Water Data: People & Purpose
August 30, 2022

Sam Marie Hermitte, *Texas Water Development Board*
Amy Bush*, RMBJ Geo*
Ashley Greuter, *Harris-Galveston Subsidence District*
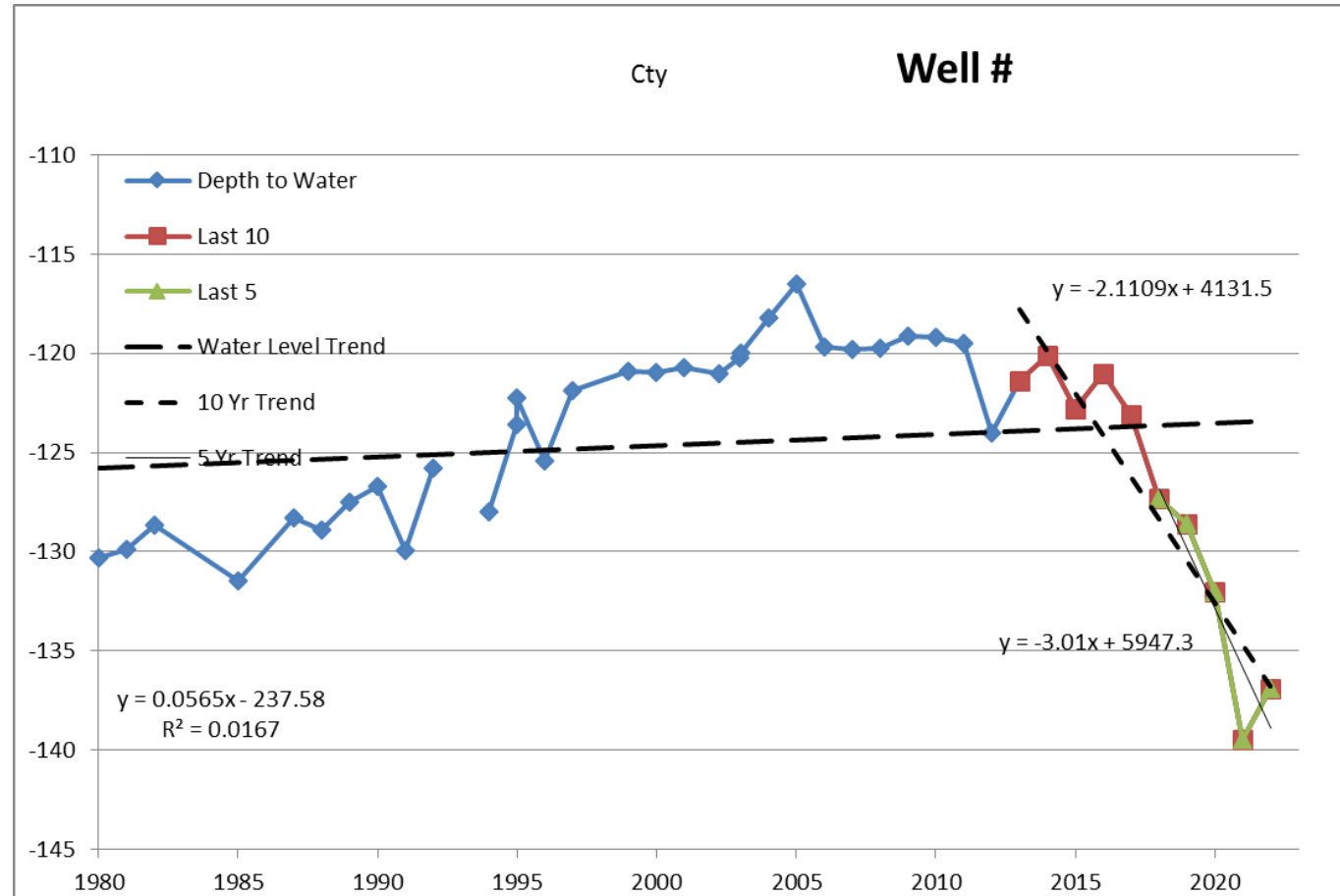Joe Yelderman*, Baylor University*

