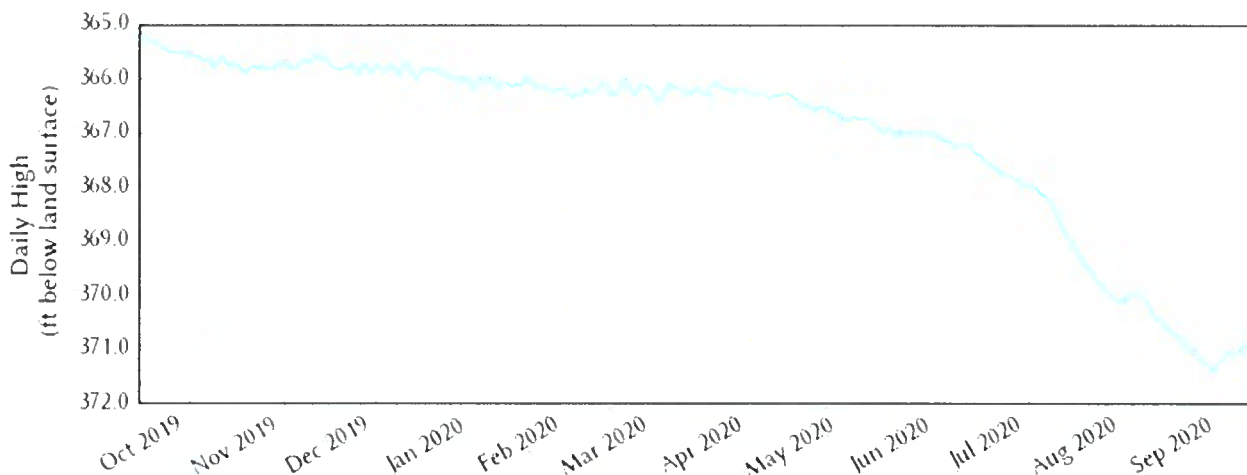
Last 30 Days

Water Level



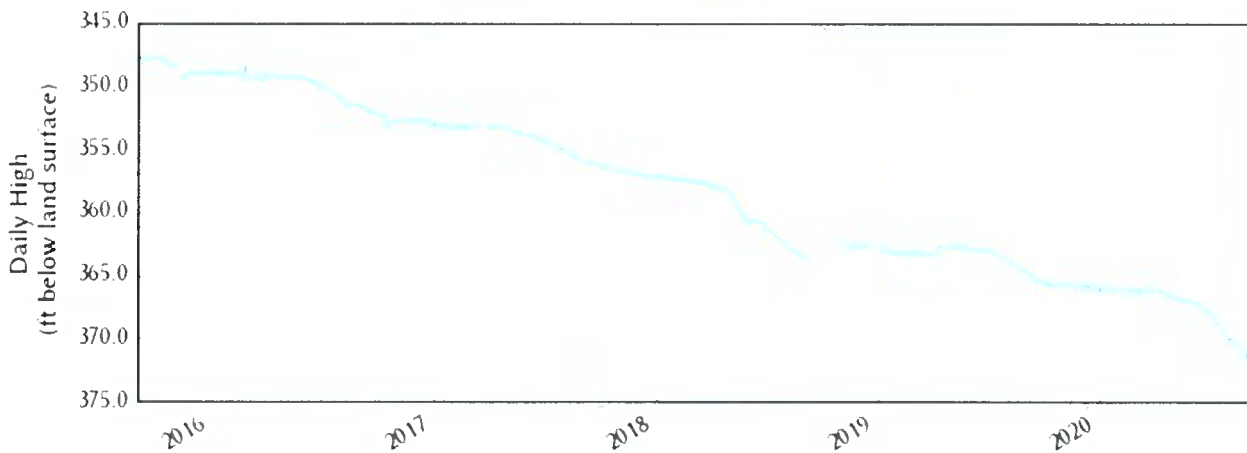
