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Missouri's Groundwater Observation Well Network

Scott Kaden, RG

Groundwater Section Chief

Water Resources Center

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What is the Groundwater Observation Well Network?

- 172 wells recording groundwater levels
- Located statewide in 93 of 114 Missouri counties
- Monitor water level in 13 separate aquifers
- Measures changes in groundwater levels due to various influences, both natural and man
- Water level measured by float/counterweight or pressure transducer
- Water level recorded every 30 minutes
- Data is posted in real-time through a cooperative agreement with U.S. Geological Survey
- Includes precipitation gauges at 41 sites
- Includes six wetland sites that collect data in addition to water level and precipitation
- The network DOES NOT collect water quality data

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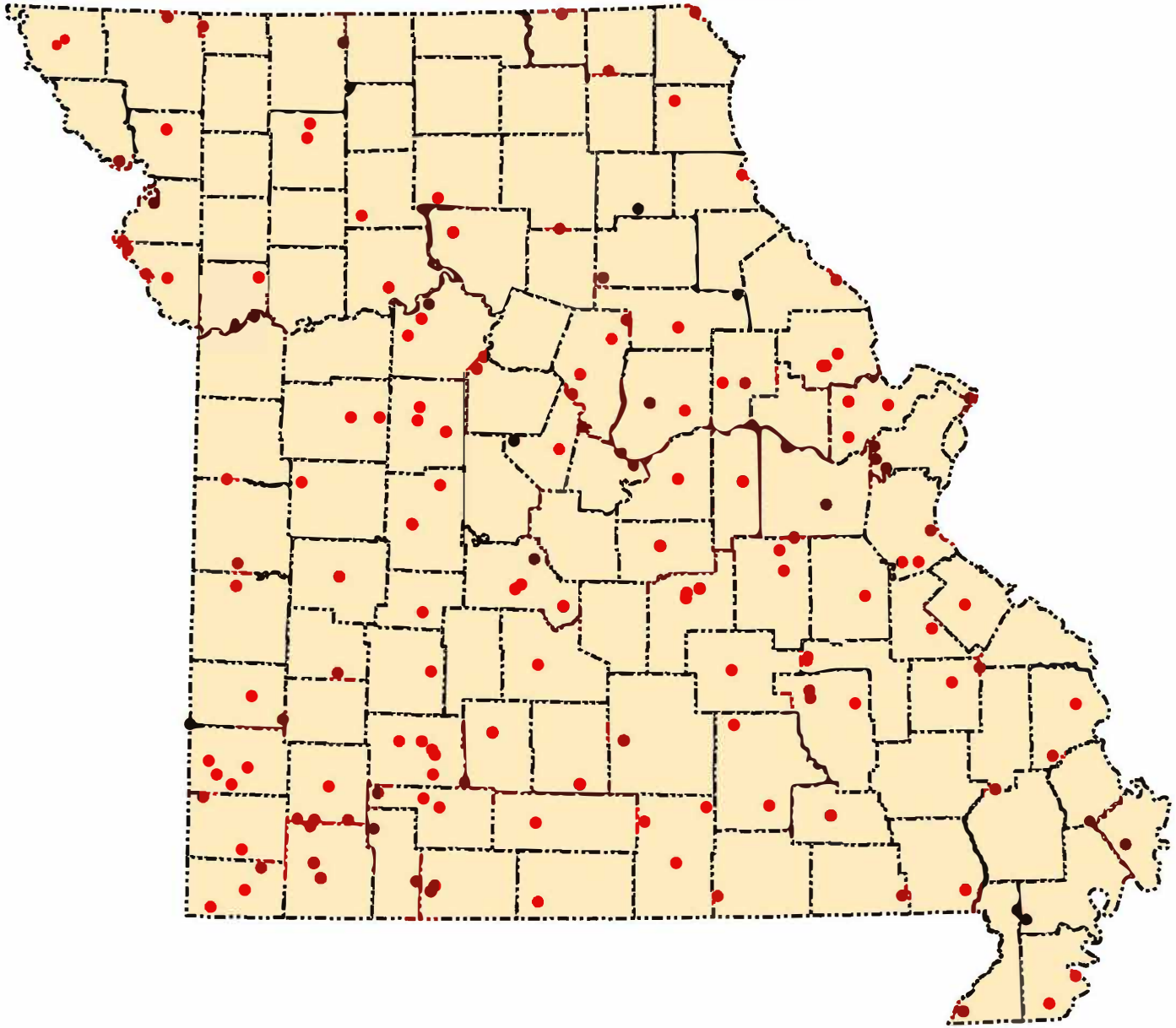

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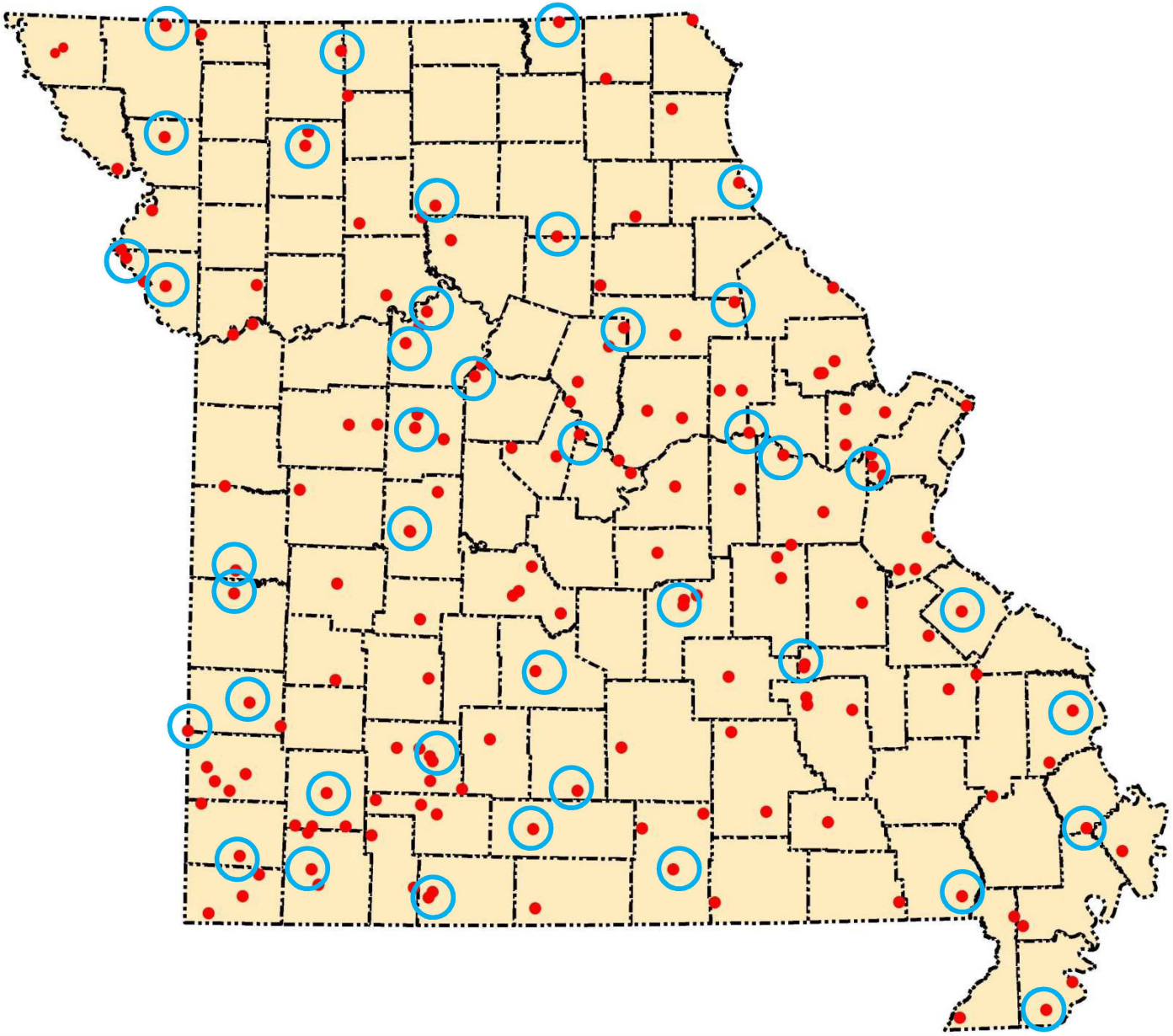

