Data Access, Management, and Visualization

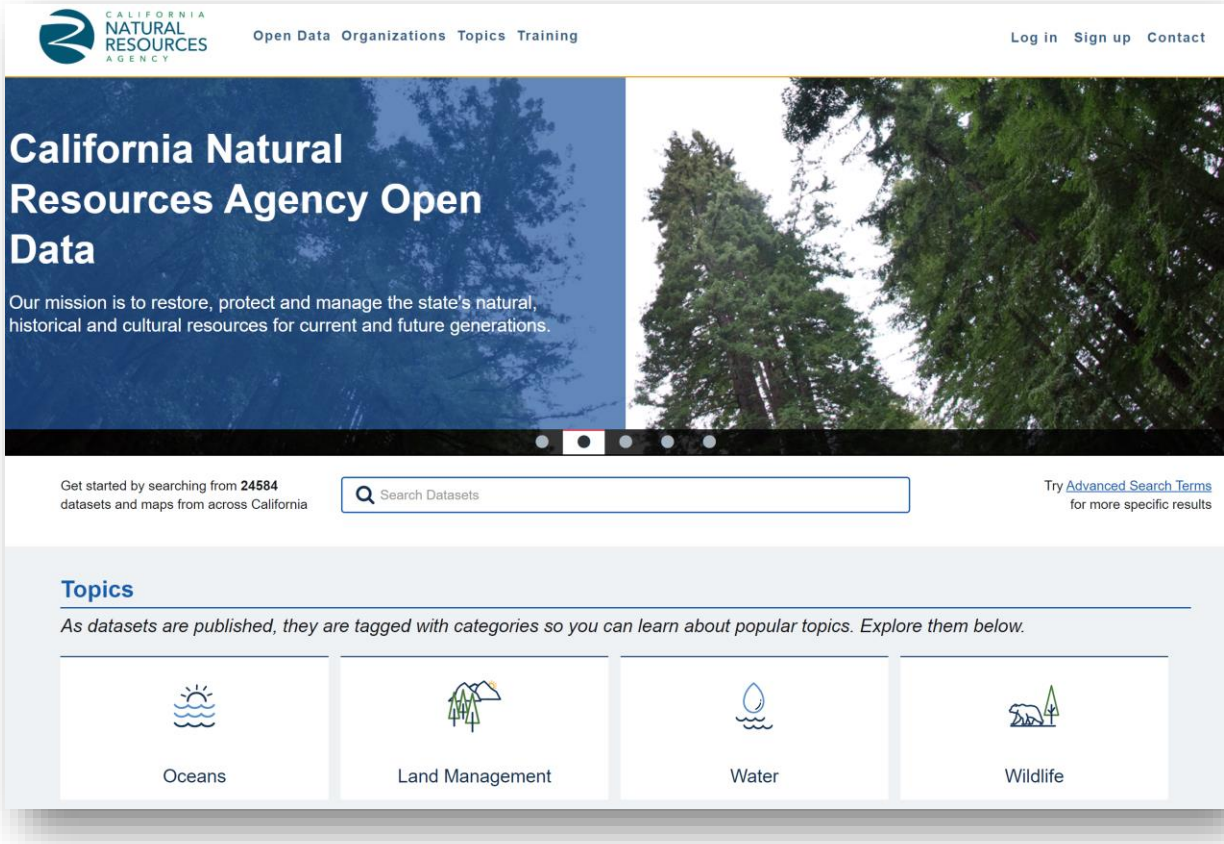
Ben Brezing – DWR, SGMO

Data Access

CNRA Open Data Portal

- Bulk Dataset Downloads
- Data APIs
- Links to GIS Services
- Data Reports

https://data.cnra.ca.gov



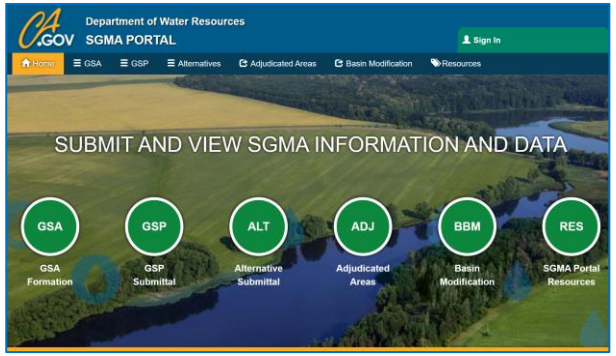
Data Access

Groundwater Levels

Available on Open Data at
https://data.cnra.ca.gov/dataset/periodic-groundwater-level-measurements

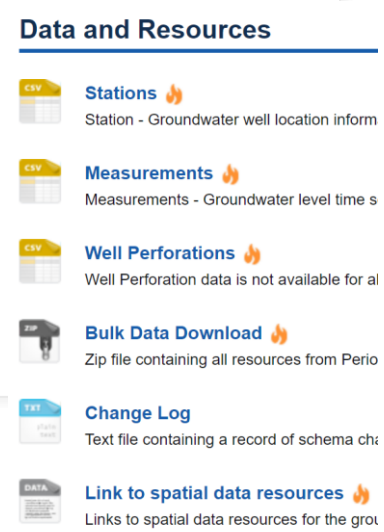
California Statewide Groundwater Elevation Monitoring (CASGEM)

Collaboration between local monitoring entities (MEs) and DWR - Voluntary program



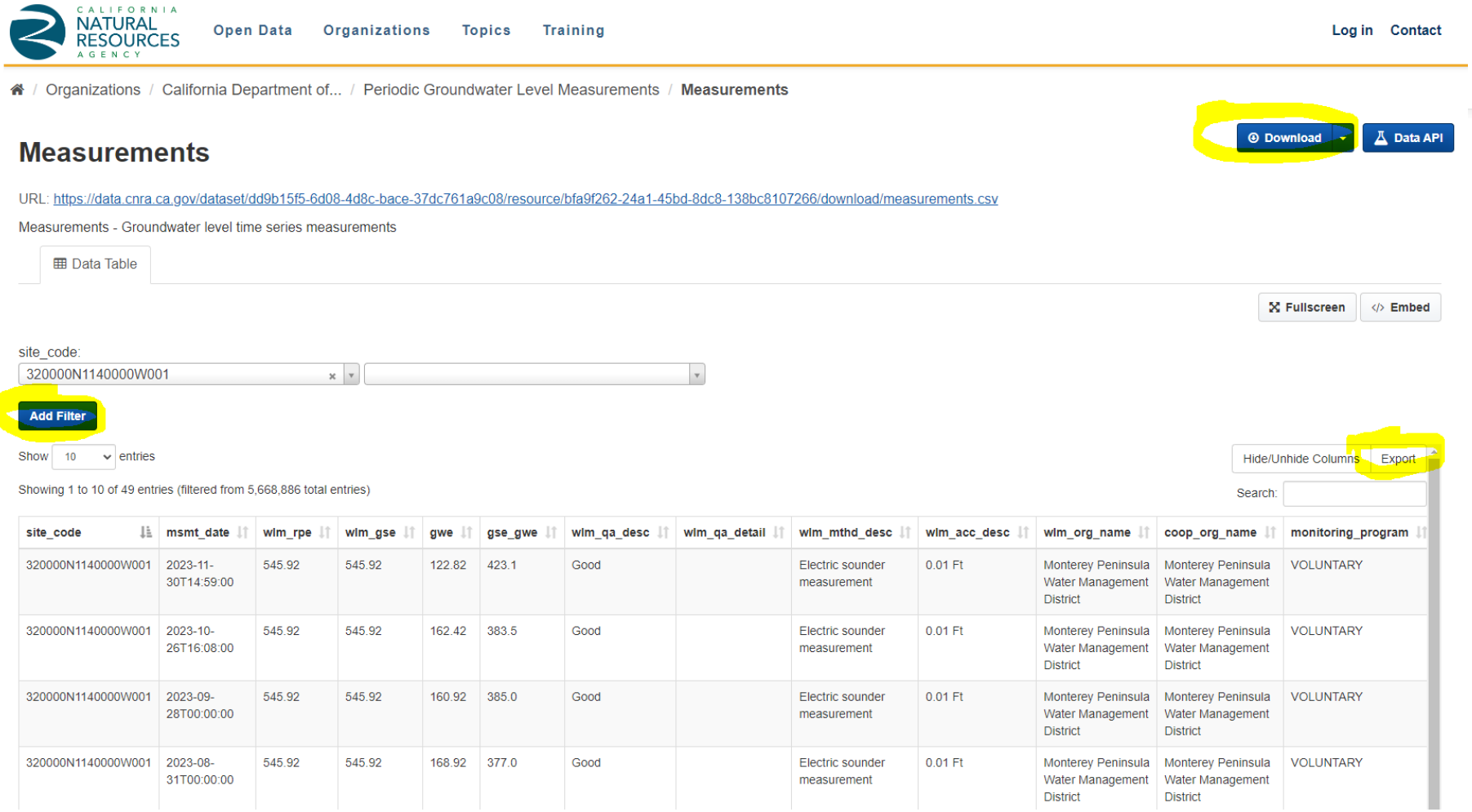
Sustainable Groundwater Management Act (SGMA) Portal's Monitoring Network Module (MNM)

Groundwater Sustainability Agencies (GSAs) are required to use the SGMA Portal to submit information required by SGMA, such as Groundwater Sustainability Plans (GSPs), and GSP monitoring data, including Groundwater Levels



Now also includes daily measurements from DWR's automated monitoring network of groundwater sites

