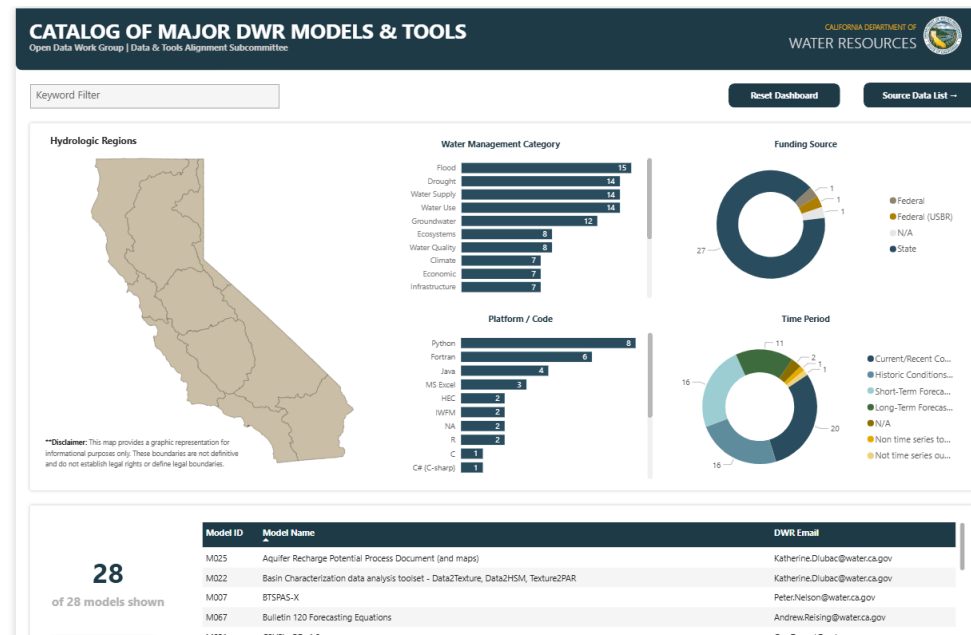


Catalog of DWR's Major Models and Analytical Tools

Data & Tools Alignment Subcommittee



RUN LIVE DEMO



▼ Enter SearchKeyword

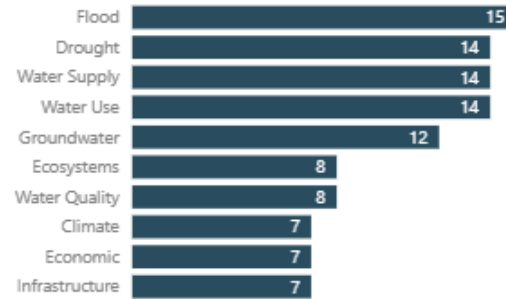
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Source Data List →

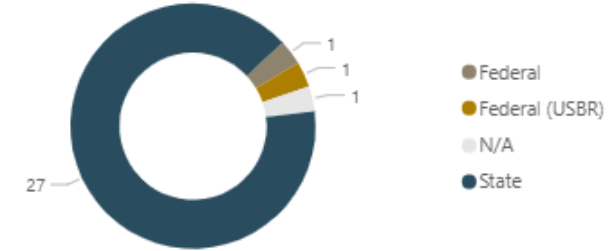
Hydrologic Regions



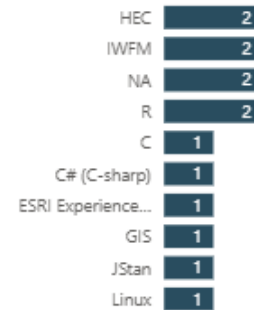
Water Management Category



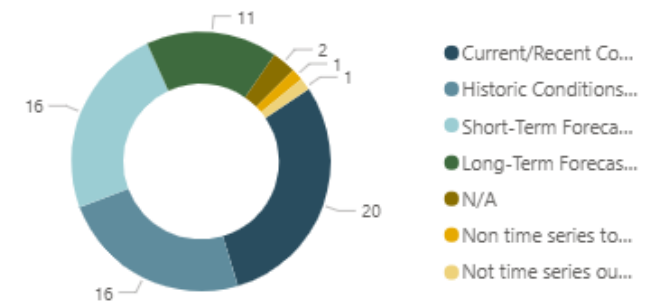
Funding Source



Platform / Code



Time Period



28

of 28 models shown

Model ID	Model Name	DWR Email
M025	Aquifer Recharge Potential Process Document (and maps)	Katherine.Dlubac@water.ca.gov
M022	Basin Characterization data analysis toolset - Data2Texture, Data2HSM, Texture2PAR	Katherine.Dlubac@water.ca.gov
M007	BTSPAS-X	Peter.Nelson@water.ca.gov
M067	Bulletin 120 Forecasting Equations	Andrew.Reising@water.ca.gov
M031	C2VSimCG v1.0	Can.Dogrul@water.ca.gov

