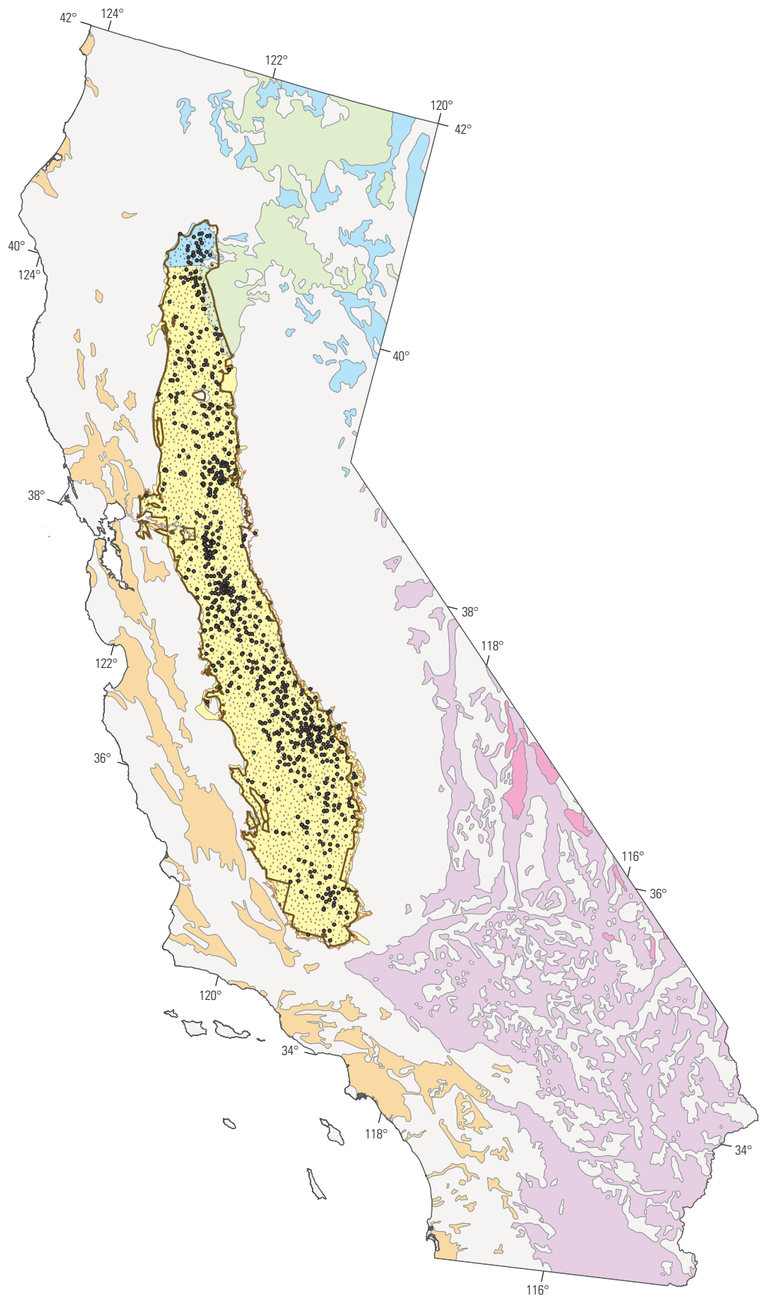
U.S. Department of the Interior
U.S. Geological Survey

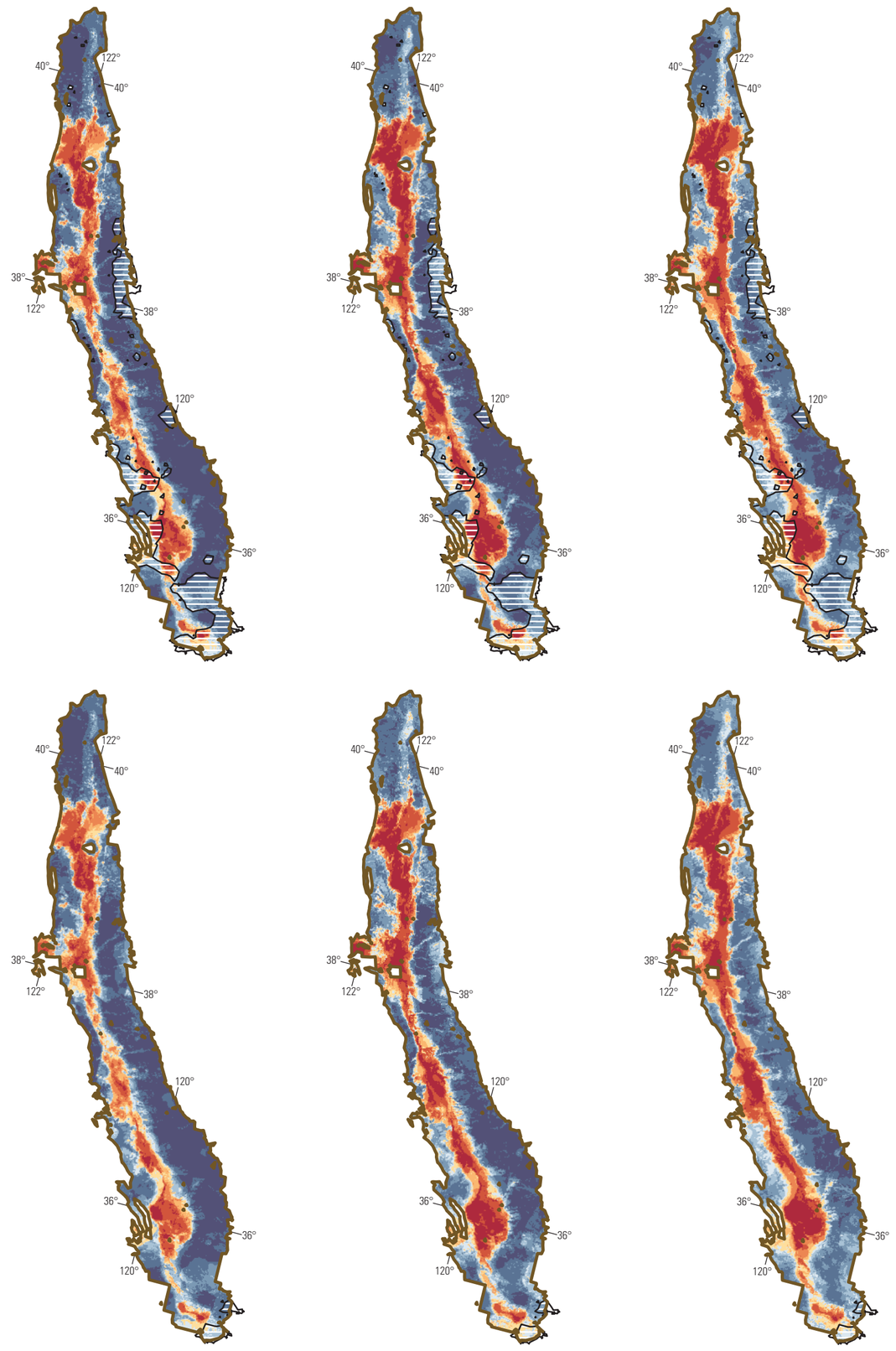
Scientific Investigations Map 3397
Plate 1



