User Manual for CA Water Board's Tribal Water Data Map

CA Water Board's Office of Information Management and Analysis (OIMA)

2023-08-24

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Welcome!

This is an online User Manual for the California Water Board's Tribal Water Data Map (Map), written by the California State Water Resources Control Board's (State Water Board) Office of Information Management and Analysis (OIMA).

The purpose of the Map is to increase awareness of and access to the Water Board's water data resources that intersect with Tribal matters and needs. The interactive Map includes curated data layers that have been requested by tribal partners and that may be useful for California Native American Tribes (tribes) doing environmental or water related work.

The purpose of this User Manual is to provide guidance and context so it's easier for all audiences to use the Map. Content in this User Manual includes curated information that the has been requested by tribal partners and/or that the development Team thinks may be helpful to reference when using the map.

This Quarto book is an open, living, and continuously iterating resource. If you have suggestions for additions or revisions you think should be incorporated into this book, please follow the guidance provided in the Contributing chapter.

1 About OIMA

1.1 Overview

The California State Water Resources Control Board's (State Water Board) Office of Information Management and Analysis (OIMA), serves as an advocate for data management, a bridge between data collectors and users, and provides transparency of the Water Board's information management infrastructure.

> OIMA's goal is to collaborate monitoring efforts, accurately analyze data, make our data easily accessible, and create visualizations and reports that make data understandable across all audiences.

1.2 Tribal Water Data Initiatives

OIMA is committed to advancing equity, inclusion, and belonging in our work, our office, and at the Water Boards. Meaningful engagement and partnership with California Native American Tribes (tribes) is fundamental to this work.

OIMA has begun to work with Tribal partners on a series of water data initiatives -- including the Tribal Water Data Map and this User Manual -- to build relationships and work together to better understand, streamline, and improve the interactions between Water Board data systems and those of our Tribal government partners.

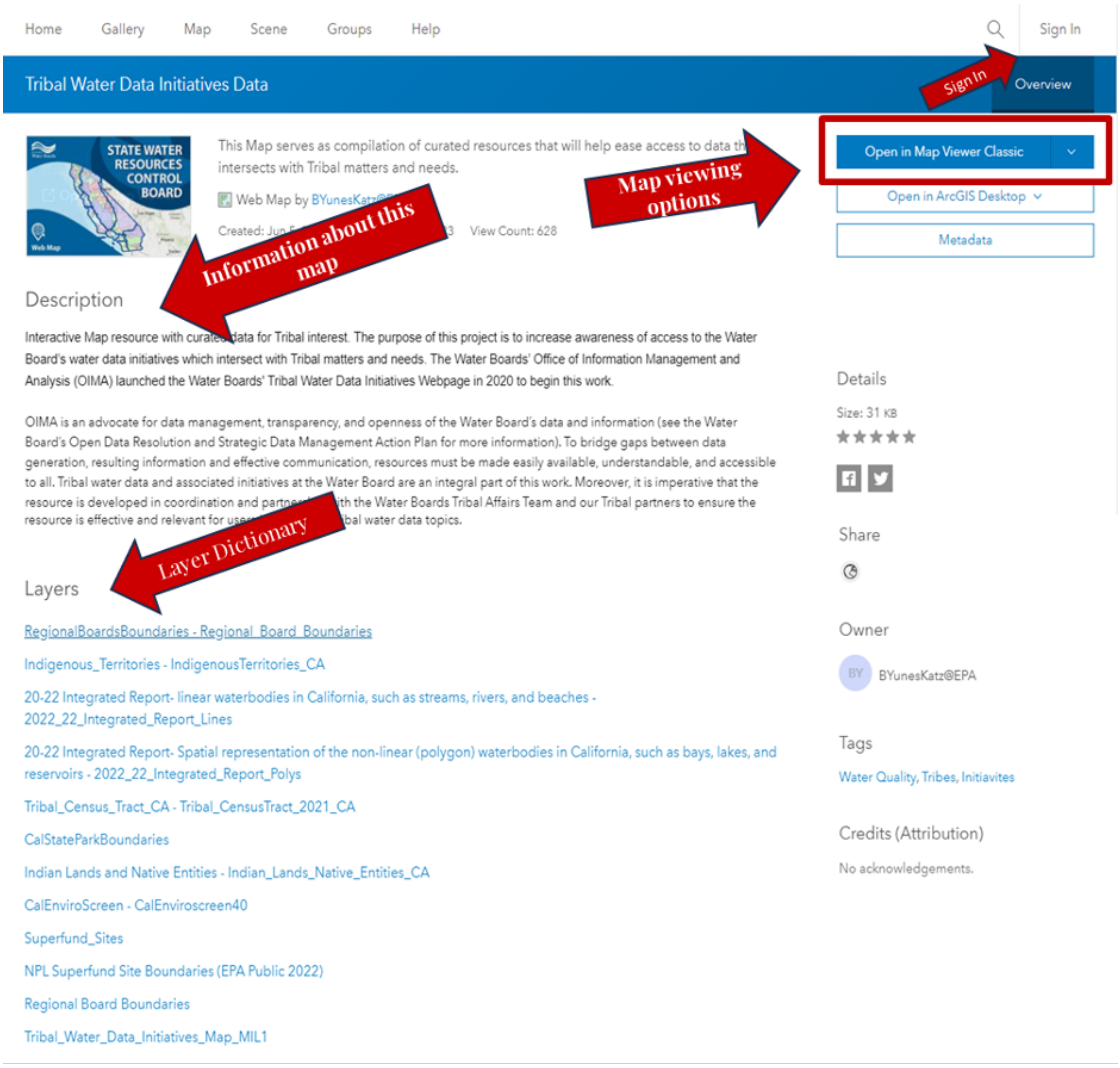
Visit our Tribal Water Data Initiatives website for information on other initiatives.