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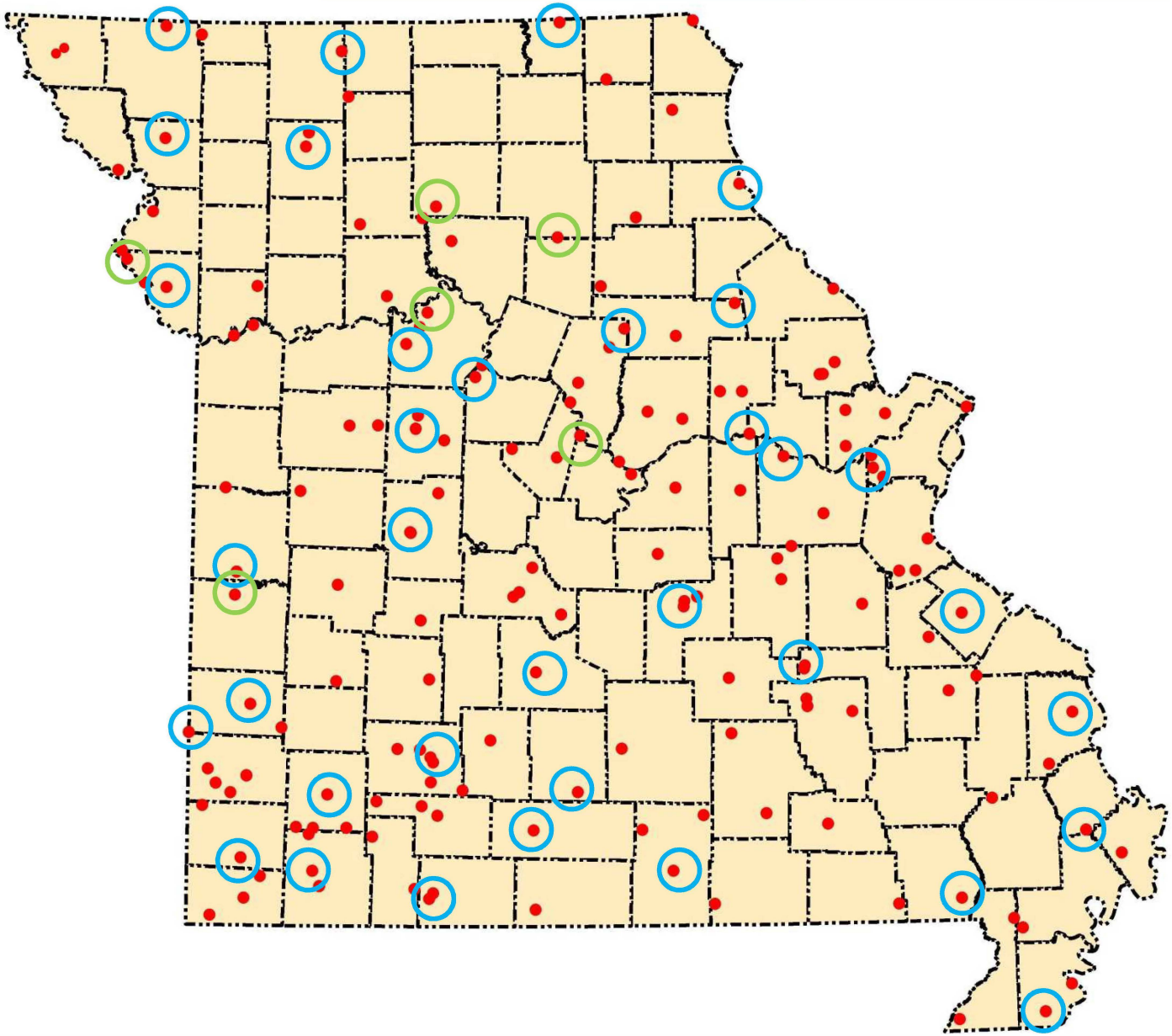

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Mendon

Linn

Columbia

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Jefferson City

Centralia

Marion Bottoms

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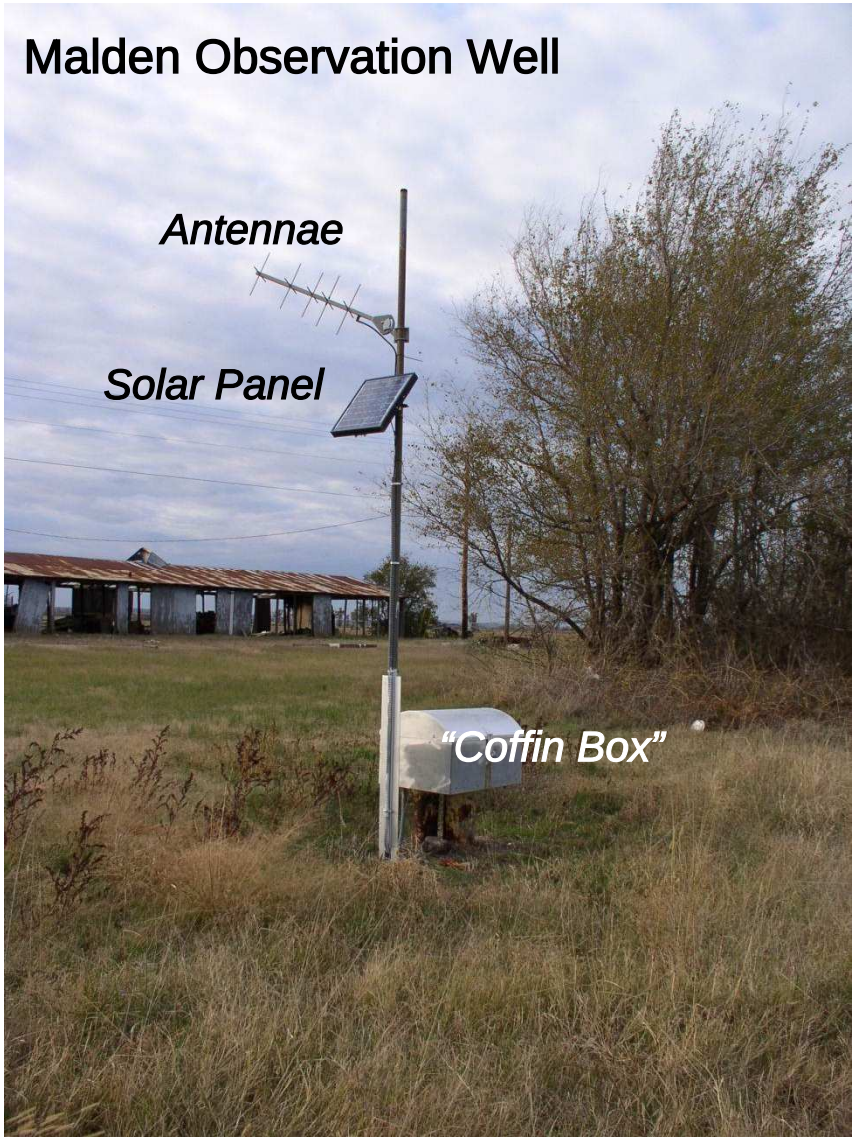
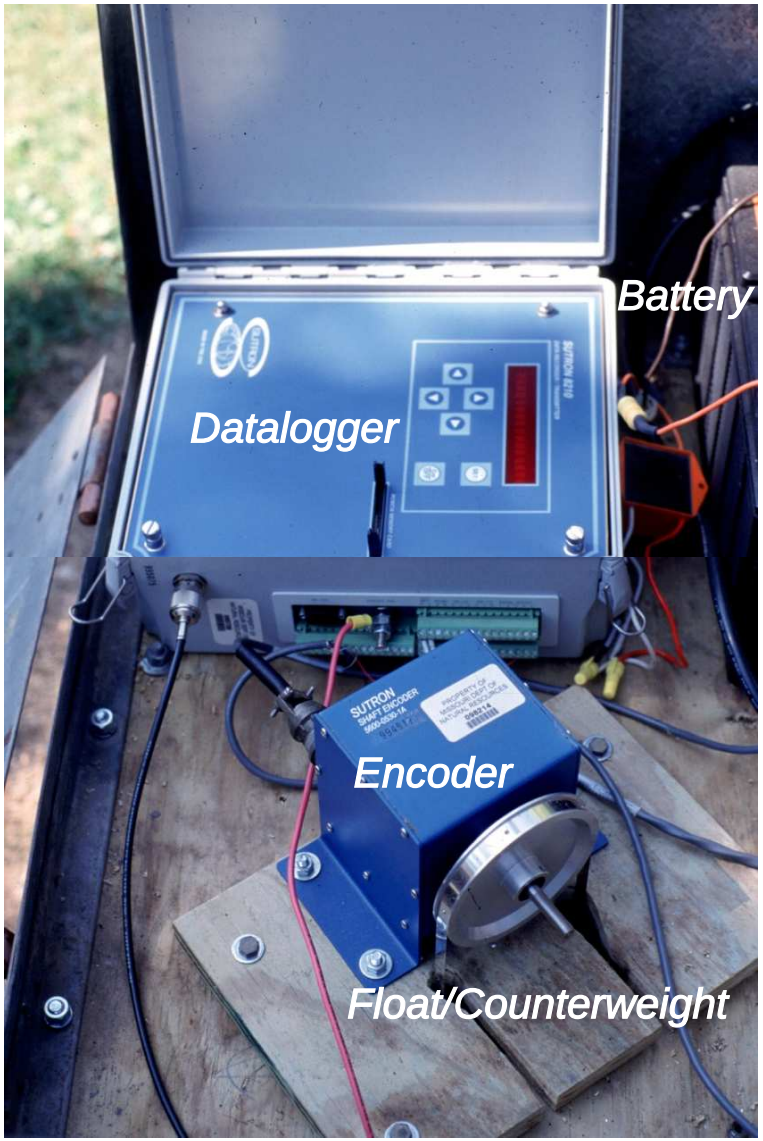
Sutron Data Collection Platform-Float/Counterweight





