

GSP Coordination Committee

Coordination Committee Meeting – July 26, 2021

Meeting will begin at 1:15 pm – thank you for joining us!

**Merced Irrigation-Urban GSA
Merced Subbasin GSA
Turner Island Water District GSA-1**

Image courtesy: Veronica Adrover/UC Merced

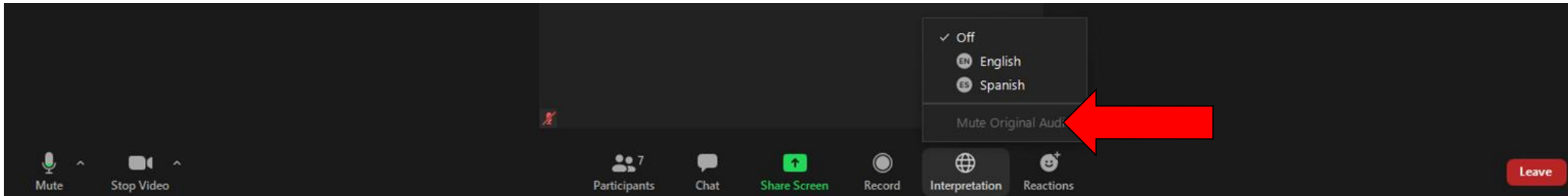
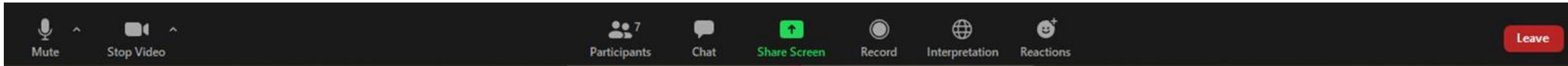


Welcome, Instructions for Zoom

Bienvenidos, Instrucciones para Zoom

We have two language audio channels available. English only speakers, please select English.

Si solamente habla español, debe seleccionar un canal de idioma



The meeting will have simultaneous interpreting, so you are welcome to comment in your native language.
La junta será interpretada simultáneamente, así que le invitamos a que haga comentarios en su lenguaje nativo.

Agenda

1. Call to Order
2. Roll Call
3. Consent Calendar
 - a) Approval of April 26, 2021 Meeting Minutes
4. Public Comment
5. Reports
 - a) Current Basin Conditions
 - b) Coordination with Neighboring Basins
 - c) GSA Reports
6. Actions
 - a) GSP Well Monitoring
7. Discussion Items
 - a) Remote Sensing Decision Support Tool
 - b) Stakeholder Advisory Committee Update
 - c) Data Gaps Plan
 - d) Minimum Thresholds in Areas Lacking Historical Monitoring Data
 - e) Insights from DWR Comment Letter on Other GSPs
 - f) Legislation Update
 - g) Allocation Framework Update
8. Next Steps and Adjourn

Image courtesy: Veronica Adrover/UC Merced

Roll Call

Representative	GSA
Hicham ElTal	Merced Irrigation-Urban GSA
Stephanie Dietz	Merced Irrigation-Urban GSA
Justin Vinson	Merced Irrigation-Urban GSA
Daniel Chavez	Merced Irrigation-Urban GSA
Ken Elwin (<i>alternate</i>)	Merced Irrigation-Urban GSA
Mike Gallo	Merced Subbasin GSA
Nic Marchini	Merced Subbasin GSA
Eric Swenson	Merced Subbasin GSA
George Park (<i>alternate</i>)	Merced Subbasin GSA
Kel Mitchel	Turner Island Water District GSA #1
Tim Allan (<i>alternate</i>)	Turner Island Water District GSA #1

Image courtesy: Veronica Adrover/UC Merced



Approval of Minutes

Image courtesy: Veronica Adrover/UC Merced



Questions/Comments from Public:

If you would like to make a comment, please type the comment in the Q&A or raise your hand to request to be taken off mute

Image courtesy: Veronica Adrover/UC Merced

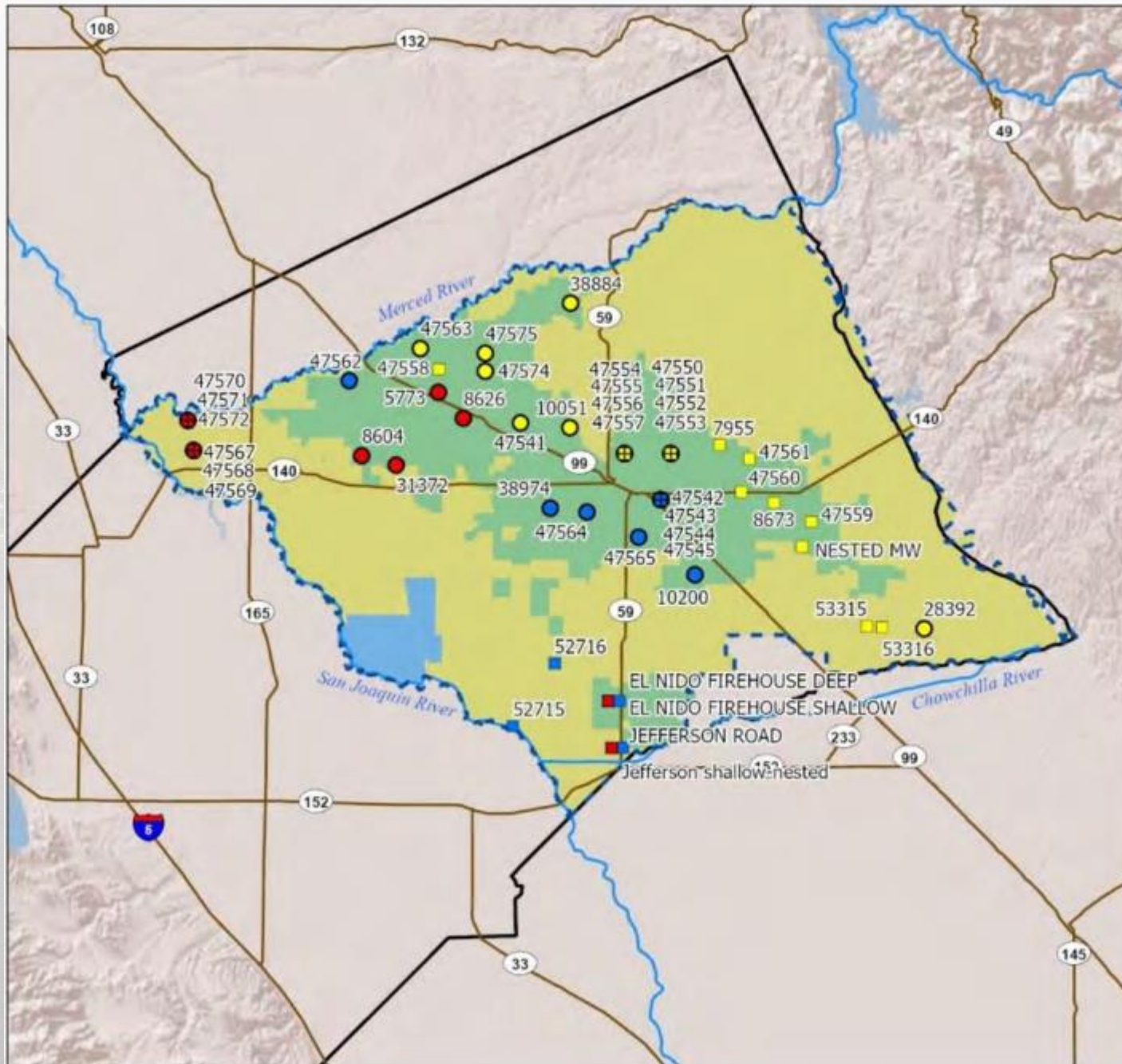




Reports

Image courtesy: Veronica Adrover/UC Merced





Merced Subbasin GSP

Legend

- Merced Subbasin Boundary
- Major Rivers
- Major Roads
- Merced County Boundary

GSA's

- Merced Irrigation-Urban GSA (MIUGSA)
- Merced Subbasin GSA
- Turner Island Water District #1
- Multiple Completion Well

Representative Monitoring Well*

- Above Corcoran Clay
- Below Corcoran Clay
- Outside Corcoran Clay

Additional Monitoring Network Well*

- Above Corcoran Clay
- Below Corcoran Clay
- Outside Corcoran Clay

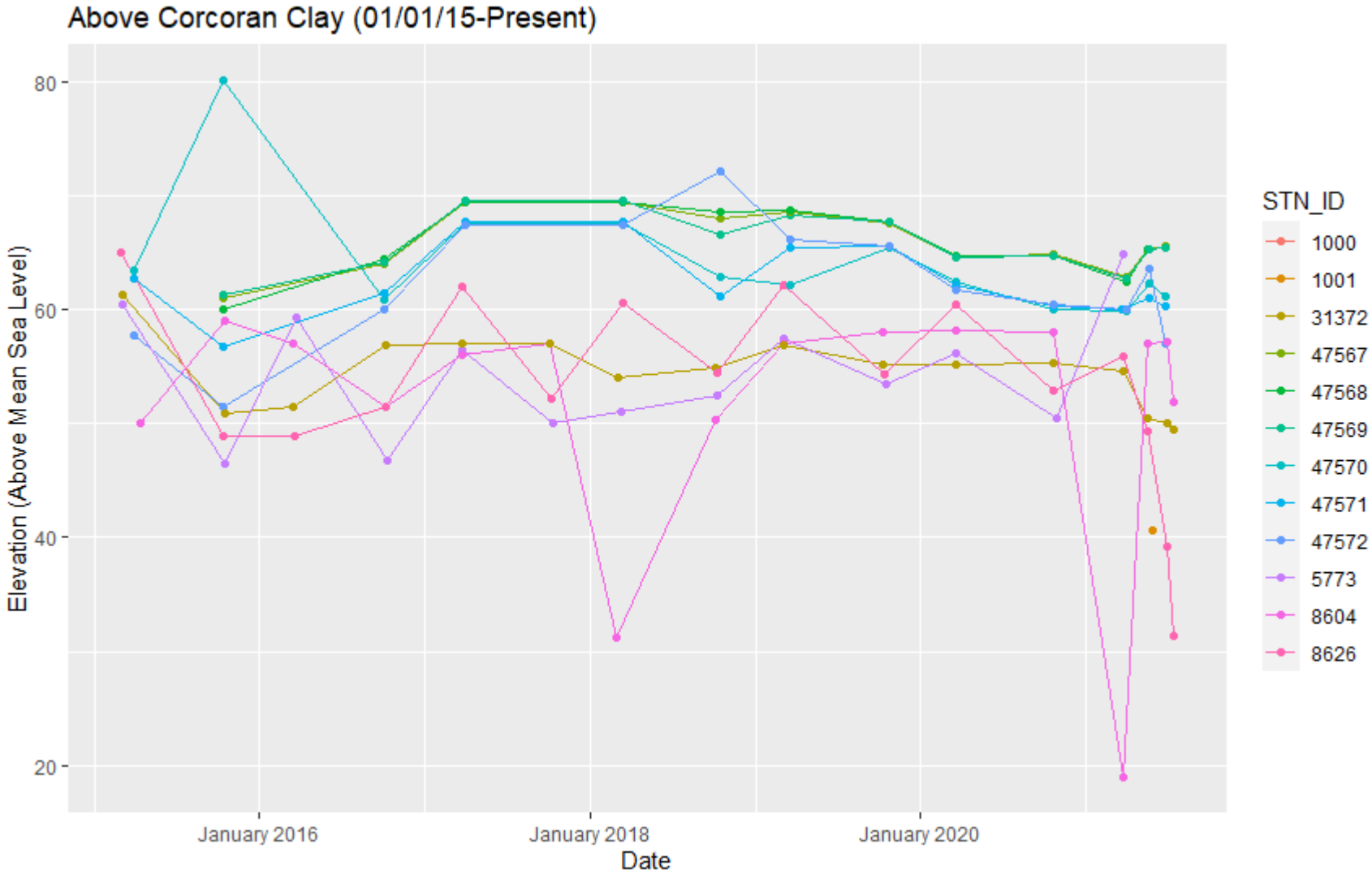
*Wells in SGMA Portal labeled with numeric station ID. Other new wells will be added to the SGMA portal.