CALIFORNIA PRINCIPAL AQUIFERS

DOMESTIC-SUPPLY DEPTH ZONE[1]
(100 feet below land surface)

PUBLIC-SUPPLY DEPTH ZONE[1]
(325 feet below land surface)



Dissolved oxygen event:
<0.5 milligram per liter

Dissolved oxygen event:
<1.0 milligram per liter

Dissolved oxygen event:
<2.0 milligrams per liter

Base modified from U.S. Geological Survey Principal Aquifers of the 48 Conterminous United States, Hawaii, Puerto Rico, and the U.S. Virgin Islands (https://water.usgs.gov/GIS/metadata/usgswrd/XML/aquifers_us.xml), Groundwater Availability of the Central Valley Aquifer, California (https://pubs.usgs.gov/pp/1766/), and other Federal digital data, various scales; Albers Equal-Area Conic projection, standard parallels are 29°30' N. and 45°30' N.; North American Datum of 1983

SCALE 1:4,100,000
50 0 50 MILES
50 0 50 KILOMETERS
N

Base modified from U.S. Geological Survey digital data, various scales; Albers Equal-Area Conic projection, standard parallels are 29°30' N. and 45°30' N.; North American Datum of 1983

SCALE 1:2,400,000
50 25 0 25 50 MILES
50 25 0 25 50 KILOMETERS
N

EXPLANATION

Principal aquifer units

- Basin and Range basin-fill
- Basin and Range carbonate-rock
- California Coastal Basin
- Central Valley aquifer system
- Other rocks
- Pacific Northwest basaltic-rock
- Pacific Northwest basin-fill
- Study area boundary
- Prediction model boundary
- Boosted regression tree (BRT) training wells (n=932)[2]

EXPLANATION

Predicted probability of event

- 0.0 to 0.1
- >0.1 to 0.2
- >0.2 to 0.3
- >0.3 to 0.4
- >0.4 to 0.5
- >0.5 to 0.6
- >0.6 to 0.7
- >0.7 to 0.8
- >0.8 to 0.9
- >0.9 to 1.0
- Water table below prediction depth ([3]spring 2000)
- Prediction model boundary

[1]Domestic and public supply depth zones represent median well depths of the training dataset applied to the boosted regression tree (BRT) model that were stratified into shallow and deep drinking water supply depths, respectively, based on previous work. See data release link for summary of details and citation.

[2]BRT models were trained on wells with depth data and required water-quality data for the 1993–2014 model period.

[3]Data from Faunt, C.C., ed., 2009, Groundwater availability in the Central Valley aquifer, California: U.S. Geological Survey Professional Paper 1766, 225 p.

Spatial Distribution of Predicted Probabilities for Selected Dissolved Oxygen Threshold Events

Maps Showing Predicted Probabilities for Selected Dissolved Oxygen and Dissolved Manganese Threshold Events in Depth Zones Used by the Domestic and Public Drinking Water Supply Wells, Central Valley, California

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This map was printed on an electronic plotter directly from digital files. Dimensional calibration may vary between electronic plotters and between X and Y directions on the same plotter, and paper may change size due to atmospheric conditions; therefore, scale and proportions may not be true on plots of this map.

Digital files available at https://doi.org/10.3133/sim3397 or http://pubs.usgs.gov/sim/3397/. Data release, boosted regression tree (BRT) model method, and model fit statistics are available at https://doi.org/10.5066/F7T151S1. Information regarding methodology available at https://doi.org/10.1016/j.jhydrol.2017.01.014.

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