Data Access



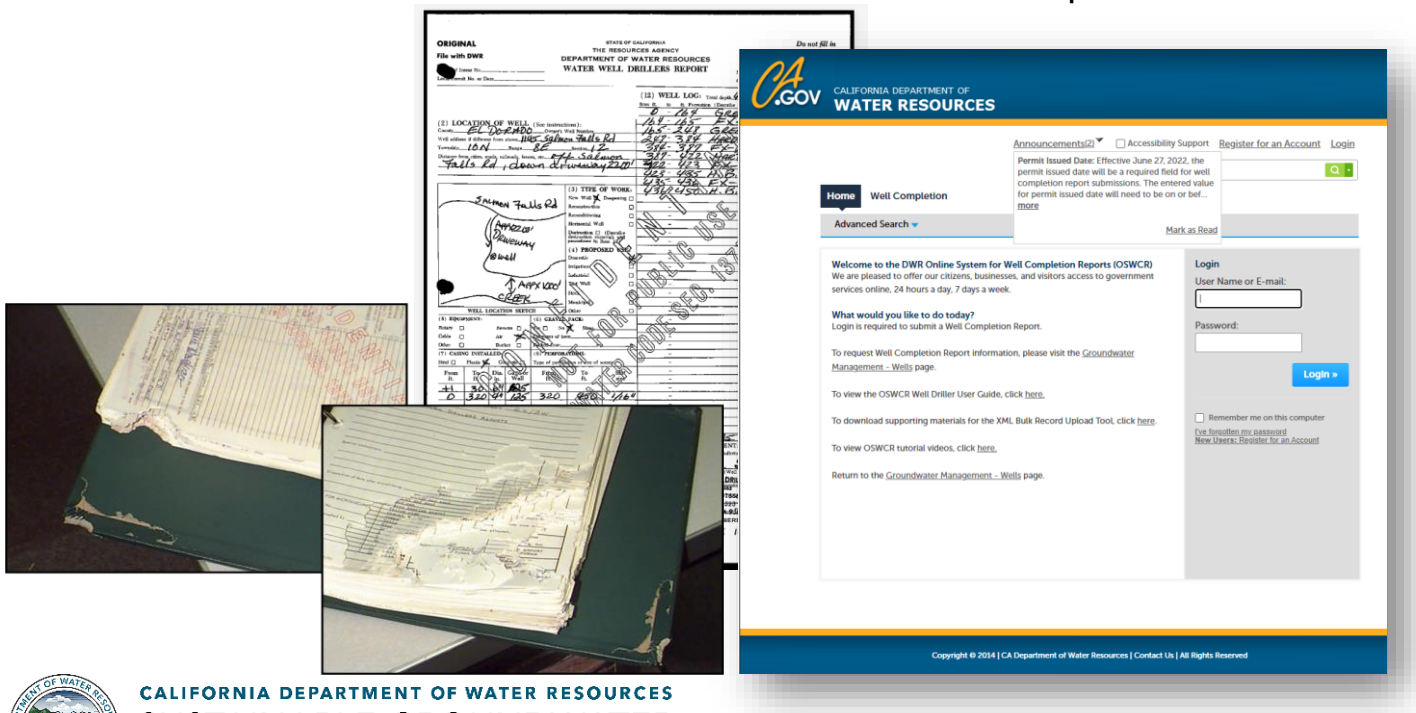
site_code	msmt_date	wlm_rpe	wlm_gse	gwe	gse_gwe	wlm_qa_desc	wlm_qa_detail	wlm_mthd_desc	wlm_acc_desc	wlm_org_name	coop_org_name	monitoring_program
320000N1140000W001	2023-11-30T14:59:00	545.92	545.92	122.82	423.1	Good		Electric sounder measurement	0.01 Ft	Monterey Peninsula Water Management District	Monterey Peninsula Water Management District	VOLUNTARY
320000N1140000W001	2023-10-26T16:08:00	545.92	545.92	162.42	383.5	Good		Electric sounder measurement	0.01 Ft	Monterey Peninsula Water Management District	Monterey Peninsula Water Management District	VOLUNTARY
320000N1140000W001	2023-09-28T00:00:00	545.92	545.92	160.92	385.0	Good		Electric sounder measurement	0.01 Ft	Monterey Peninsula Water Management District	Monterey Peninsula Water Management District	VOLUNTARY
320000N1140000W001	2023-08-31T00:00:00	545.92	545.92	168.92	377.0	Good		Electric sounder measurement	0.01 Ft	Monterey Peninsula Water Management District	Monterey Peninsula Water Management District	VOLUNTARY

Data Access

https://data.cnra.ca.gov/dataset/well-completion-reports

Well Completion Reports

- Tabular Dataset and PDFs available on Open Data



Data and Resources

Well Completion Reports
This Well Completion Report dataset represents an index of records from the California Department...

Well Numbers
Table of state and local well numbers that are stored in OSWCR

Geologic Logs - Free Form
OSWCR provides three different methods to ente

Geologic Logs - Quick Pick
OSWCR provides three different methods to ente

Geologic Logs - USCS/ASTM D2488
OSWCR provides three different methods to ente

Geologic Logs - Generalized Lithology
This table provides generalized lithology descripti

Casing Data
Casing data that have been entered into OSWCR

Annular Material Log
Annular fill data that have been entered into OSWCR including the Fill Type and Fill Type Details.

Borehole Information
Diameter of the boreholes and the depth range over which that diameter applies

WCRNUMBER	INTERVALSTART	INTERVALEND	DESCRIPTION
WCR2018-011445	80	90	green clay
WCR2018-011445	90	100	clay/sand
WCR2018-011445	100	120	sand
WCR2018-011445	120	130	clay
WCR2018-011445	130	140	sand
WCR2018-011445	140	210	clay/sand
WCR2018-011445	210	220	sand/gravel
WCR2018-011445	220	230	clay
WCR2018-011445	230	240	clay/sand
WCR2018-011445	240	250	sand

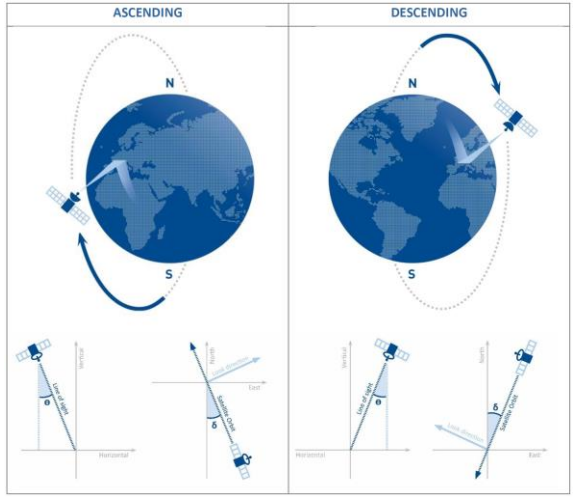
Geologic Logs - Free Form

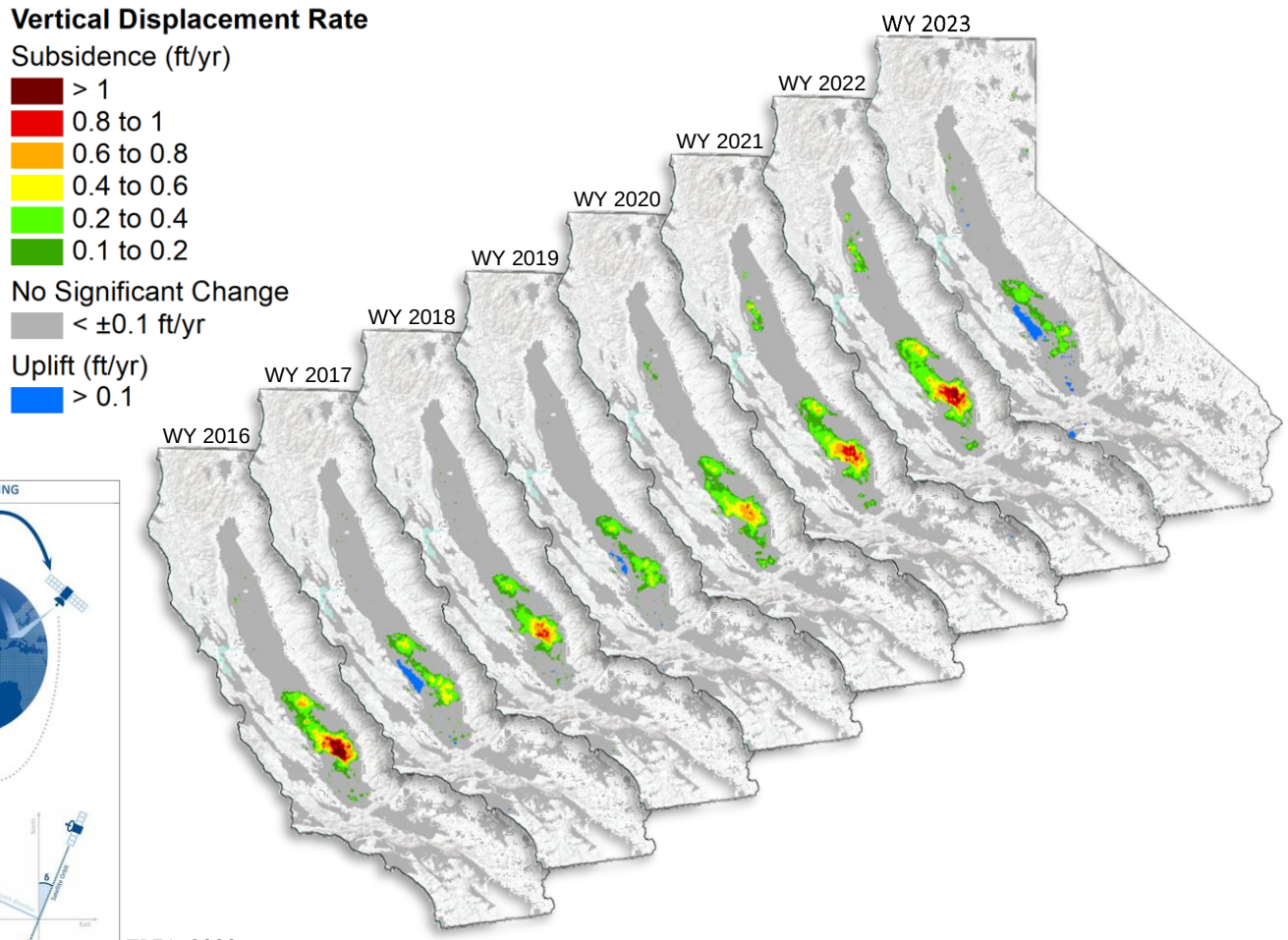
Data Access

Dataset and Reports Available on Open Data at
https://data.cnra.ca.gov/dataset/tre-altamira-insar-subsidence

TREA InSAR Subsidence Data

- Monthly timesteps
- Cumulative Displacement since June 2015
- Annual Displacement since January 2015
- 100x100 meter resolution
- GIS Raster Image services





TREA, 2023

Data Access

https://data.cnra.ca.gov/dataset/aem

CALIFORNIA NATURAL RESOURCES AGENCY

Open Data Organizations Topics Training

/ Organizations / California Department of... / **DWR Airborne Electromagnetic (AEM) Surveys Data**