0 2 4 8 Miles

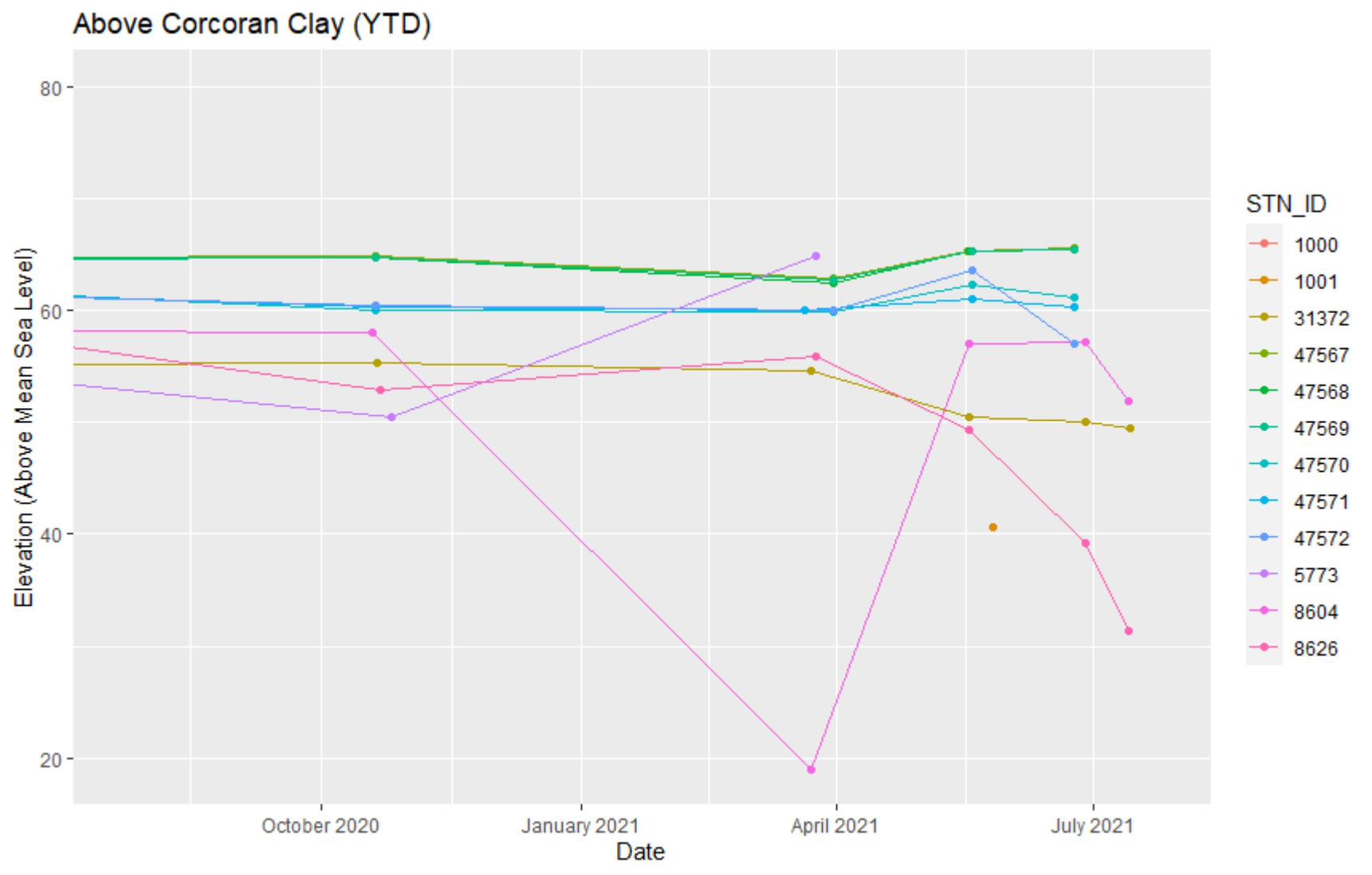
MERCED SGMA

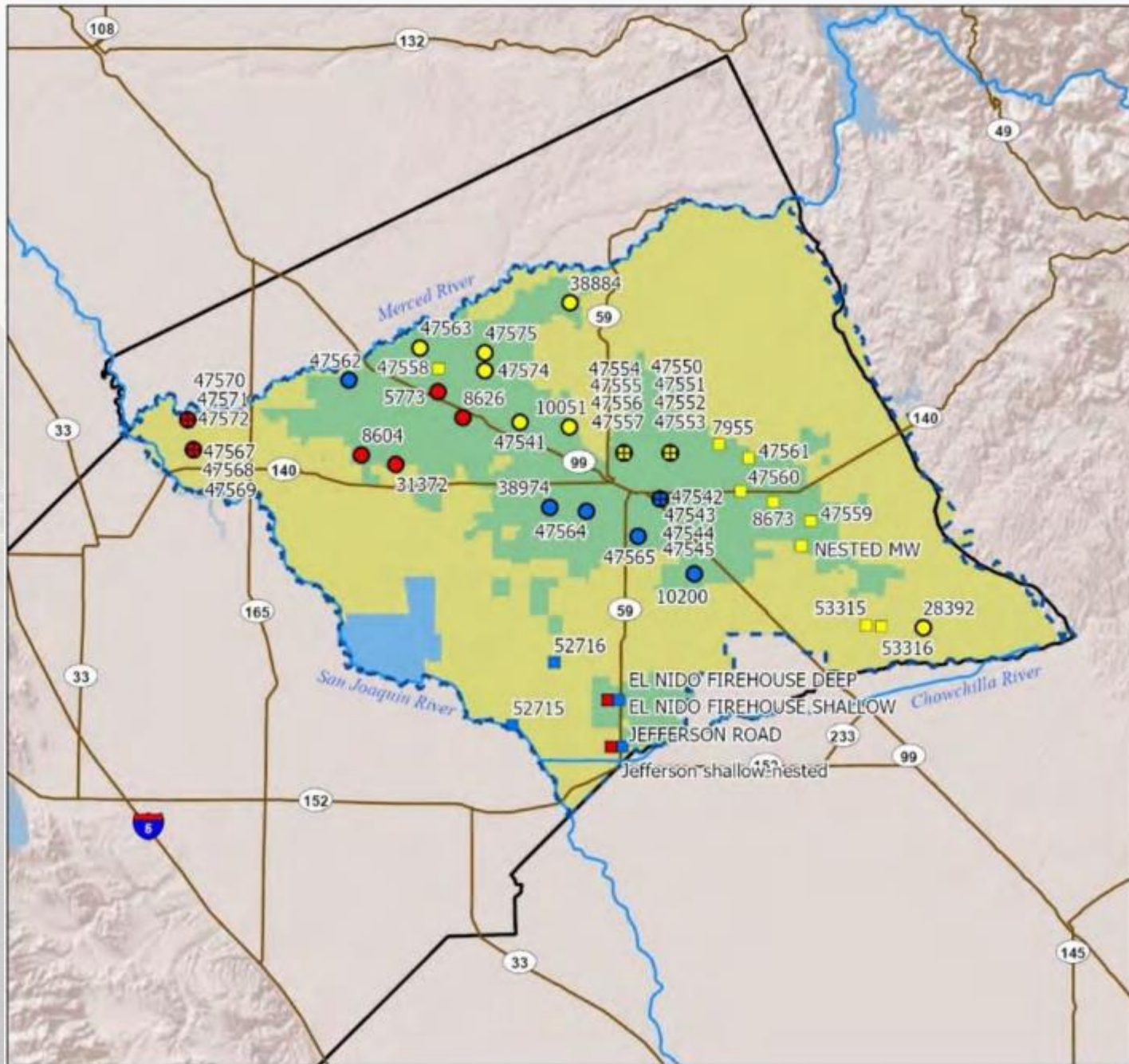
Project #: 0011036 01
 Map Created: February 2021
 Data Sources: DWR groundwater subbasins, SGMA Portal well locations

Above Corcoran Groundwater Elevations – 01/01/15-Present



Above Corcoran Groundwater Elevations – Year to Date





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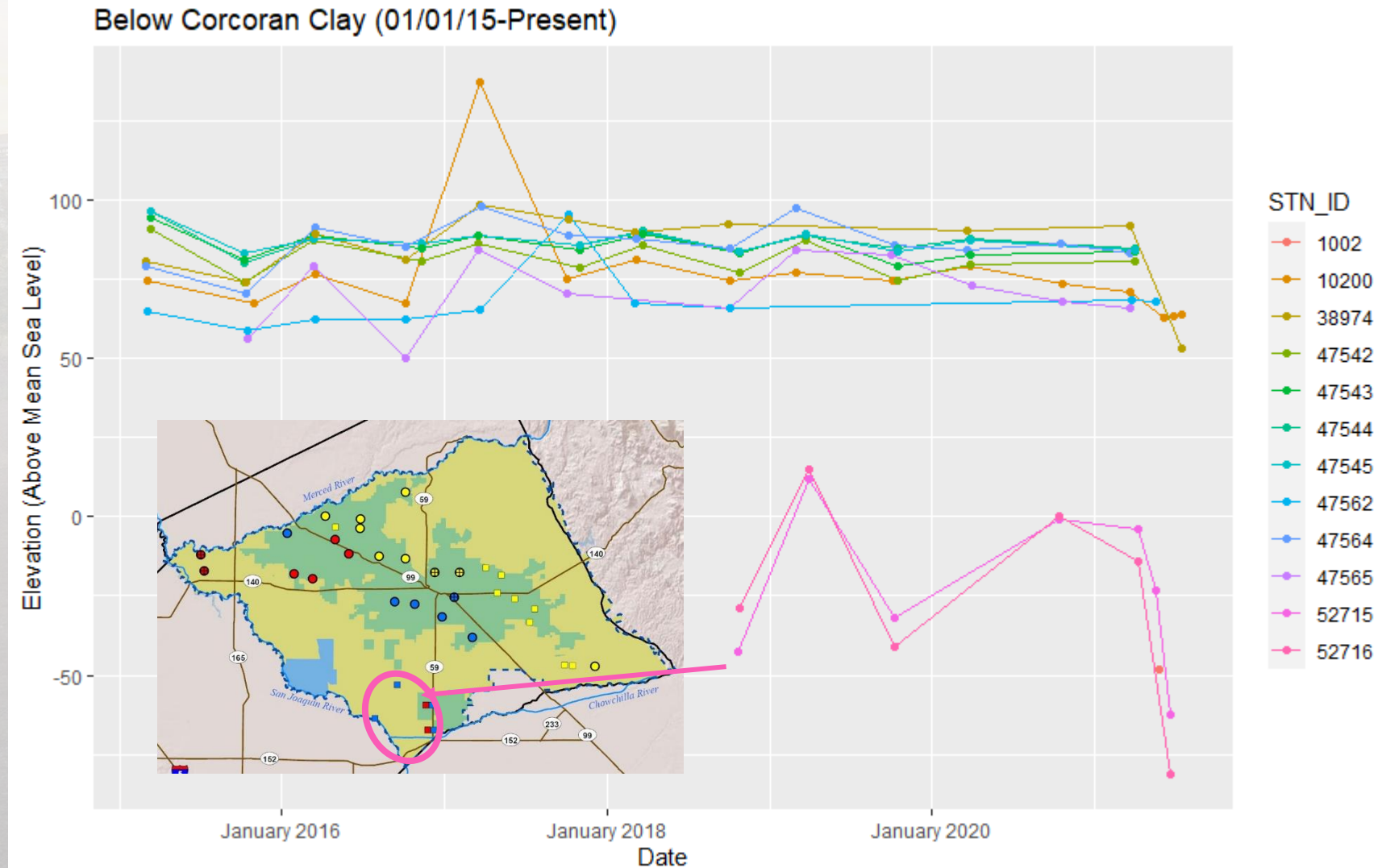
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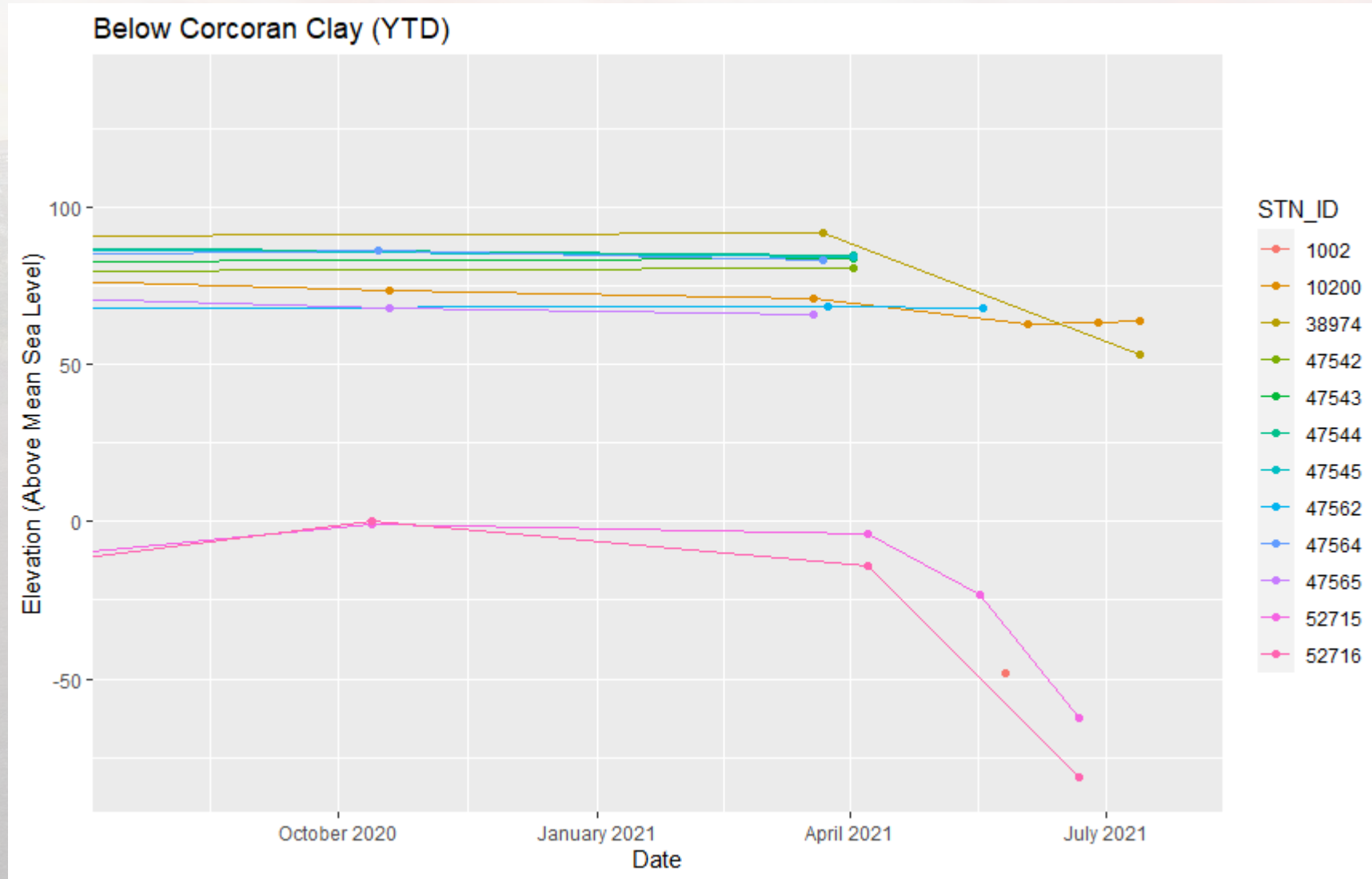


