



# CONDUCT AIRBORNE ELECTROMAGNETIC SURVEYS

*Airborne Electromagnetic (AEM) surveys will be conducted in California's groundwater basins, including areas with disadvantaged communities (DACs). AEM will be led by DWR with input from local subject matter experts. The project will generate a coarse-grid subsurface map that will provide informative aquifer data to GSAs and could be the basis for denser flight paths in the future by local stakeholders. The collected data can help map an aquifer and identify where possible recharge could occur.*

## What is Proposition 68?

The California Drought, Water, Parks, Climate, Coastal Protection and Outdoor for all Fund (Senate Bill 5, Proposition 68) authorized \$4 billion in general obligation bonds for state and local parks, environmental protection and restoration projects, water infrastructure projects, and flood protection projects. The AEM survey will utilize \$12 million on data, tools, and analysis efforts for drought and groundwater investments to achieve regional sustainability in support of the Sustainable Groundwater Management Act (SGMA).

## How Does This Project Support SGMA?

This project will provide groundwater sustainability agencies, related stakeholders, and the public with basin-specific geophysical data, tools, and analysis aligned to the technical requirements of the groundwater sustainability plan (GSP) regulations and SGMA. The resulting information will provide standardized, statewide data and reporting and will have many uses in support of SGMA, including recharge area identification and development of a hydrogeologic conceptual model.

This project builds on the knowledge and successful track record of DWR's Regional and Statewide Integrated Water Management technical assistance programs and aligns with the Governor's Water Resilience Portfolio (Executive Order N-10-19) and the Open and Transparent Data Act (AB 1755).

## What is the Value of this Information?

AEM data collection will provide supporting, foundational information on subsurface hydrogeologic characteristics of aquifer systems in groundwater basins. It will establish a framework to aid in reducing uncertainty, provide supporting information for models, and improve the potential for successful development and implementation of GSPs and groundwater recharge projects. AEM is a multi-benefit project and has been successfully implemented at local and regional scales in basins in California through a recent pilot project. The AEM surveys will benefit DACs, as well, by providing data to enhance understanding and management of their basins.

## What is New in 2019?

DWR has begun strategic planning and contract development for the project. Solicitation of qualified bidders is planned for late 2019.

## What are the Next Steps?

In early 2020, DWR plans to award a \$12-million contract to a qualified consulting firm to assist DWR with planning, collecting, and reporting aquifer data for the AEM surveys project.

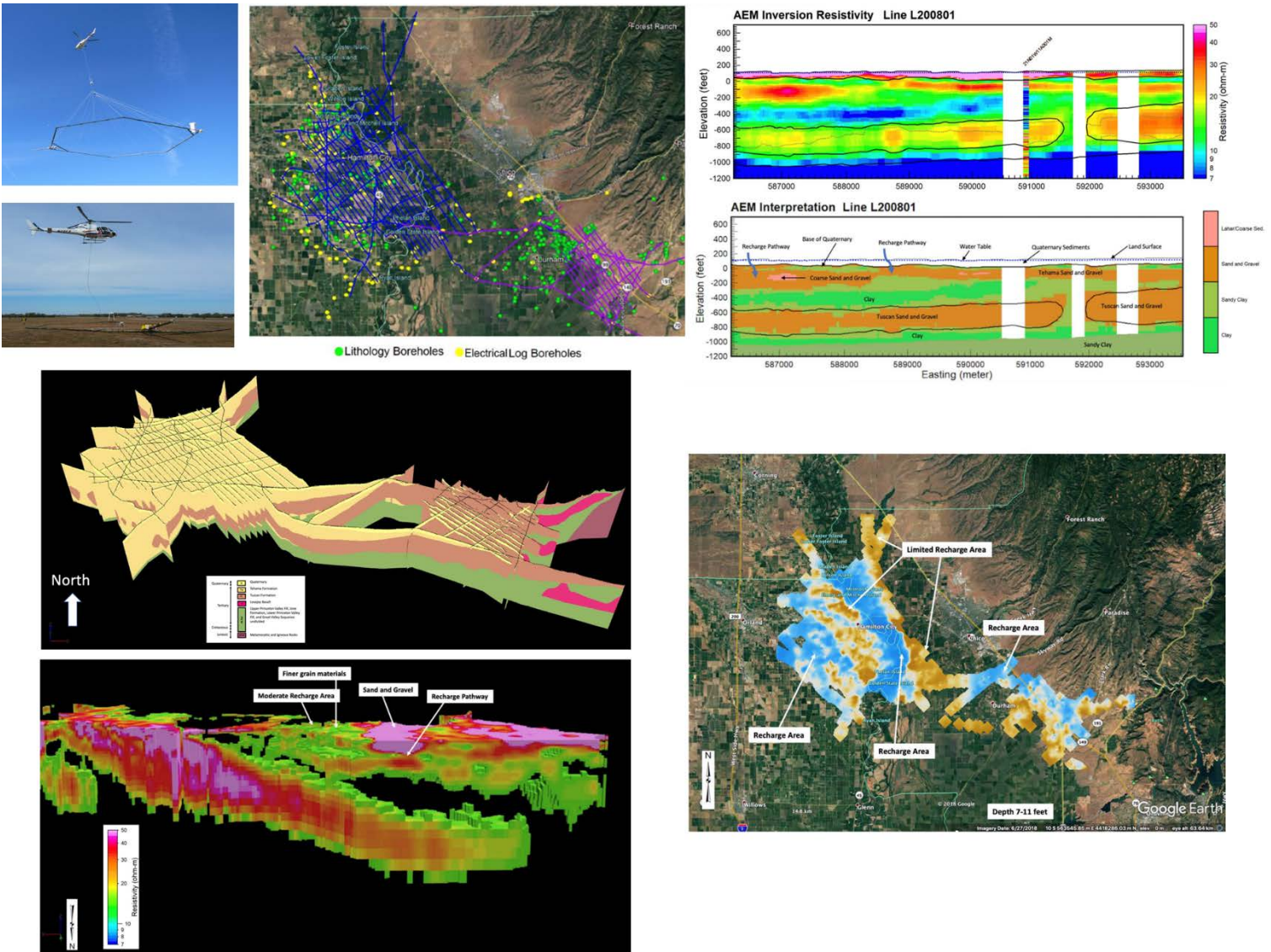
An advisory committee will be formed to provide input and recommendations on project activities, such as data availability in groundwater basins and flight path design.

DWR will coordinate with local government in the flight area to inform the local community about AEM and why the flights are being conducted.

# How is an AEM Survey Conducted?

AEM surveying uses geophysical instruments that are secured on a large hoop frame. A helicopter carries this measuring device and flies in a strategic pattern approximately 100 feet above the ground. The instruments hanging from the helicopter create a weak electromagnetic field that interacts with the ground and sends data back to receivers on the hoop. AEM survey essentially takes an MRI-like scan of the ground to help us better understand the aquifer and the structure of sand and clay materials underground. Below, is an example of the helicopter and geophysical instrument (hoop) used to collect AEM data to be used to characterize the subsurface hydrogeology.

## Airborne Electromagnetic Survey and Resulting Data



### Contact and Additional Information

For more information or questions, contact  
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### DWR SGMA Data and Tools Webpage

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