DWR Airborne Electromagnetic (AEM) Surveys Data

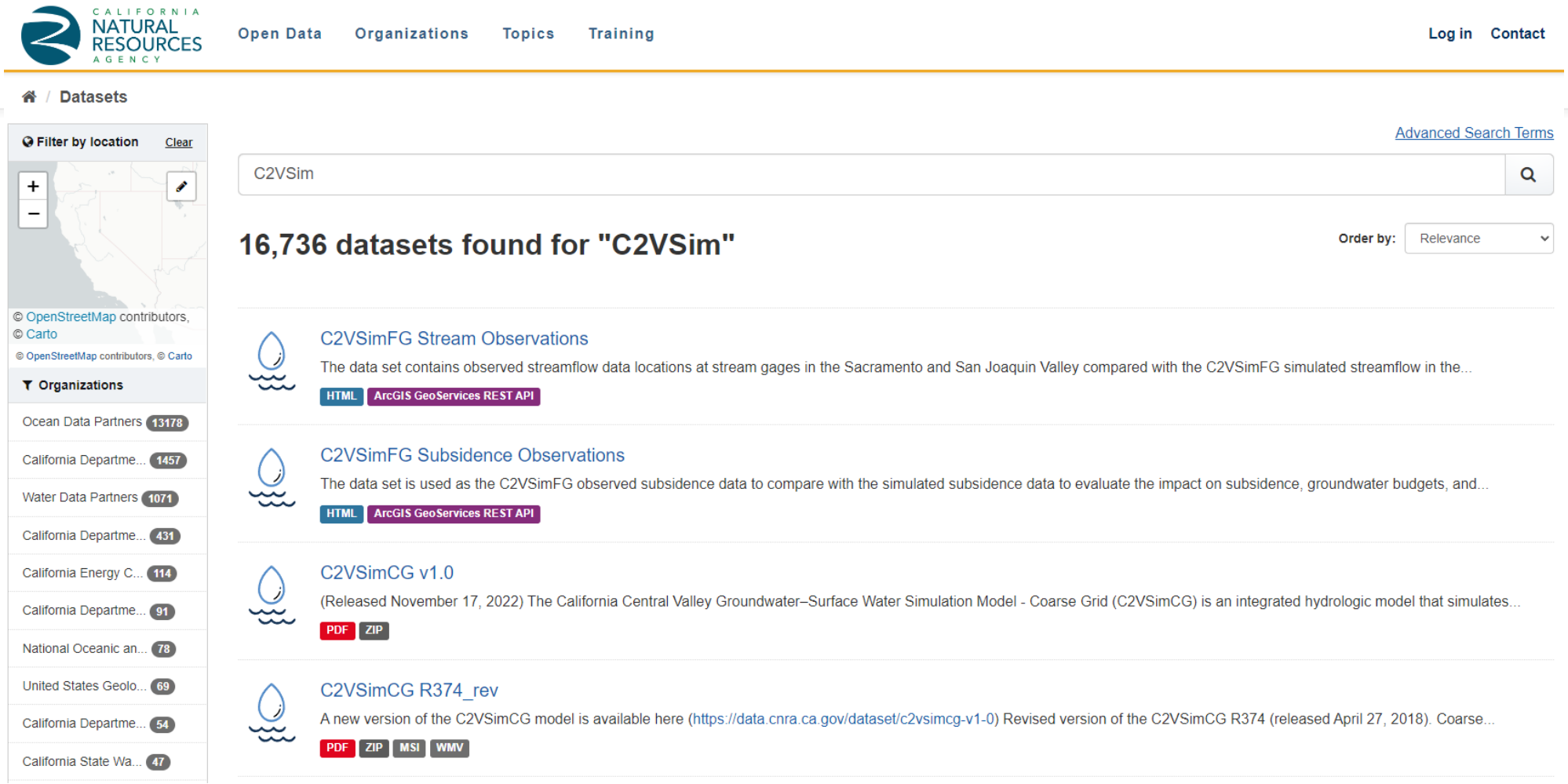
AEM Datasets

- Raw AEM Data
- Processed AEM Data
- Inverted AEM Data
- Inverted AEM Data Uncertainty Analysis
- Interpreted AEM Data (for coarse fraction)
- Interpreted AEM Data Uncertainty Analysis

Supporting Datasets

- Flown Survey Lines
- Digitized Lithology Logs
- Digitized Geophysical Logs

Data Access


CALIFORNIA NATURAL RESOURCES AGENCY
Open Data
Organizations
Topics
Training
Log in
Contact
Datasets
Filter by location
Clear
© OpenStreetMap contributors, © Carto
Organizations
Ocean Data Partners 13178
California Departme... 1457
Water Data Partners 1071
California Departme... 431
California Energy C... 114
California Departme... 91
National Oceanic an... 78
United States Geolo... 69
California Departme... 54
California State Wa... 47
Advanced Search Terms
C2VSim
16,736 datasets found for "C2VSim"
Order by:
Relevance
C2VSimFG Stream Observations
The data set contains observed streamflow data locations at stream gages in the Sacramento and San Joaquin Valley compared with the C2VSimFG simulated streamflow in the...
HTML
ArcGIS GeoServices REST API
C2VSimFG Subsidence Observations
The data set is used as the C2VSimFG observed subsidence data to compare with the simulated subsidence data to evaluate the impact on subsidence, groundwater budgets, and...
HTML
ArcGIS GeoServices REST API
C2VSimCG v1.0
(Released November 17, 2022) The California Central Valley Groundwater–Surface Water Simulation Model - Coarse Grid (C2VSimCG) is an integrated hydrologic model that simulates...
PDF
ZIP
C2VSimCG R374_rev
A new version of the C2VSimCG model is available here (https://data.cnra.ca.gov/dataset/c2vsimcg-v1-0) Revised version of the C2VSimCG R374 (released April 27, 2018). Coarse...
PDF
ZIP
MSI
WMV

Data Access

CALIFORNIA NATURAL RESOURCES AGENCY

Open Data | Organizations | Topics | Training | Log in | Contact

/ Organizations / California Department of... / **Bulletin 118 Update 2003 - Basin Reports (formerly known...**

Bulletin 118 Update 2003 - Basin Reports (formerly known as Basin Descriptions)

This dataset includes the basin reports for the 515 groundwater basins developed as part of Bulletin 118 Update 2003. The reports include descriptions of basin boundaries, summaries of the hydrologic and hydrogeologic setting, groundwater storage capacity and water budget, groundwater level and quality trends, well yields, basin management, and references.

Organization

California Department of Water Resources

DWR manages Californi a's water resources, syste ms, and infrastructure, inc luding the State Water Pr oject (SWP), in a responsi ble, sustainable way.

read more

Social

Twitter

Dataset | Topics | Showcases | Activity Stream

Data and Resources

- **Bulletin 118 Update 2003 - Basin Report 1_001**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_002_01**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_002_02**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_003**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_004**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_005**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_006**
  This file contains the basin report (fomerly known as basin description) for...
- **Bulletin 118 Update 2003 - Basin Report 1_007**
  This file contains the basin report (fomerly known as basin description) for...

Tulare Lake Hydrologic Region
San Joaquin Valley Groundwater Basin

California's Groundwater
Bulletin 118

San Joaquin Valley Groundwater Basin
Tule Subbasin

- Groundwater Basin Number: 5-22.13
- County: Tulare
- Surface Area: 467,000 acres (733 square miles)

Basin Boundaries and Hydrology

The San Joaquin Valley is surrounded on the west by the Coast Ranges, on the south by the San Emigdio and Tehachapi Mountains, on the east by the Sierra Nevada and on the north by the Sacramento-San Joaquin Delta and Sacramento Valley. The northern portion of the San Joaquin Valley drains toward the Delta by the San Joaquin River and its tributaries, the Fresno, Merced, Tuolumne, and Stanislaus Rivers. The southern portion of the valley is internally drained by the Kings, Kaweah, Tule, and Kern Rivers that flow into the Tulare drainage basin including the beds of the former Tulare, Buena Vista, and Kern Lakes.

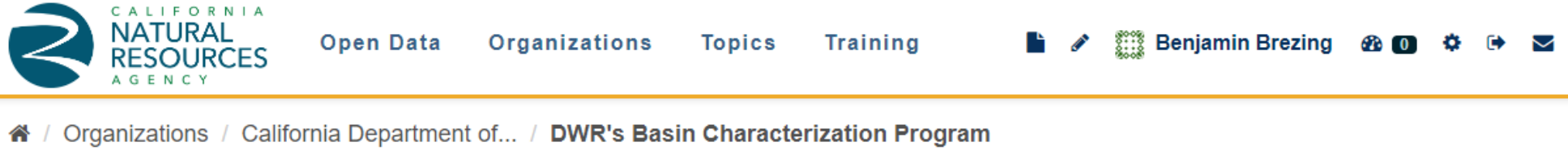
The Tule Groundwater Subbasin is generally bounded on the west by the Tulare County line, excluding those portions of the Tulare Lake Subbasin Water Storage District and Sections 29 and 30 of Township 23 South, Range 23 East, that area west of the Homeland Canal. This boundary is shared with the Tulare Lake Groundwater Subbasin. The northern boundary of the subbasin follows the northern boundaries of Lower Tule Irrigation District and Porterville Irrigation District and is shared with the Kaweah Groundwater Subbasin. The eastern boundary is at the edge of the alluvium and crystalline bedrock of the Sierra Nevada foothills, and the southern boundary is the Tulare-Kern County line and is shared with the Kern County Groundwater Basin

West-flowing Tule River, Deer Creek and the White River are the major drainages in the subbasin which empty into the Tulare lakebed. Annual average precipitation is seven to 11 inches, increasing eastward.