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Line Data

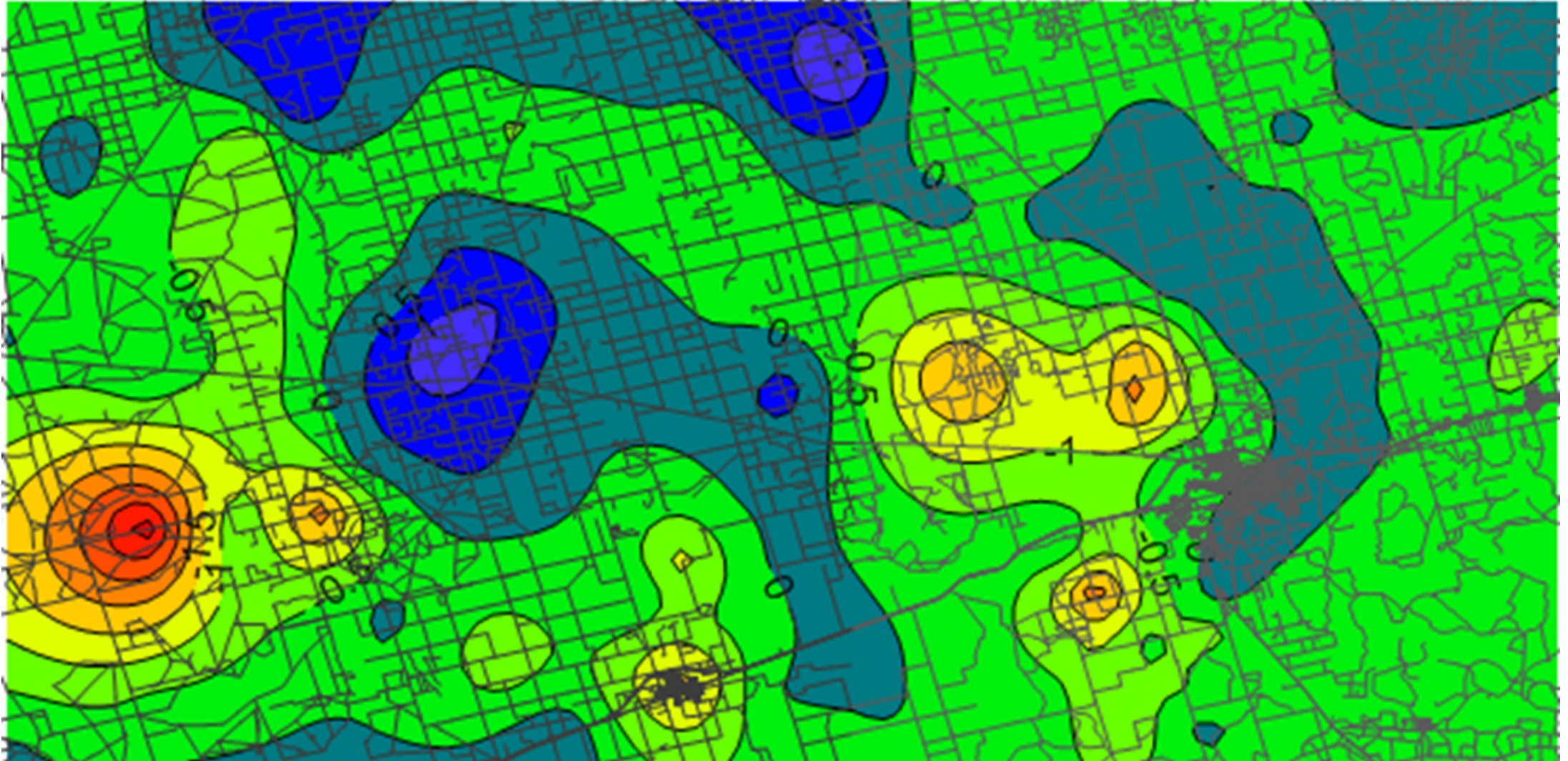| Well Number	Aquifer	Lat	Long	Depth	Static Change	5 Year Change	10 Year Change	5 Year Trend	10 Year Trend	Total Trend	Total Years
2707501	Ogallala	32.9452778	-102.1872222	-113.47	13.08	8.66	-9.00	1.8	-1.5	-2.2	38
2707801	Ogallala	32.9122222	-102.1944444	-68.58	-0.58	-2.91	-6.58	-0.4	-0.6	-0.3	38
2707901	Ogallala	32.9158333	-102.1558333	-80.50	-2.75	-2.67	-9.83	0.6	-1.1	0.2	63
2708405	Ogallala	32.9288889	-102.1177778	-107.67	0.83	1.00	-7.25	0.9	-0.7	-0.9	11
2708503	Ogallala	32.9419444	-102.06	-74.48	0.42	-2.58	-4.75	0.4	-0.6	-1.6	38
2708505	Ogallala	32.9172222	-102.0727778	-88.25	0.92	-4.25	-3.75	-0.1	-0.8	-1.5	21
2708701	Ogallala	32.8886111	-102.0958333	-129.75	1.17	-3.25	-16.08	-2.5	-3.8	-0.1	38
2708801	Ogallala	32.8816667	-102.0580556	-123.08	1.50	-5.08	-7.83	-0.2	-1.3	-1.9	38
2715201	Ogallala	32.8569444	-102.1683333	-104.08	1.67	0.84	5.17	1.4	-0.3	-1.0	38
