



Open Data – Putting Water Data to Work

Session 18

California Water and Environment Modeling Forum 2023 Annual Meeting

April 18, 2023

Presentations

AB 1755 Partner Agency Team – Implementation Accomplishments and Activities

Maresh Gautam, Senior Engineer, Department of Water Resources

California Water Data Consortium – Composition, Role, and Initiatives

Tara Moran, President and CEO, California Water Data Consortium

Internet of Water Coalition – Open Water Data Initiatives throughout the United States

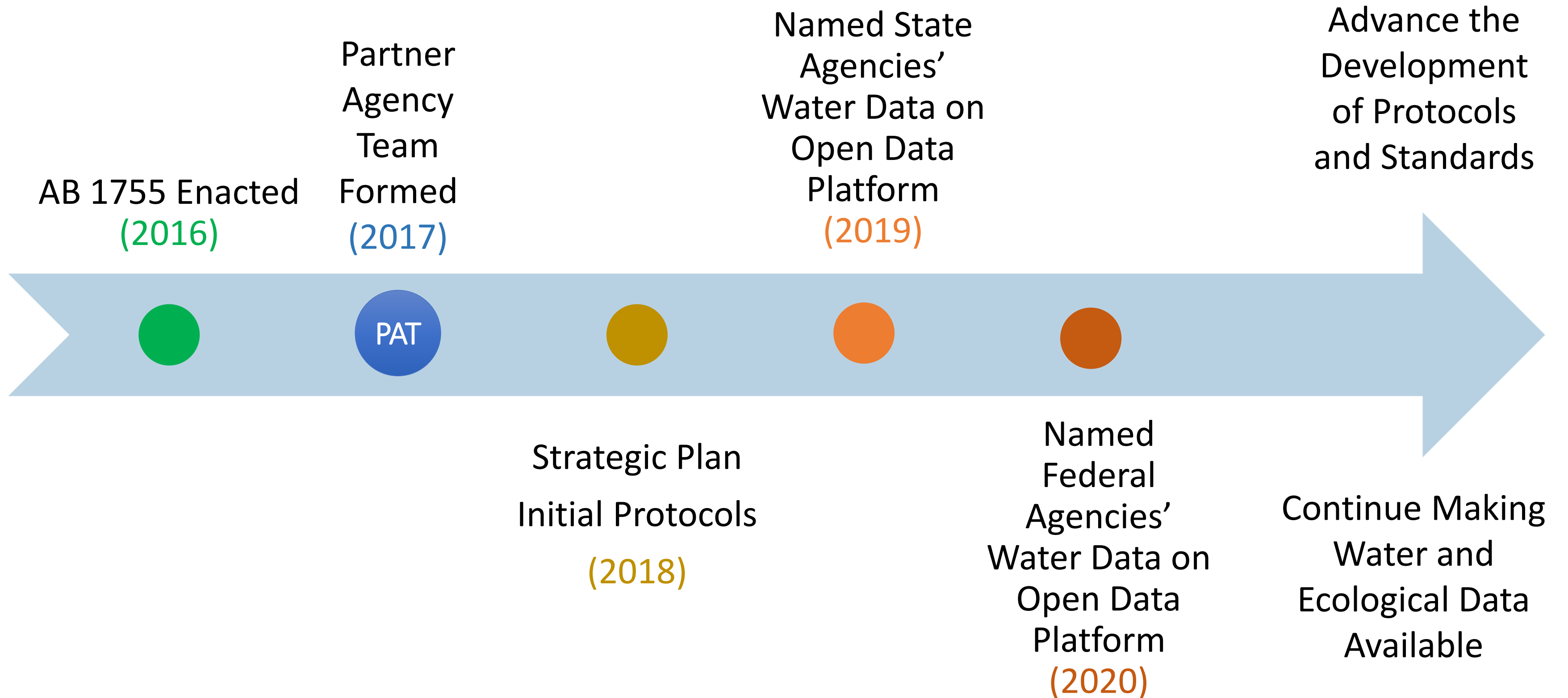
Peter Colohan, Director, Internet of Water, Center for Geospatial Solutions

AB 1755 Legislation in a Nutshell



- Enacted September 2016, in recognition of the need for an authoritative, open-access data platform
- Requires publication of State-held water and ecological data on statewide platform
- First of its kind in the nation