Hydrogeologic Information

The San Joaquin Valley represents the southern portion of the Great Central Valley of California. It is a structural trough up to 200 miles long and 70 miles wide filled with up to 32,000 feet of marine and continental sediments

Data Access



CALIFORNIA DEPARTMENT OF WATER RESOURCES
SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

Visualization

Updates

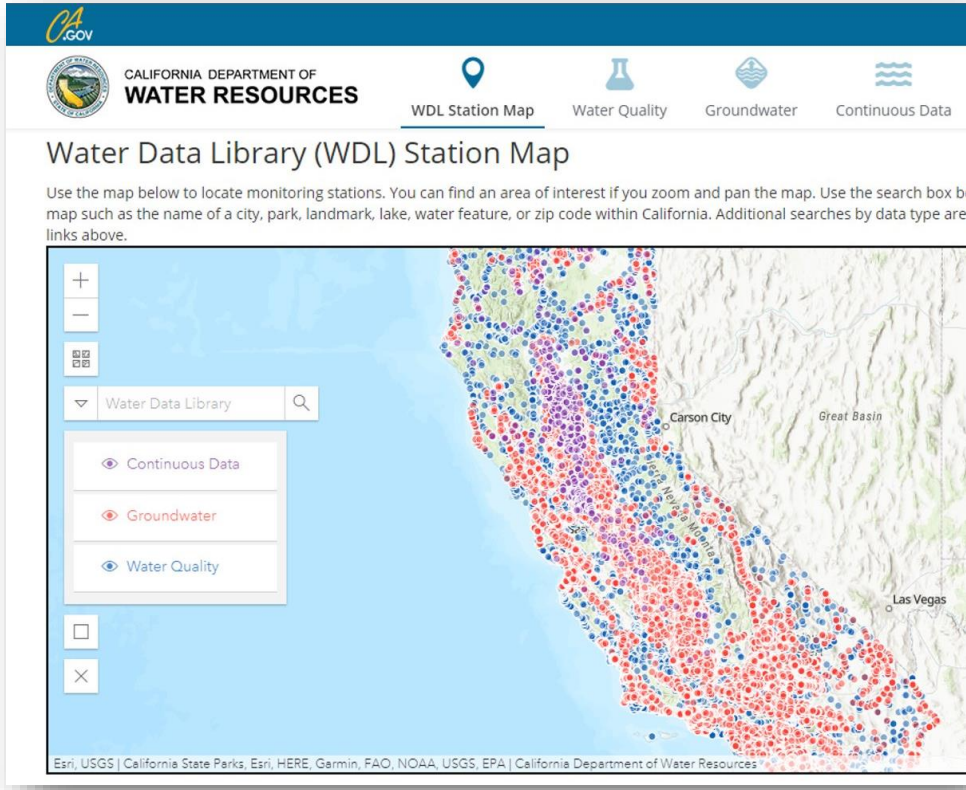
Visualization

Water Data Library

DWR environmental parameter databases:

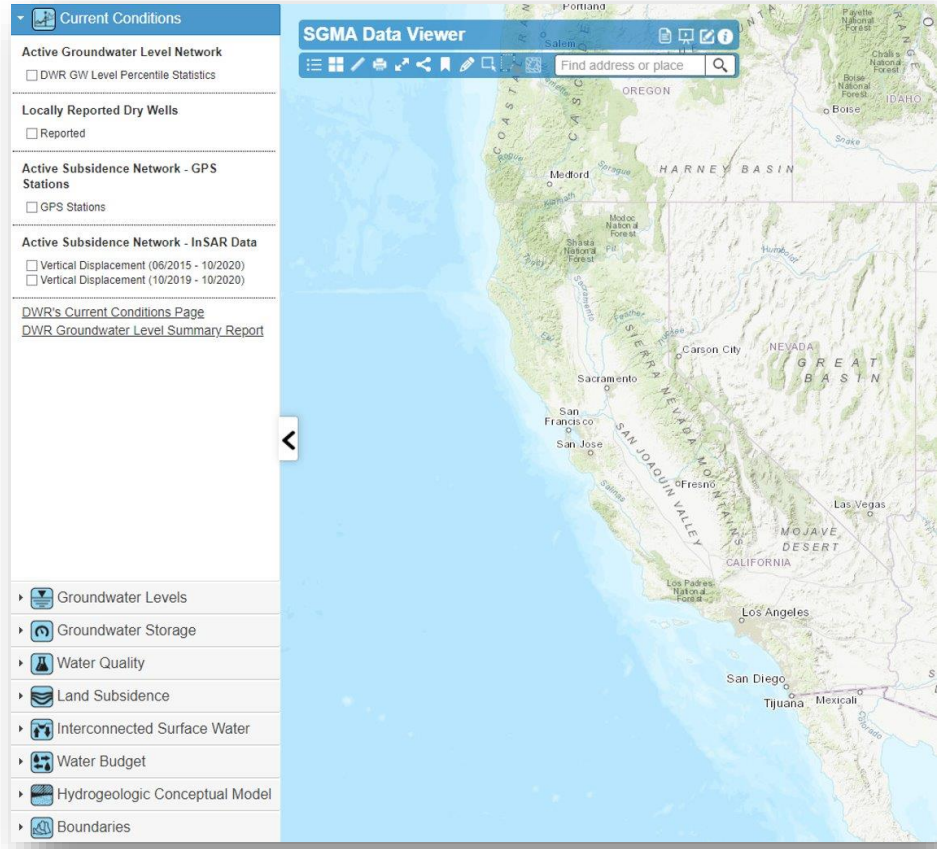
- Water Quality Field and Lab sample data
- Groundwater Levels (CASGEM/SGMA, manual measurements)
- Continuous (automated/high-frequency) water level, water quality data

https://wdl.water.ca.gov



Visualization

https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer



SGMA Data Viewer

- Developed as part of DWR's technical assistance to Groundwater Sustainability Agencies (GSAs), other water managers, and the public
- Provides access to groundwater related datasets (from DWR and other sources) that are organized by the requirements of SGMA and the Groundwater Sustainability Plan (GSP) regulations for the purpose of supporting GSP development and implementation
- Indented users: practitioners, technical audience