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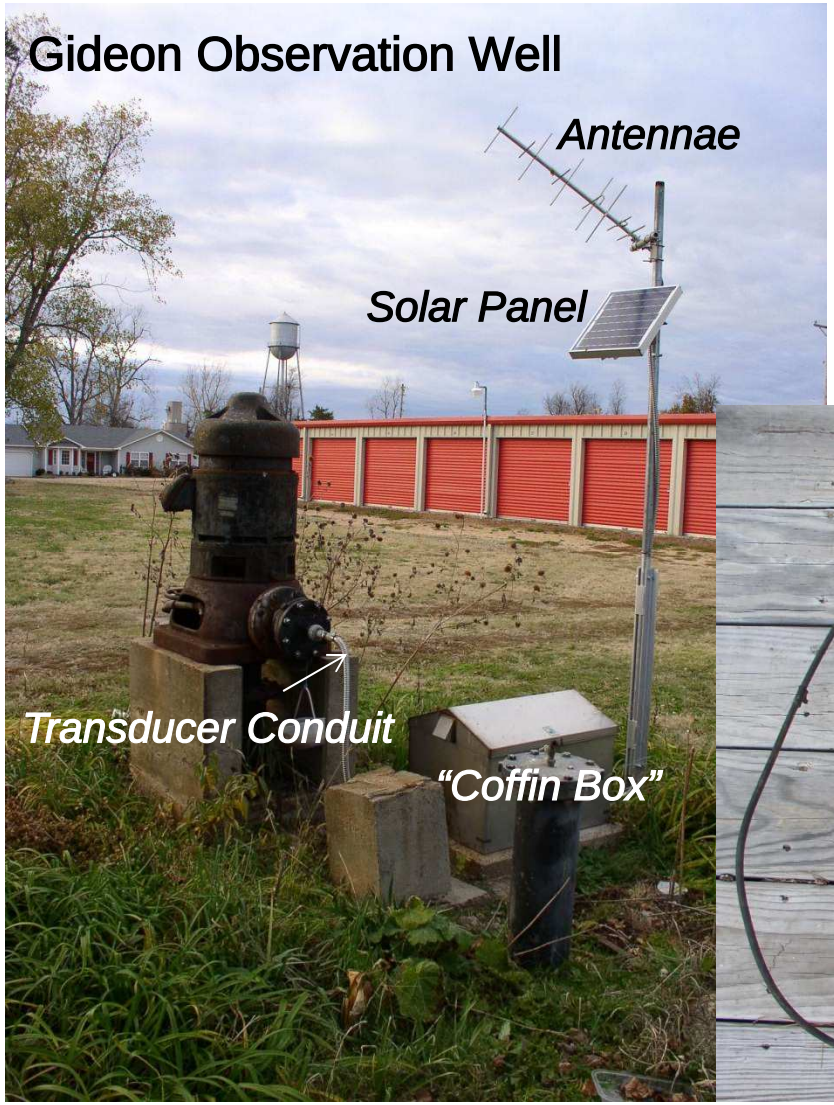
Sutron Data Collection Platform-Pressure Transducer



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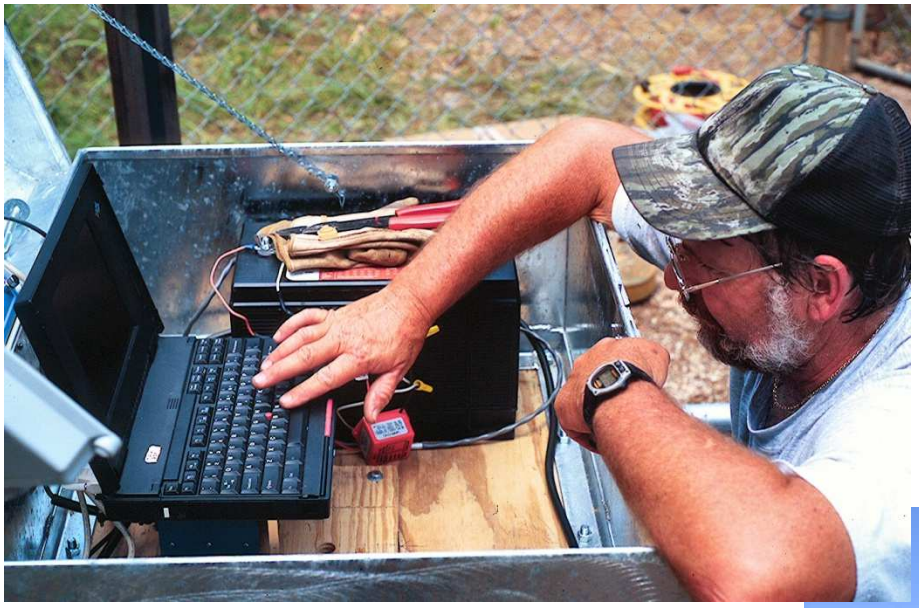

Uses of Observation Well Data

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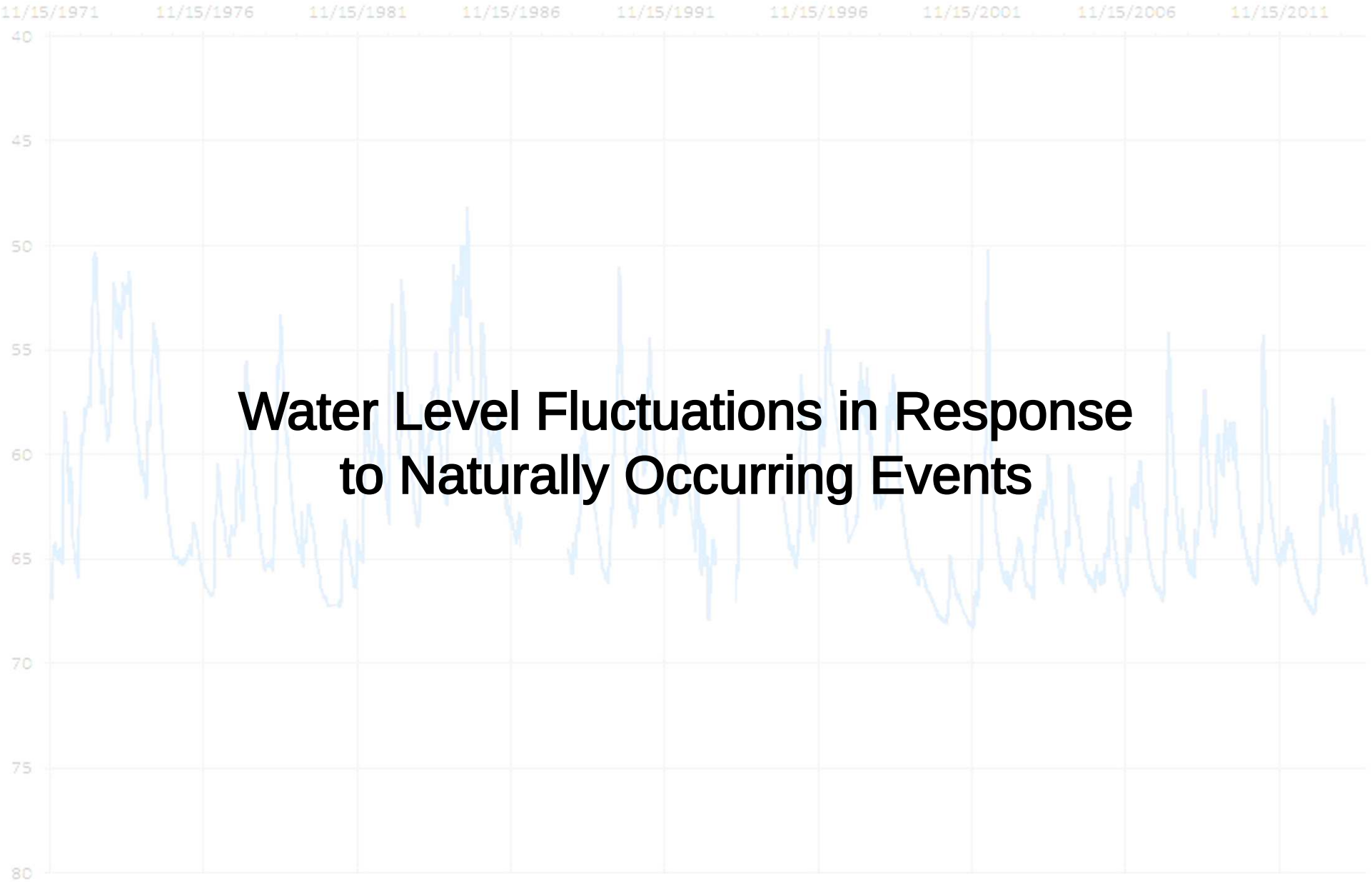