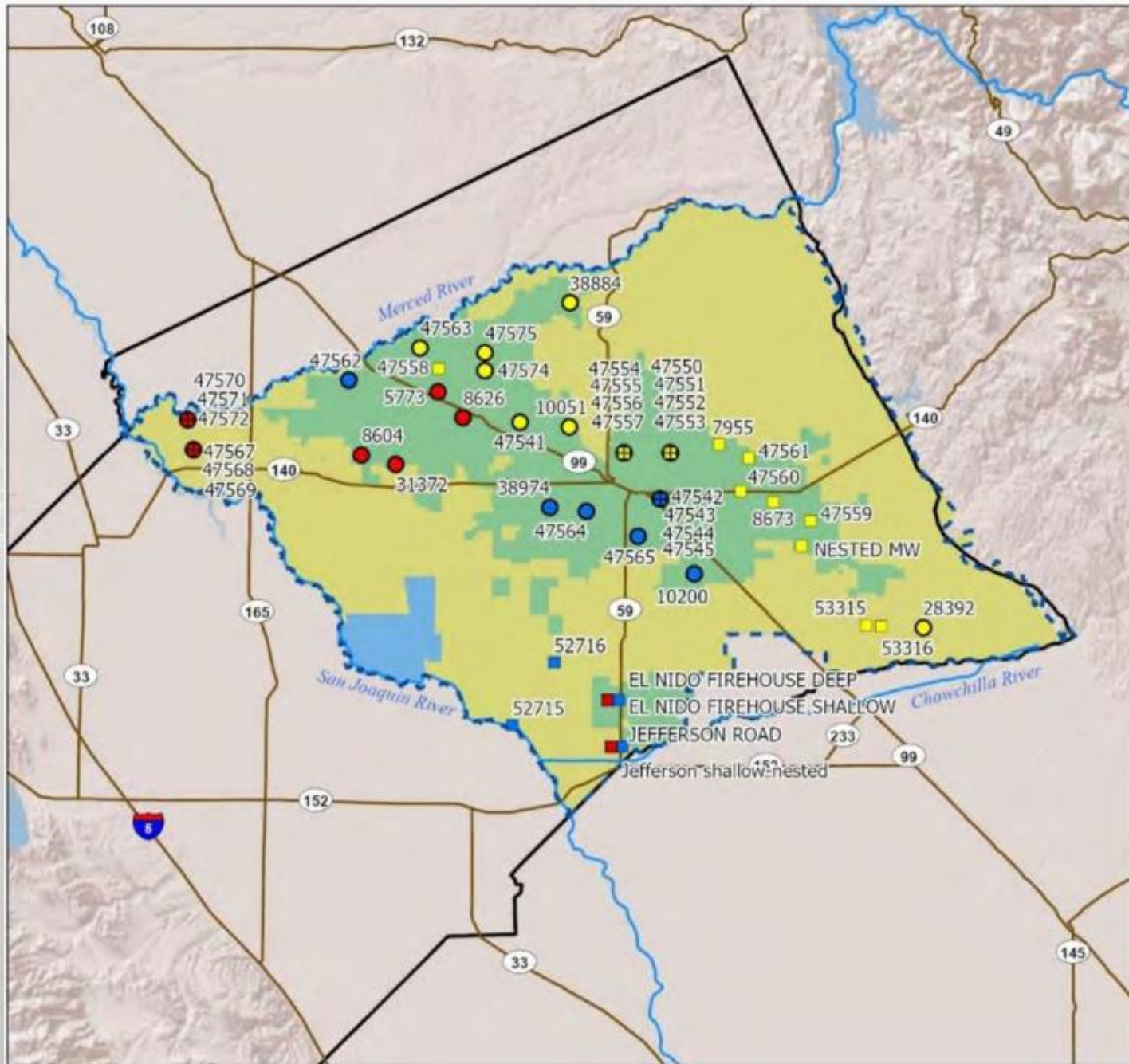
Project #: 0011036 01
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Below Corcoran Groundwater Elevations – 01/01/15-Present



Below Corcoran Groundwater Elevations – Year to Date





Merced Subbasin GSP

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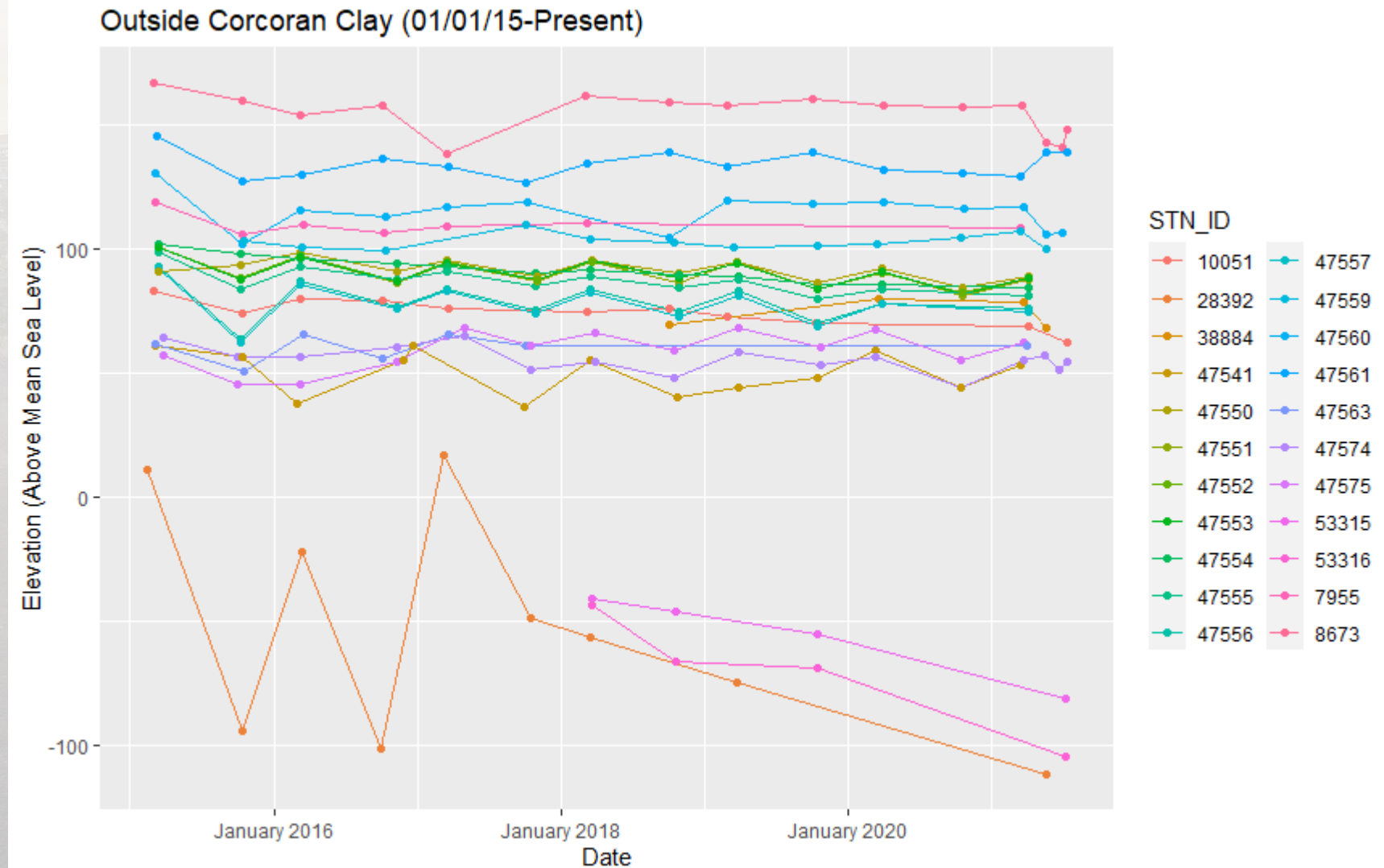
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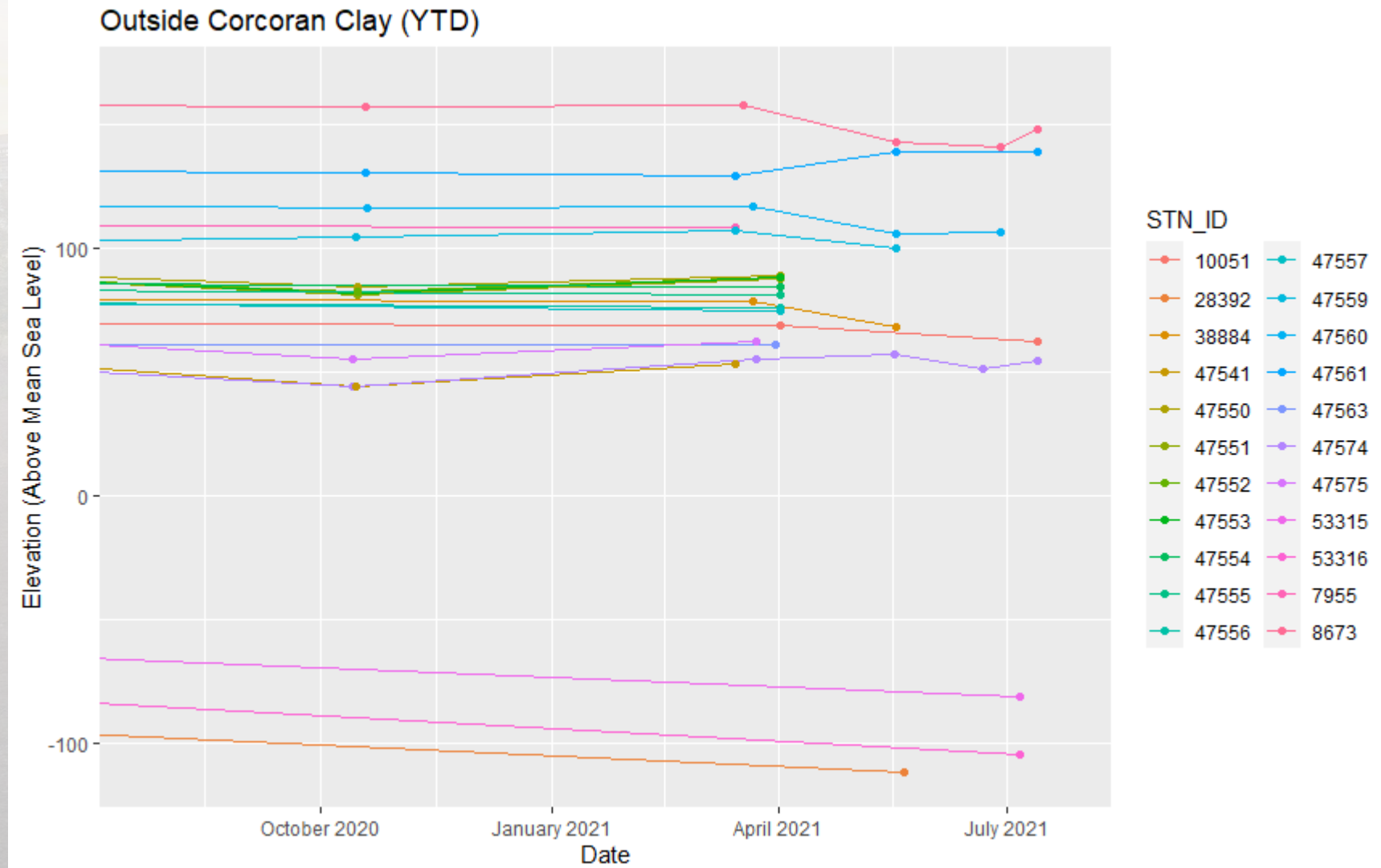