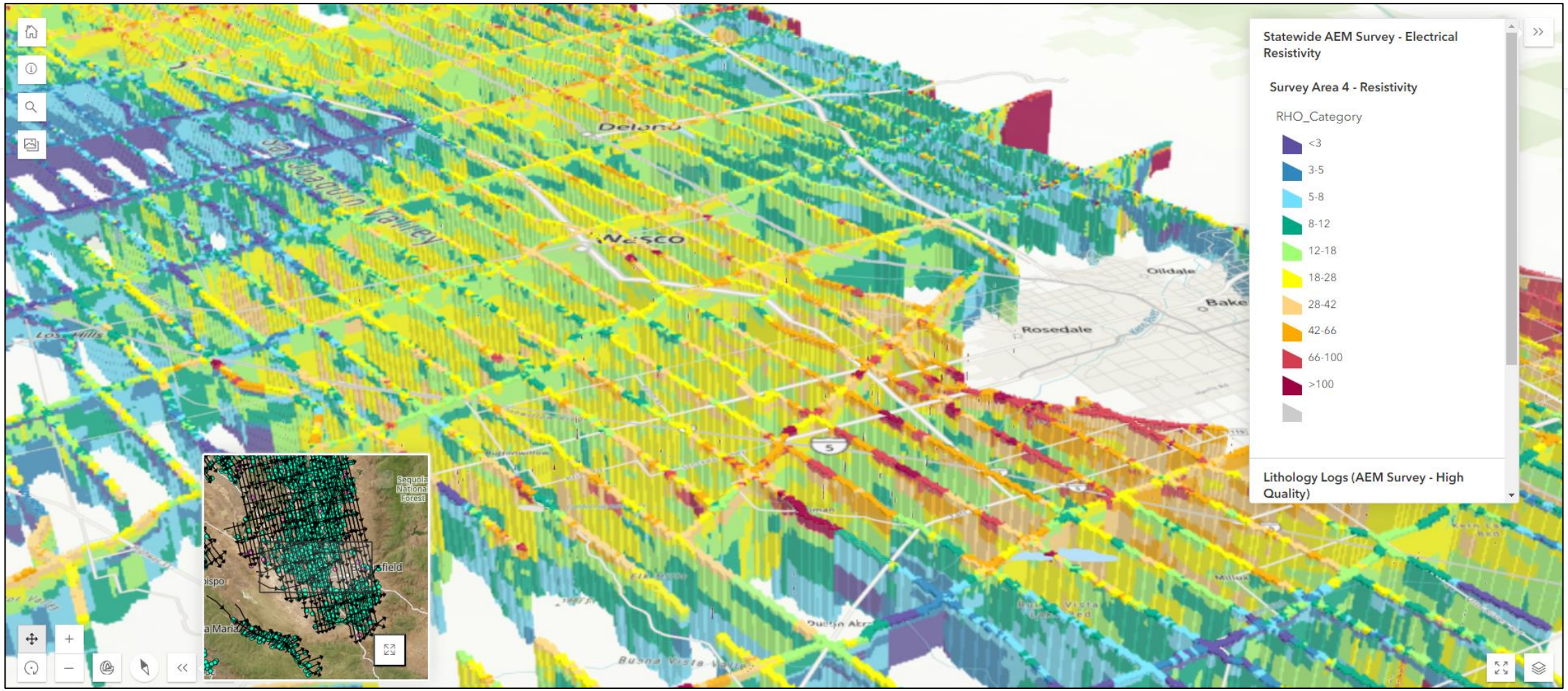
Visualization

https://sgma.water.ca.gov/CalGWLive/

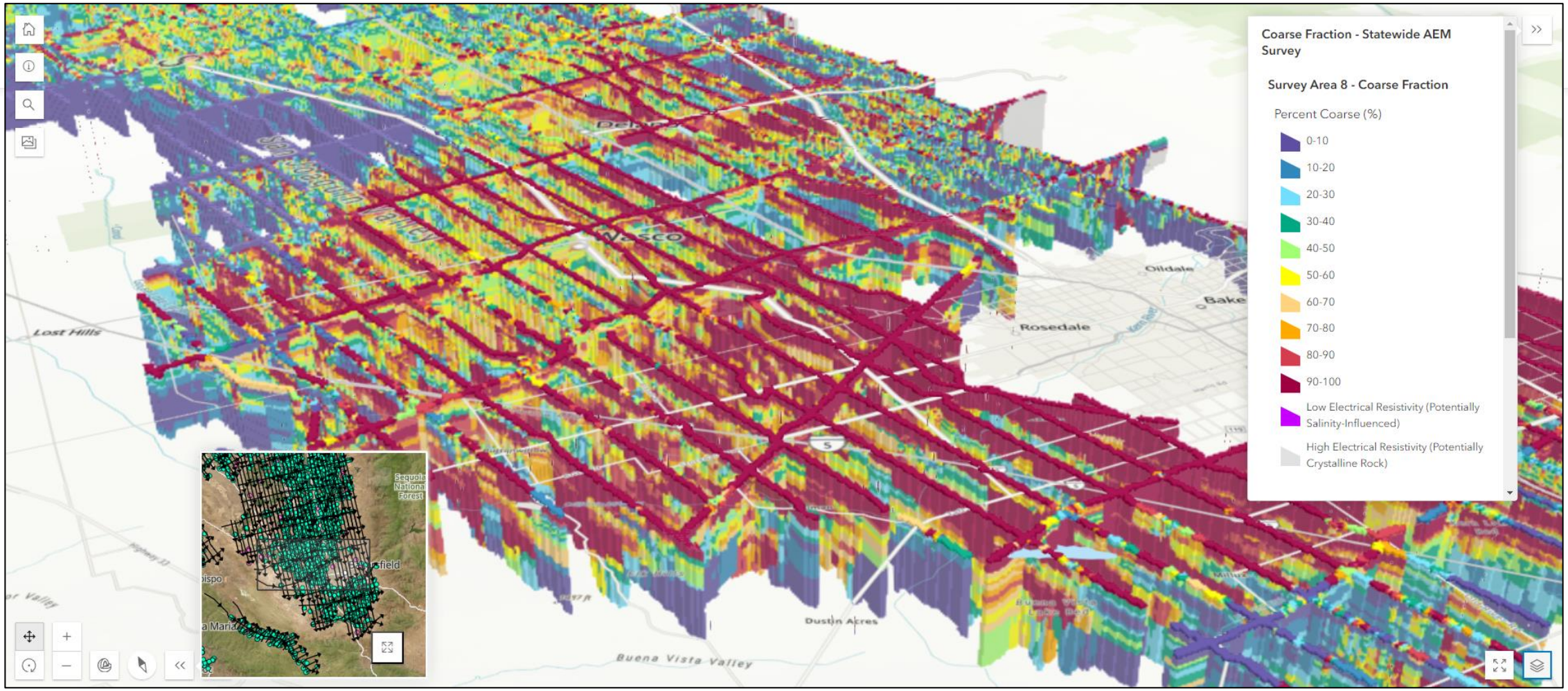
CalGW Live

- Provides latest groundwater information, live statistics and a series of interactive dashboards
- Indented users: General public