1 Year

Water Level

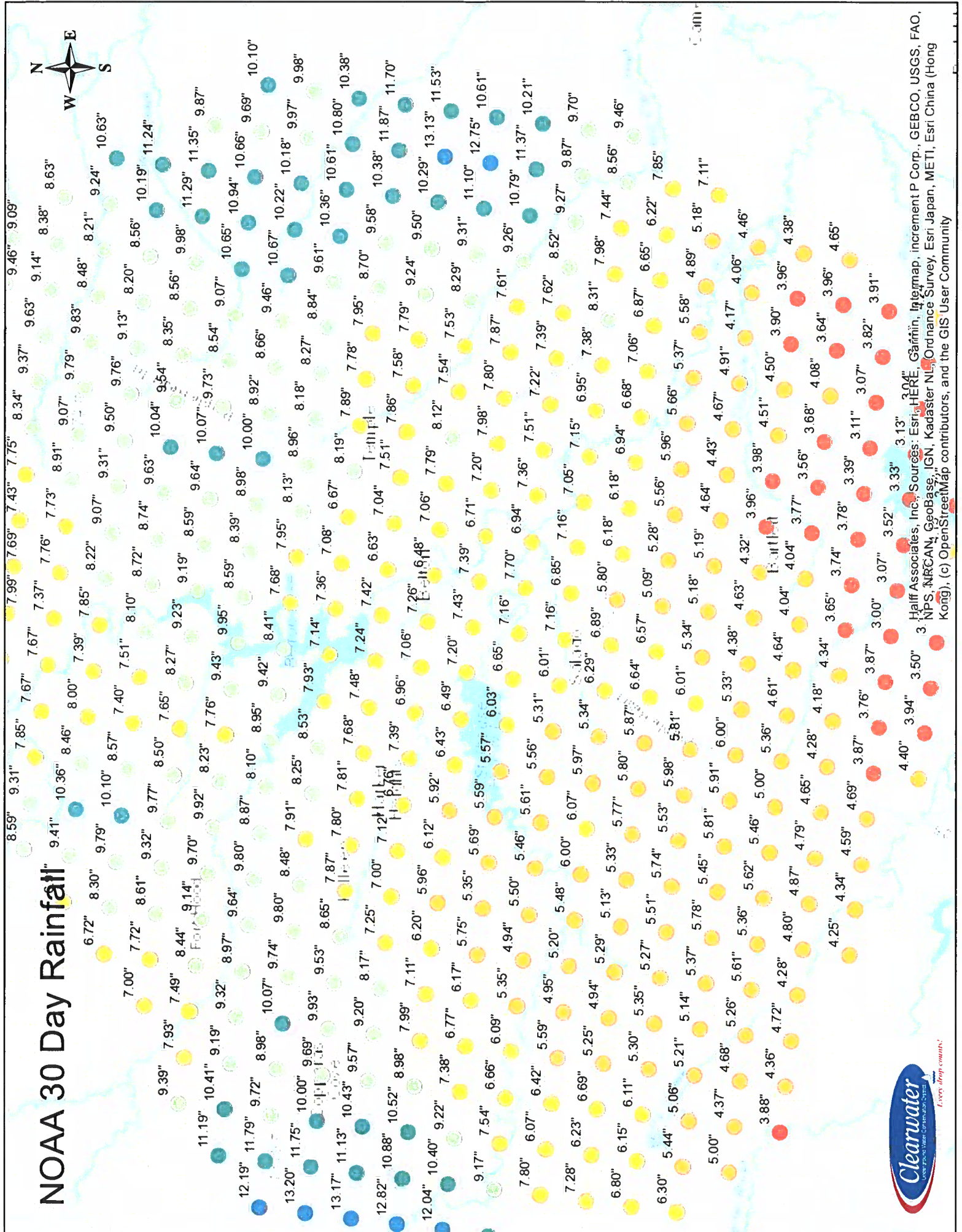


Period Of Record

Water Level Missing Data