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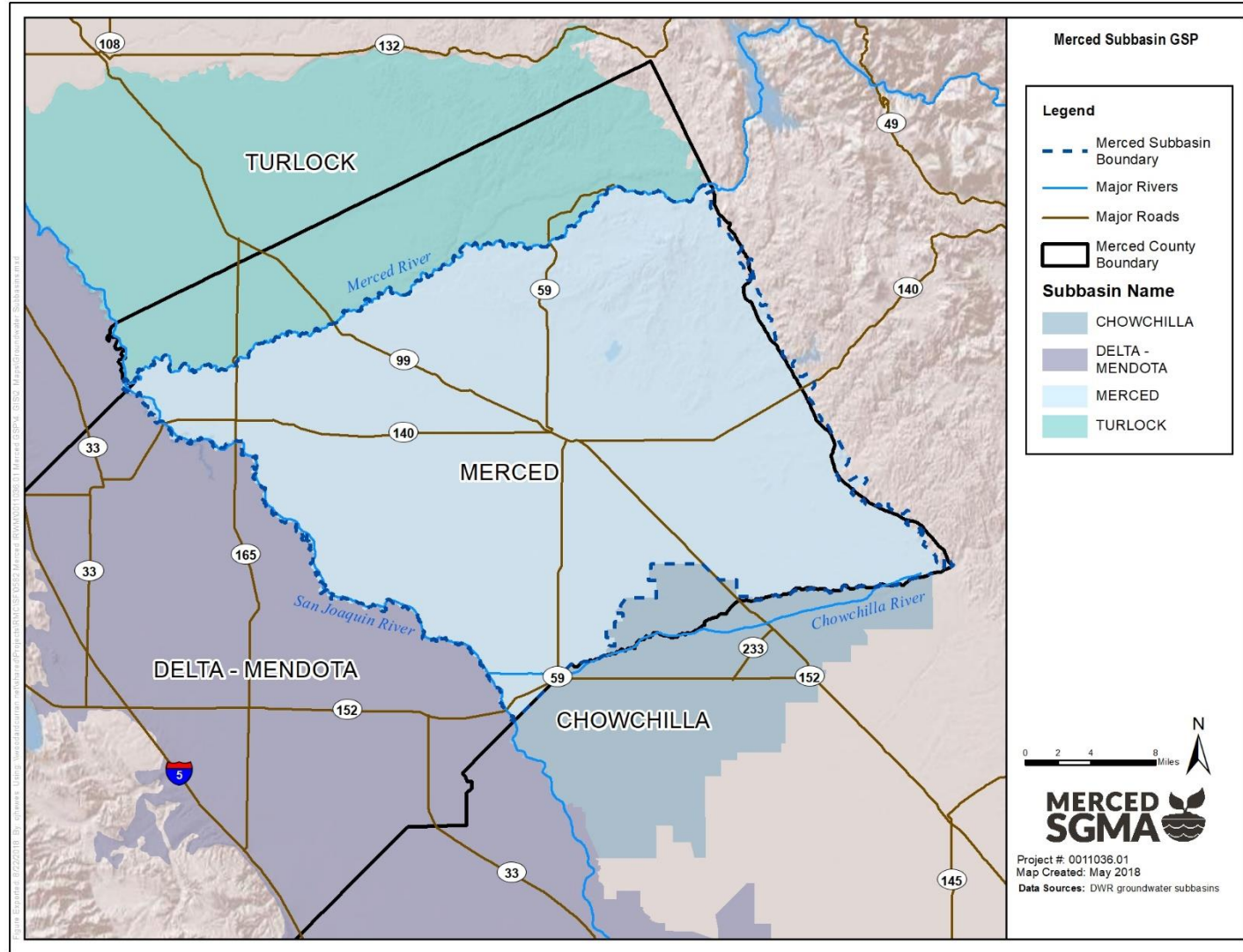
Outside Corcoran Groundwater Elevations – 01/01/15-Present



Outside Corcoran Groundwater Elevations – Year to Date



Coordination with Neighboring Basins



GSA Reports

- Updates from each GSA on activities they are undertaking in their own jurisdiction:
 - Merced Subbasin GSA
 - Merced Irrigation-Urban GSA
 - Turner Island Water District GSA #1

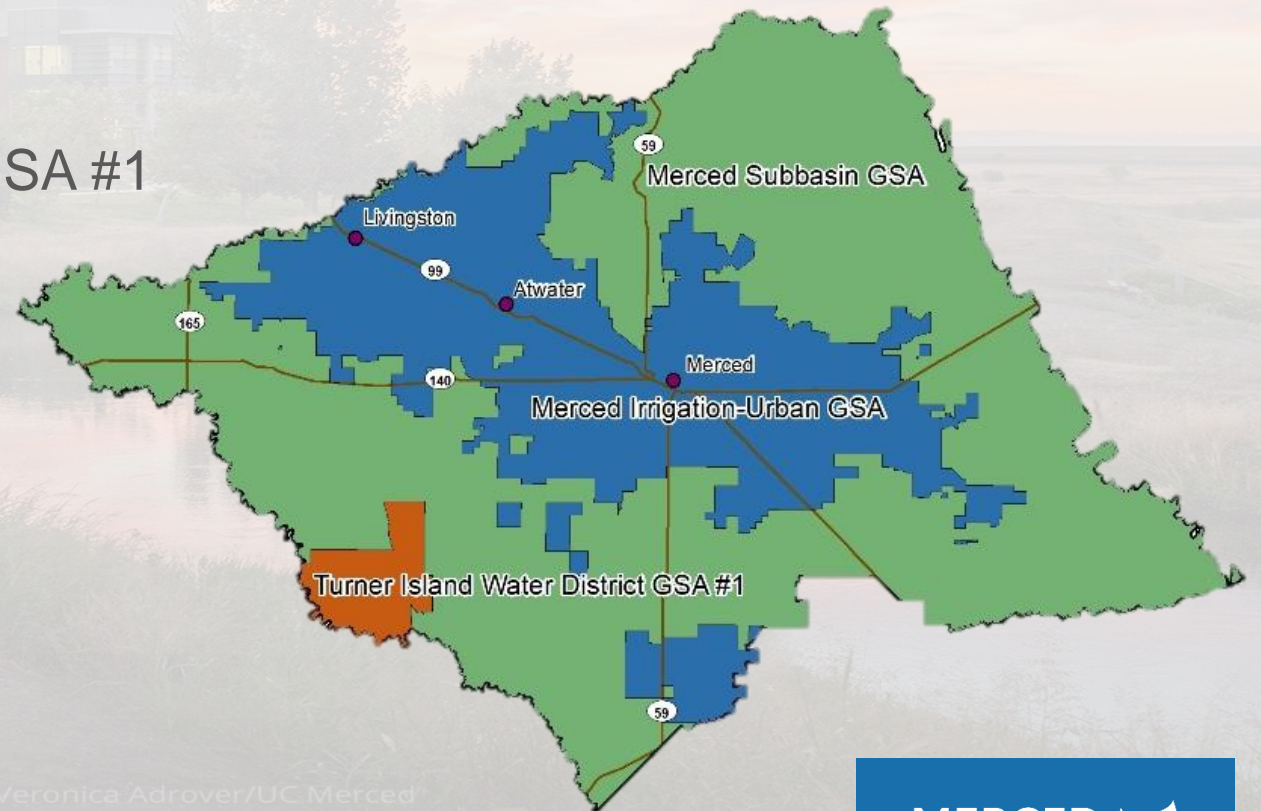


Image courtesy: Veronica Adrover/UC Merced



Actions

Image courtesy: Veronica Adrover/UC Merced



GSP Well Monitoring - Background

- Coordination Committee approved soliciting qualified consultants for technical support related to monitoring in November 2020
- GSAs coordinated together in the development of the RFQ and released the RFQ on January 15, 2021
- Coordination Committee recommended GSAs select QK as consultant for monitoring work under SGMA on February 22, 2021.
- Subsequently, GSAs authorized MIUGSA to enter into an agreement with QK to conduct spring monitoring with initial budget of \$10,000.00.

Image courtesy: Veronica Adrover/UC Merced

GSP Well Monitoring – QK Proposal

Task:	Annual Not To Exceed Amount
Monthly Well Monitoring	\$84,000.00
QA/QC Collected Data	\$10,000.00
Monthly Trend Reporting	\$18,000.00
Opti/Data Formatting	\$7,500.00
SGMA Data Upload	\$6,000.00
Monitoring Well Maintenance	\$4,550.00
CIMIS Station Maintenance	\$6,000.00
Total:	\$136,050.00

Image courtesy: Veronica Adrover/UC Merced

GSP Well Monitoring – Recommendation:

- Recommend GSAs:
 - Authorize Merced Irrigation-Urban GSA to enter into an agreement, on behalf of the GSAs, with QK for monitoring work and other technical support, as presented.
 - Duration 12 months, with opportunity to extend.
 - Not to Exceed \$136,050.00
 - Share cost according to existing MOU

Image courtesy: Veronica Adrover/UC Merced



Discussion Items

Image courtesy: Veronica Adrover/UC Merced





Remote Sensing Decision Support Tool

Image courtesy: Veronica Adrover/UC Merced



Remote Sensing (Agenda)

- Purpose & Goals of Task
- Workflow: Tool Development
- Review of the Merced Net-Groundwater Tool
 - Methodology
 - Output
 - Dashboard
- Next Steps

Image courtesy: Veronica Adrover/UC Merced

Net GW Use Estimation – GSA Support

- The Remote Sensing Tool can be used to support the local GSAs, manage the aquifer system by quantifying net-groundwater use within the Merced Subbasin
- RS technology estimates monthly crop ETC at the field scale. Total crop ETC less surface water supplied to fields would be used to estimate the monthly GW use at field scale