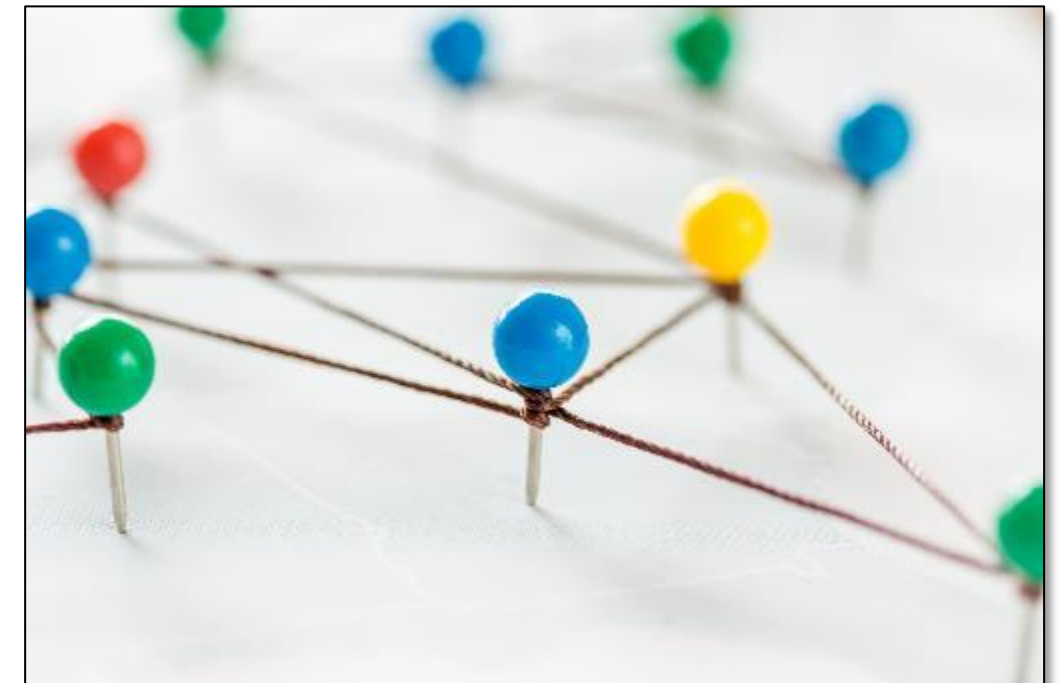
AB 1755 Timeline

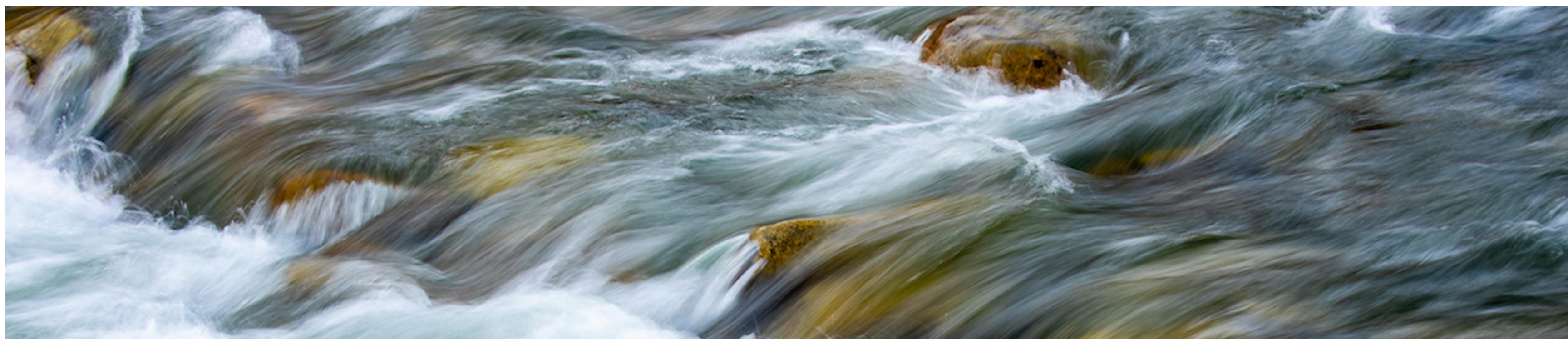


Partner Agency Team

Eight State agencies convene regularly to discuss and guide AB 1755 implementation and advancement

- Department of Water Resources
 - State Water Resources Control Board
 - California Department of Fish and Wildlife
 - California Water Quality Monitoring Council
- plus*
- Governor's Office of Planning and Research
 - California Natural Resources Agency
 - California Government Operations Agency
 - Delta Stewardship Council



