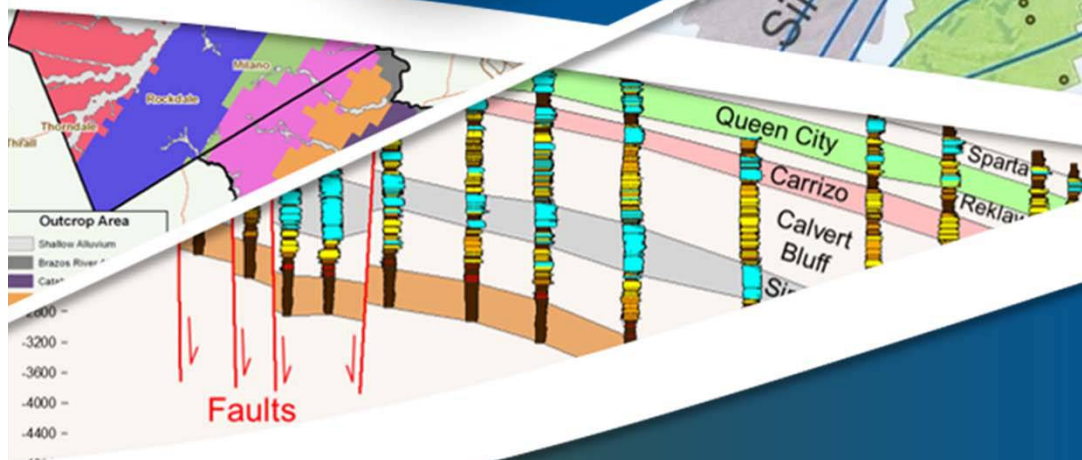


# Status Report: Guidance Document Regarding the Collection and Analysis of Monitoring Data for Evaluating DFC and PDF Compliance

Presented To:



Presented By:

Jevon Harding

Steve Young



August 7, 2018

# Outline

- Update of DFC Compliance Document to submit for Board approval
- On-going coordination with neighboring GCDs
- Creation of up-to-date Water Level maps
- Creation of individual hydrographs for every well

# Update DFC Compliance Document

- Reason:
  - Comments from neighboring GCDs
  - Comments from DFC Committee Meetings
  - DFCs have changed (new management plan)
- Response:
  - Updated document to submit for Board approval
  - Additional data transparency steps (outlined in this presentation)

# Update DFC Compliance Document

- Result:
  - Document is ready for Board review/approval
  - New Sparta DFC (28 feet instead of 30 feet) causes 50% threshold to be exceeded (result based on water levels from 3 wells)
  - New Yegua-Jackson PDL splits Yegua and Jackson aquifers, but evaluated as one aquifer based on data scarcity.

# Outline

- Update DFC Compliance Document to submit for Board approval
- **On-going Coordination with neighboring GCDs**
- Creation of up-to-date Water Level maps
- Creation of individual hydrographs for every well