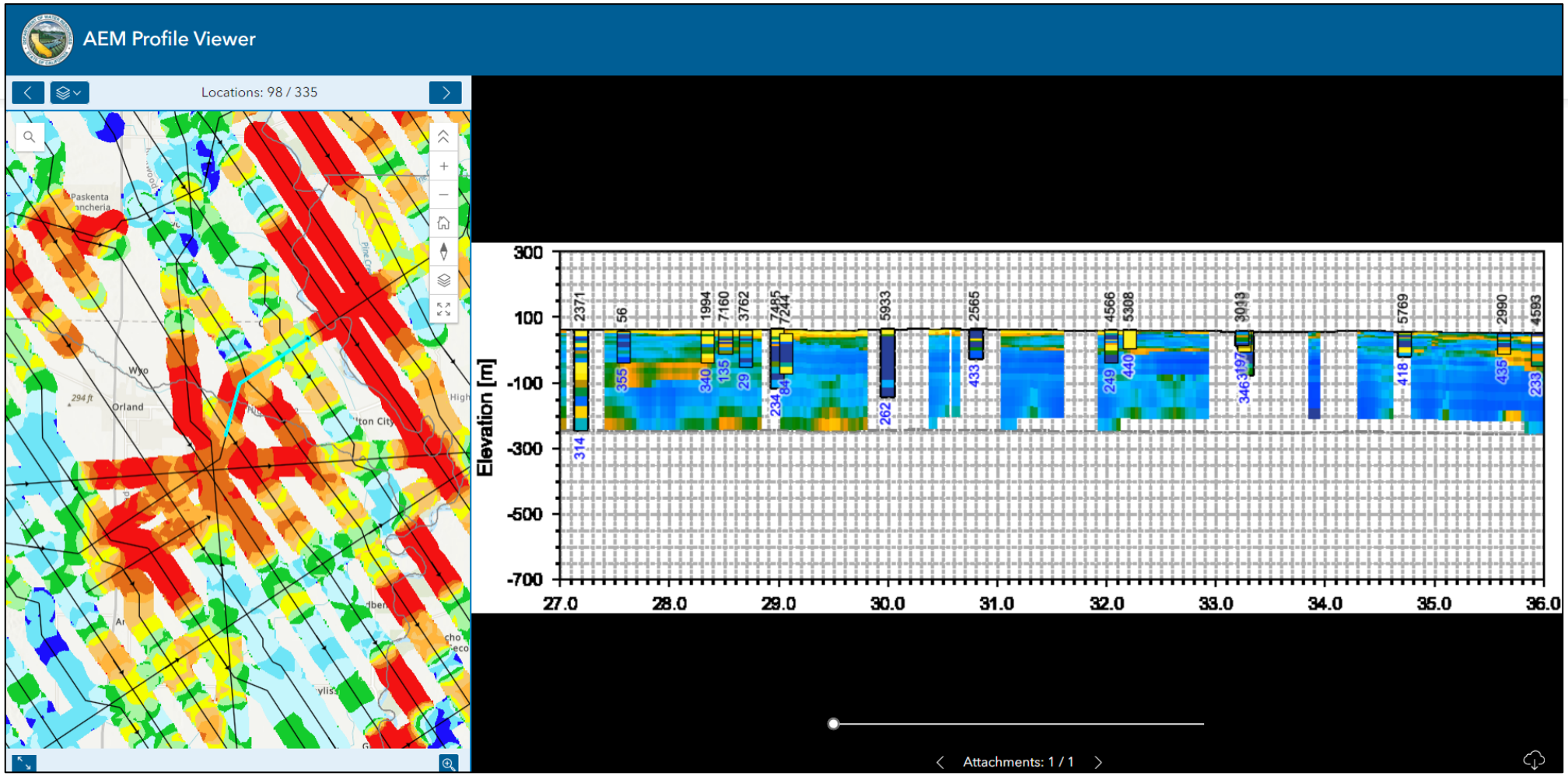
Visualization – AEM 3D Viewer



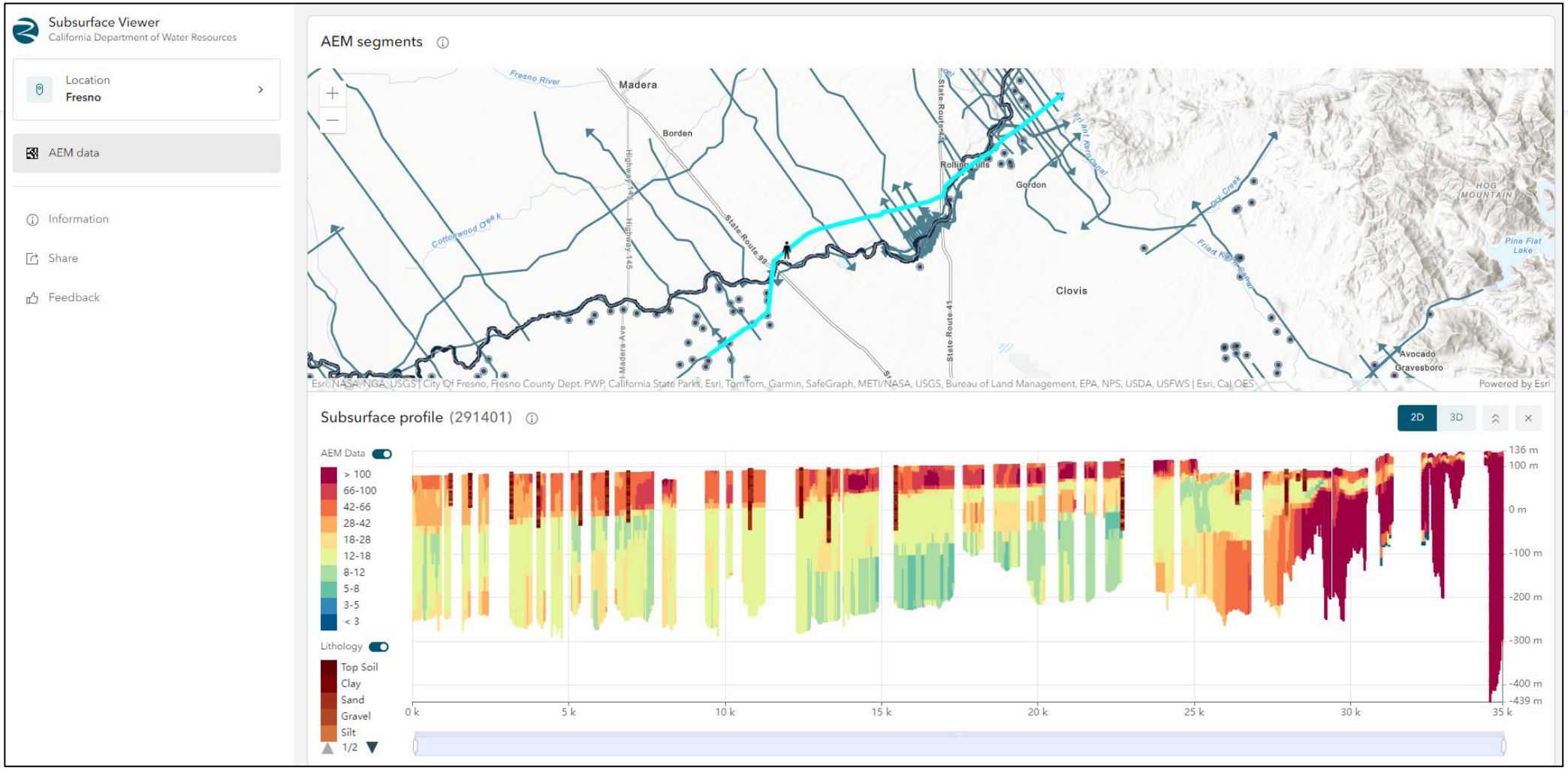
Visualization - AEM 3D Viewer



Visualization - AEM Profile Viewer

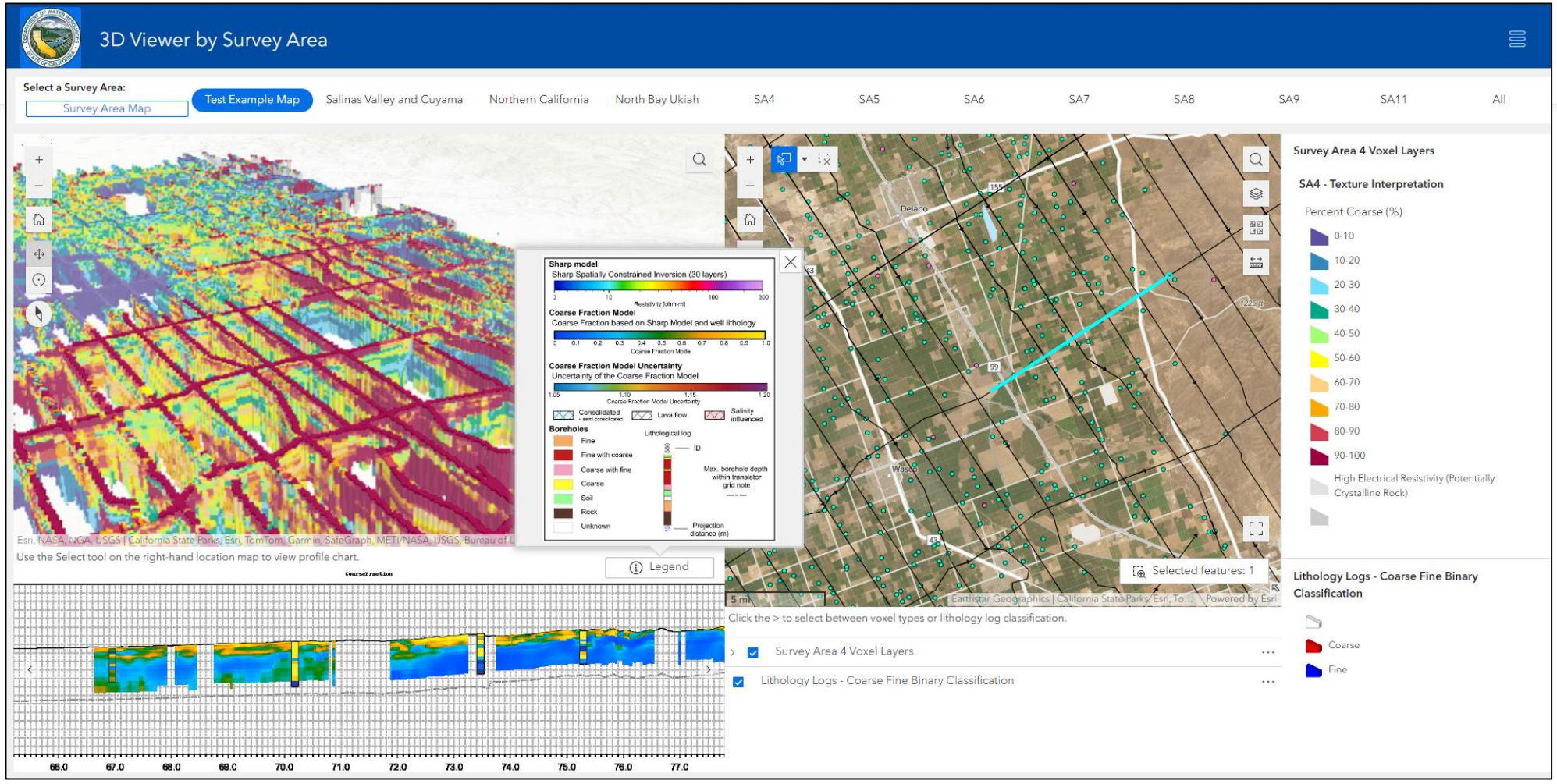


Visualization – Dev AEM Viewer



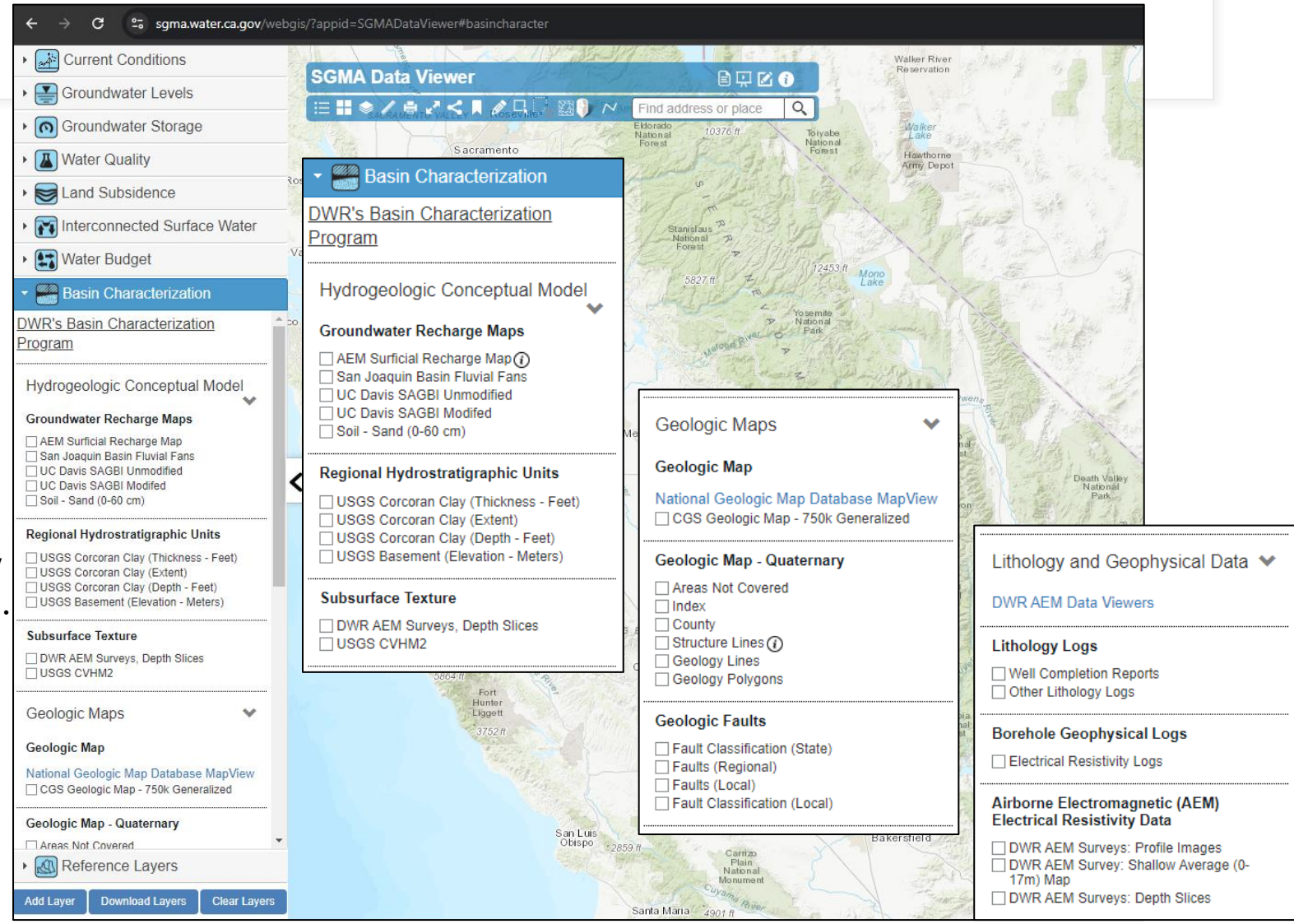
Visualization – Dev AEM Viewer

Visualization – In-house Dev AEM Viewer



SGMA Data Viewer Updates

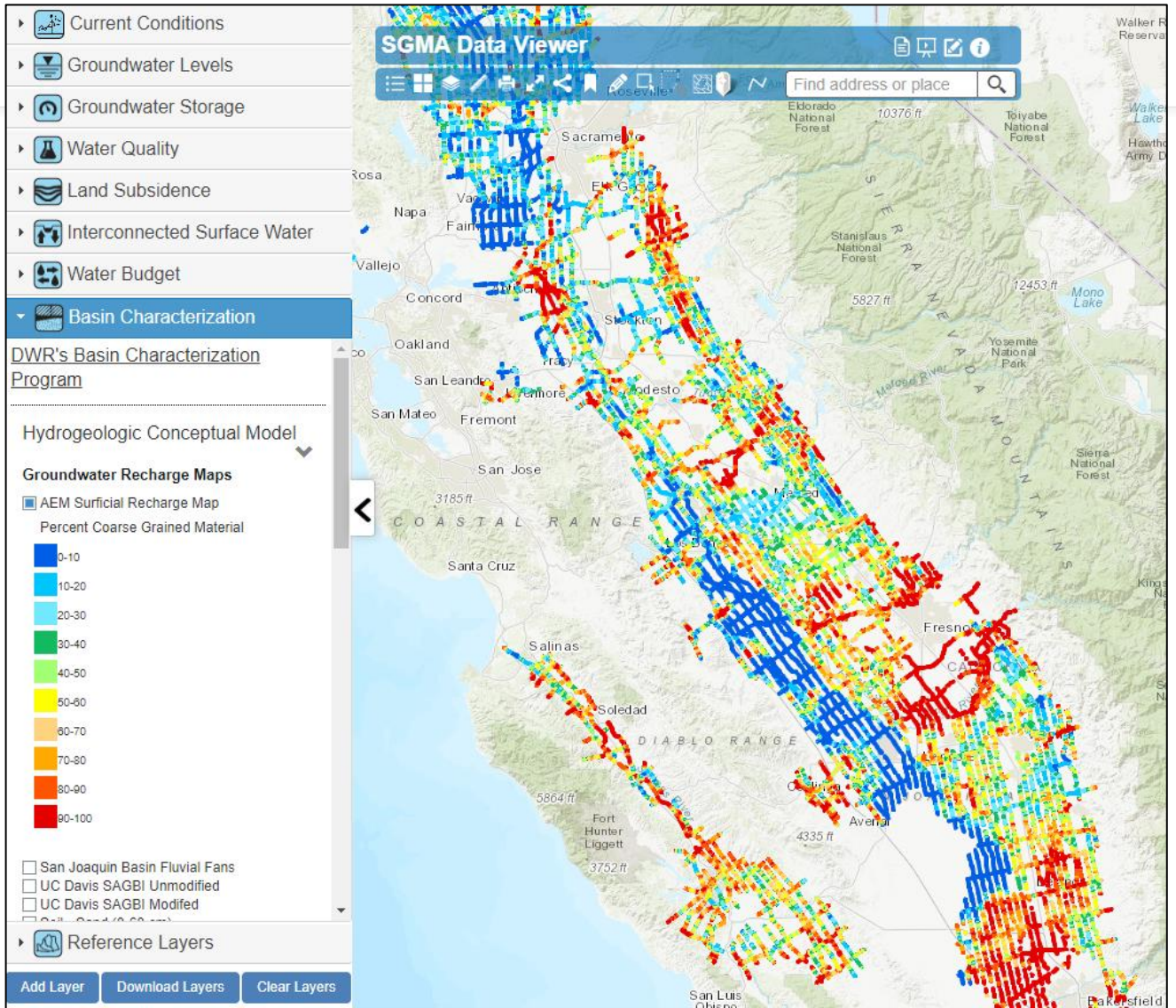
- New Basin Characterization tab that displays maps and datasets that are related to DWR's Basin Characterization Program.
- Sections within the tab are structured to show maps and data related to Hydrogeologic Conceptual Models, Geologic Maps, and Lithology and Geophysical Data.