Future Scenarios for California Water Plan Update 2028	Aquifer Recharge Potential Process Document (and maps)	CalSim III
California Urban Water Management Economic Tool (CaUWMET)	Dry Domestic Well Susceptibility Tool	Water Use and Supply Balances
BTSPAS-X	C2VSimCG v1.0	Sacramento River Basin Accretions Forecast
DWR iSNOBAL	Integrated Water Flow Model (IWFM)	C2VSimFG
Real-Time Inundation Model (RTIM)	Sacramento and San Joaquin River System HEC-RAS Hydraulic Model	Delta Emergency Response Tool (Delta ERT)
DSM2 Cross-Section Development Program (CSDP)	IWFM Demand Calculator (IDC)	DeltaCD
Delta Simulation Model 2 (DSM2)	HED-71	Bulletin 120 Forecasting Equations
Basin Characterization Toolset - Data2Texture, Data2HSM, Texture2PAR	Cal-SIMETAW	Water Shortage Vulnerability Explorer Tool
IPAST (Information Processing and Synthesis Tool)	HEC- Real-time Simulation (RTS) model to estimate 10-day inflow at Lake Oroville	
Dayflow	HEC-ResSim Models for watersheds with reservoir in the San Joaquin and Sacramento River Systems	

M001

Future Scenarios for California Water Plan Update 2028

Primary Contact

Paul Shipman
Paul.Shipman@water.ca.gov

The Future Scenarios WEAP model is an integrated model designed to assess changes in likely water supply conditions between current conditions and likely future conditions primarily driven by changes in population and climate. The 2028 update uses USGS HUC8s as the basic unit of analysis. Results are available as absolute values, but are typically presented as comparative results, comparing the future state against the baseline conditions.

Developers

Stockholm Environmental Institute (SEI)

DWR Program

California Water Plan

Additional Contact Email

None provided

Model App Weblink

Link not provided.

Funding Source(s)

State

Hosting Location(s)

Desktop
Shared Drive

Visualization/Interactive Tool Weblink

<https://data.cnra.ca.gov/dataset/weap-fut...>

DWR Division/Office(s)

Division of Planning

Compatability

WEAP integrates with a variety of models including MOD-Flow for groundwater and LEAP for energy production.

Model Platform/Code

WEAP

Analysis Information

Time Period of Output Data	Hydrologic Region(s) Covered	Water Related Areas
Current/Recent Conditions (within the past 5 years)	Sacramento River HR	Drought
Historic Conditions (>5 years ago)	San Francisco Bay HR	Ecosystems
Long-Term Forecast (10+years into the future)	San Joaquin River HR	Flood
	South Coast HR	Groundwater
	Tulare Lake Basin HR	Water Supply
		Water Use
Reporting Years of Output Data		
2020 and 2070, but these change each water plan cycle		
Model Timestep	Specific Area(s) Covered	Projects or Activities Informed
Monthly	USGS HUC-8	Planning

Inputs List

Input Dataset Item	Description	Edit Link
M001 Air Temperature	Historical and 1000 year future dataset from Weather Generator	Edit Item in SharePoint
M001 Aquifer parameters	Calibrated parameters informed by values from C2VSim	Edit Item in SharePoint
M001 Delta operations	Based on Coordinated operations agreement and delta BiOps	Edit Item in SharePoint
M001 Digital Elevation model	unknown	Edit Item in SharePoint
M001 Groundwater Basin deliniation	Bulletin 118 groundwater basins	Edit Item in SharePoint

Outputs List

Output Dataset Title	Description	Edit Link
M001 agricultural demand met	Percent of agricultural demand met by available supply within a USGS Huc8	Edit Item in SharePoint
M001 Average duration of droughts	Average duration of drought like conditions	Edit Item in SharePoint
M001 End of water year reservoir storage	End of september reservoir storage for each of the surface water reservoir in the model area	Edit Item in SharePoint
M001 Frequency of drought conditions	Average number of years between drought like conditons	Edit Item in SharePoint
M001 Groundwater levels	Average groundwater levels for the relevent groundwater basin	Edit Item in SharePoint

Additional Information

Broad Water Management Question Answered

Assess future water vulnerabilities under changing climate, population growth and land use in the Central Valley, San Francisco Bay HR, and South Coast HR.