2716201	Ogallala	32.8544444	-102.0447222	-126.50	-1.58	-4.42	-12.00	-3.4	-3.3	0.4	47
2716202	Ogallala	32.8513889	-102.0783333	-119.58	1.17	1.84	-9.91	-1.0	-1.4	-1.4	38
2716204	Ogallala	32.8722222	-102.0658333	-114.25	1.25	-4.25	-10.00	-0.7	-1.2	-1.8	19
2716205	Ogallala	32.8430556	-102.0436111	-129.58	1.42	-1.08	-11.16	0.0	-1.4	-2.4	16
2716605	Ogallala	32.8258333	-102.0277778	-136.50	1.08	-6.00	-9.25	-0.6	-1.1	-2.4	25
2716611	Ogallala	32.8291667	-102.0263889	-141.50	-1.00	-3.50	-10.58	-0.5	-1.1	-1.3	14
2716702	Ogallala	32.7738889	-102.0919444	-21.50	0.25	-2.50	-1.58	0.1	-0.6	-0.2	25
2716802	Ogallala	32.7913889	-102.0488889	-81.92	7.41	7.25	5.66	3.4	-0.3	-0.1	11
2716803	Ogallala	32.7869444	-102.0463889	-71.42	6.16	18.58	0.83	2.0	-0.2	-0.4	11
2724101	Ogallala	32.7097222	-102.1022222	-19.08	1.17	11.25	6.75	2.7	0.6	0.6	38
2724202	Ogallala	32.7311111	-102.0702778	-19.08	0.42	3.59	6.50	1.0	0.7	2.0	38
2724206	Ogallala	32.7261111	-102.0763889	-13.75		7.83	11.25	2.0	1.0	1.0	10