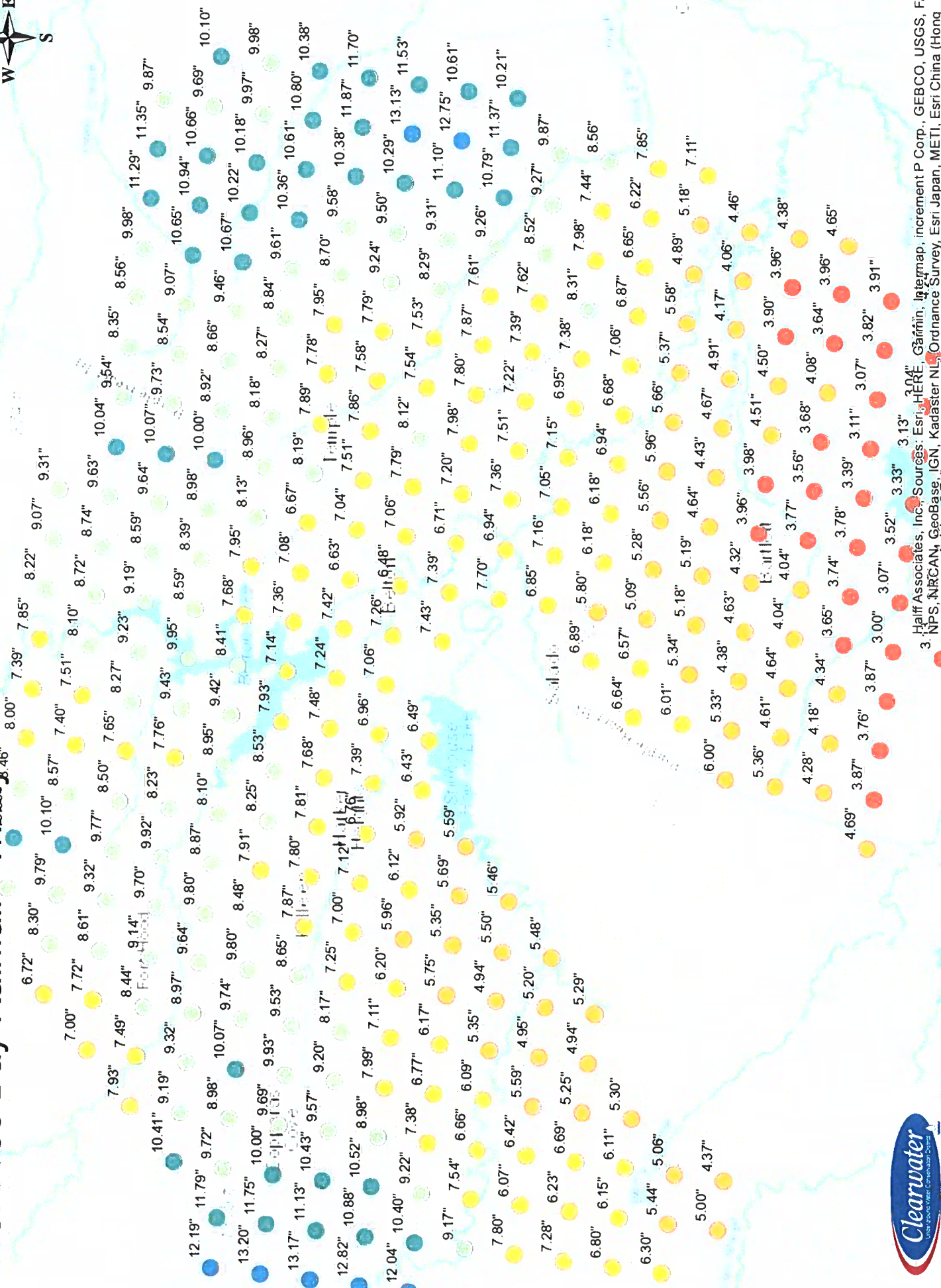


NOAA 30 Day Rainfall



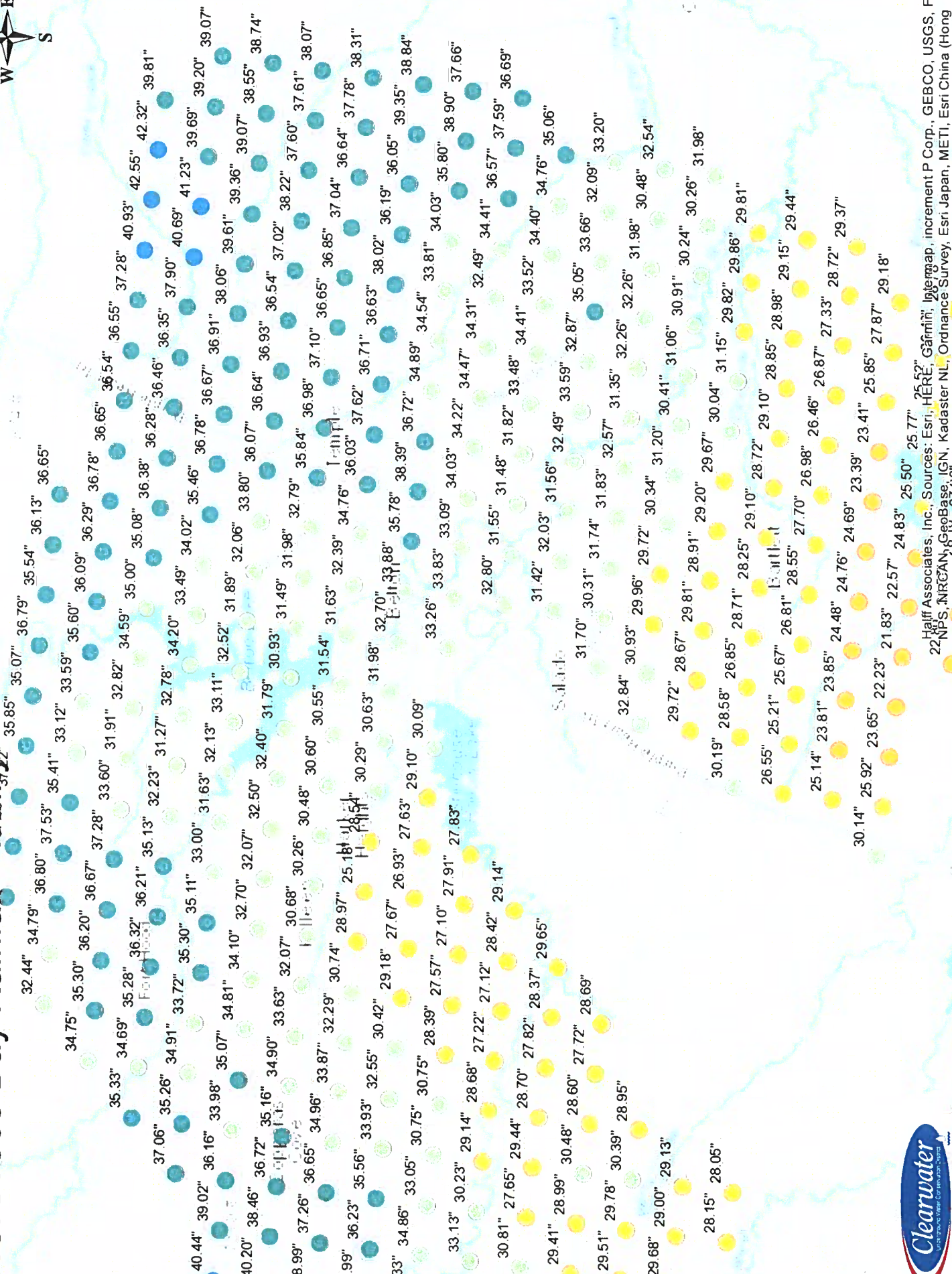
Map data sources: Esri, HERE, Garmin, Intelmap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