2 Map Guide

2.1 Opening the Web Map

The link will take you to the main Portal of the map where you will find basic information like:

- **Map viewing options**; if you have ArcGIS Desktop installed on the computer you are working on, you can opt to open the map directly on the App, otherwise just **click on "Open Map Viewer Classic"** to open it.
- A description of the map that highlights the purpose and goals.
- Layer dictionary where you can click on each of the Layers and find out more detailed information, including its source.
- It isn't necessary, but if you have an account with ESRI, you can sign in.



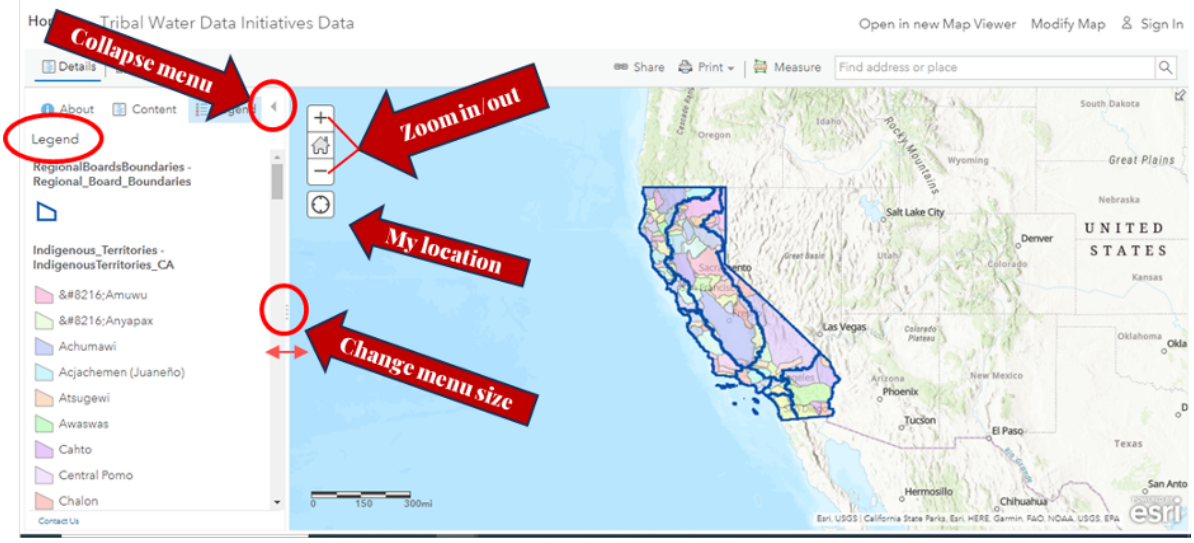
2.2 Navigating the Map

After you have clicked on Open Map Viewer Classic, the web map will open with two default layers being displayed: Regional Board Boundaries and Indigenous Territories.