Water Level Fluctuations in Response to Naturally Occurring Events

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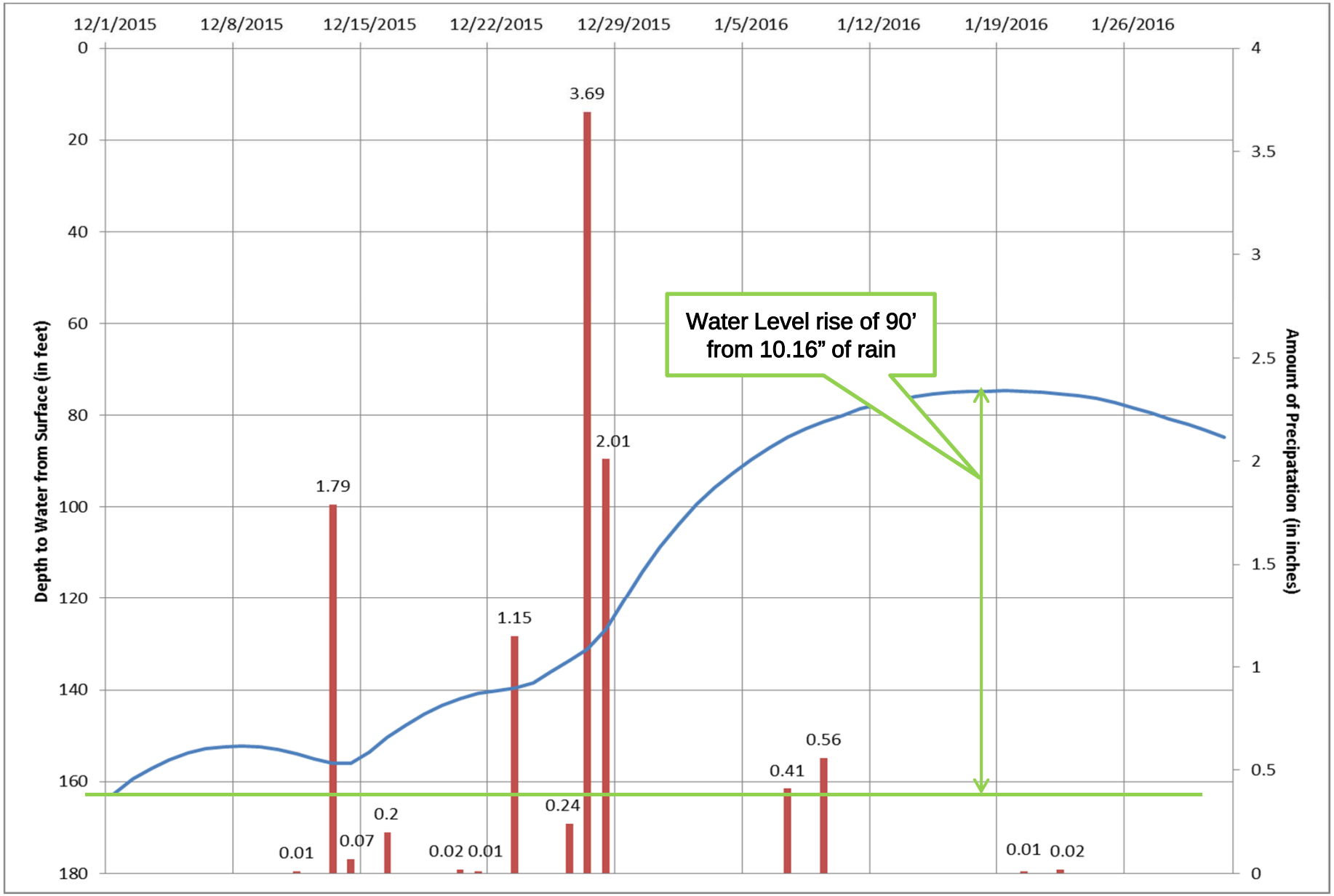
Aquifer Response to Rainfall
West Plains