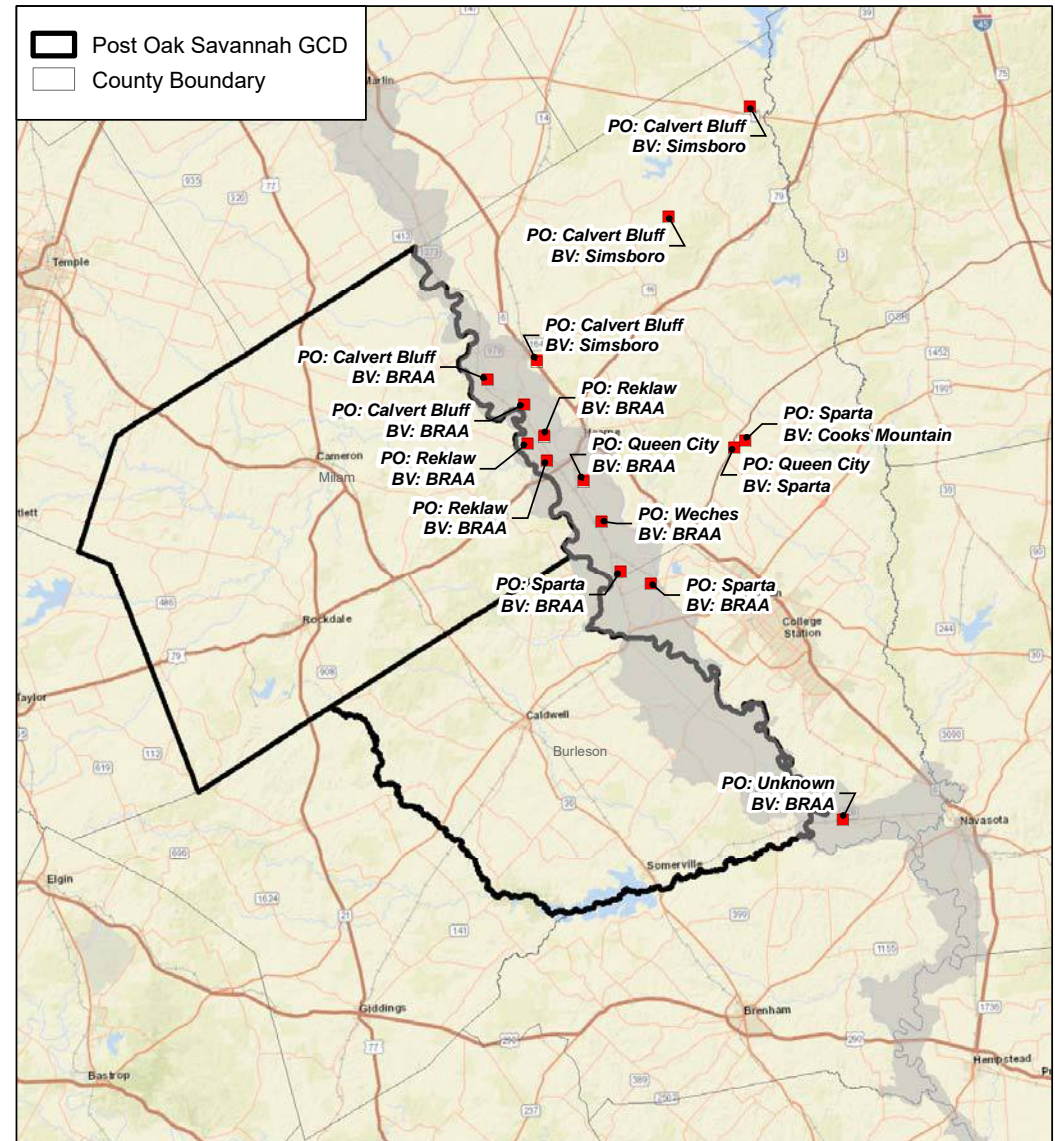
# Coordination with neighboring GCDs

- Reason:
  - Comments from neighboring GCD (BVGCD)
  - Aquifer assignments for BVGCD wells
- Response:
  - Data swap and phone discussions with Alan Day (BVGCD GM) & district hydrologist
  - Recalculation of POSGCD DFCs and PDLs with adjusted aquifer assignments



# Coordination with neighboring GCDs

- Most aquifer assignment adjustments were for wells intersecting Brazos River Alluvium
- Steep topography near river doesn't get captured in large GAM grid cells
- BVGCD bases aquifer assignments on interpretation of well logs



# Coordination with neighboring GCDs

- Result:
  - Different aquifer assignments almost all near Brazos River & in BRAA
  - Updates to aquifer assignments had minor impact on calculated average drawdown
- Planned Activities:
  - Continue to review aquifer assignments for monitoring wells
  - Continue coordinating with BVGCD and other neighboring districts