Do the following to navigate the map:

- To zoom, use **Zoom in** and **Zoom out**, the mouse and wheel button, or press Shift + Plus Sign (zoom in) and Shift + Minus Sign (zoom out) on the keyboard. To zoom in, you can also press the Shift key while dragging a box on the map.
- To go back to the main view, press the house icon.

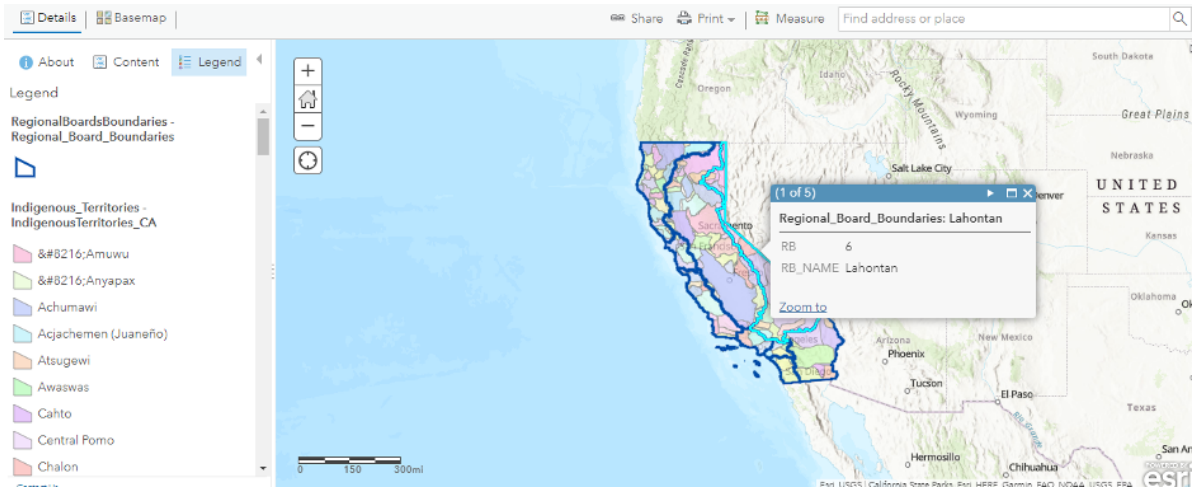
- To pan, use the mouse or the arrow keys on your keyboard.
- If you're using a Mac with OS X 10.6 or later, you can use multitouch gestures by dragging two fingers to pan and zoom the map. The default behavior is to pan. To zoom in or out, press Shift while dragging two fingers toward you to zoom in or dragging two fingers away from you to zoom out.



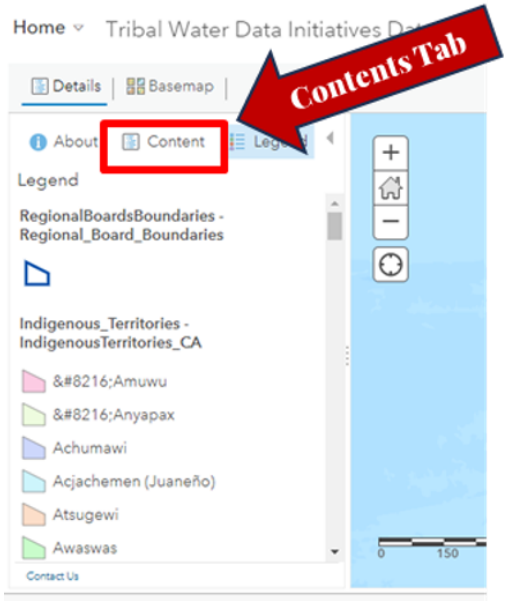
- Collapse the Legend pane by clicking on the arrow on the upper-right corner of the menu.
- Expand the Legend pane by dragging the points on the edge of right edge of the menu.