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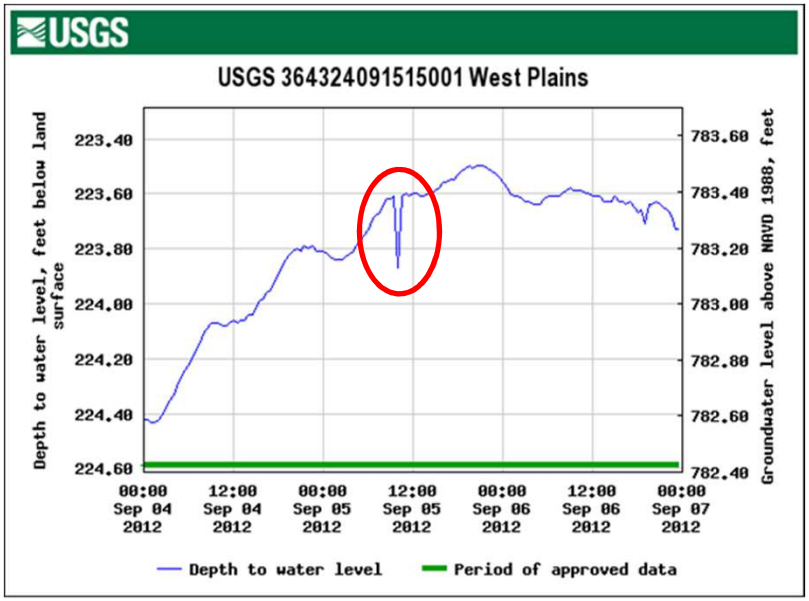
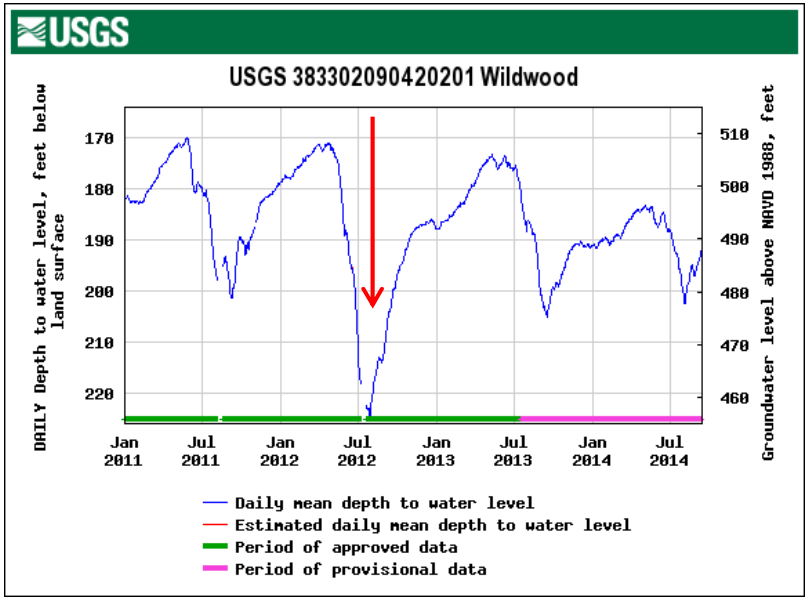
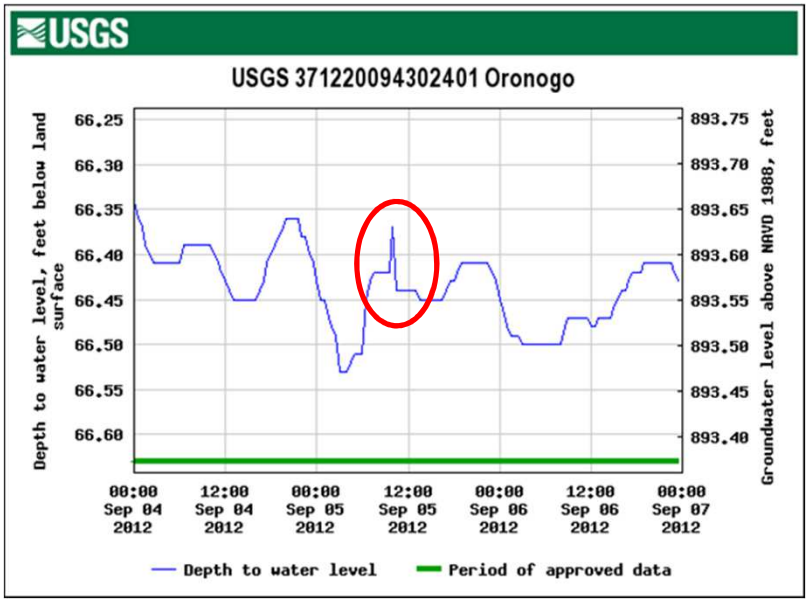
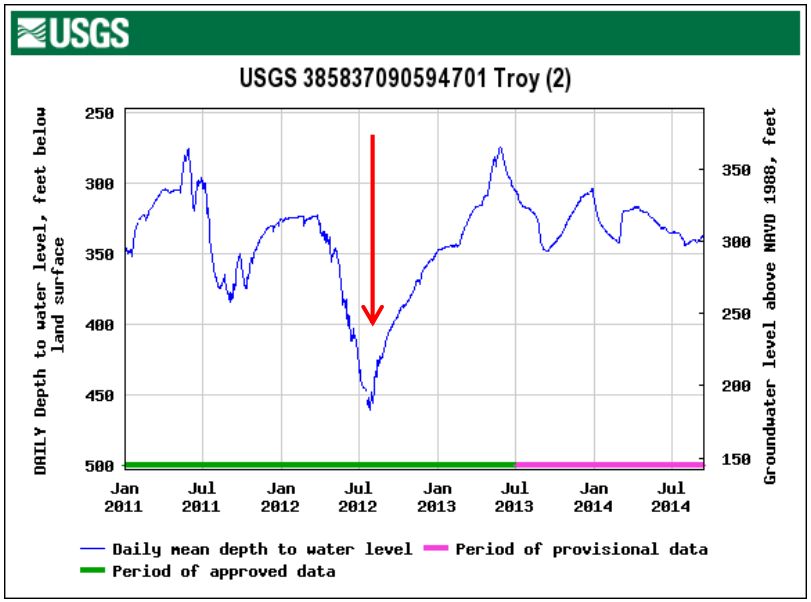
Aquifer Responses to Earthquakes and the 2012 Drought









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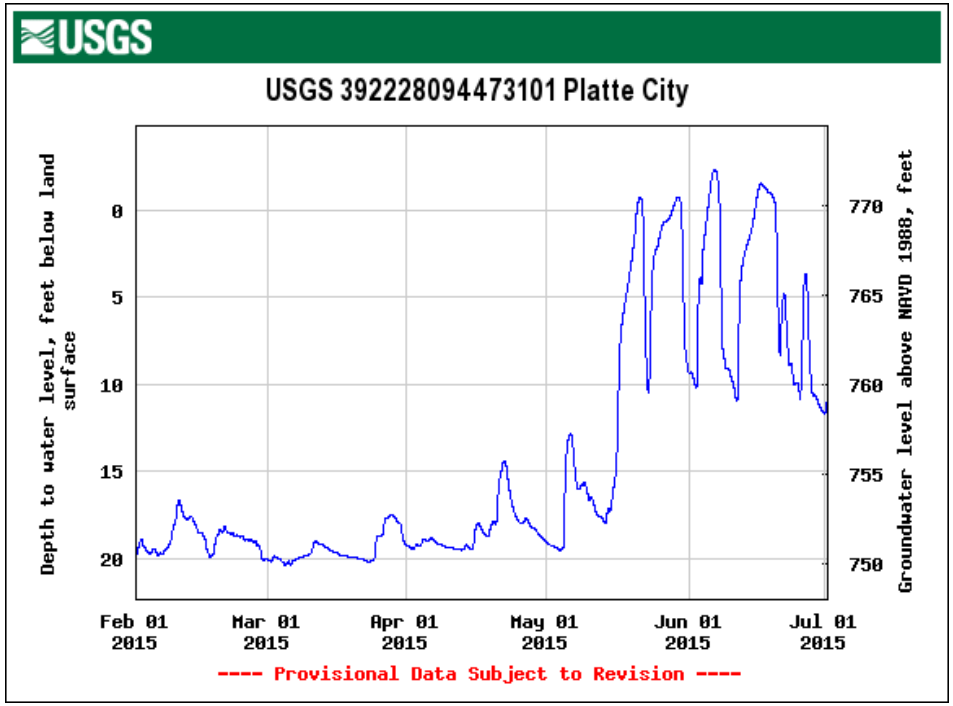
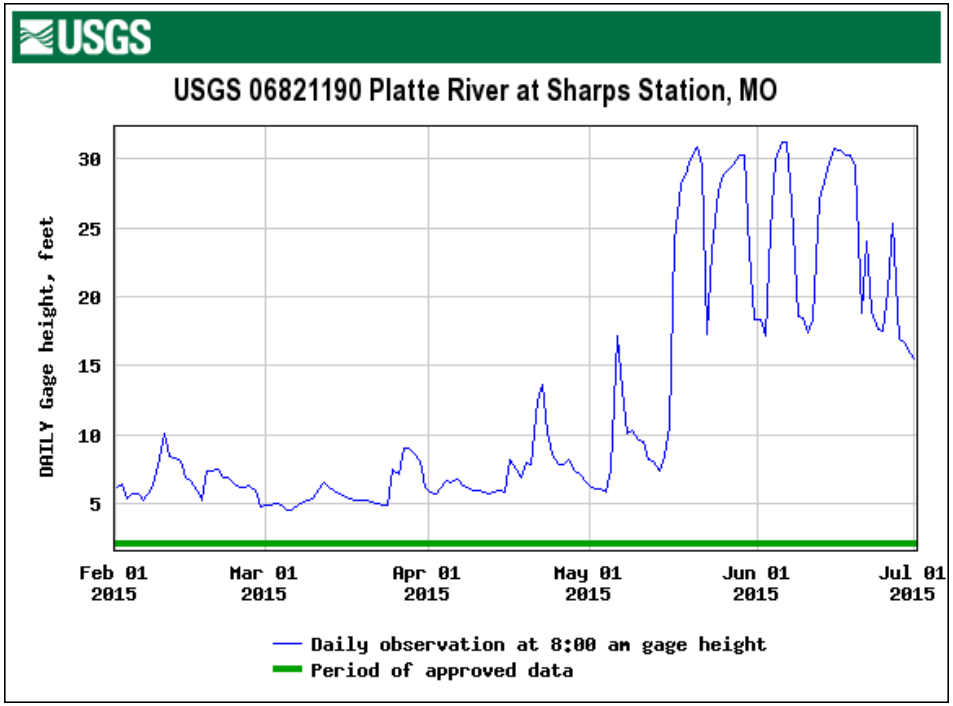
Aquifer Response to River Stage