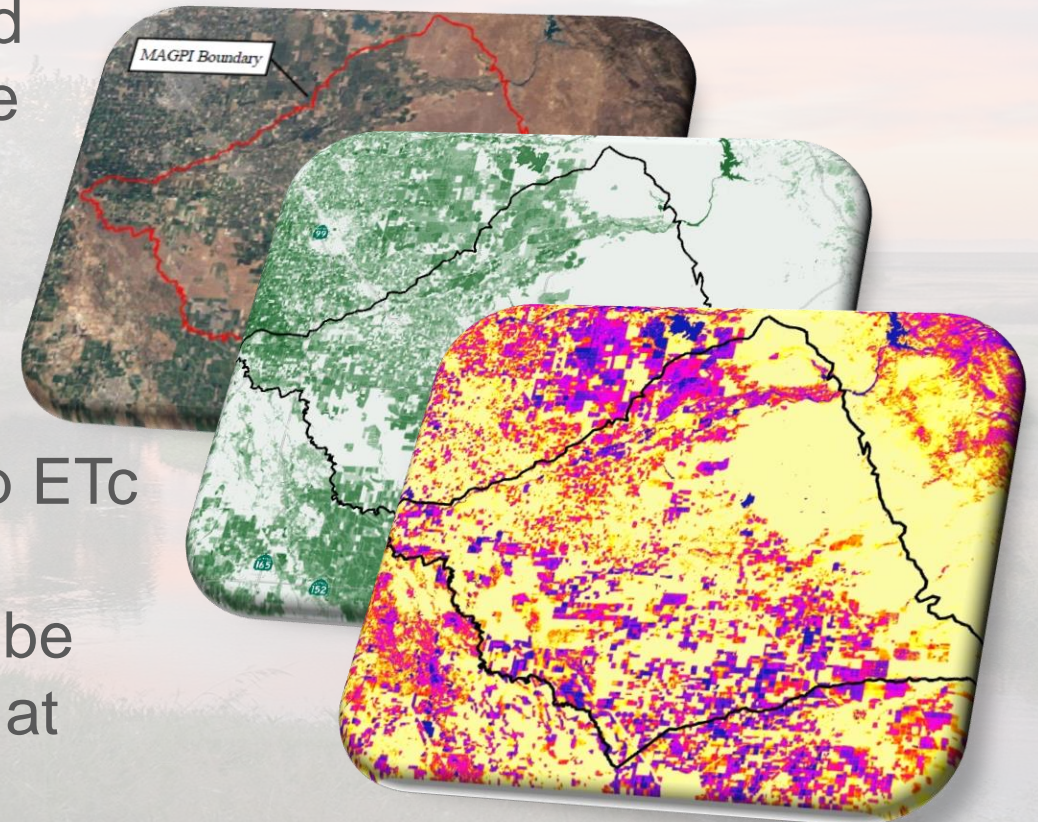


Image courtesy: Veronica Adrover/UC Merced

Workflow Diagram: Merced Net-Groundwater Tool

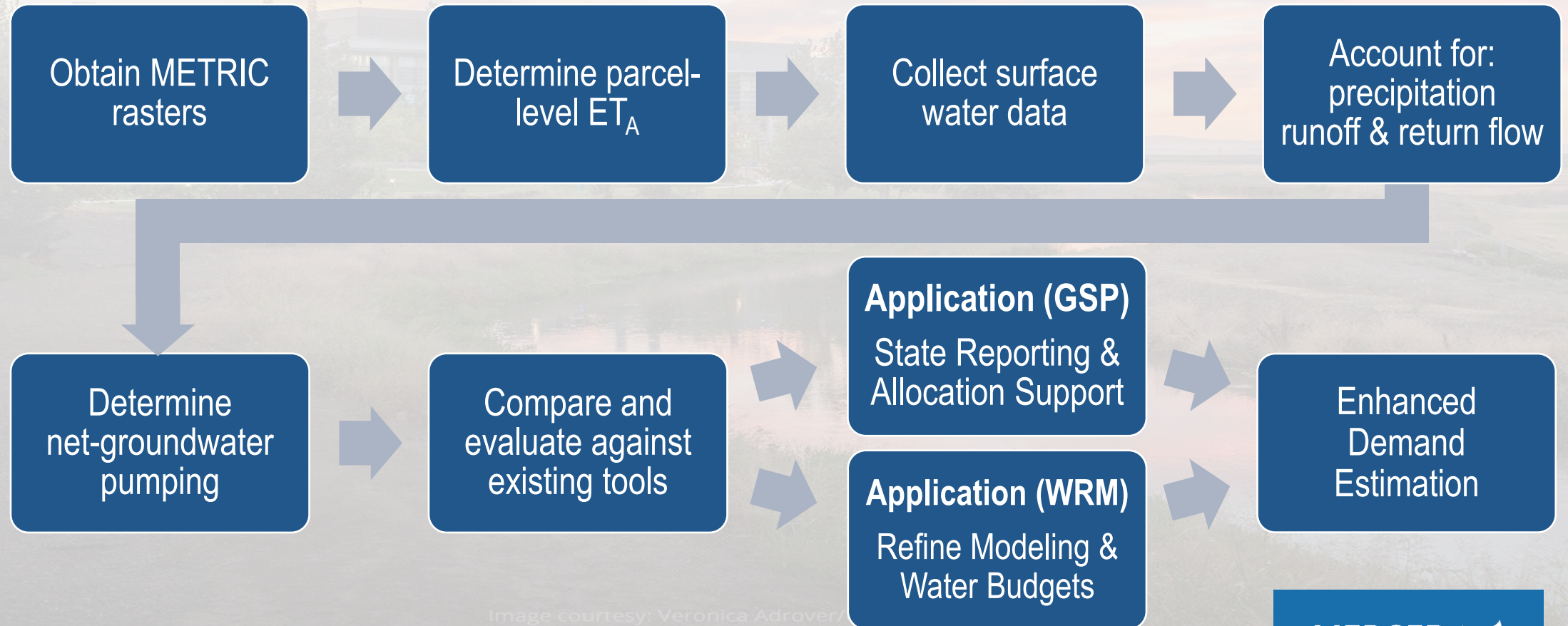
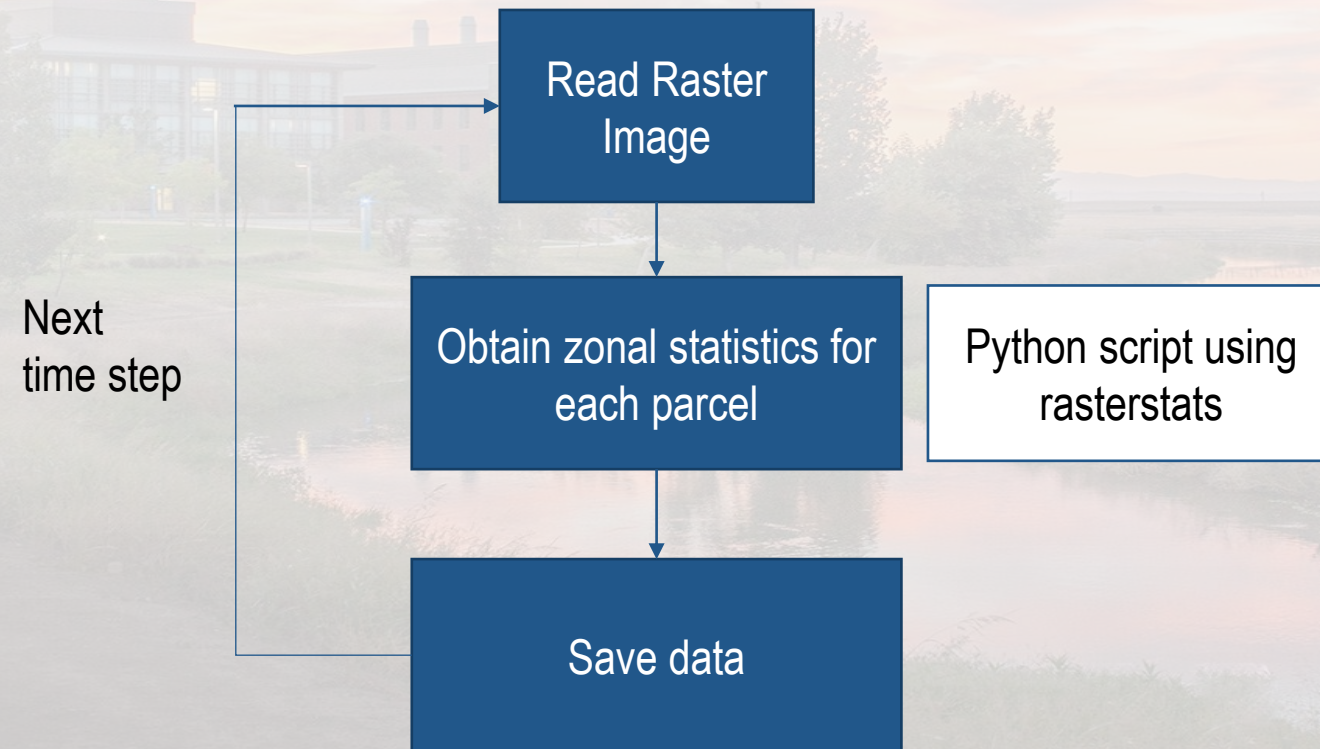


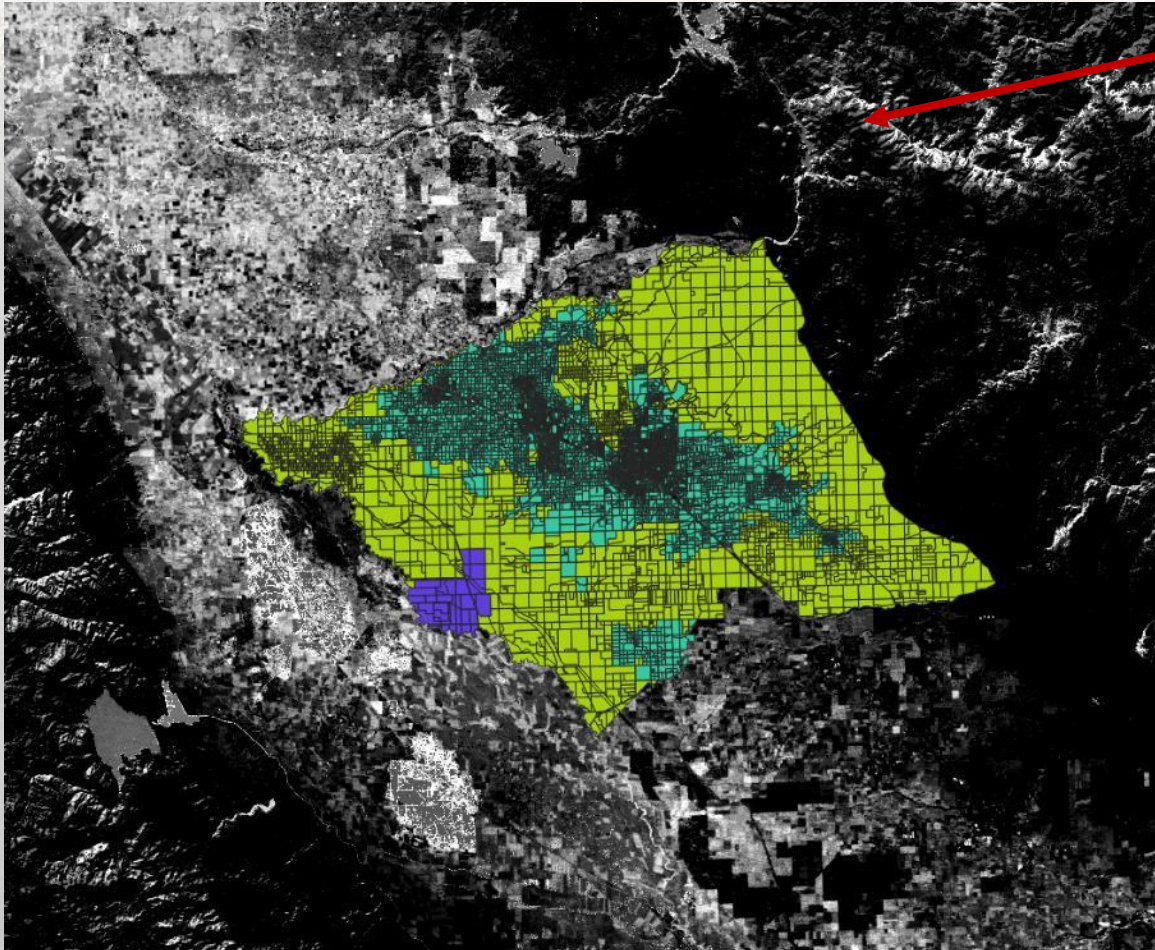
Image courtesy: Veronica Adrover

Merced Net-Groundwater Tool – Step 1

- Obtain ET from METRIC



Merced NetGW Tool – Step 1



Background is a METRIC Raster file

- There are 55,056 parcels
- Stats obtained for each parcel:
 - Average ET
 - Min ET
 - Max ET