2.3 Navigating Layers

- On the left hand side you will see the legend of the layers, the blue outlines are the Regional Board Boundaries, and the different Indigenous Territories are color coded and defined on that menu.
- You can click on a map area of California to find out what Regional Board, or Indigenous Territory is there. The information will be shown in a pop-up menu.
- On this example, the right border of California was clicked and a pop-up showed that the area belongs to Region 6 of the Regional Boards.

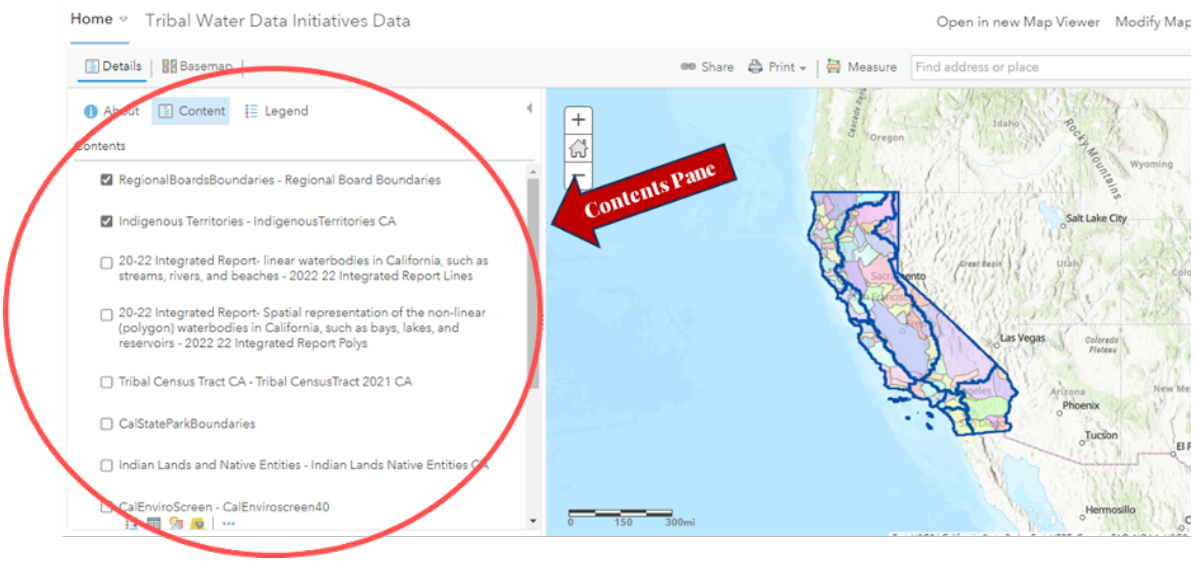


*To see more information, and the rest of the layers, **go to the Content Tab**.



2.4 Displaying/removing View of Layers

- On the Contents Pane menu, all the layers of the map will be listed (but not yet displayed)
- Only Regional Boards Boundaries and Indigenous Territories are displayed, and we can tell by the checked box to the left of the layer name.