Averaged Summary Data

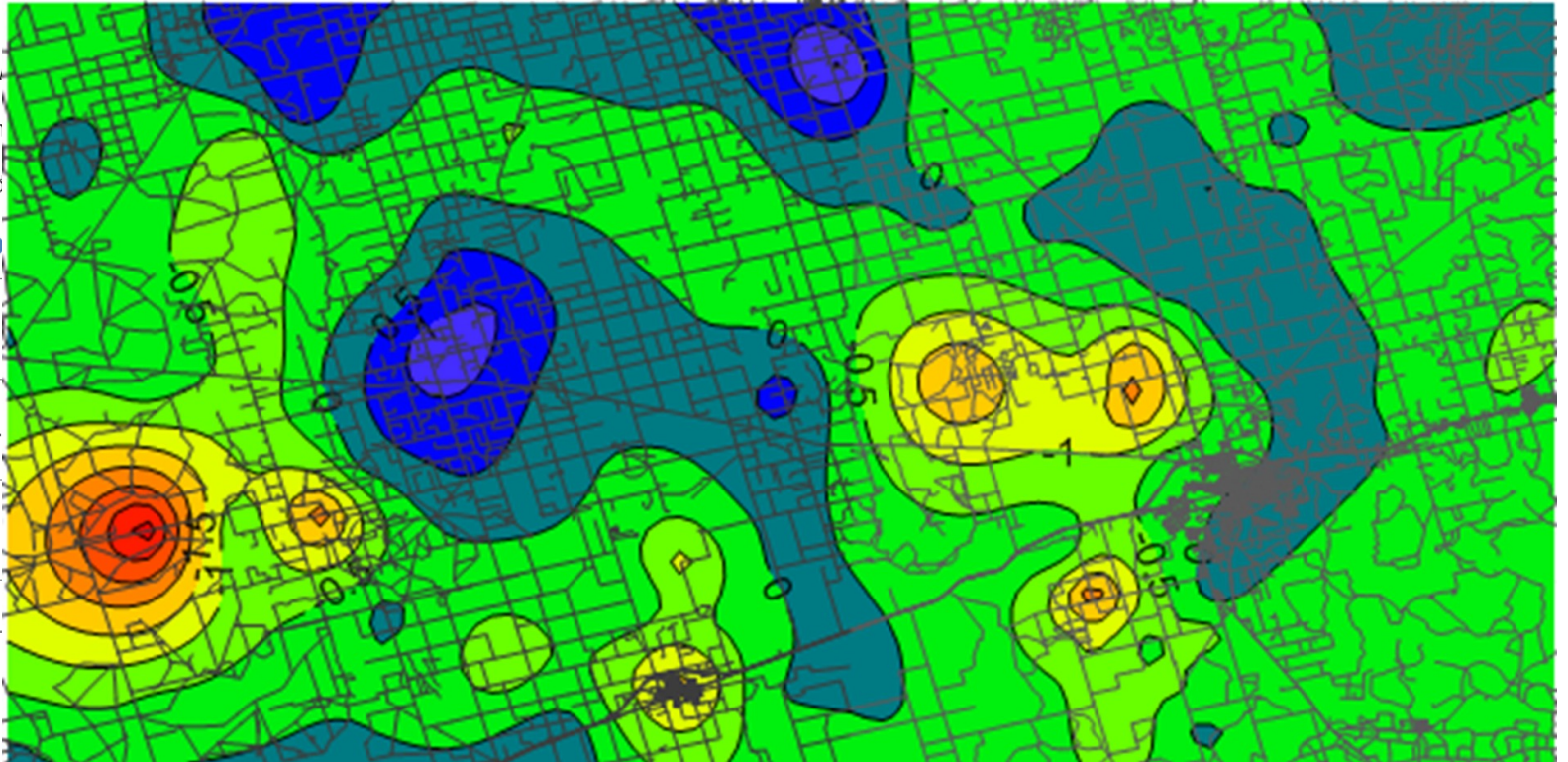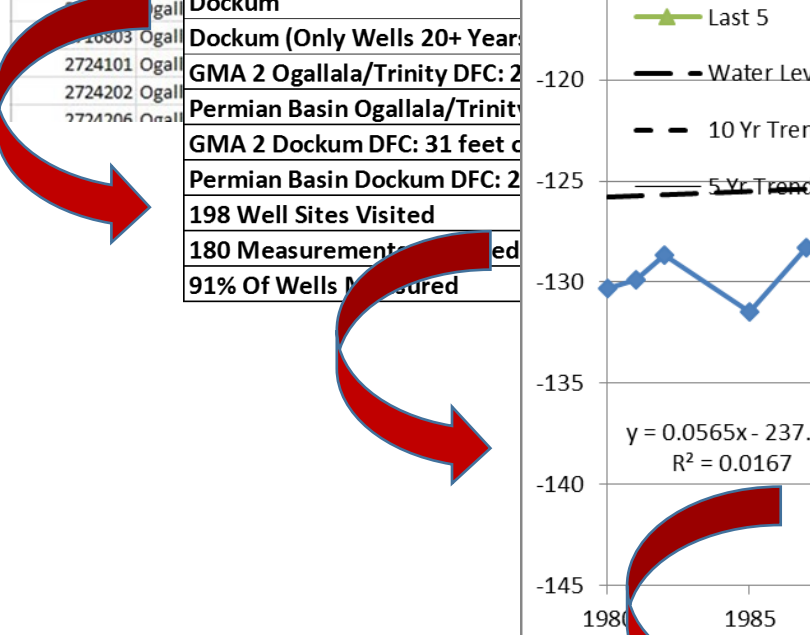| 2022	Static Change	5 Year Difference	10 Year Difference	5 Year Average	10 Year Average	Total Trend	Total Years	Number of Measurements	Percent of Measurements
District	-0.3	-3.6	-4.4	-0.5	-0.4	-0.22	28	180	100
Ogallala/Trinity	-0.5	-3.7	-4.6	-0.5	-0.3	-0.20	29	148	100
Ogallala/Trinity (Only Wells 20+ Years)	-0.5	-5.2	-6.3	-0.6	-0.6	-0.12	44	74	50
Ogallala/Trinity (Only Wells 40+ Years)	-0.3	-5.3	-6.5	-0.7	-0.5	-0.09	53	49	33
Edwards	-0.9	-3.6	-3.3	-0.9	-0.6	-0.26	23	6	100
Dockum	0.9	-3.1	-3.3	-0.2	-0.3	-0.35	20	23	100
Dockum (Only Wells 20+ Years)	-0.4	-1.1	-3.5	-0.1	-0.4	-0.09	38	5	22