SGMA Data Viewer Updates

New maps and data

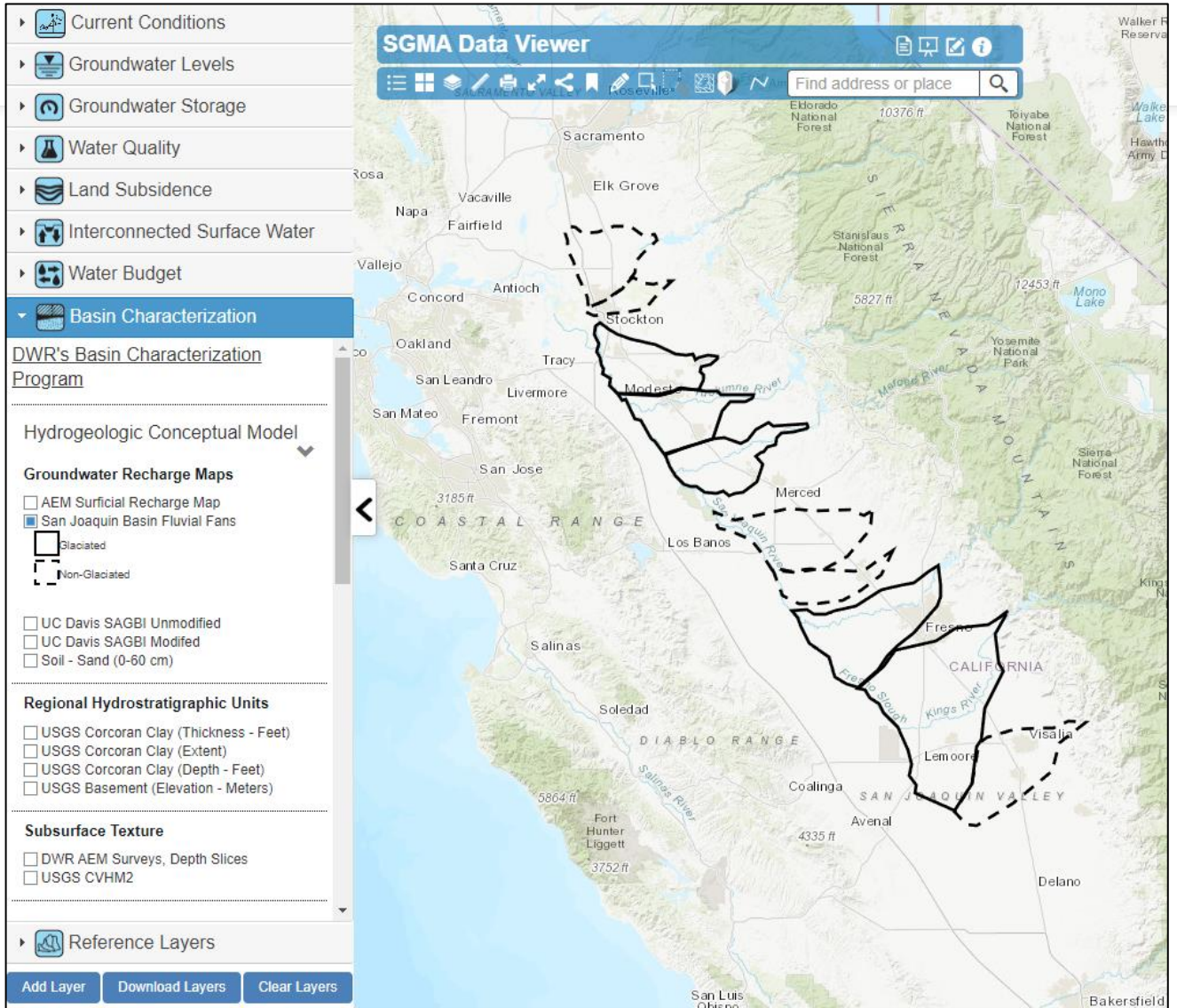
- AEM Surficial Recharge Map



SGMA Data Viewer Updates

New maps and data

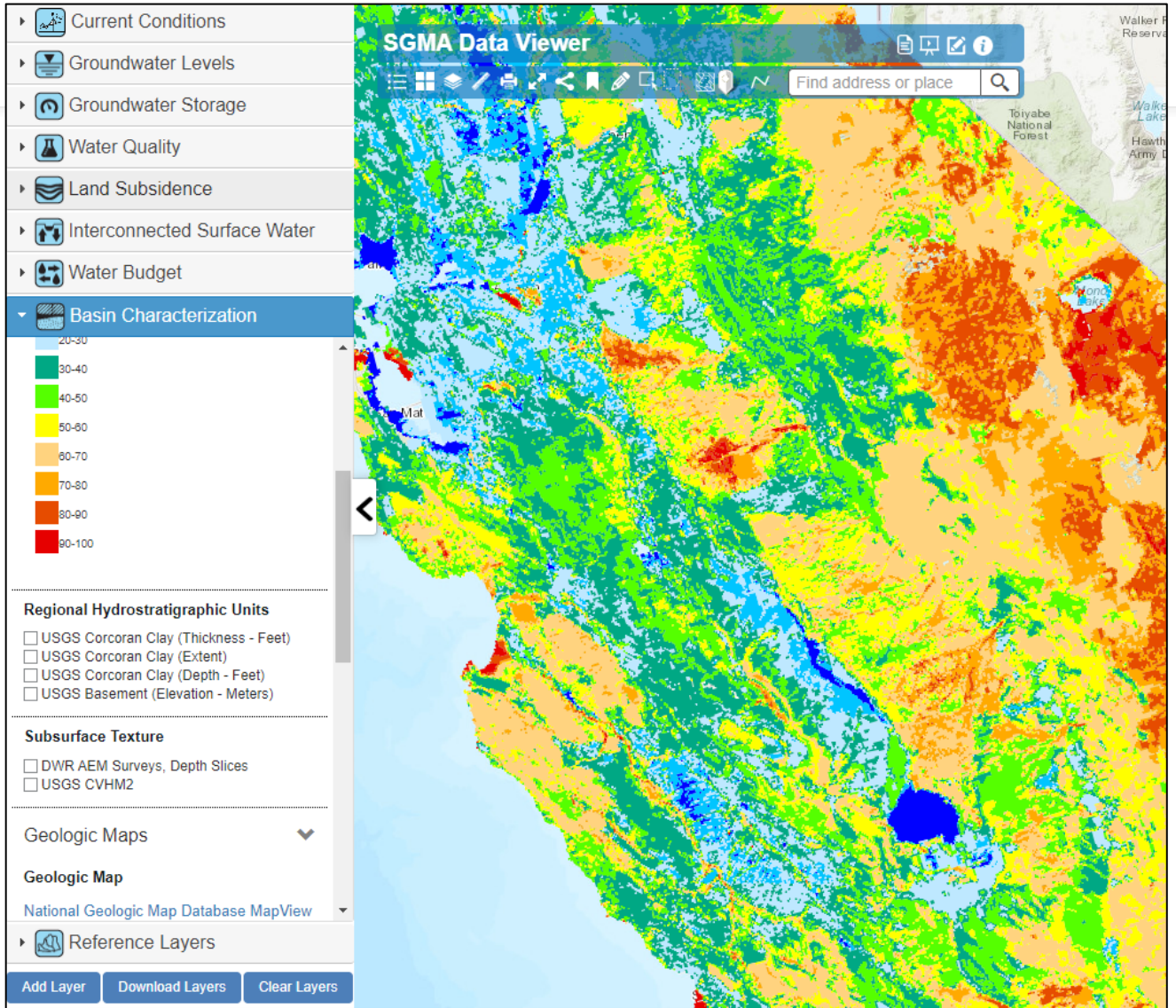
- Locations of San Joaquin Basin Fluvial Fans



