

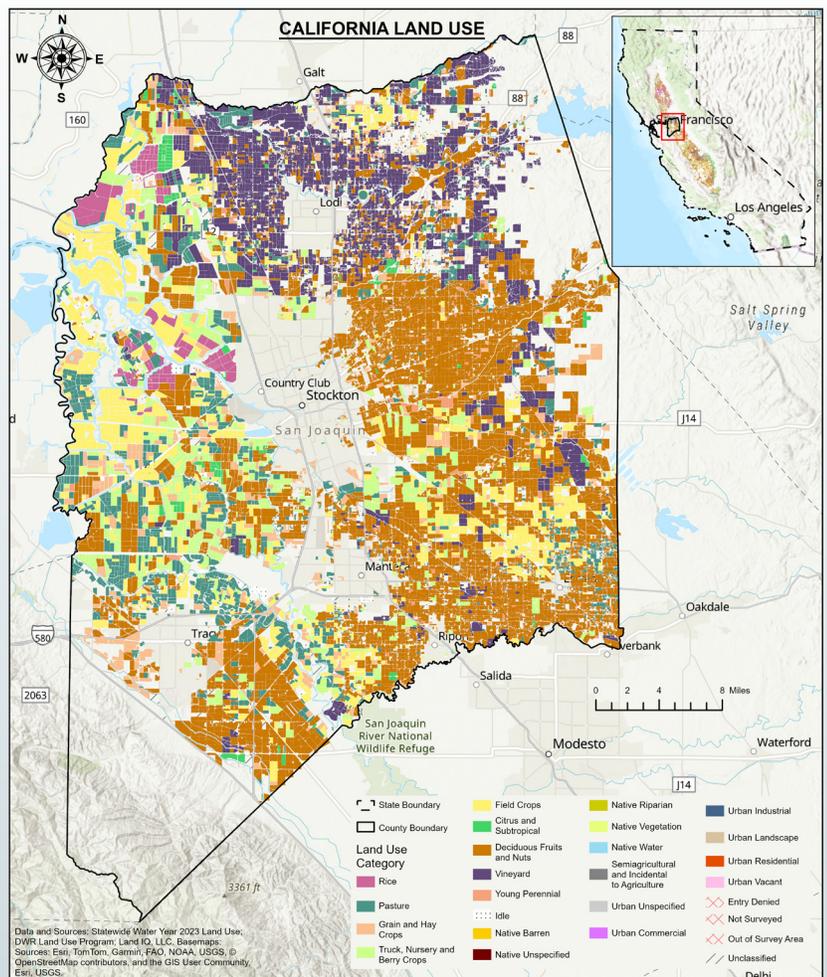


California Department of Water Resources (DWR) Land Use Program

ABOUT THE DWR LAND USE PROGRAM

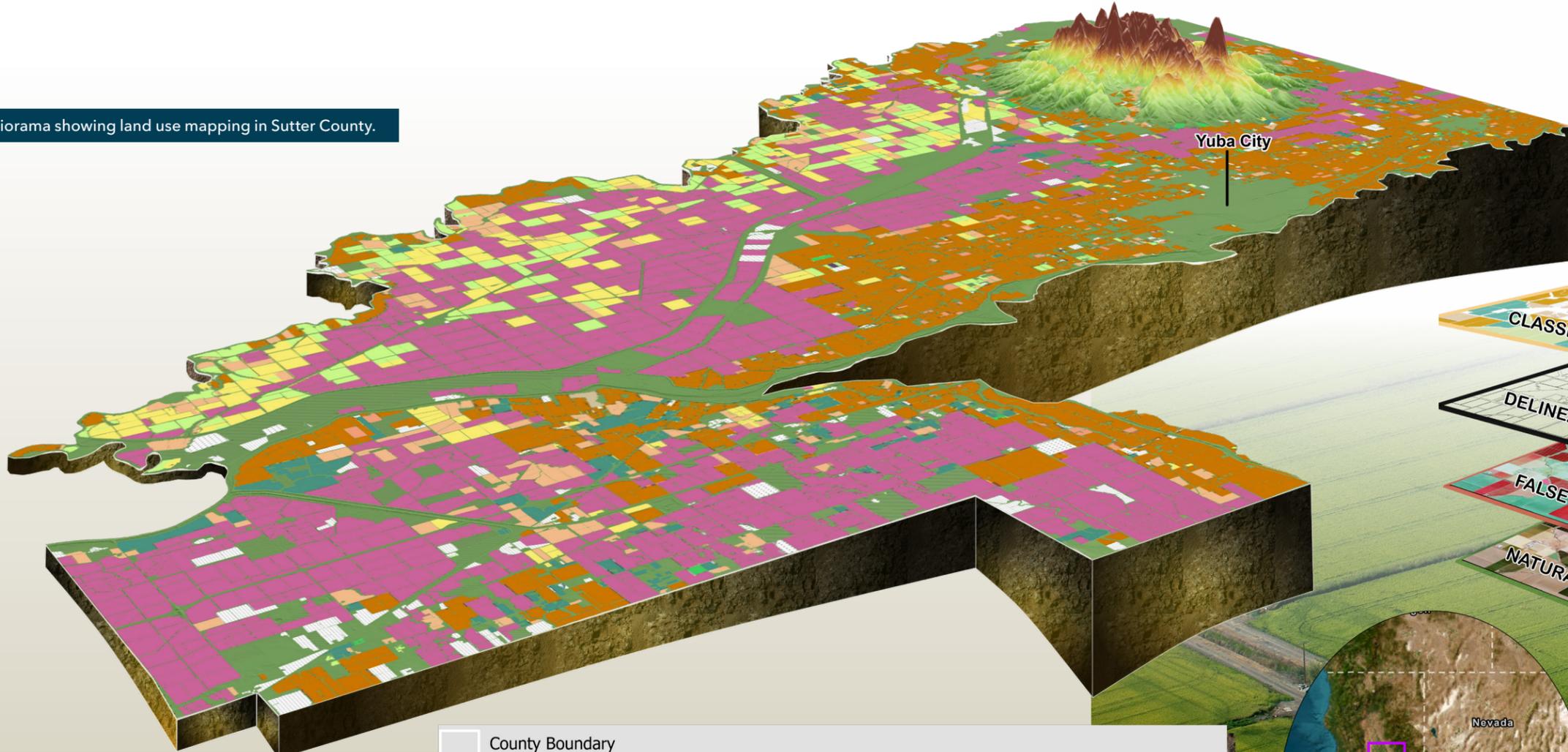
DWR's Land Use Program, part of the Division of Regional Assistance, helps California plan for its water future by mapping how land—especially irrigated agricultural land—is used across the state. By combining remote sensing tools such as satellite imagery and aerial photography with Geographic Information Systems (GIS) and field observations, the program collects information on more than 70 different irrigated crop types within 10 broad categories (classes) and fallow lands to better understand where and how water is used. This information supports updates to the California Water Plan and helps the State balance water demand among agriculture, communities, and the environment. During seasonal crop surveys, we also collect information on irrigation methods and water sources if available, and every 5 years we map non-irrigated land use classes for use by DWR modeling teams.