Platte City Well Water Level

Platte River Stage Height





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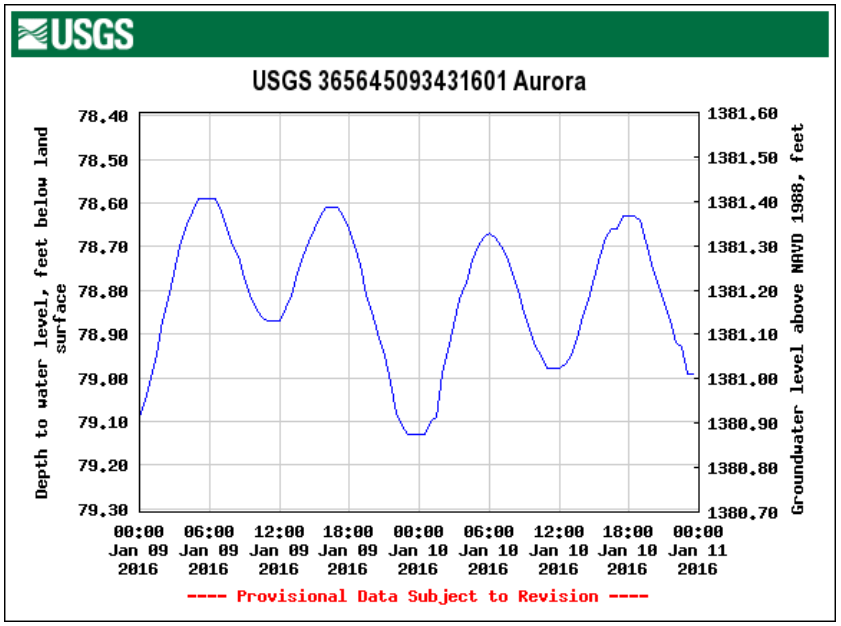
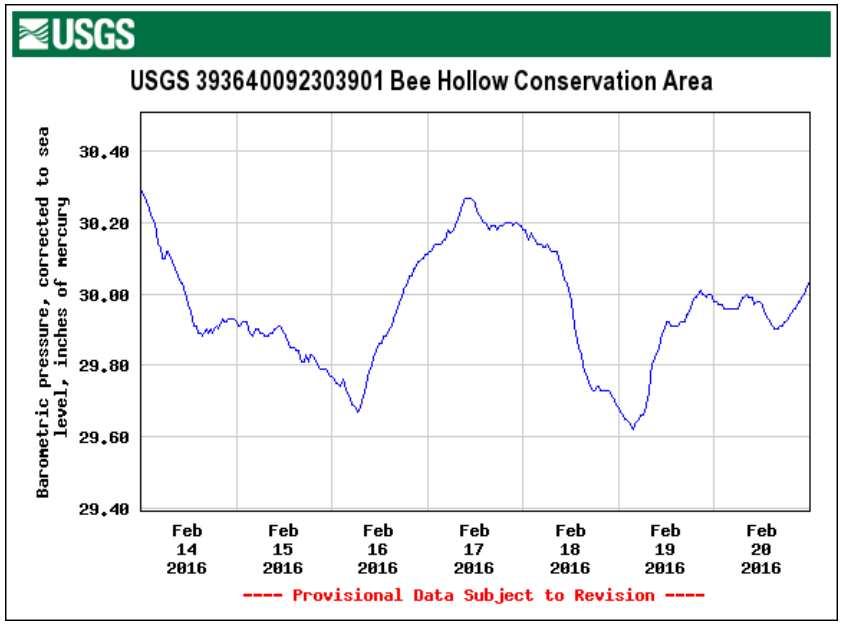
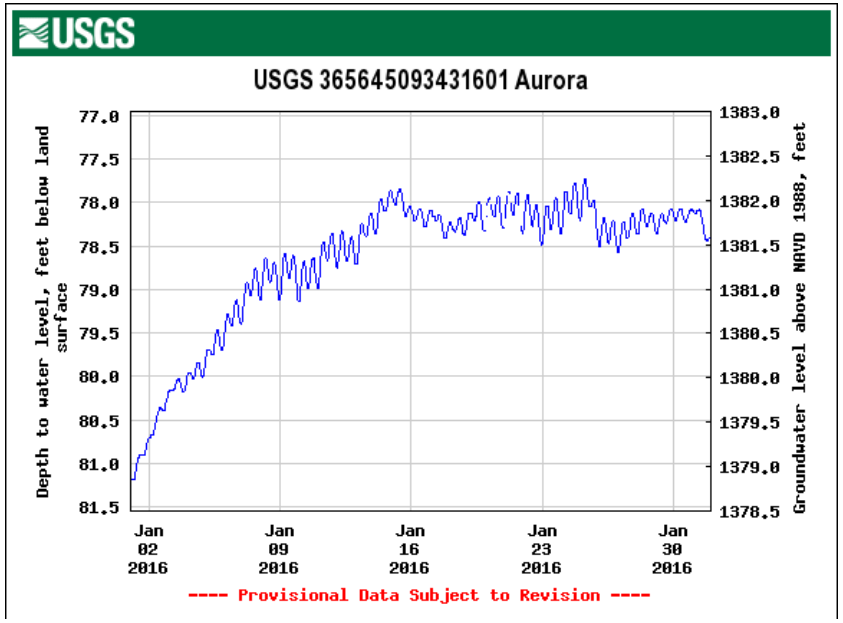
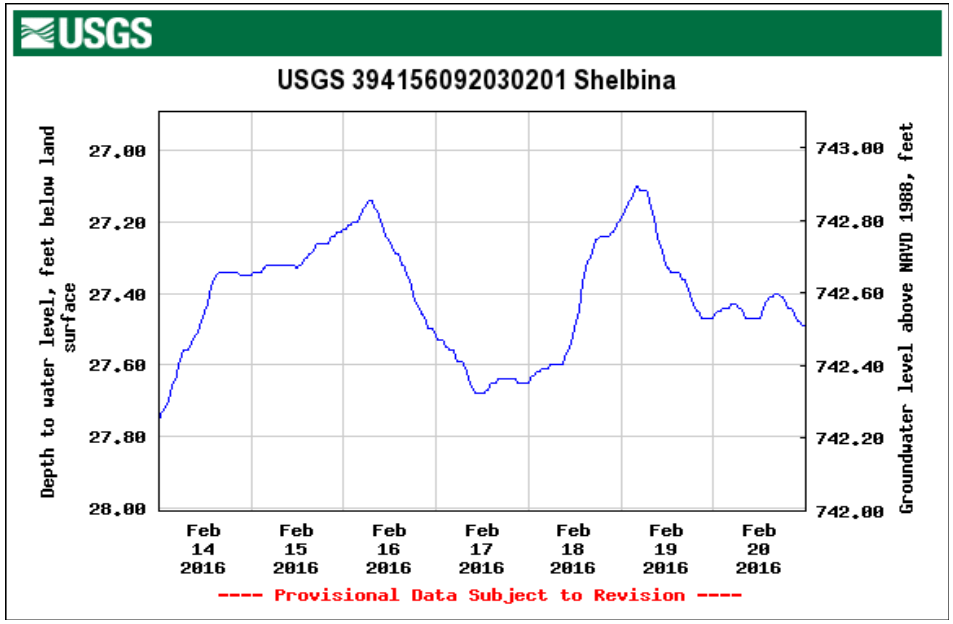
Aquifer Response to the Tidal Effect and Barometric Pressure