SGMA Data Viewer Updates

New maps and data

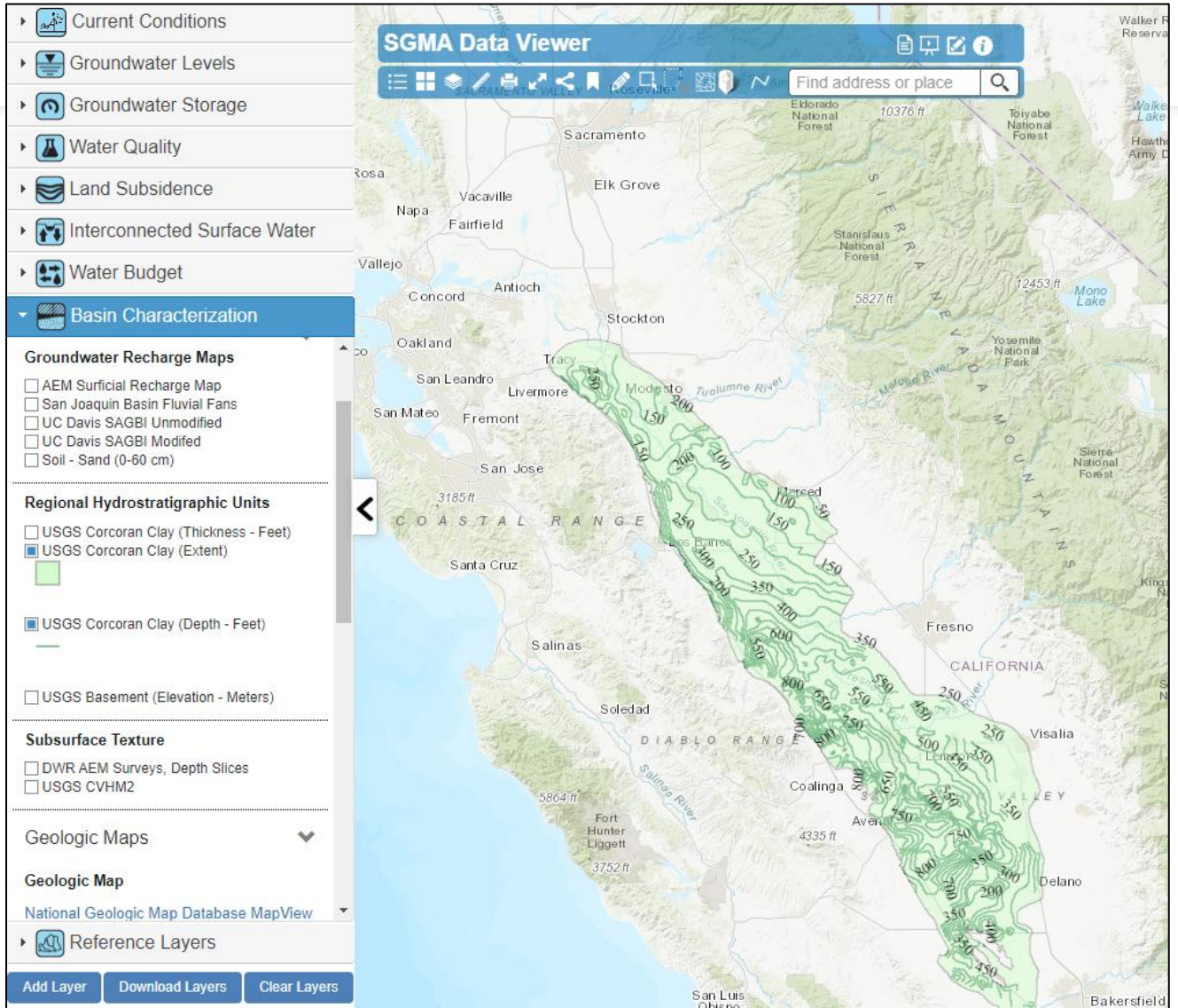
- Soil-Sand Texture (0-60 cm) map



SGMA Data Viewer Updates

New maps and data

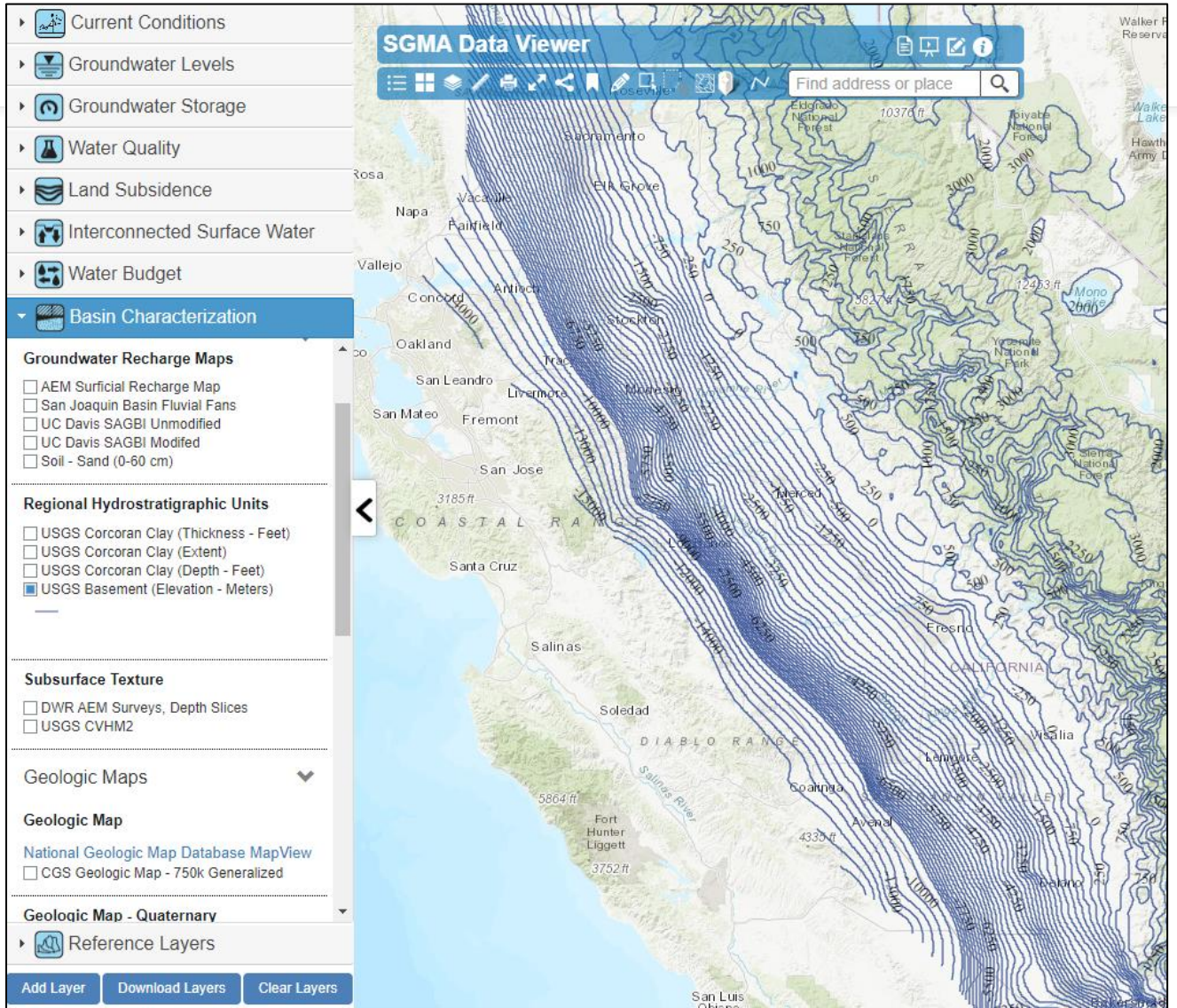
- USGS Corcoran Clay (thickness, depth, extent)



SGMA Data Viewer Updates

New maps and data

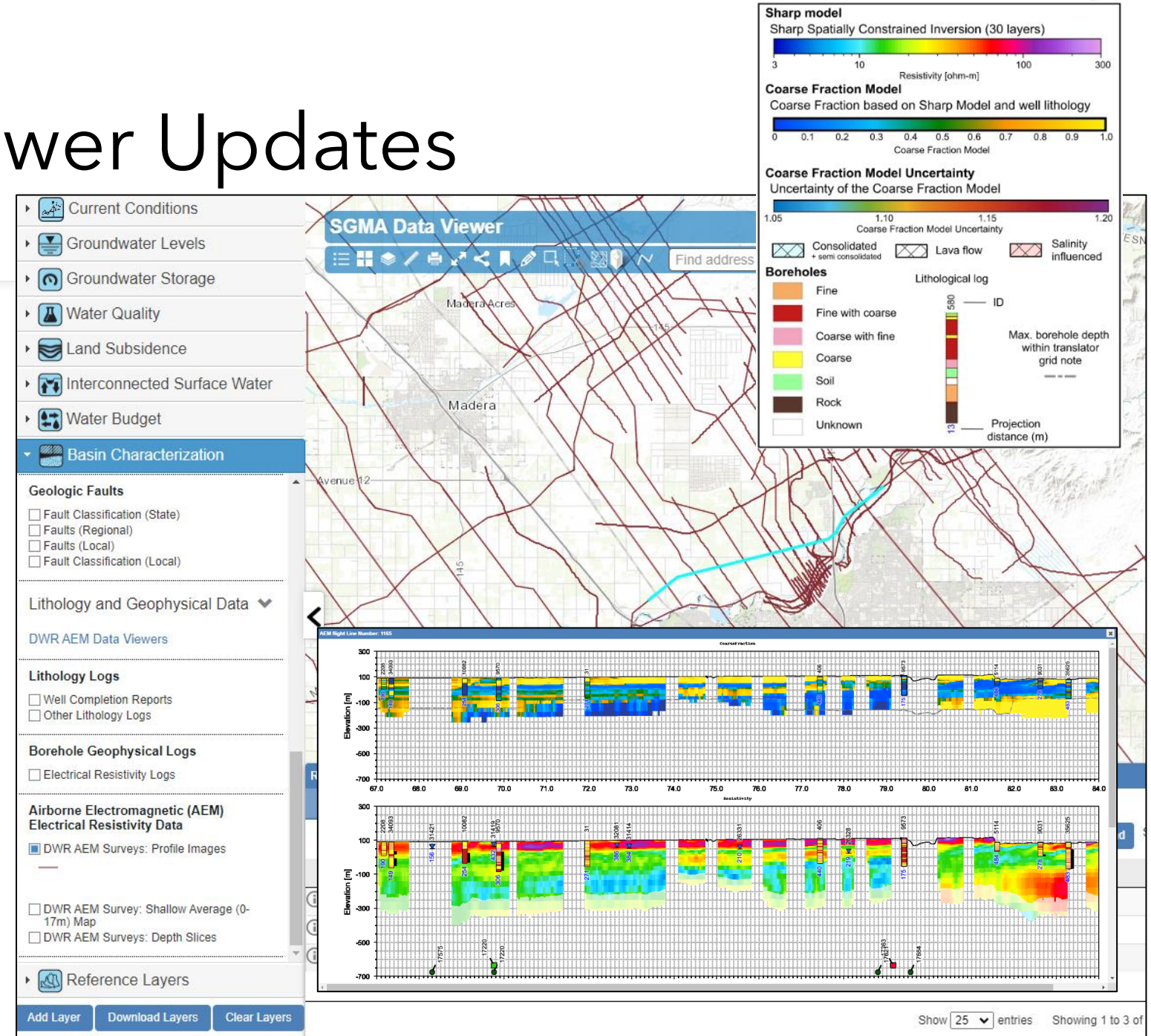
- USGS Basement (elevation) map



SGMA Data Viewer Updates

Updates to DWR AEM Surveys

- Profile Images map allows users to view the AEM electrical resistivity and interpretation profiles (x-sections) within popups.



CALIFORNIA DEPARTMENT OF WATER RESOURCES
SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

2D/3D Basin Characterization Viewer

- SGMA Data Viewer Modernization
  - 2D/3D, Animations, Lasers
  - CalGW Live Integration
  - Basin Reports Data
  - Outreach
    - Requirements gathering

Thank you

Ben Brezing

benjamin.brezing@water.ca.gov

https://water.ca.gov/Programs/Groundwater-Management/Data-and-Tools