NOAA 30 Day Rainfall - Trinity



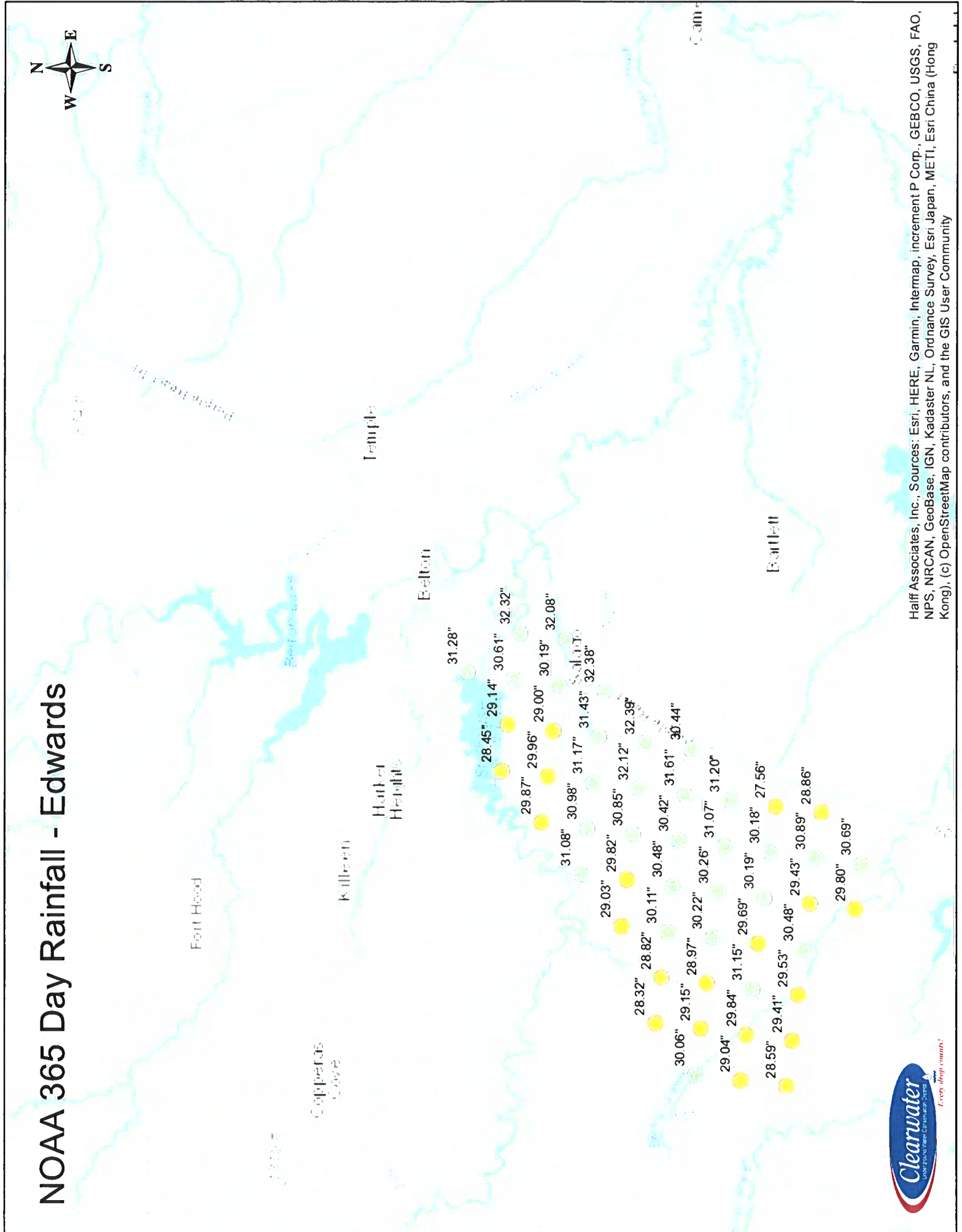
3. Halif Associates, Inc., Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