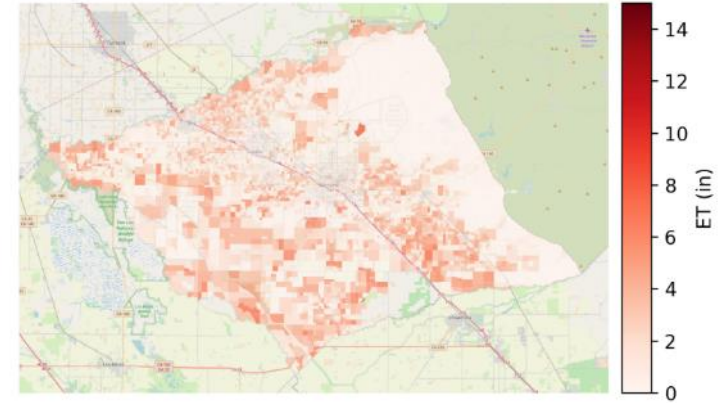
* Color coded by GSA

Merced Net-Groundwater Tool – Step 1

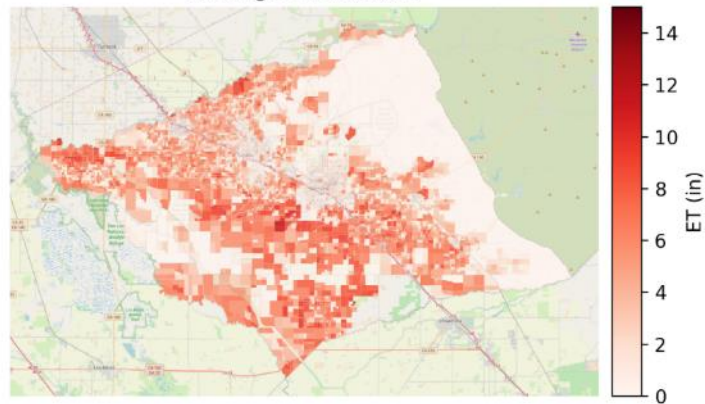
Average ET 01/2013



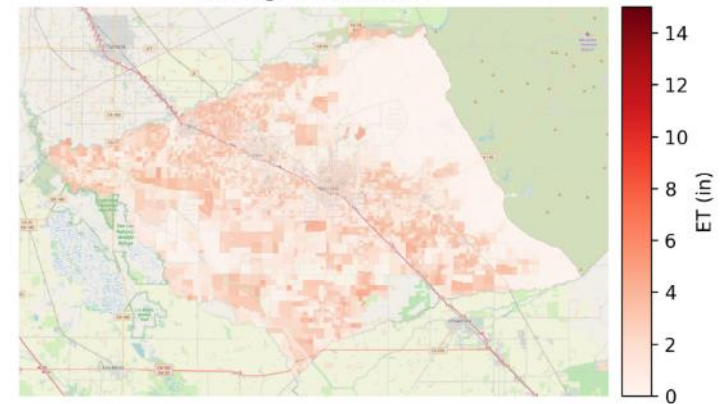
Average ET 04/2013



Average ET 07/2013

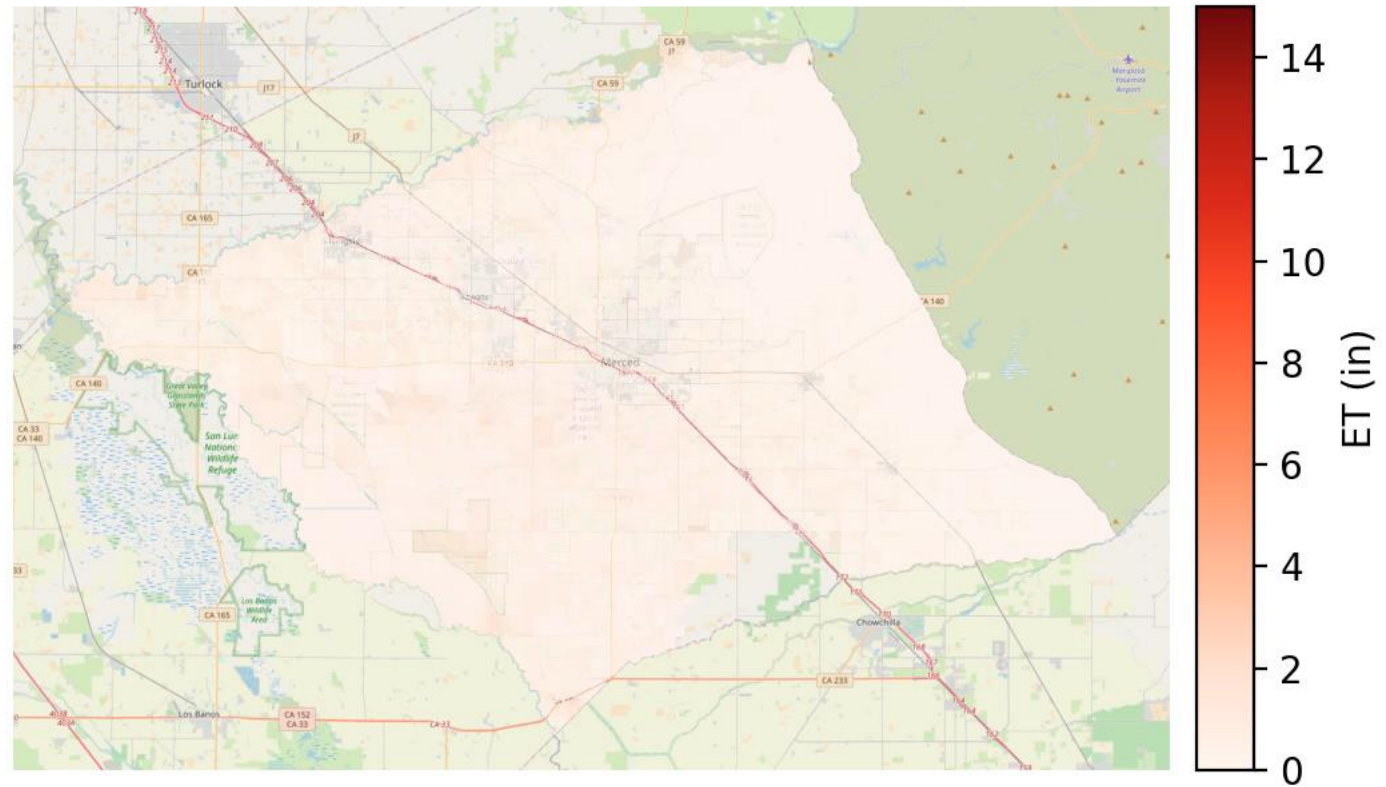


Average ET 10/2013



Merced Net-Groundwater Tool – Step 1

Average ET 01/1989



Merced Net-Groundwater Tool – Step 1

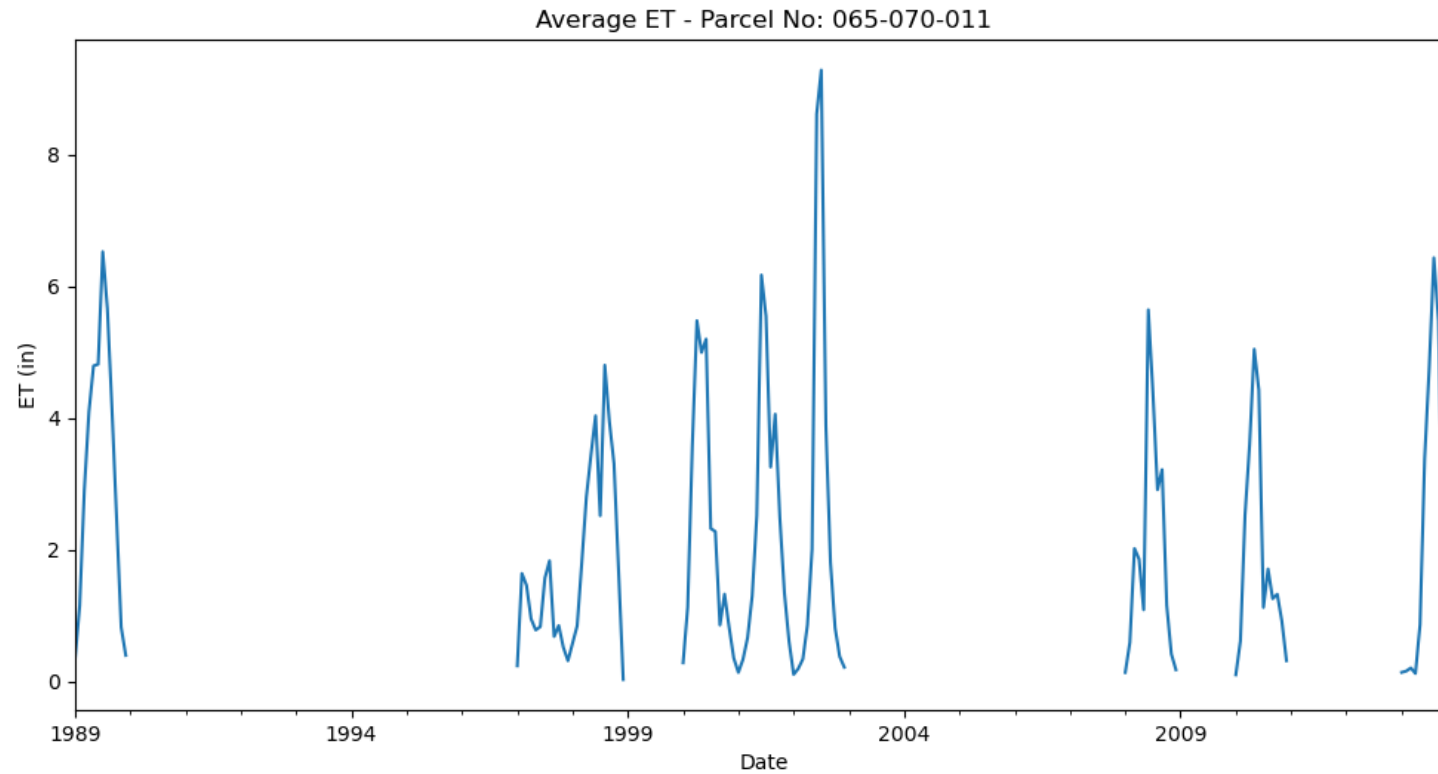
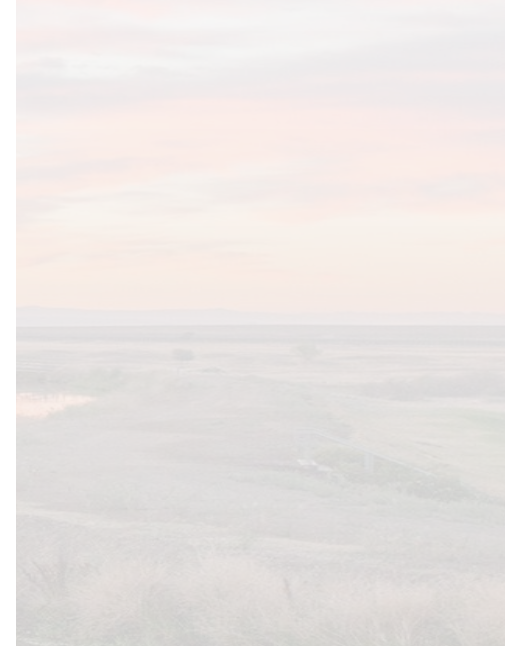
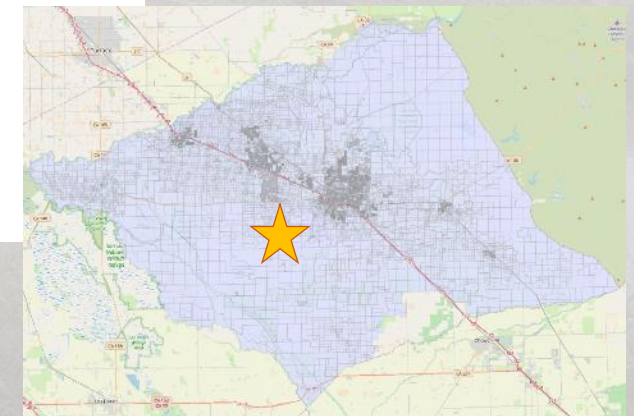


Image courtesy: Veronica Adrover/UC Merced



Merced Net-Groundwater Tool – Dashboard

Select parcel number and desired year of analysis

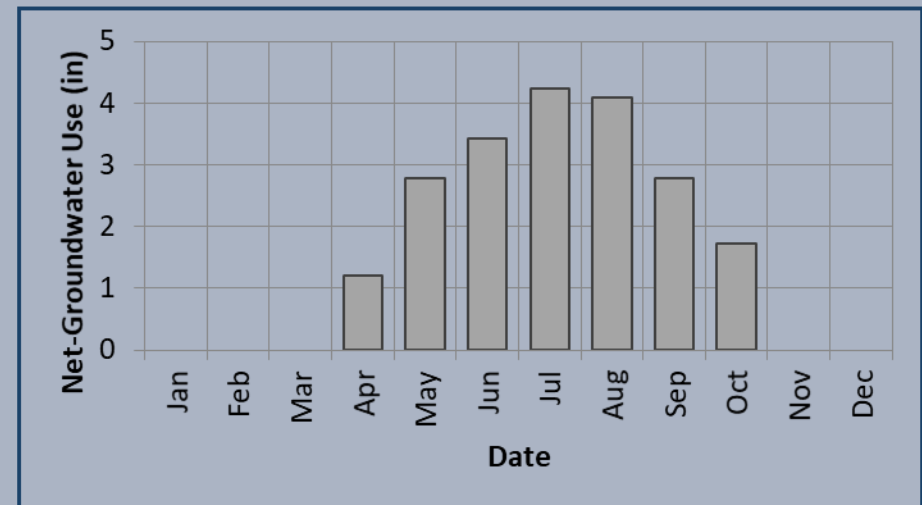
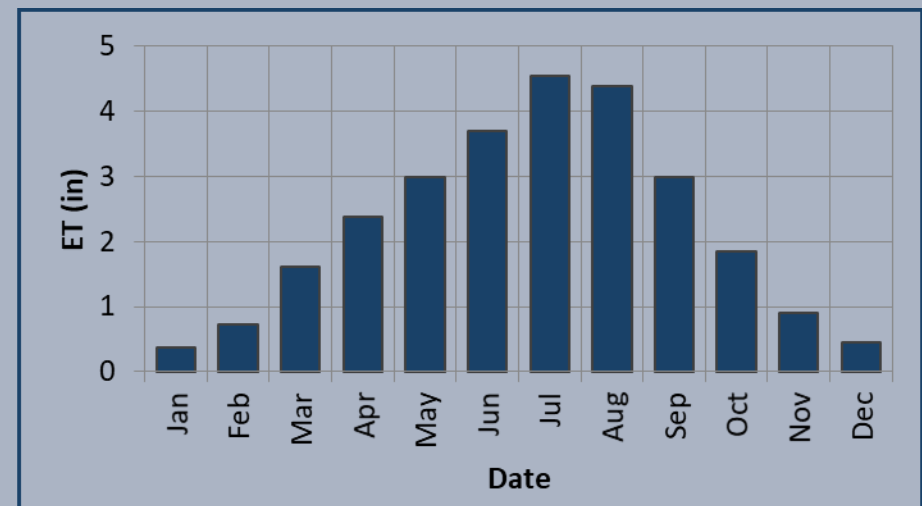
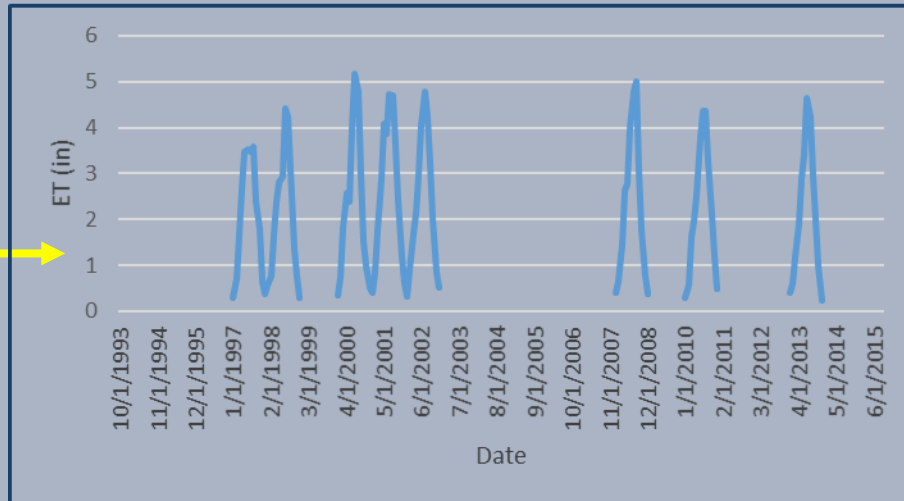
Input Data:
Parcel Number: _____ Summary Year: _____

Output Data:
ET_{Actual}: _____ ET_{Applied Water}: _____
Surface Water: _____ Precipitation: _____
Net-Groundwater: _____ Return Flow: _____

Full time-series, and calculations can be exported to .csv upon request

See Detailed Breakdown

Output graphics can be queried on specific years or full time series



Next Steps

Actions:

- Data Collection
 - Acquire/Analyze additional METRIC data
 - Compile parcel-level surface water deliveries from GSAs
- Refine and finalize Net-Groundwater Tool
 - Finalize net-groundwater & flow calculations
 - Package remote sensing tool with enhanced user interface



Stakeholder Advisory Committee Update

Image courtesy: Veronica Adrover/UC Merced

Stakeholder Advisory Committee Update

- July 12 – second meeting of GSP implementation SAC
- 24 of 30 SAC members in attendance
- Key topics discussed:
 - SGMA purpose, water rights, GSA authority
 - Merced GSP allocation framework and GSA's 5 yr objectives
 - Current basin conditions
 - Data Gaps Plan
 - Drought preparedness
- Next meeting October 18 – group would like option of hybrid meetings

How comfortable are you meeting indoors, in-person with 20 to 30 other people?