Since a legislative directive in 1947 for DWR to study California's water needs, our land use mapping methods have evolved from infrequent county and regional field-by-field visits to current statewide digital surveys that use a combination of modern mapping technology, on-the-ground observations, and computer modeling. In 2018, DWR began conducting annual land use surveys, providing timely and consistent irrigated crop mapping data to support effective water management in a state where agriculture accounts for about 80 percent of developed water use. Our statewide land use data is developed through collaboration between DWR headquarters, regional offices, and consultants.



Land use classification in San Joaquin County

Diorama showing land use mapping in Sutter County.



CALIFORNIA LAND USE STACK



Four-layer stack of natural color and false color satellite images, delineated field boundaries, and classified crop fields.



Data: Water Year 2023 Land Use
Sources: DWR Land Use Program; Land IQ, LLC
Layout: S. Mubako

Basemaps Sources: Vantor, Airbus DS, USGS, NGA, NASA, CGIAR, GEBCO, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen and the GIS User Community, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Earthstar Geographics

County Boundary	C Citrus and Subtropical Crops	 Elevation High Low
R Rice	D Deciduous Fruits and Nuts	
P Pasture	V Vineyard	
G Grain and Hay Crops	YP Young Perennial	
T Truck, Nursery, and Berry Crops	I Idle	
F Field Crops		



LAND USE SURVEY TYPES AVAILABLE FROM DWR

DWR provides three types of land use surveys.

- County-level surveys map crop types within individual county boundaries.
- Regional surveys span two or more counties, focusing on specific geographic areas or regions that need specialized water management such as the California Delta.
- Statewide surveys are produced annually using advanced geospatial technologies that facilitate frequent and accurate statewide coverage.

WHO USES DWR LAND USE DATA?

Our high-quality, peer-reviewed land use data is used by a wide range of groups, including DWR teams, academic researchers, non-governmental organizations (NGOs), private consultants, and the public both within and beyond California. This data plays a crucial role in supporting landmark water policies, such as the 2018 Water Conservation Legislation (AB 1668 and SB 606) and the Sustainable Groundwater Management Act (SGMA), as well as other DWR programs that rely on accurate land use information. Additionally, it informs the [California Water Plan](#)—the State’s strategic roadmap for managing and developing water resources—which is updated regularly to assess current and future water needs across all hydrologic regions of California, as required by California Water Code Sections 10004-10013.

VIEWING AND DOWNLOADING DWR LAND USE SURVEY DATA

DWR land use surveys are available for direct download from the California Natural Resources Agency (CNRA) Open Data Portal (<https://data.cnra.ca.gov/dataset/statewide-crop-mapping>) and the DWR Land Use Viewer (<https://gis.water.ca.gov/app/CADWRLandUseViewer/?page=home>).

Additional information about the DWR Land Use Program, including land use survey inventories and several interactive web applications can be accessed from the DWR Land Use Gallery (<https://storymaps.arcgis.com/collections/dd14ceff7d754e85ab9c7ec84fb8790a>).

HOW TO CONTACT US

- Email: landuse@water.ca.gov
- Land Use Program Website: <https://water.ca.gov/programs/water-use-and-efficiency/land-and-water-use/land-use-surveys>
- CIMIS, Land Use and Water Use Section Website: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Land-And-Water-Use>



Agricultural fields and waterways in the Sacramento-San Joaquin Delta.