NOAA 365 Day Rainfall

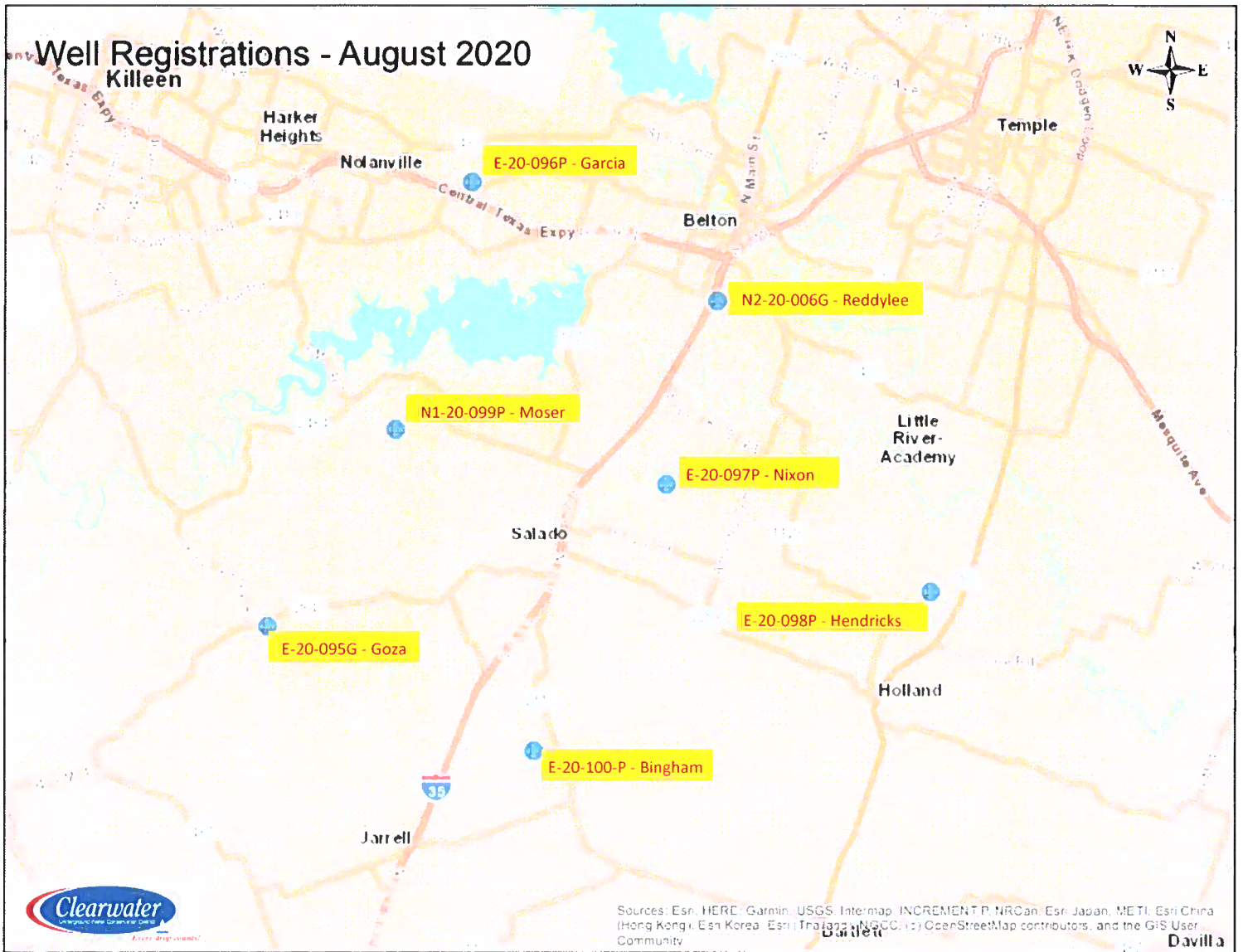


Halif Associates, Inc., Sources: Esri, HERE, DeLorme, Mapbox, Microsoft, Swatch, Bing, Google, Mapbox, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

NOAA 365 Day Rainfall - Edwards



Half Associates, Inc., Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



<u>Well #</u>	<u>Owner</u>	<u>Address</u>	<u>City</u>	<u>Aquifer</u>	<u>Depth</u>	<u>Use</u>	<u>Status</u>
E-20-095G	Micah Goza	12481 FM 2843	Salado	Undeclared	800	Domestic	Active
E-20-096P	Daniel & Julia Garcia	110 W Mockingbird Ln	Harker Hts	Undeclared	800	Domestic	Proposed
E-20-097P	Margaret Nixon	10350 Blackberry Rd	Salado	Undeclared	200	Domestic	Proposed
E-20-098P	Deborah Hendricks	40940 Mills Rd	Holland	Undeclared	25	Lvstk/Pltry	Proposed
E-20-099P	Jeff & Shelly Moser	206 Sugar Maple Ct	Nolanville	Undeclared	900	Domestic	Proposed
E-20-100P	Jacob Bingham	21580 FM 2115	Salado	Undeclared	300	Domestic	Proposed
N2-20-006G	Reddy Beeram	204 E. Loop 121	Belton	Edwards (BFZ)	200	Domestic	Active

Well Registration Totals

Year	Exempt Wells		Non-Exempt Wells			Monitor Wells		Total
	Grandfathered	New	Grandfathered	Class 1	Class 2	Water	Envr	
2002 - 2019	4352	1013	104	33	52	25	121	5700
2020 - Jan	4	1	0	0	0	0	0	5
Feb	0	4	0	1	1	0	0	6
Mar	0	0	0	0	4	1	0	5
Apr	60	2	0	0	0	0	0	62
May	0	10	0	0	0	0	0	10
June	1	5	0	0	0	0	0	6
July	1	5	0	1	0	0	0	7
Aug	1	5	1	0	0	0	0	7
Sept								0
Oct								0
Nov								0
Dec								0
Total 2020	67	32	1	2	5	1	0	108
Totals	4419	1045	105	35	57	26	121	5808

Adjustments

Adjustment Type	Exempt Wells		Non-Exempt Wells			Monitor Wells		Total
	Grandfathered	New	Grandfathered	Class 1	Class 2	Water	Envr	
2002-Present	4419	1045	105	35	57	26	121	5808
Never Drilled	N/A	-27	N/A	-3	-4	0	-1	-35
Plugged	-203	-42	-18	-2	-1	-2	-53	-321
Totals	4216	976	87	30	52	24	67	5452