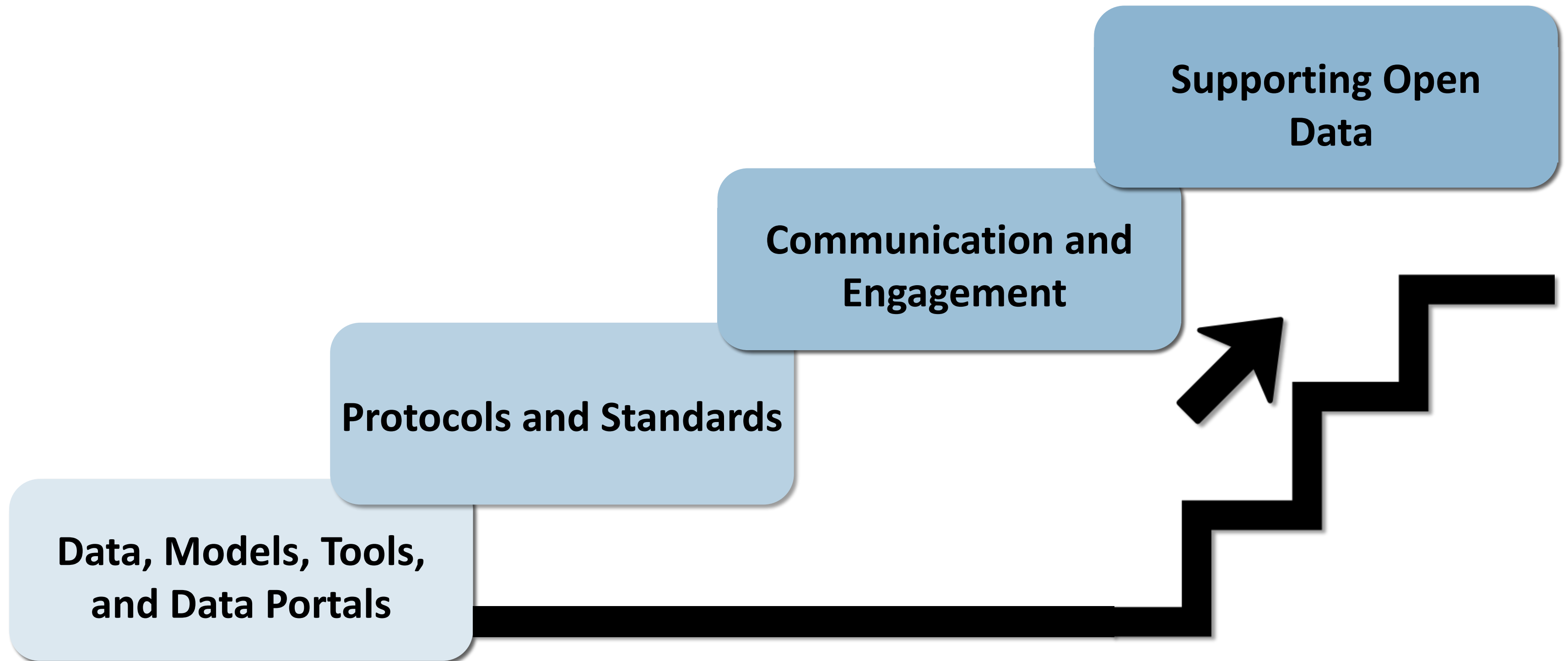


AB 1755 Implementation Activities and Accomplishments

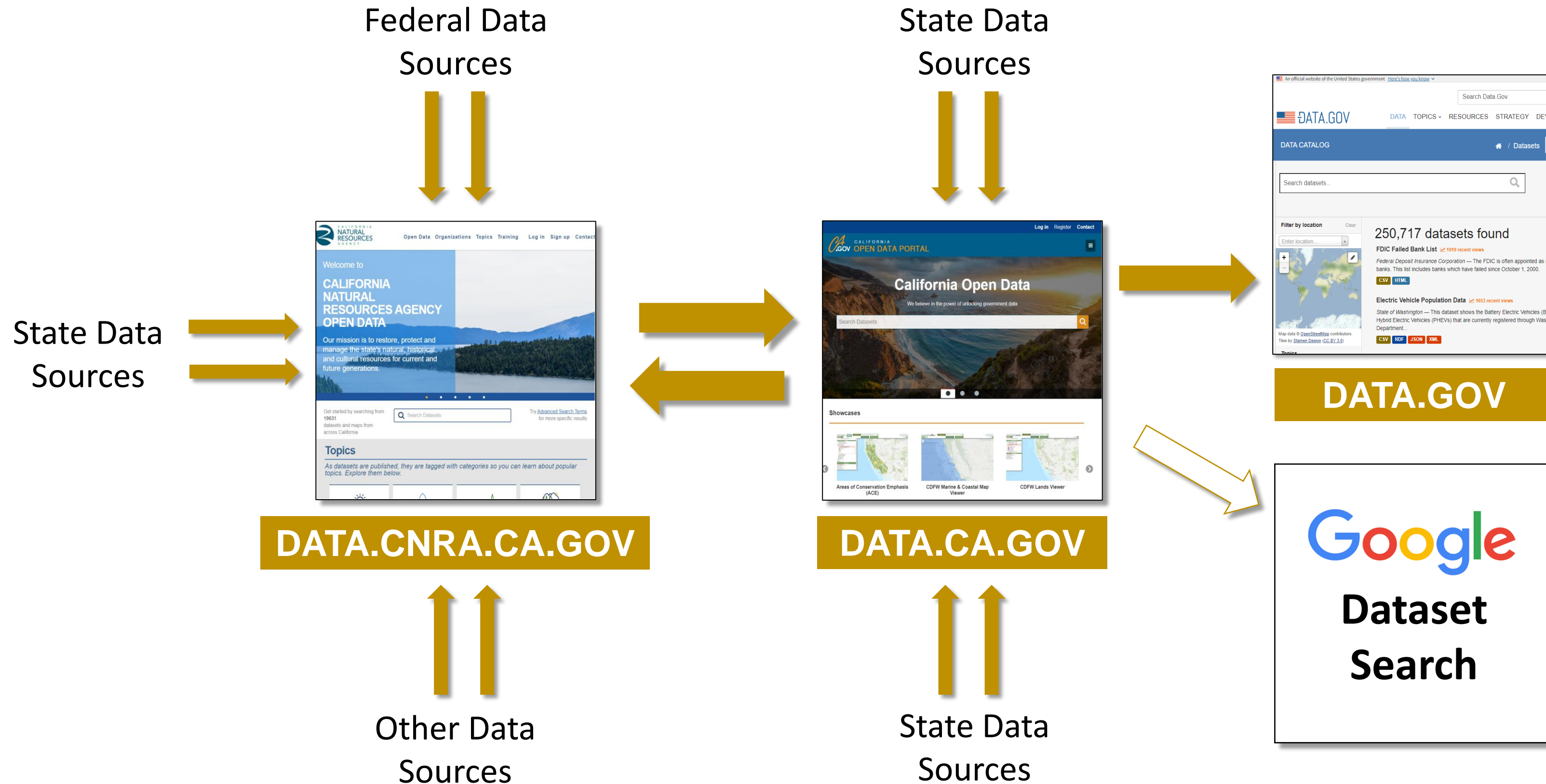
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Activities and Accomplishments



Water and Ecological Data-Sharing



California Open Data Portal and CNRA Open Data Platform

- CKAN data catalog platform
- CKAN-based metadata management
- REST APIs for easy integration