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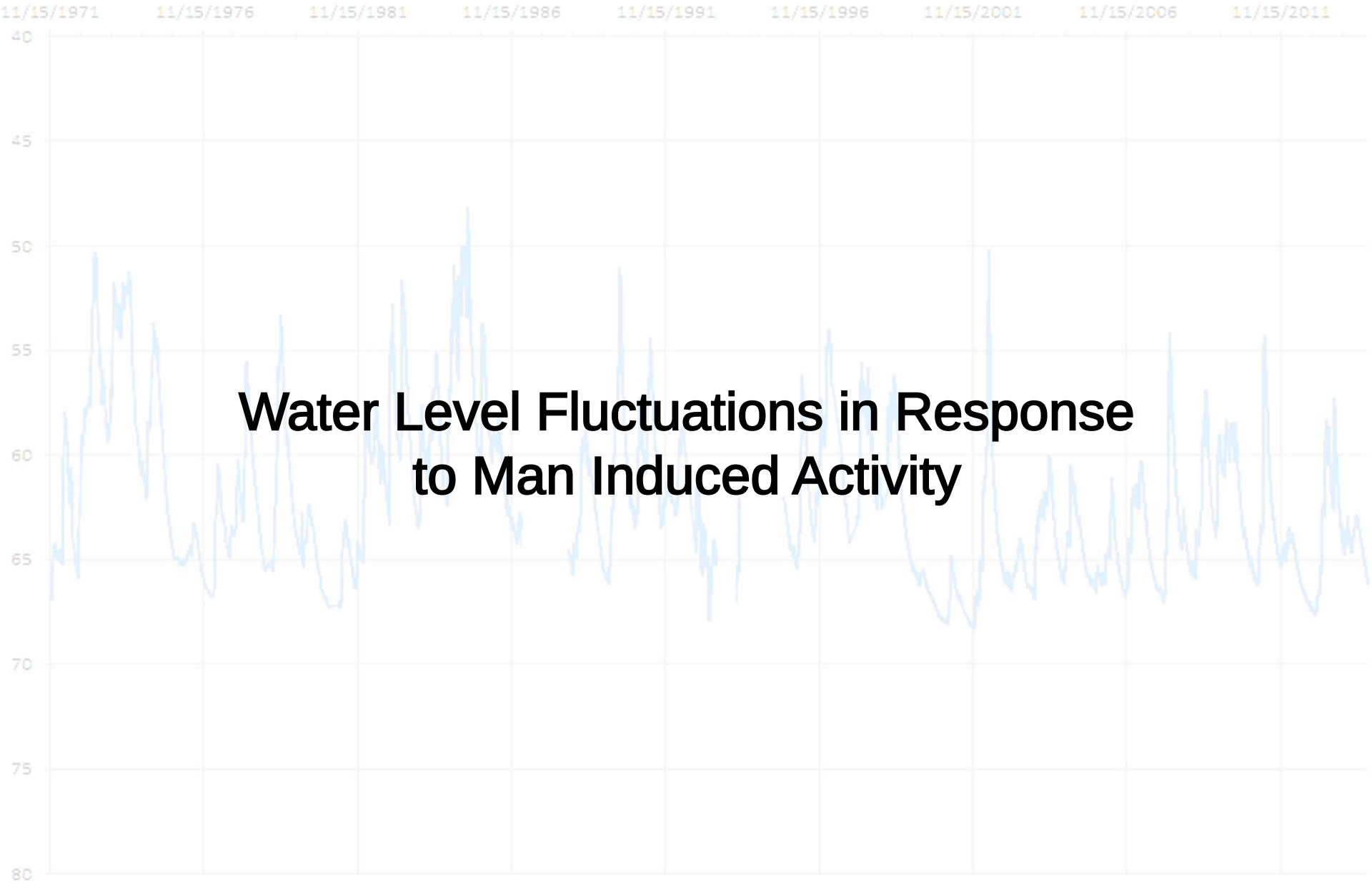

Water Level Fluctuations in Response to Man Induced Activity

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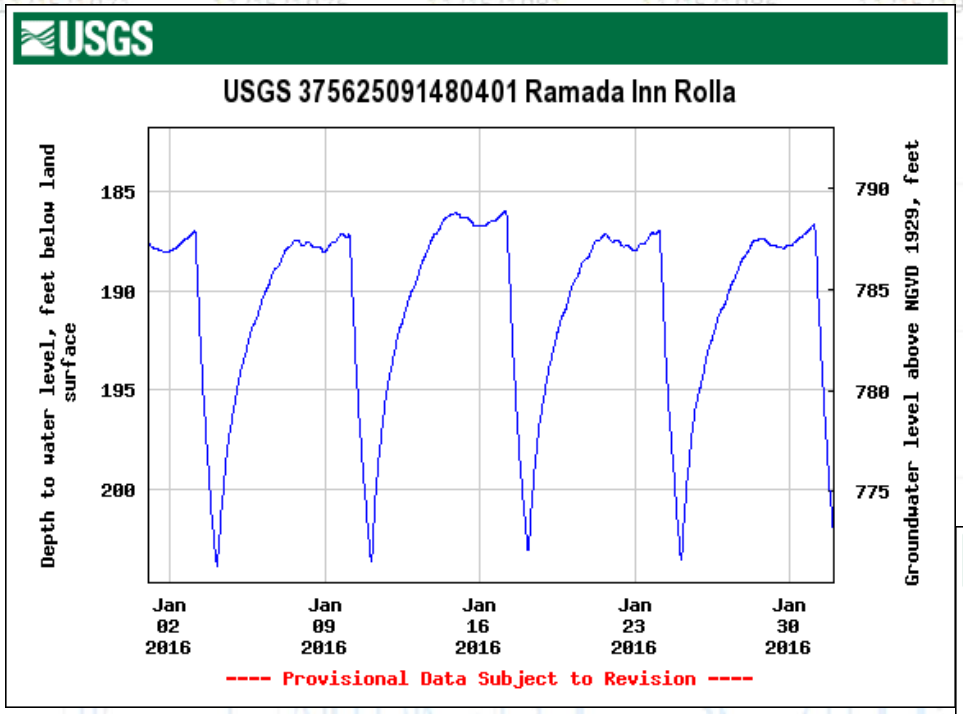
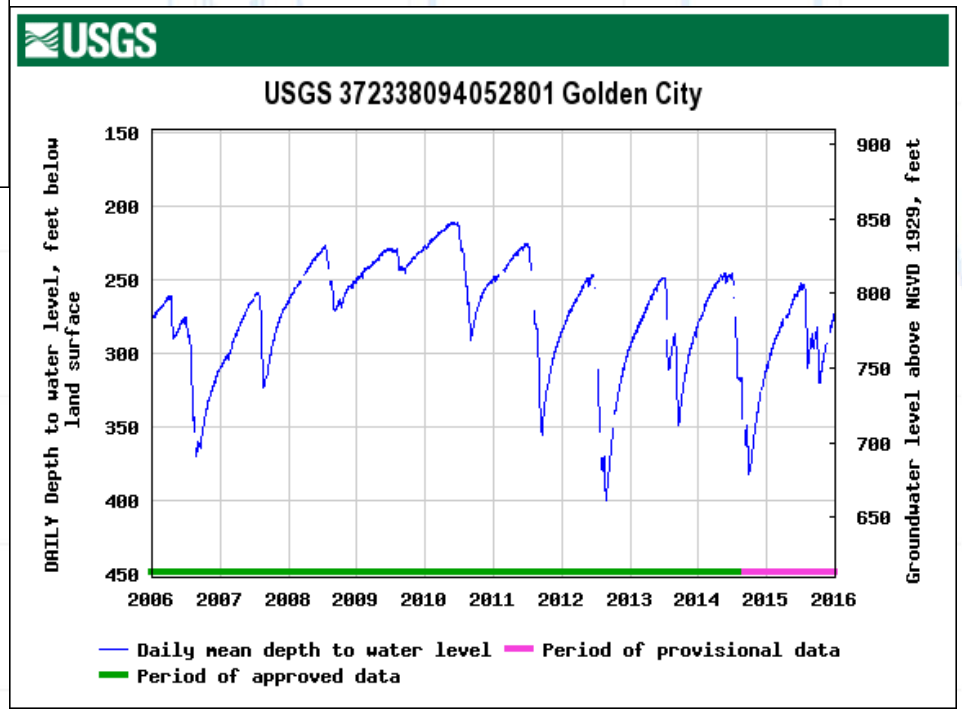
Aquifer Response Pumping
(note the cycles)