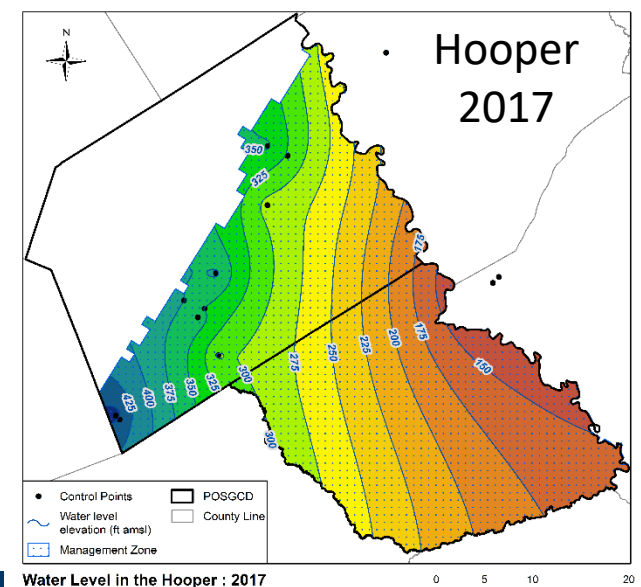
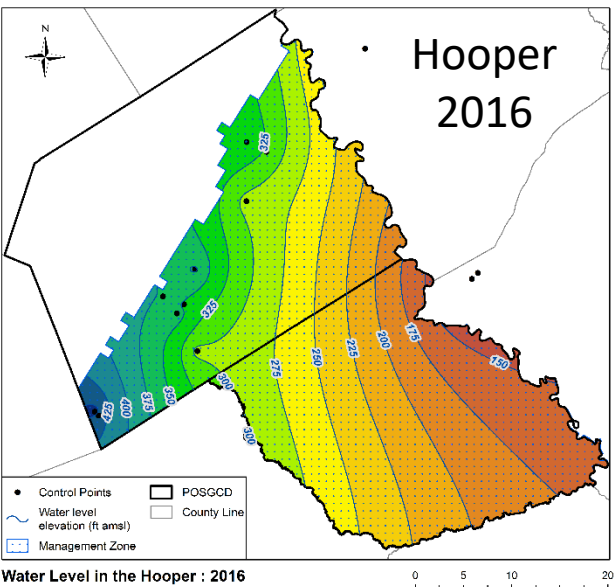
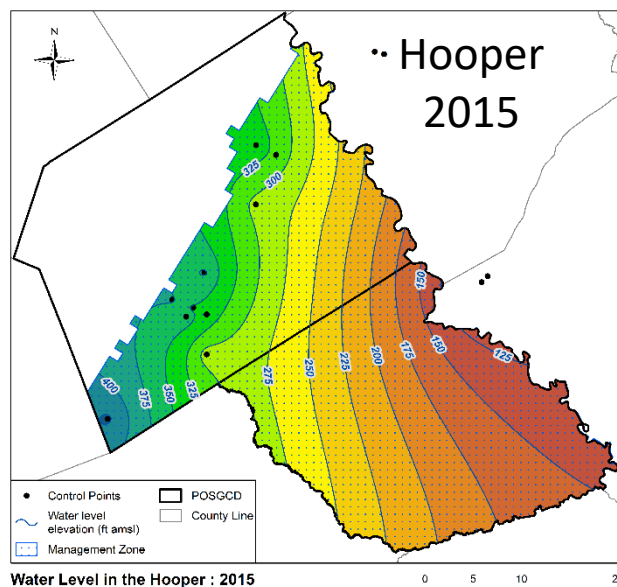
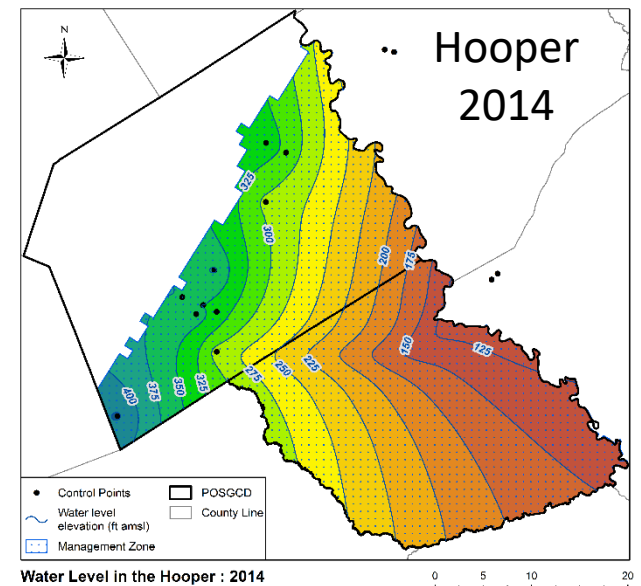
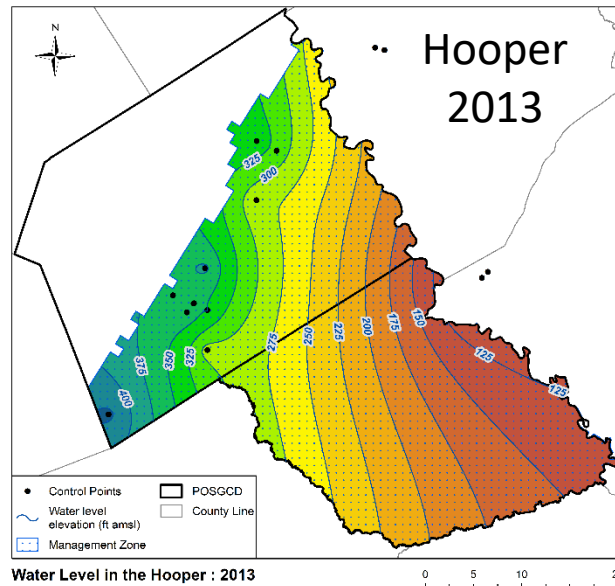
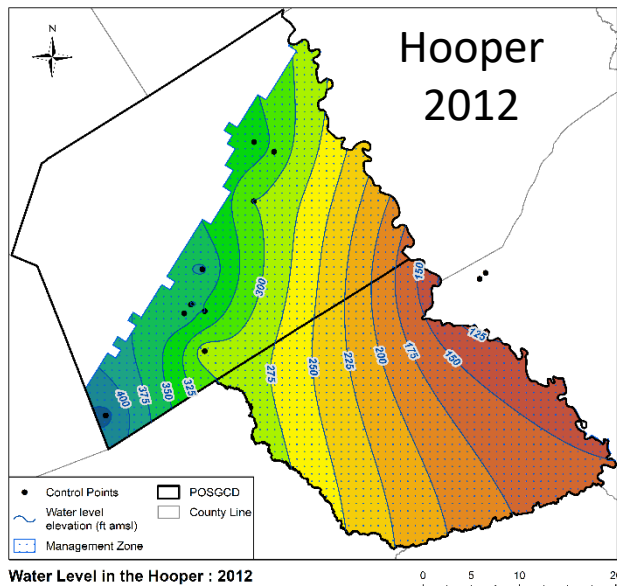
# Outline