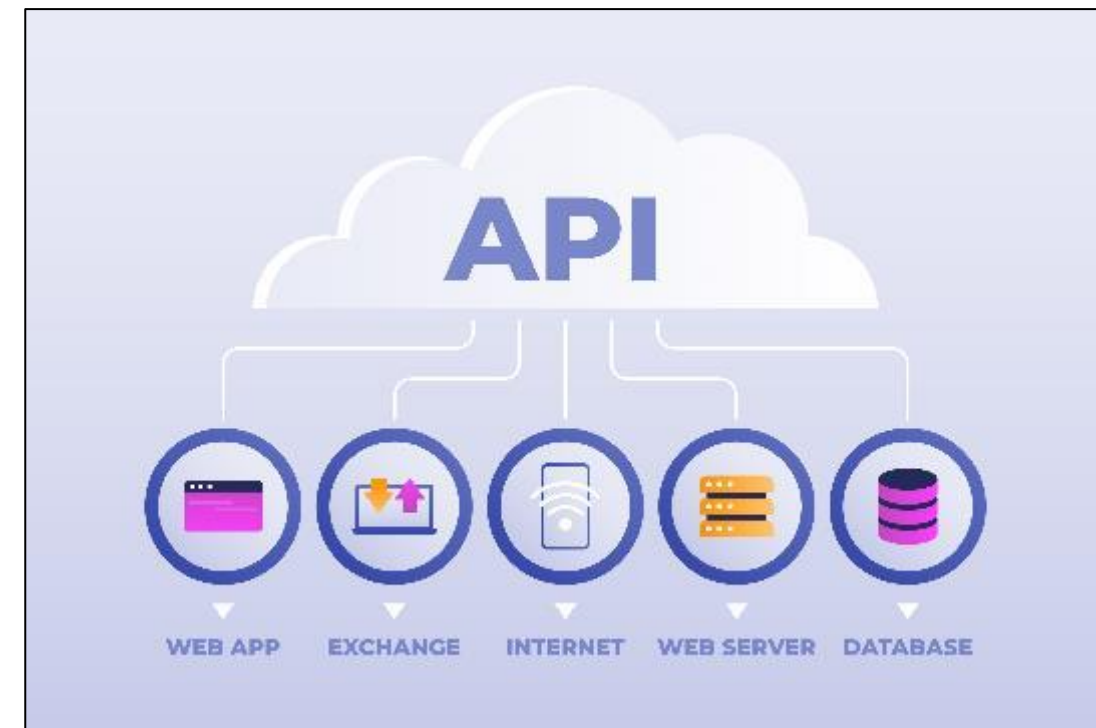


Image by : [freepic.com](https://www.freepic.com)

Example Dataset: Data and Metadata

GSP Monitoring Data

The Groundwater Sustainability Plan (GSP) Monitoring dataset contains the monitoring sites and associated groundwater level, subsidence or streamflow measurements collected by Groundwater Sustainability Agencies (GSA) during implementation of their GSP. All data is submitted to the Department of Water Resources (DWR) through the Sustainable Groundwater Management Act (SGMA) Portal's Monitoring Network Module (MNM).

The GSP Regulations established the monitoring network criteria (23 CCR § 354.34) and the data and reporting standard for monitoring sites and measurements (23 CCR § 352.4). The data fields associated with these datasets were created by DWR to ensure that GSAs electronically submit monitoring site and measurement data which meets the GSP Regulation's data and reporting standards. For additional information regarding GSAs, GSPs, and SGMA related monitoring, please view DWR's SGMA Portal Resources at <https://sgma.water.ca.gov/portal/>.































Tags

GSP Groundwater Sustain... Monitoring Network

Additional Info

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PUBLIC ACCESS LEVEL	Public
SPATIAL COVERAGE	
LAST UPDATED	April 14, 2023, 6:04 AM (UTC-07:00)
LICENSE	License not specified

Data and Resources

 Groundwater Level Sites 🔥	Groundwater Level Site Location Information	 Preview	 Download
 Groundwater Level Data 🔥	Groundwater level measurements at varying collected time steps	 Preview	 Download
 Subsidence Sites	Subsidence Site Location Information	 Preview	 Download
 Subsidence Data	Subsidence measurements at varying collected time steps	 Preview	 Download
 Stream Gage Sites	Stream Gage Site Location Information	 Preview	 Download
 Stream Gage Data	Surface water head and discharge time series measurements	 Preview	 Download
 Existing Sites	Existing Site Location Information	 Preview	 Download
 GSP Monitoring Data GIS Service 🔥	This service is under development as part of ongoing enhancements to the SGMA	 More Info	 Go to resource
 GSP Monitoring Sites (New - Under Development)		 Preview	 Download
 Sustainability Management Criteria (SMC) (New - Under Development)		 Preview	 Download

Example Dataset: API

CKAN Data API

Access resource data via a web API with powerful query support. Further information in the [main CKAN Data API and DataStore documentation](#).

Endpoints »

The Data API can be accessed via the following actions of the CKAN action API.

CREATE	<code>https://data.cnra.ca.gov/api/3/action/datastore_create</code>
UPDATE / INSERT	<code>https://data.cnra.ca.gov/api/3/action/datastore_upsert</code>
QUERY	<code>https://data.cnra.ca.gov/api/3/action/datastore_search</code>
QUERY (VIA SQL)	<code>https://data.cnra.ca.gov/api/3/action/datastore_search_sql</code>

 ODATA

`https://data.cnra.ca.gov/datastore/odata3.0/d6317634-7489-4dc9-8d05-cc939e109f4a`

Check out
these metrics!