Irrigation Pumping



Municipal Pumping

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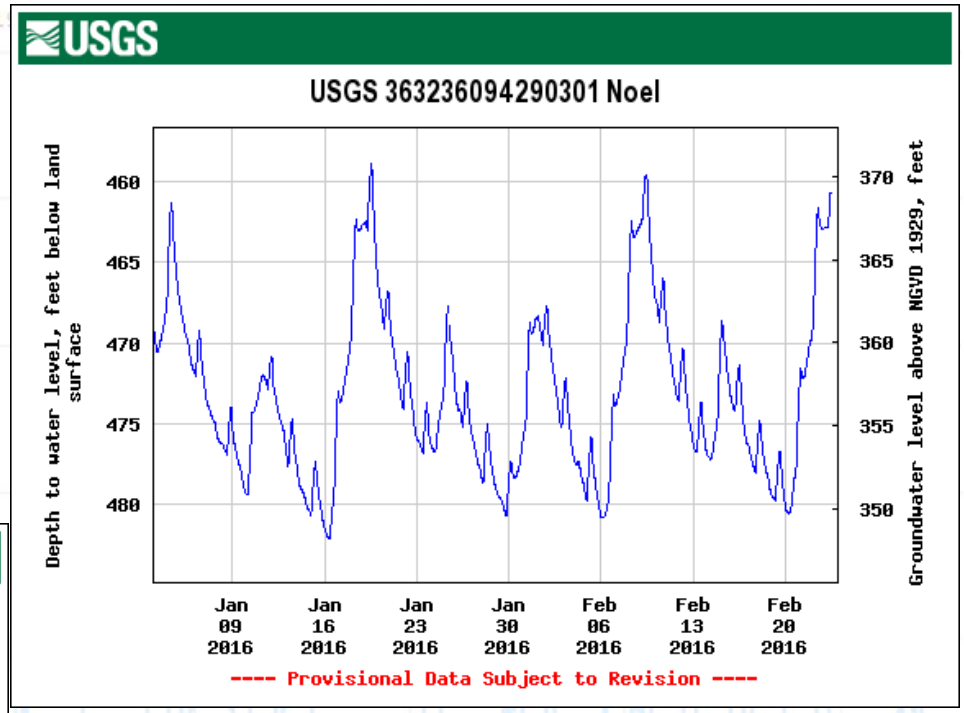
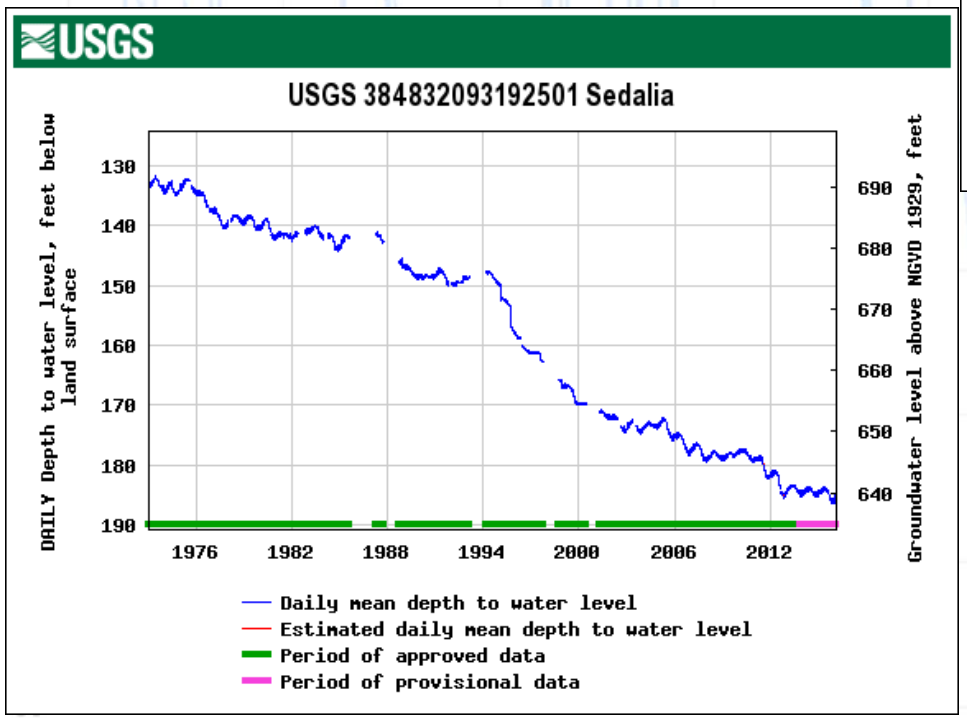
Aquifer Response to Industrial Usage



Weekly Aquifer Response

Long Term Aquifer Response



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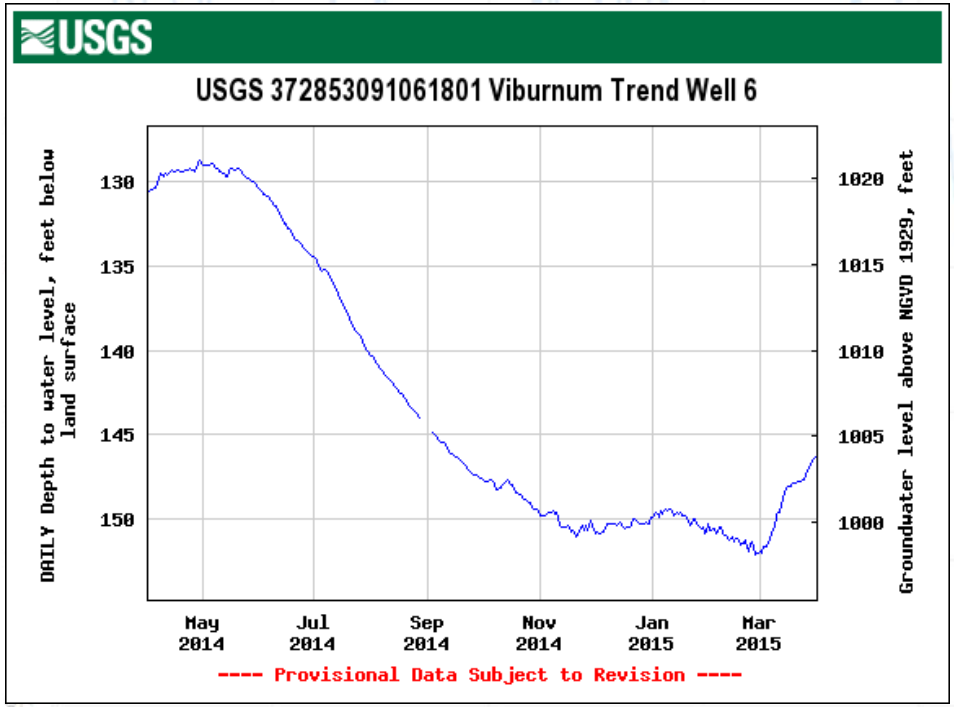
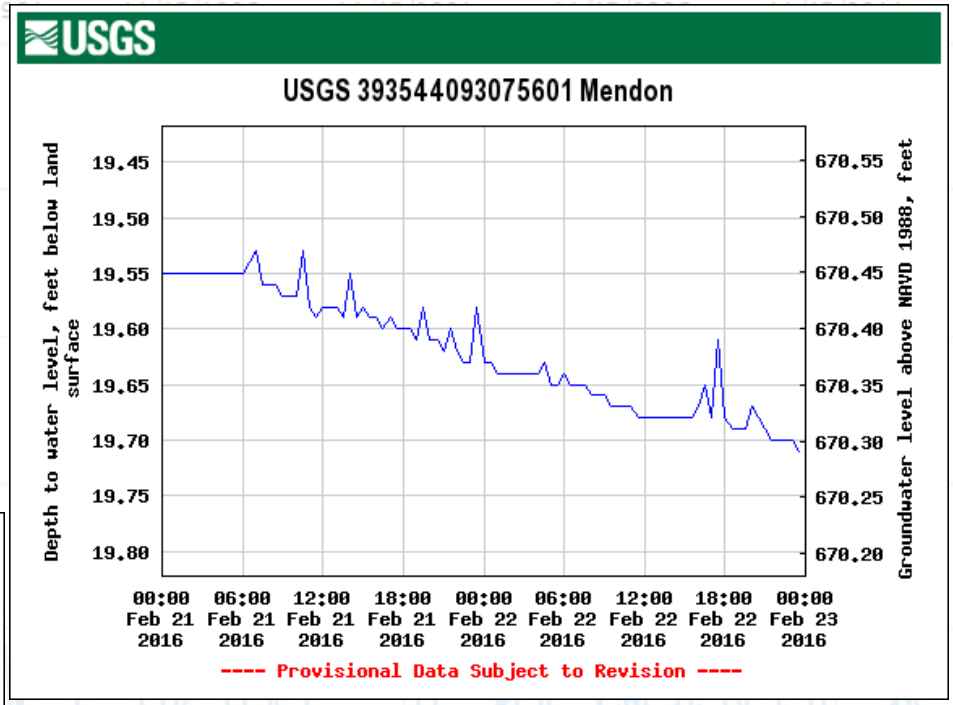
Aquifer Response to Train Vibrations and Mining Activity

Mine Collapse





Train Vibrations

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Questions?

Missouri Department of Natural Resources

Missouri Geological Survey, Water Resources Center

dnr.mo.gov/env/wrc

Scott Kaden
scott.kaden@dnr.mo.gov
573-368-2194