Specific Water Management Question Informed

Quantify the range and probability of impacts on agricultural water use, urban water use, carry-over reservoir storage,

Use of AI

Sea level rise is governed by an ANN developed by the MSO for CalSIM

Additional Water Management Question Informed

Identify critically water-stressed areas for more detailed evaluation.
Help assess economic impacts associated with sectoral water vulnerabilities.
Assess effectiveness of adaptation actions in

Additional Dataset Information

R&D Studies

R&D External Partners

Sharepoint List Item

[Edit Item in SharePoint](#)

*Allow 24 hrs. for edits to update in this report

Catalog of Major DWR Models & Tools

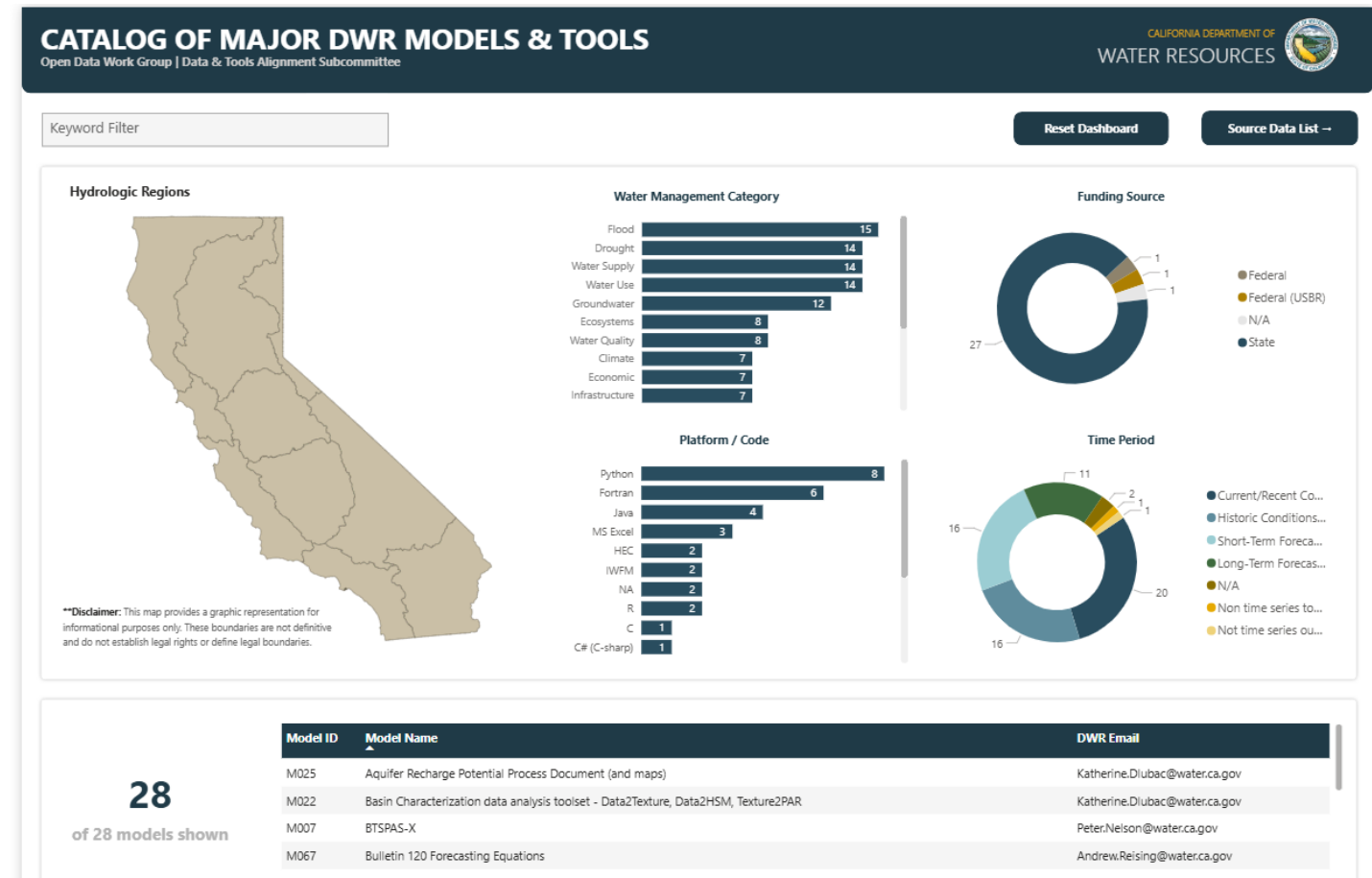
Interactive Dashboard

Search by:

- Hydrologic regions
- Water management
- Model platform/code
- Funding source
- Model time period



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CATALOG OF MAJOR DWR MODELS & TOOLS

Open Data Work Group | Data & Tools Alignment Subcommittee