Individual Graph Data

Georeferenced Data

TRANSFORMATION

Well Number	Aquifer	Lat	Long	Depth	Static Change	5 Year Change	10 Year Change	5 Year Trend	10 Year Trend	Total Trend	Total Years
2707501	Ogallala	32.9452778	-102.1872222	-113.47	13.08	8.66	-9.00	1.8	-1.5	-2.2	38
2707801	Ogallala	32.9122222	-102.1944444	-68.58	-0.58	-2.91	-6.58	-0.4	-0.6	-0.3	38
2707901	Ogallala	32.9158333	-102.1558333	-80.50	-2.75	-2.67	-9.83	0.6	-1.1	0.2	63
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2716204	Ogall										
2716205	Ogall										
2716605	Ogall										
2716611	Ogall										
2716702	Ogall										

2022		Static	5 Year	10 Year	5 Year	10 Year	Total Trend	Total	Number of	Percent of
District										
Ogallala/Trinity										
Ogallala/Trinity (Only Wells 2										
Ogallala/Trinity (Only Wells 4										
Edwards										
Dockum										
Dockum (Only Wells 20+ Years										
GMA 2 Ogallala/Trinity DFC: 2										
Permian Basin Ogallala/Trinity										
GMA 2 Dockum DFC: 31 feet										
Permian Basin Dockum DFC: 2										
198 Well Sites Visited										
180 Measurements										
91% Of Wells Measured										

Cty — Well #

Legend: Depth to Water, Last 10, Last 5, Water Level, 10 Yr Trend, 5 Yr Trend

$y = 0.0565x - 237.$
$R^2 = 0.0167$

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Designated Monitor Well
Quarterly
vs
Aggregated Household Wells
4 hours