- Update DFC Compliance Document to submit for Board approval
- Coordination with neighboring GCDs
- **Creation of up-to-date Water Level maps**
- Creation of individual hydrographs for every well

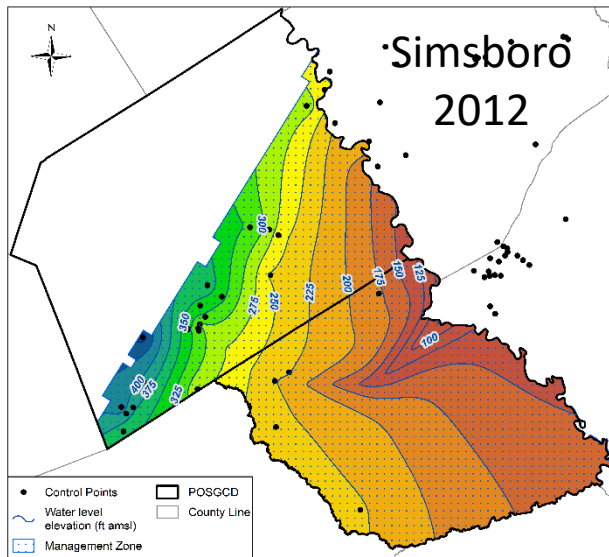
# Creation of up-to-date Water Level maps

- Reason:
  - Comments from Board & public
  - Data from new monitor wells is not used for DFCs (don't have 2000 water level)
  - Provides useful information to stakeholders & improves transparency of information used for aquifer management
- Response:
  - Create yearly water level maps by aquifer

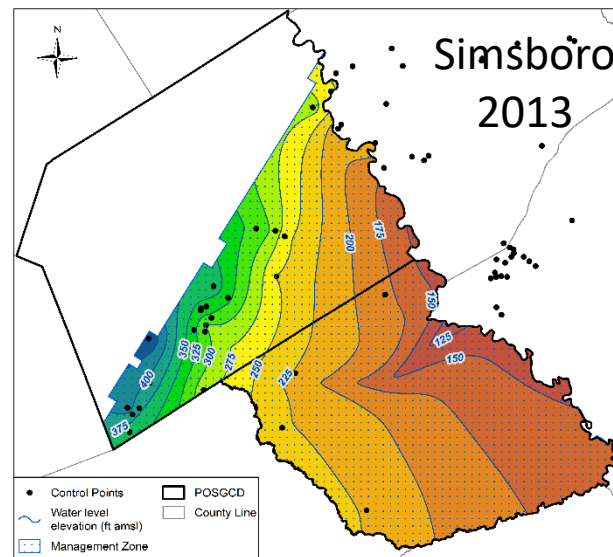
# Creation of up-to-date Water Level maps