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Enter SearchKeyword

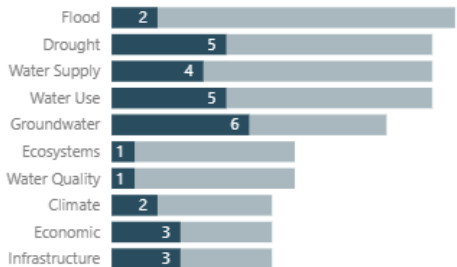
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Source Data List →

Hydrologic Regions



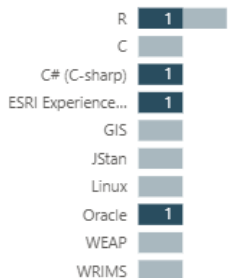
Water Management Category



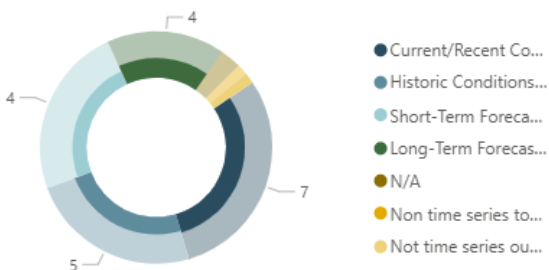
Funding Source



Platform / Code



Time Period



8

of 28 models shown

See Model Details

Model ID	Model Name	DWR Email
M022	Basin Characterization data analysis toolset - Data2Texture, Data2HSM, Texture2PAR	Katherine.Dlubac@water.ca.gov
M004	California Urban Water Management Economic Tool (CaUWMET)	Daya.Muralidharan@water.ca.gov
M079	Cal-SIMETAW	Morteza.Orang@water.ca.gov
M028	Dry Domestic Well Susceptibility Tool	Jules.Spector@water.ca.gov
M034	Integrated Water Flow Model (IWFM)	Can.Dogrul@water.ca.gov
M040	IWFM Demand Calculator (IDC)	Can.Dogrul@water.ca.gov
M070	Water Shortage Vulnerability Explorer Tool	Julia.Ekstrom@water.ca.gov
M052	Water Use and Supply Balances	Jennifer.Stricklin@water.ca.gov