Misleading levels

False confidence

Misleading rates & timing of changes

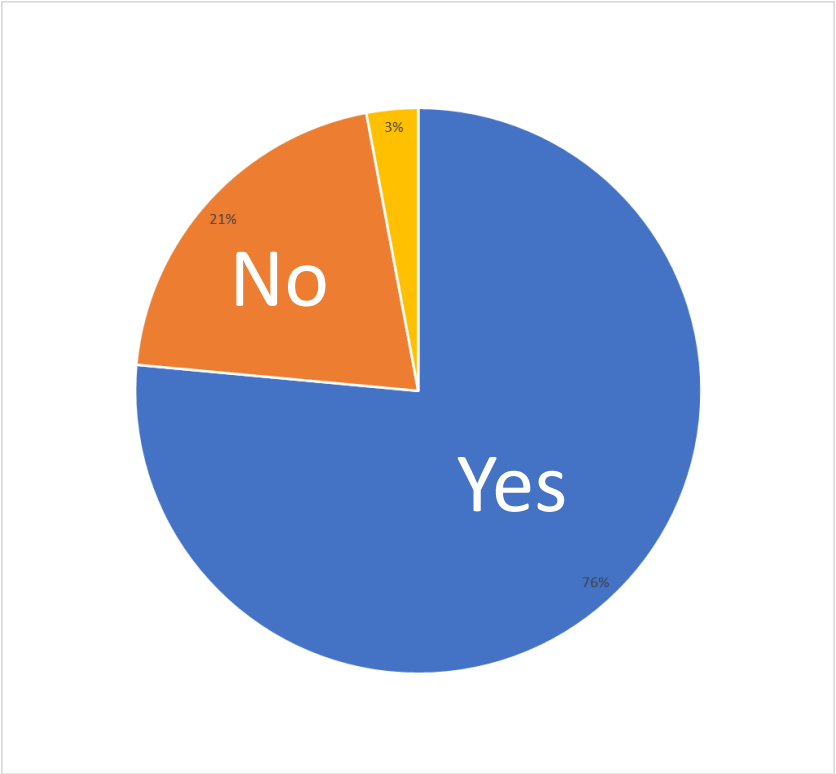Observation/response disconnect
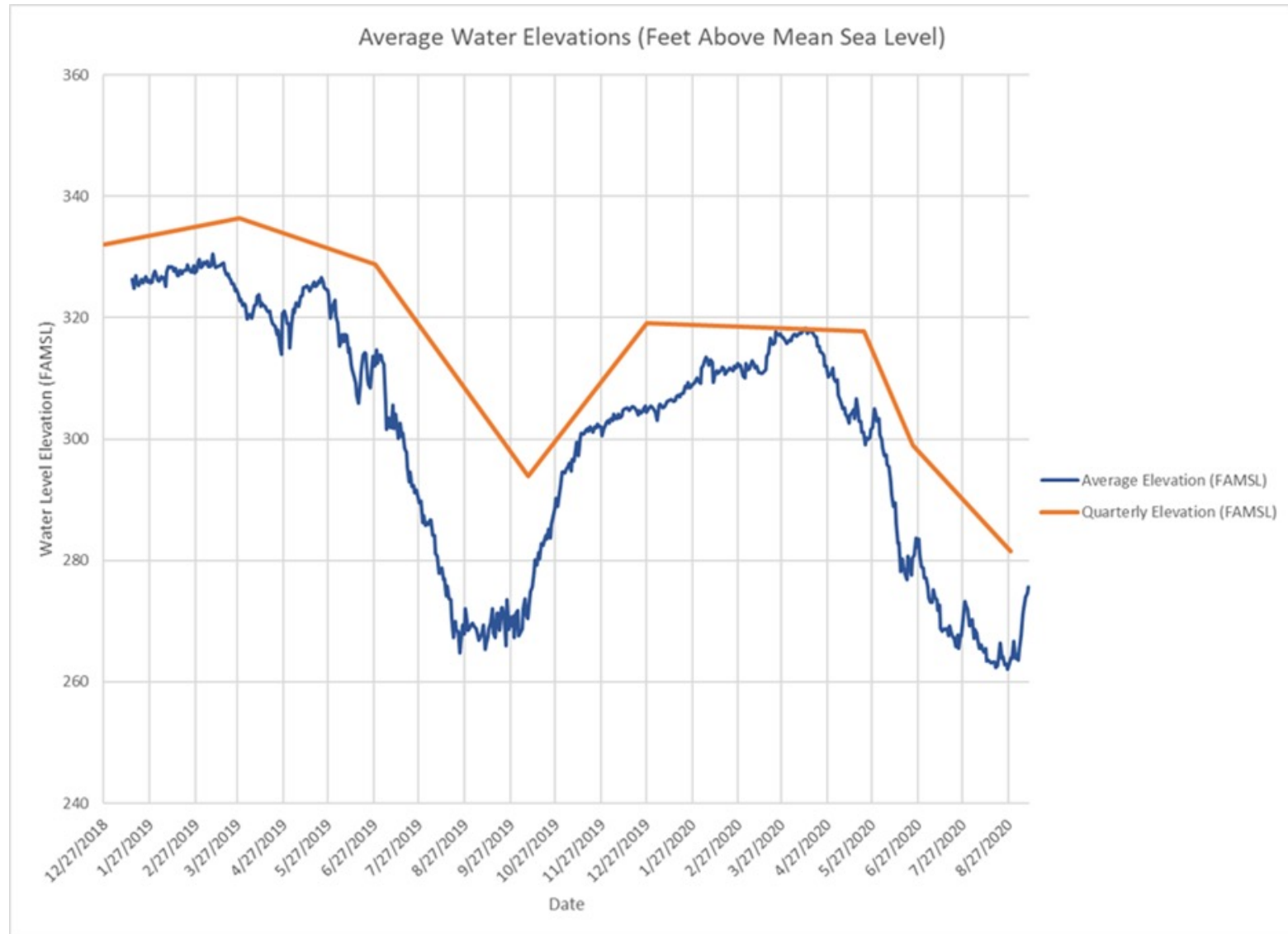