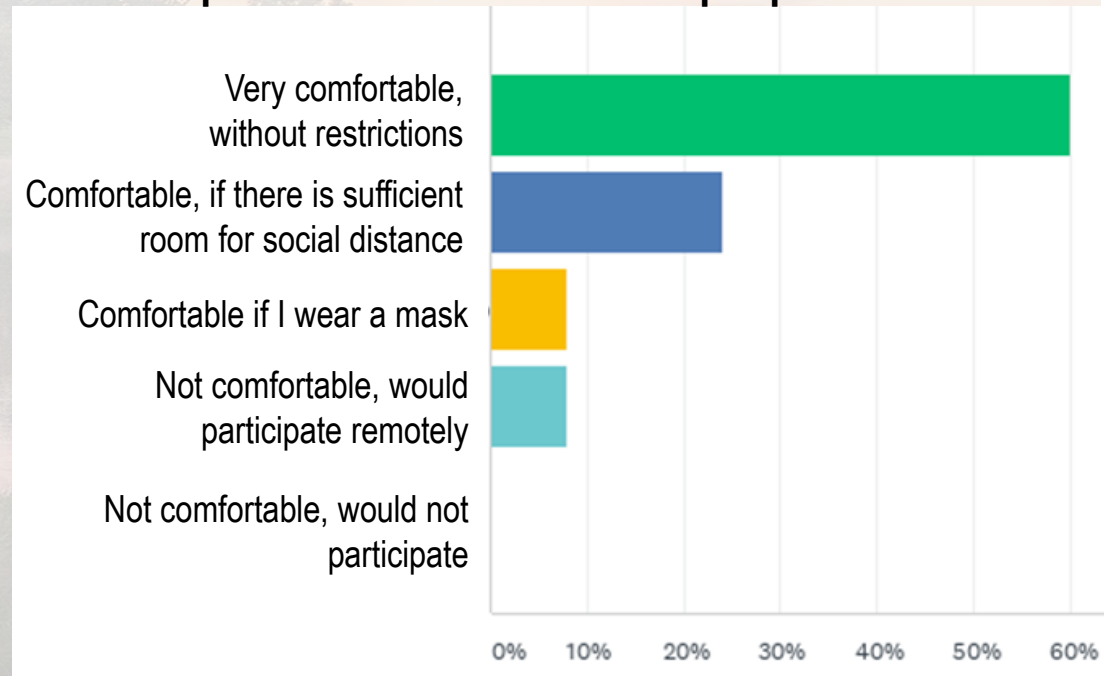


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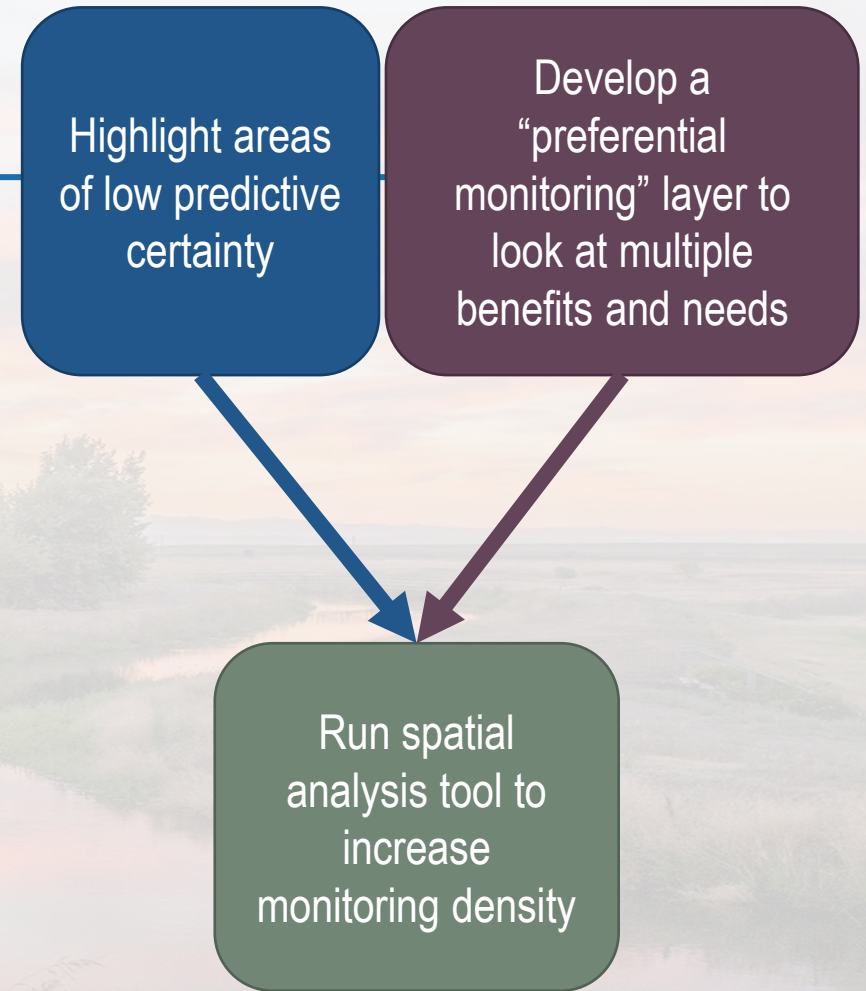


Data Gaps Plan

Image courtesy: Veronica Adrover/UC Merced

Data Gaps Plan Recap

- **Purpose** – Improve scientific understanding of subbasin to support ongoing basin management and policy making
- **Goal** – Develop a plan that identifies and ranks priority areas for the installation of monitoring wells or subsidence monitoring stations to support basin characterization and future GSP refinement.
- **Status** – Feedback collected at April meetings (CC & SAC) and comments provided by GSA staff & CC. Plan just finalized today 7/26.
 - Describes a methodology for filling data gaps and provides a first round of results.
 - Next steps during the implementation phase will be running the tool iteratively after researching existing wells & conducting landowner outreach.



Update to how many additional wells needed

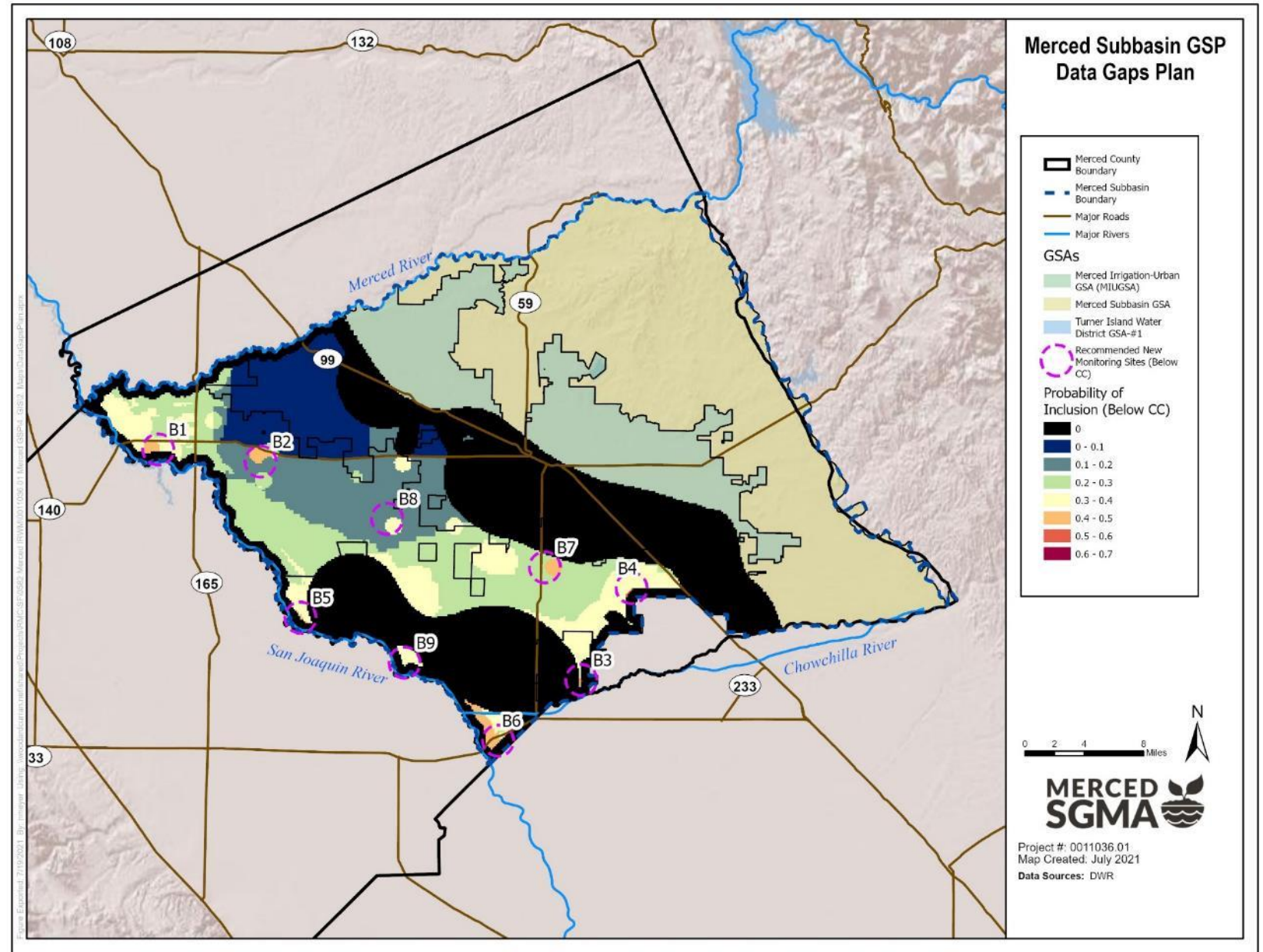
- Incorporated updated weighting scheme to calculate number of additional wells needed to meet monitoring network density goal of 4 wells / 100 square miles

Aquifer	Number of Existing Monitoring Network Wells	Weighted Aquifer Area (sq. mi.) Requiring New Well to Reach 4+ wells / 100 sq. mi.	Number of Additional Wells Needed to Reach 4+ wells / 100 sq. mi.
Below CC	17	206 (47%)	9
Above CC	11	311 (71%)	13*
Outside CC	26	132 (36%)	6

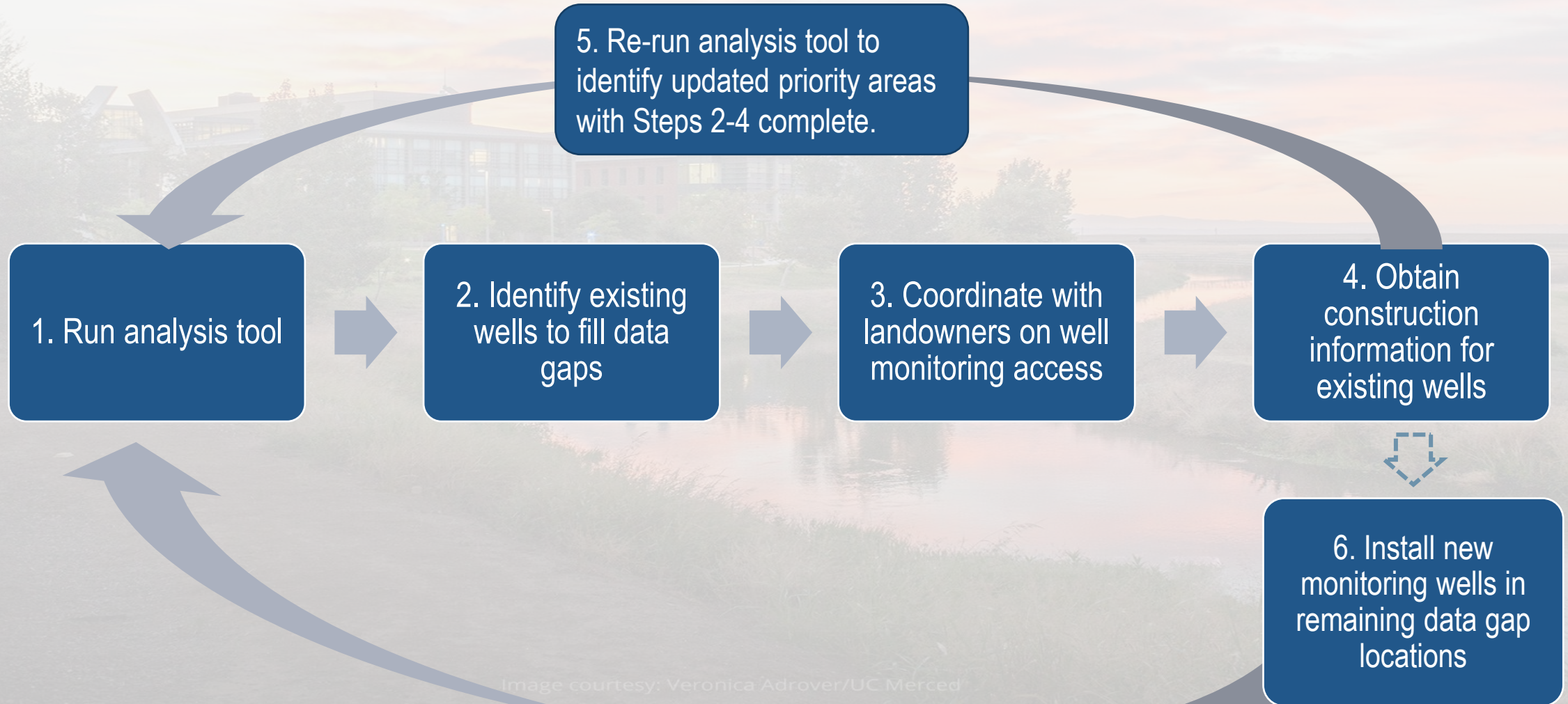
**Some of the 13 new Above CC wells are overlaps with the 9 needed for Below CC*