- Dataset and resources publication
- Popular datasets/resources
- Website usage
- Top searches
- Dataset/resource access trends
- Data usage
- User trends

Website Usage Metrics

Website Visits



185,514

Total Website
Visits since
04/10/2022

Unique Visitors



85,230

Unique
Visitors since
04/10/2022

Datasets Accessed



145,259

Datasets
Accessed
since
04/10/2022

CNRA Open Data Platform: Published Datasets and Resources

Datasets ⓘ

View: Date:

19,865 Published Datasets

Resources ⓘ

View: Date:

58,073 Published Resources

Source: [CNRA](#), Accessed 4/10/2023

PAT Datasets: 1,781
DWR Datasets: 456

PAT Resources: 11,109
DWR Resources : 3,530

Most-Accessed Datasets on CNRA Open Data Platform

TOP DATASETS

The chart below highlights the top datasets that have been accessed within the last 90 days. Metrics can be displayed by organization or topic.

ORGANIZATION

(Multiple values)

TOPIC

(All)

Well Completion Reports

GSP Monitoring Data

DWR Airborne
Electromagnetic (AEM)
Surveys Data

Groundwater
Sustainability Plan Annual
Report Data

California's Groundwater
Update 2020 (Bulletin 118)

County Land Use Surveys

Groundwater Basin

Source: [CNRA](#) , Accessed 4/10/2023

DWR Models and Tools Available on CNRA Open Data Platform

**Groundwater/
surface water/
integrated
models**

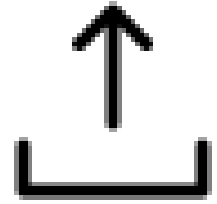
*Ex: C2VSim,
Dayflow, IWFEM,
SVSIM*

**Water demand,
use, and
planning models**

*Ex: CalLite,
CalSim, DCD,
DETAW, IDC,
WRIMS*

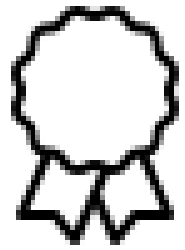
**Water quality
models**

*Ex: BDCP ANN,
DSM, ECO-PTM,
SCHISM*



Publication

- Publication of data/models/tools
- Preservation of legacy data
- Federating data from other portals
 - San Francisco Estuary Institute (SFEI)
 - California Data Exchange Center (CDEC)
- Data federation workshop



Data Standards

- Data standards and protocols
 - Identify a Data Steward
 - Publish and Document on an Open Data Platform
 - Access Data
- Data reporting formats
- *Measures for Continued Advancement of Open Water Data (under development)*



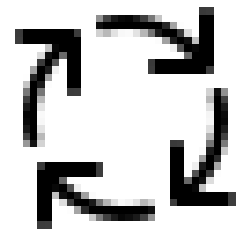
Communication and Engagement

- State participation in the California Water Data Consortium
 - Steering Committee
 - Working Groups
 - projects
 - events
- Internet of Water pilot projects
 - freshwater harmful algal blooms
 - stream gauging



Communication and Engagement

- Public meetings
- Water Data Challenge
- Water Data Science Symposia
- Brown bag sessions
- Websites and newsletters
- [AB 1755 Implementation Journal](#)
- Subscriber list



Supporting Open Data

- Executive support and buy-in
 - [Letter](#) from CNRA and CalEPA Secretaries
 - [SWRCB Open Data Resolution](#)
- Open data guidance documents
 - CDFW, SWRCB, and DWR
- Convening communities of practice
 - DWR Open Data Working Group (Data/Metadata, Training and Outreach, Data and Tools Alignment)
- Data literacy efforts – SWRCB
- Open Data curriculum – DWR

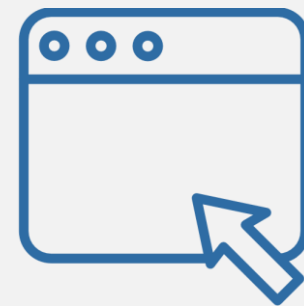
Get involved
and
contribute!

- Participate in CA Water Data Challenge and Data Conferences
- Check out Consortium events
- Join a Consortium project team
- Use State-hosted open datasets and offer feedback
- Share your ideas for demonstrating the value of data

For more
information:



water.ca.gov/ab1755



[AB 1755 Implementation Journal](#)



AB1755@water.ca.gov

Thank you!