CATALOG OF MAJOR DWR MODELS & TOOLS

Open Data Work Group | Data & Tools Alignment Subcommittee



▼ Enter SearchKeyword

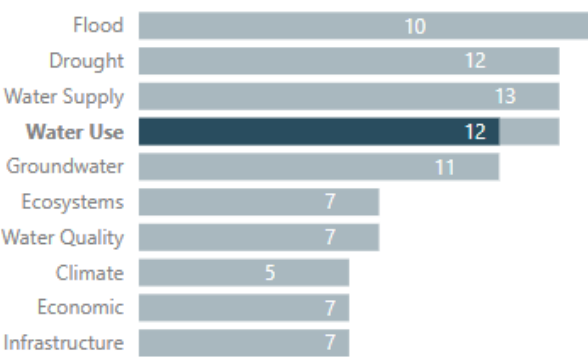
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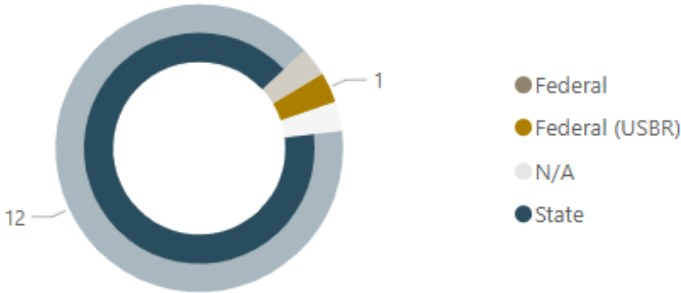
Hydrologic Regions



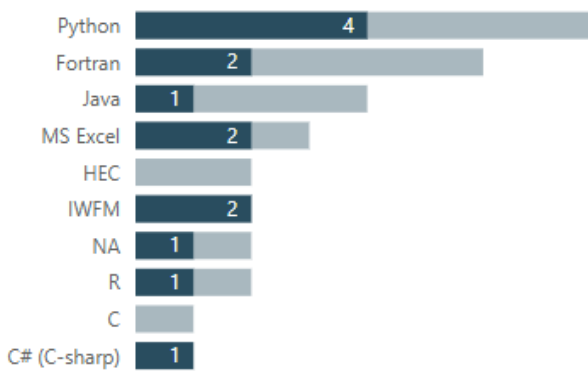
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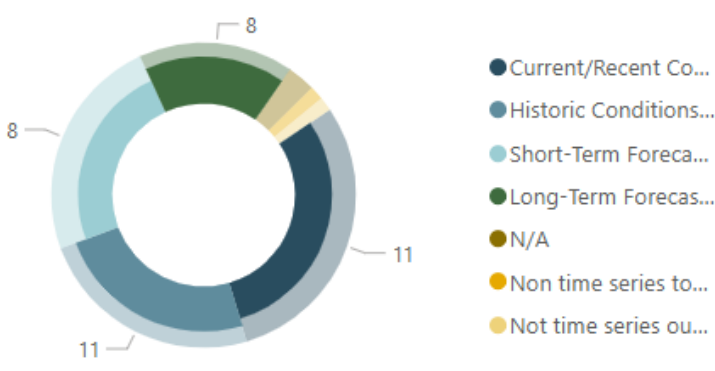
Funding Source



Platform / Code



Time Period



[Back to report](#)

Model ID	Model Name	DWR Email
M067	Bulletin 120 Forecasting Equations	Andrew.Reising@water.ca.gov
M031	C2VSimCG v1.0	Can.Dogrul@water.ca.gov
M082	C2VSimFG	Craig.Altare@water.ca.gov
M004	California Urban Water Management Economic Tool (CaUWMET)	Daya.Muralidharan@water.ca.gov
M049	CalSim III	Nazrul.Islam@water.ca.gov
M079	Cal-SIMETAW	Morteza.Orang@water.ca.gov
M064	DeltaCD	Kijin.Nam@water.ca.gov
M001	Future Scenarios for California Water Plan Update 2028	Paul.Shipman@water.ca.gov
M058	HEC-ResSim Models for watersheds with reservoir in the San Joaquin and Sacramento River Systems	Cale.Nasca@water.ca.gov
M034	Integrated Water Flow Model (IWFM)	Can.Dogrul@water.ca.gov
M040	IWFM Demand Calculator (IDC)	Can.Dogrul@water.ca.gov
M052	Water Use and Supply Balances	Jennifer.Stricklin@water.ca.gov

Data and Tools Expo



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Catalog of DWR's Major Models & Analytical Tools

Connecting Data, Tools, and People to Decisions

Catalog intended to improve:

- Shared awareness and understanding
- Identification and alignment of key DWR processes and functions that utilize data and tools
- Upfront collaboration and coordination during scoping activities for new data and tools development.



Catalog of DWR's Major Models & Analytical Tools

Connecting Data, Tools, and People to Decisions

Process to develop the Catalog:

- Convene a Catalog of Data & Tools Workgroup
- Review existing model and tool cataloging efforts
- Develop a survey
- Build an interactive Catalog using Power BI



Thank You!

Questions



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