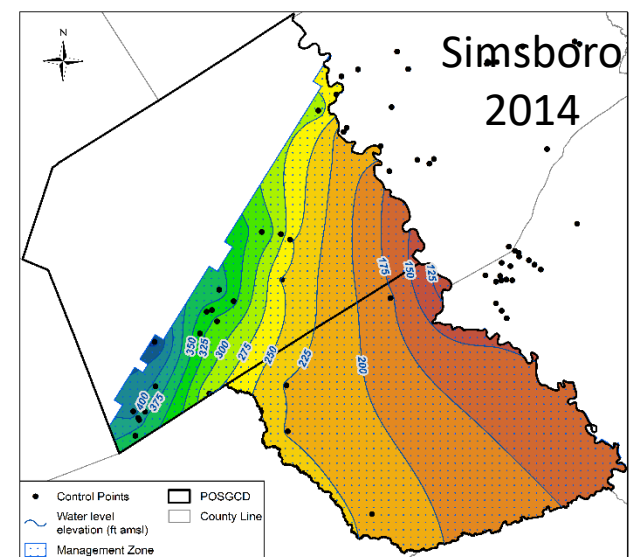
# Creation of up-to-date Water Level maps



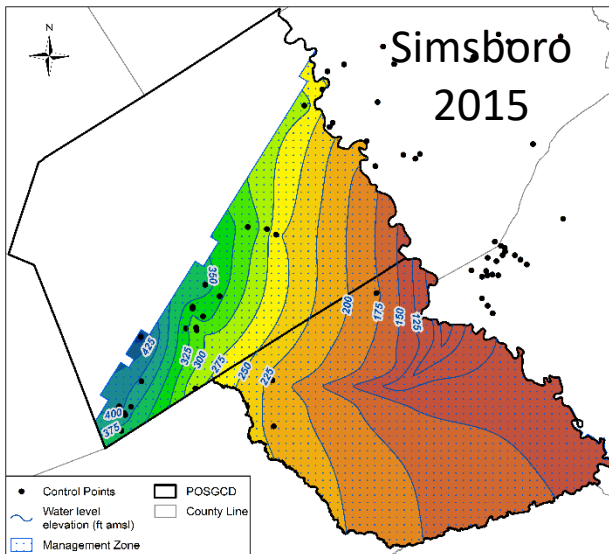
Water Level in the Simsboro : 2012



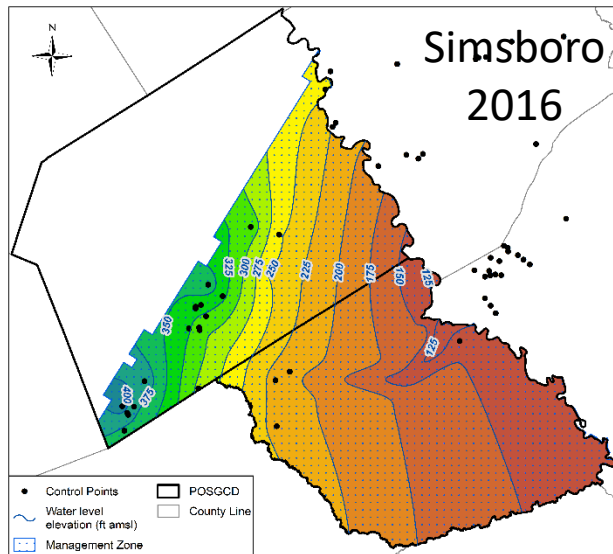
Water Level in the Simsboro : 2013



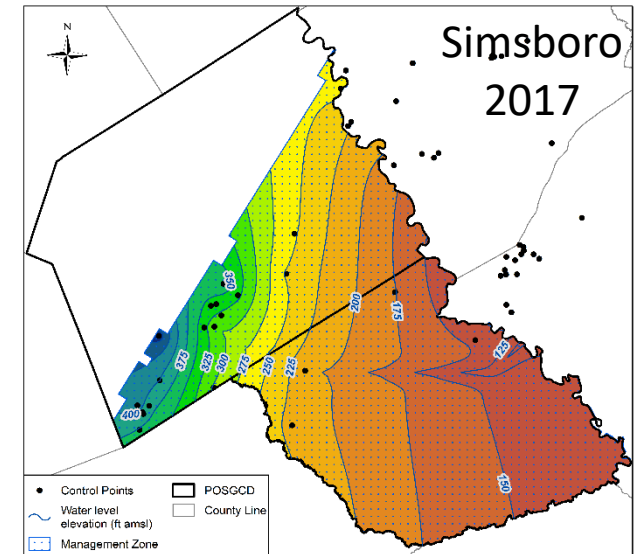
Water Level in the Simsboro : 2014



Water Level in the Simsboro : 2015



Water Level in the Simsboro : 2016



Water Level in the Simsboro : 2017

# Creation of up-to-date Water Level Maps

- Result:
  - Water level maps provide year-by-year update using most recent WLs