Image courtesy: Veronica Adrover/UC Merced

Run spatial analysis tool to increase monitoring density: Below Corcoran Clay



Implementation Plan for Groundwater Level Wells



Summary of Other Recommendations

Groundwater Quality

- Increase monitoring frequency - coordinate with existing efforts by ESJWQC in GQTM & work with well owners to coordinate increased TDS sampling at existing wells.
- Identify additional wells in Below Corcoran Clay or rural/deep Outside Corcoran Clay

Subsidence

- Contact drillers/well owners to look at depth of casing failures
- Consider extensometers to measure depth at which compaction is occurring (\$\$\$ likely requires outside funding)

Interconnected Surface Waters

- Expand monitoring network, incorporate new data, coordinate data collection adjacent to Subbasin boundary

Model / Climate

- Consider installation of a second CIMIS station in the Subbasin

Image courtesy: Veronica Adrover/UC Merced

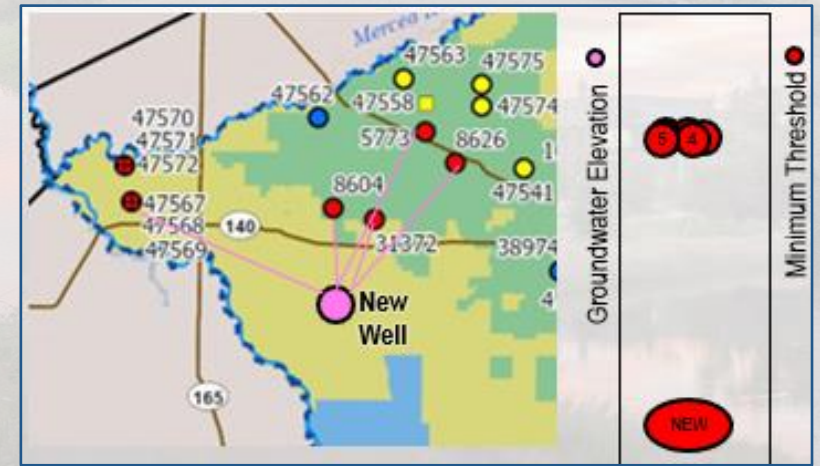
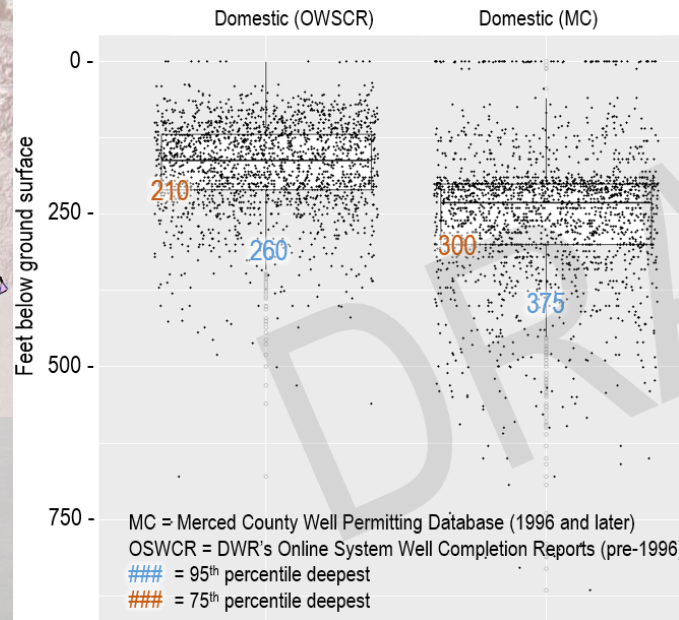
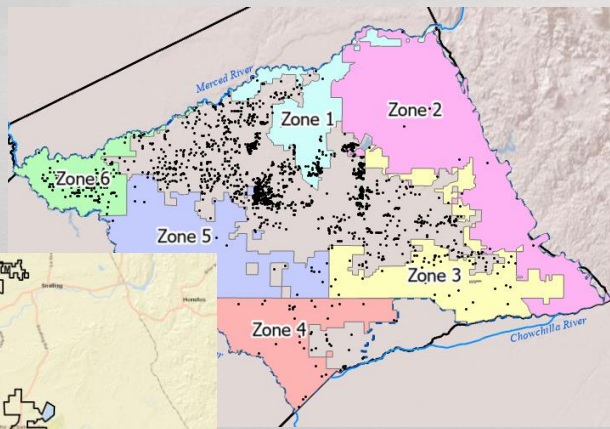
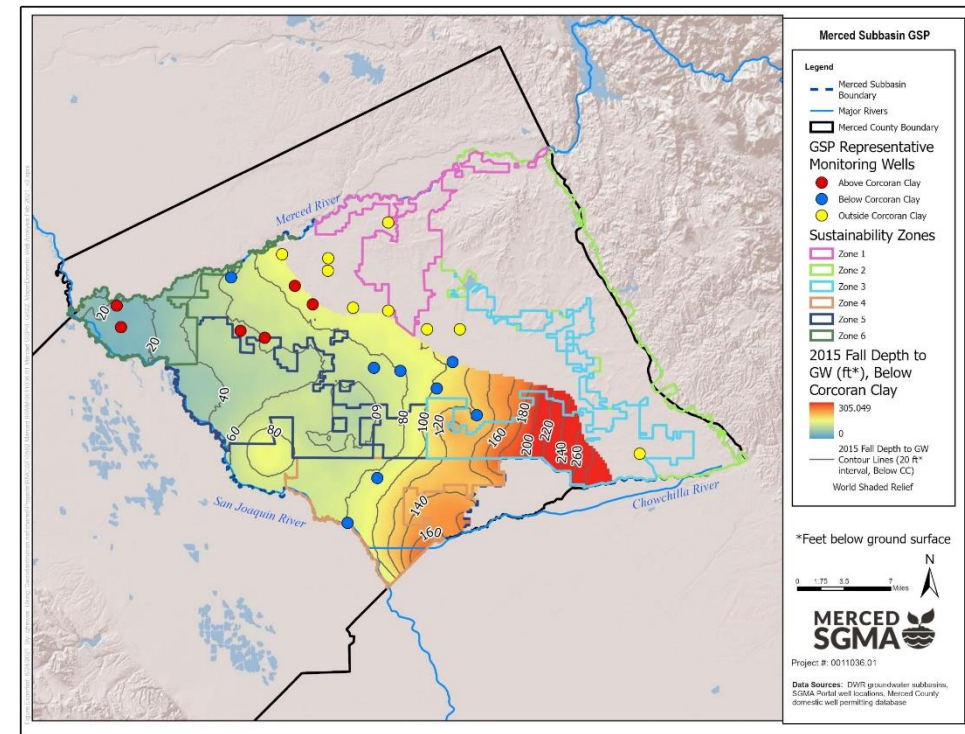


Minimum Thresholds in Areas Lacking Historical Monitoring Data

Image courtesy: Veronica Adrover/UC Merced

Approaches Considered

- Statistical analysis of depths of permitted domestic or agricultural wells basin wide or by zones
- Utilize 2015 groundwater level contours by aquifer.
- Use the difference between fall groundwater level measurement and minimum threshold at existing wells to calculate a “buffer” that is applied to the first fall measurement at a new well to define a new MT.



Recommendations

- No “one-size-fits-all” approach given differences in basin
- Will likely consist of:
 - Use existing GSP methodology where possible (shallowest domestic well w/in 2-mile radius)
 - For all new representative wells, set MTs as interim while data is collected and evaluated
 - Otherwise: GSAs will consider multiple sources of information and a suite of options to evaluate establishing a minimum threshold.
 - Regional domestic and agricultural well depths
 - Depths of MTs at existing representative wells
 - 2015 contours or gradient of contours
 - Proximity to streams or ecosystems

Image courtesy: Veronica Adrover/UC Merced

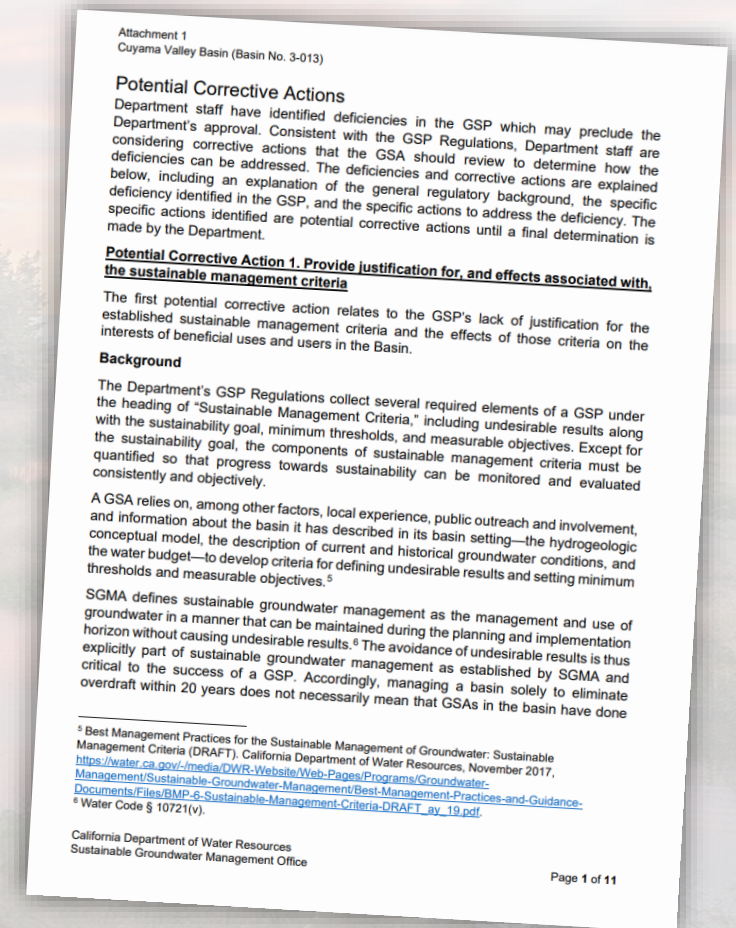


Insights from DWR Comment Letter on Other GSPs

Image courtesy: Veronica Adrover/UC Merced

Insights from DWR Comment Letter on Other GSPs

- DWR updated status of four plans recently: approving two (Santa Cruz and Salinas) and “initiating consultation” with two (Cuyama and Paso Robles)
- DWR issued [consultation initiation letter](#) to Cuyama Subbasin (6/3/21)
 - Consultation avoids 6-month required response window triggered by an “incomplete” finding
- Comments with potential relevance to Central Valley GSPs:
 - Better justification for how minimum thresholds are consistent with avoiding undesirable results
 - Concern about use of groundwater levels as a proxy for Interconnected Surface Water sustainability criteria
 - Request to add sustainable management criteria and a monitoring network for nitrates and arsenic (the Cuyama GSP only did TDS)





Legislation Update

Image courtesy: Veronica Adrover/UC Merced



Legislation Update

- To be provided by MIUGSA

Image courtesy: Veronica Adrover/UC Merced



Allocation Framework Update

Image courtesy: Veronica Adrover/UC Merced

5 year targets are being considered by GSAs currently

- GSAs are evaluating GSA-specific 5 year targets to make immediate progress while the allocation framework discussions are ongoing
- Draft Targets under consideration by GSAs:

MIUGSA

Goal is to reduce pumping of native groundwater to 1.5 AF/AC.

Public process underway for development of principle guidelines for GSP implementation within MIUGSA.

MSGSA

By Water Year 2025, reduction in consumptive use of 15,000 AFY and reduce additional 6,000 to 8,000 AFY each year after that.

TIWD GSA #1

Have meters on all active wells.
5 yr objective – stay within 1.5 AF/AC and evaluate building additional storage

Image courtesy: Veronica Adrover/UC Merced



Next Steps

Image courtesy: Veronica Adrover/UC Merced



What's coming up next?

- Stakeholder Advisory Committee meeting in October
- Adjourn to next meeting: TBD in October

Image courtesy: Veronica Adrover/UC Merced

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