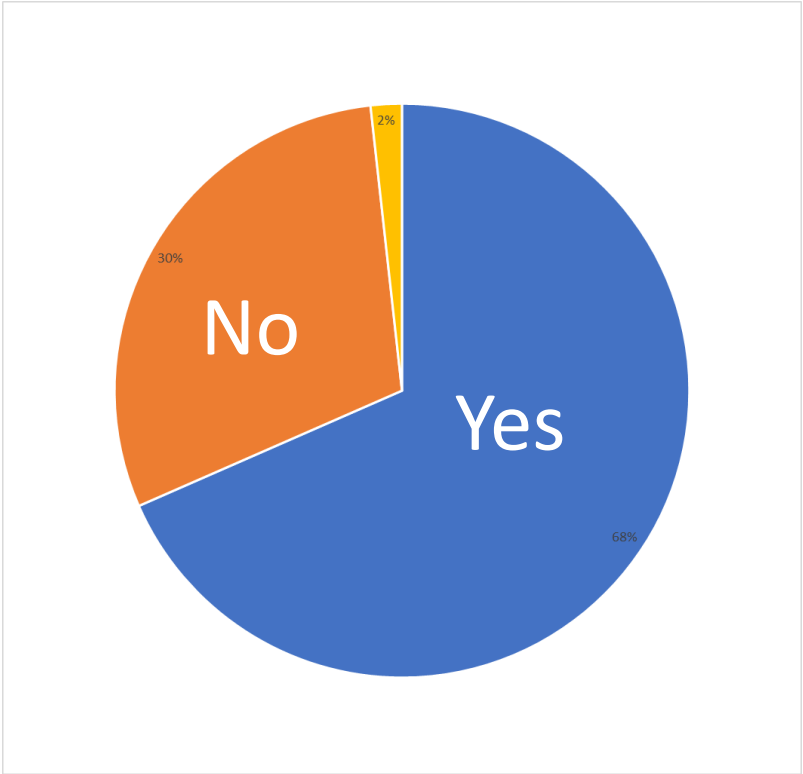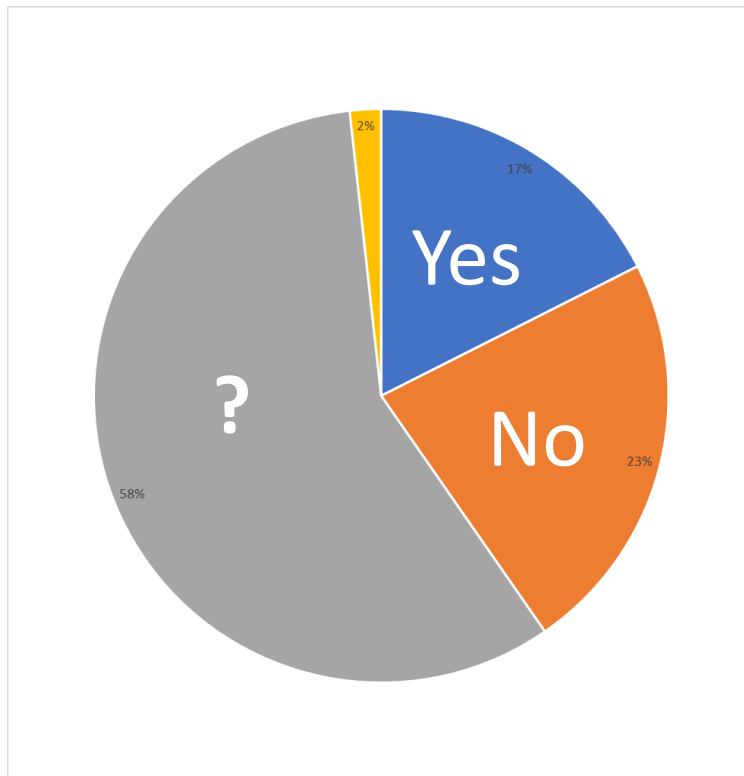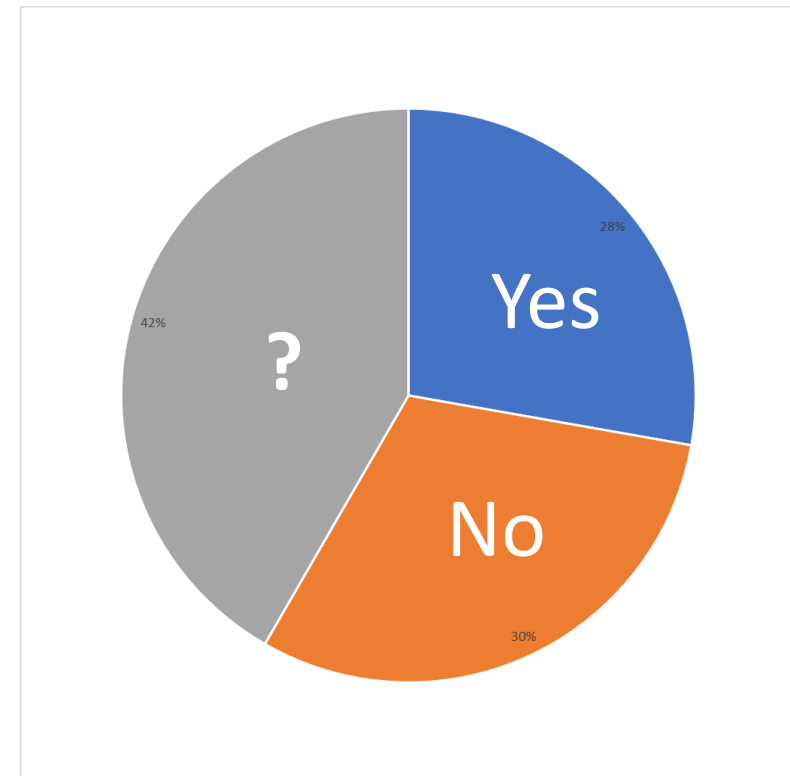
Question Text: Do you think water levels collected from your own well would be more representative of your aquifer condition than a nearby dedicated monitor well?

Initial Survey

Yes 17%
No 23%
? 58%
2%

Follow Up Survey

Yes 28%
No 30%
? 42%

DATA