# Outline

- Update DFC Compliance Document to submit for Board approval
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- Creation of up-to-date Water Level maps
- **Creation of individual hydrographs for every well**

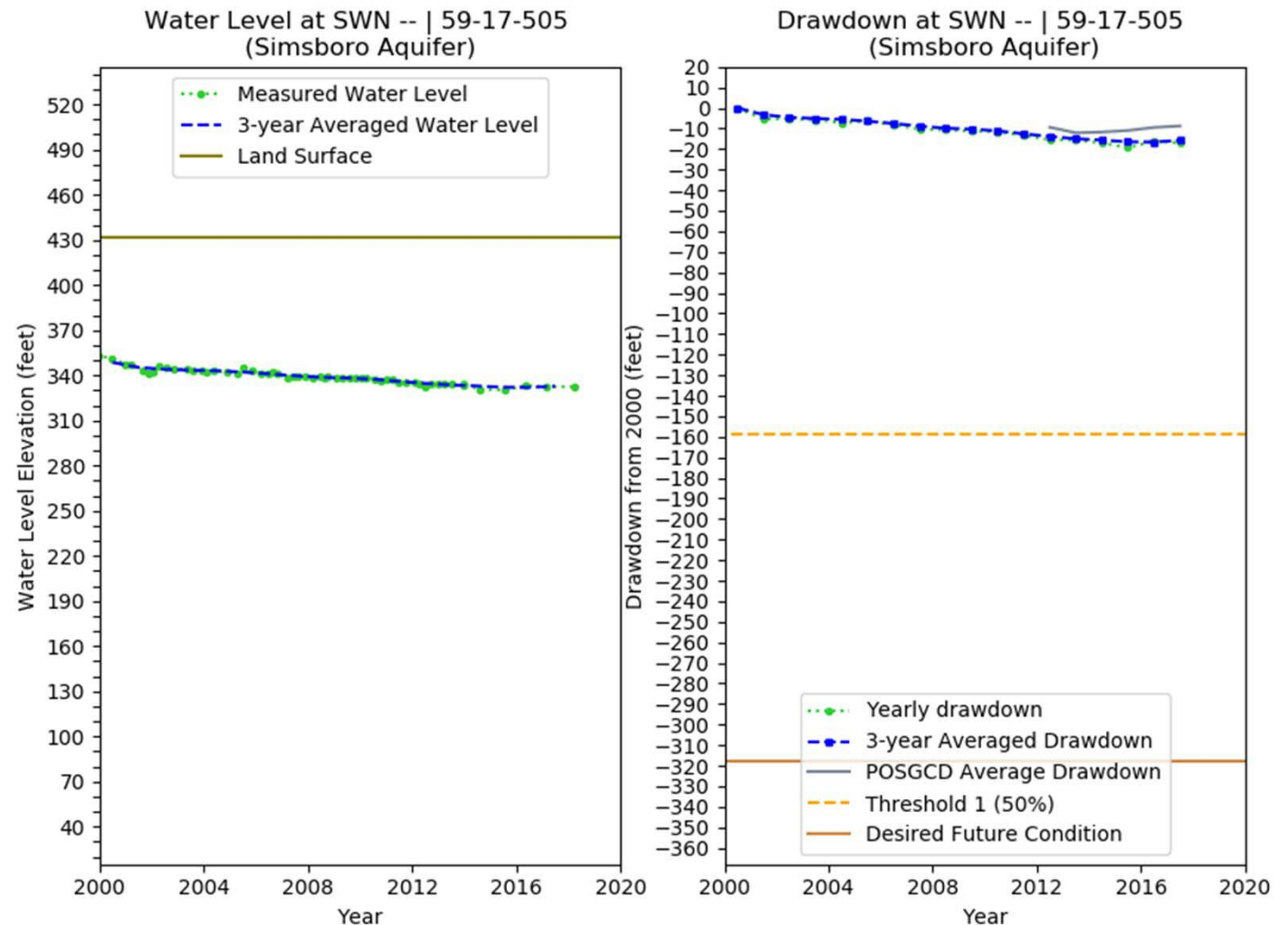
# Creation of individual hydrographs

- Reason:
  - DFC compliance calculations can be skewed by having too few wells
  - District-wide averages make it difficult to identify potential areas of concern.
- Response:
  - Create individual hydrographs for each DFC monitoring well.



# Creation of individual hydrographs

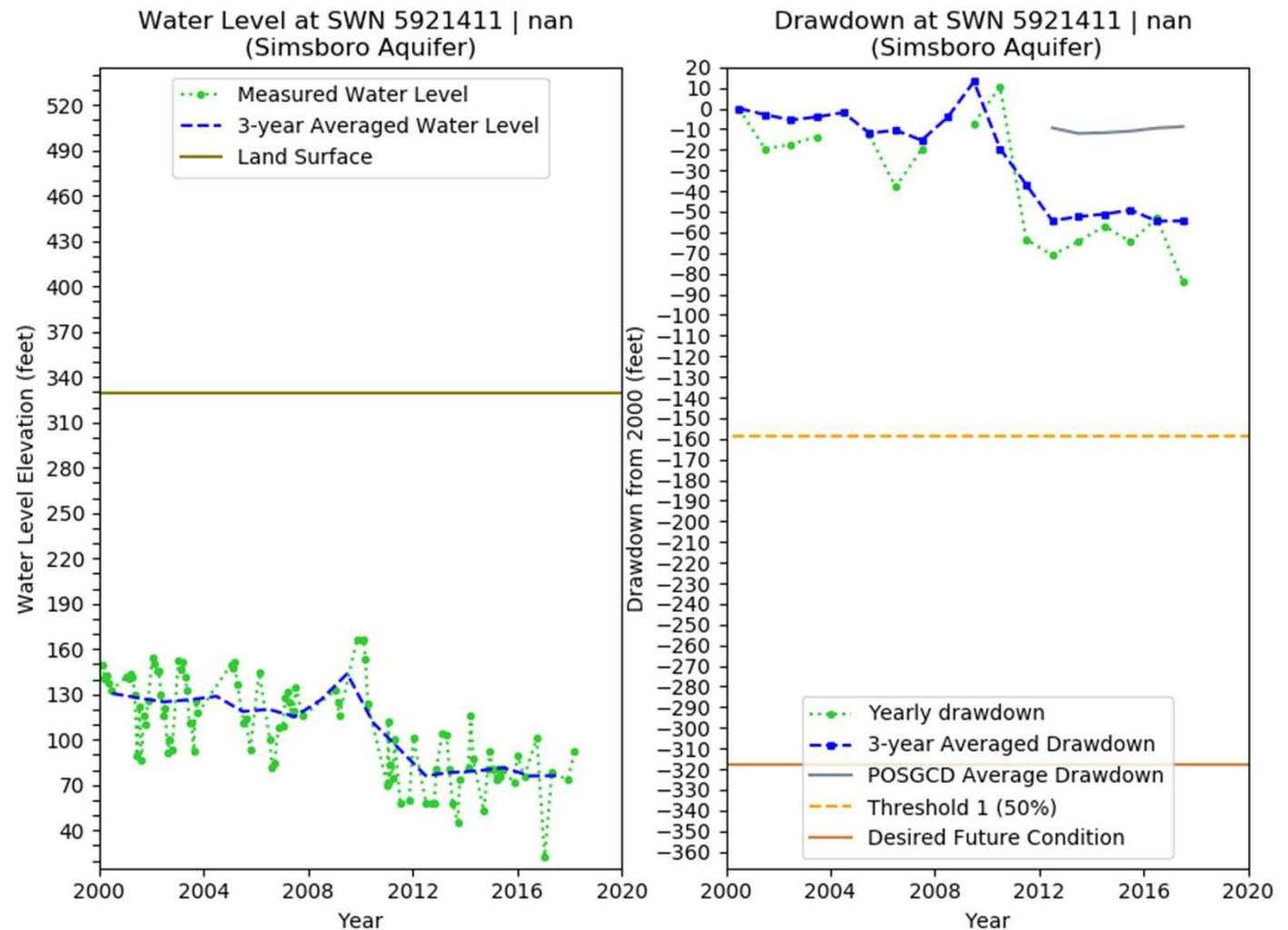
Example hydrograph 1



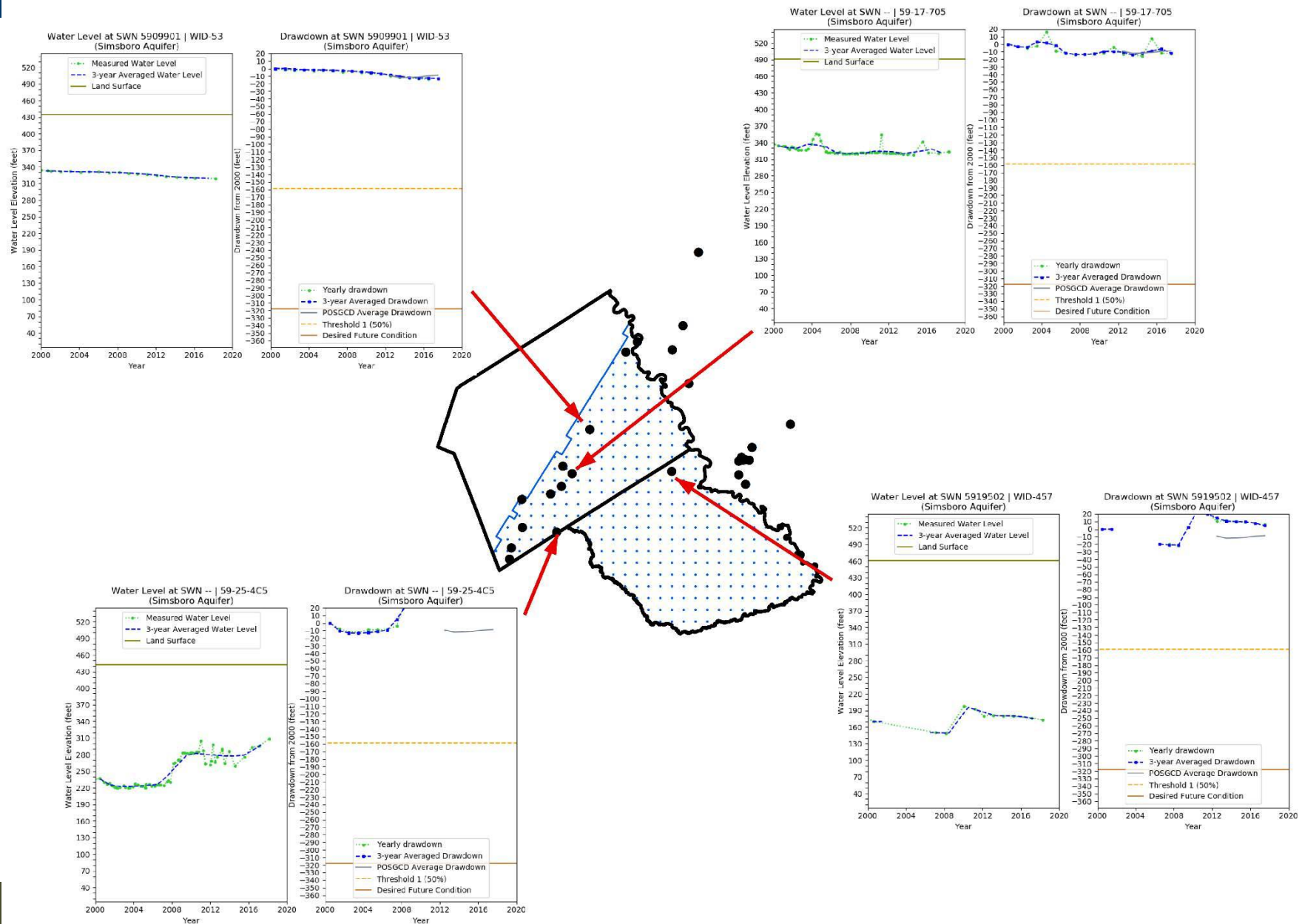
# Creation of individual hydrographs

## Example hydrograph 2

\* Note smoothing  
by 3-yr average



# Creation of individual hydrographs



# Creation of individual hydrographs

- Results:
  - Individual hydrographs increase transparency of DFC & PDL compliance
  - Provides detailed info for identifying potential areas of concern.





Questions ?