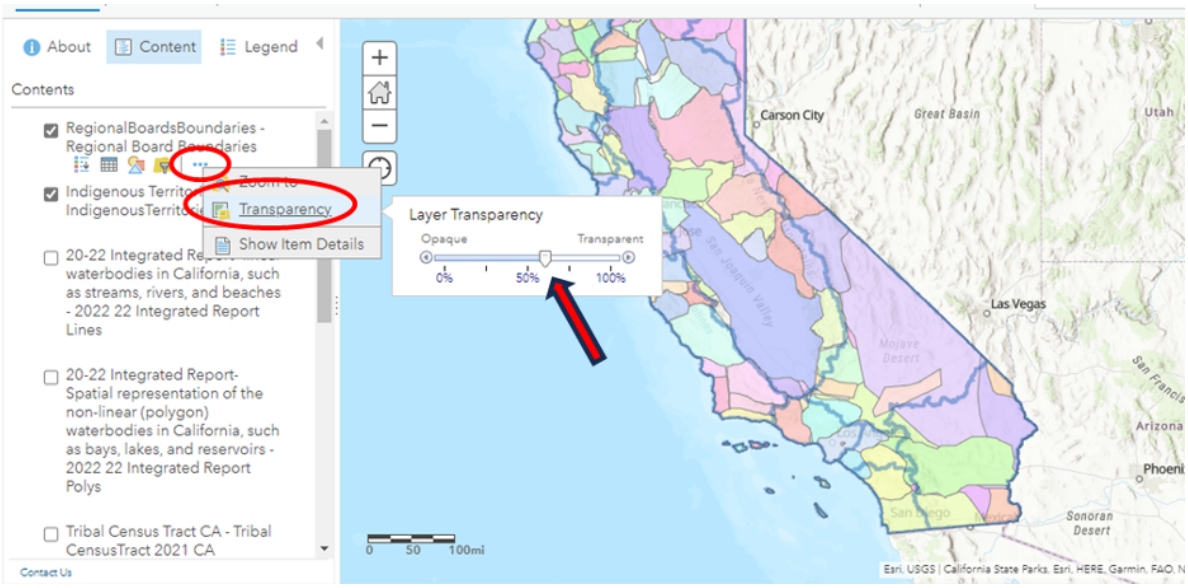


2.5 Adjusting Layer Transparency

To change the transparency of the layers:

- Hover over the layer you'd like to change the transparency.
- Click on the three dots on below the layer name, on the right.
- Select Transparency, and slide the button to the desired transparency.

  The more transparency, the less visible the layer will be.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Great Basin
Utah
Las Vegas
Mojave Desert
San Joaquin Valley
Arizona
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Esri, USGS | California State Parks, Esri, HERE, Garmin, FAO, N

3 Layer Guide

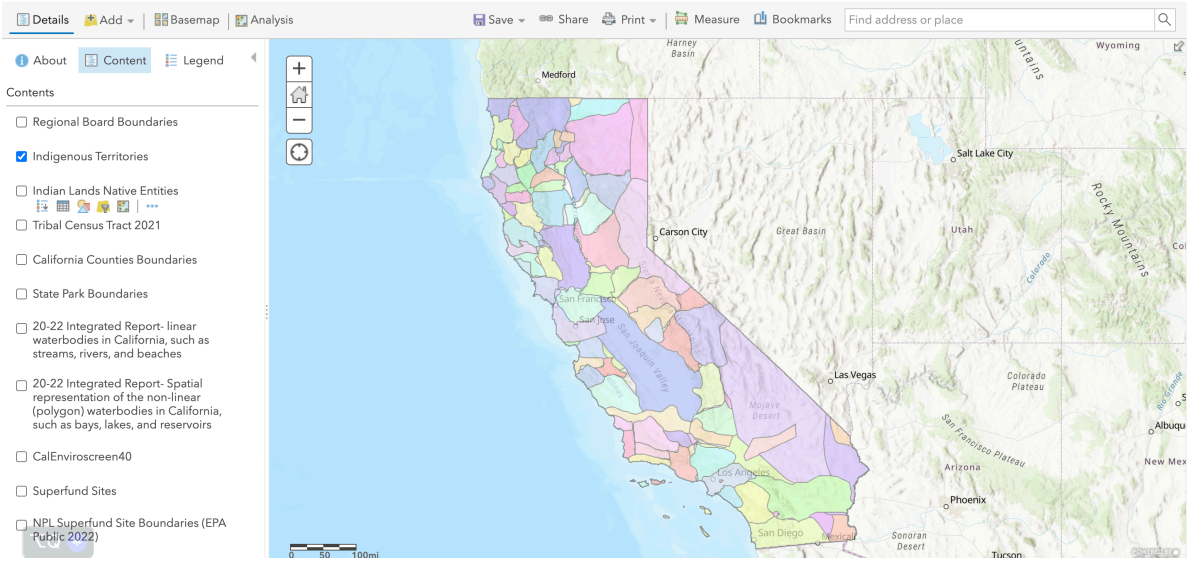
This guide serves to provide greater detail about each layer included in the Tribal Water Data Map including the source of the data.

3.1 Tribal Land Layers

3.1.1 Indigenous Territories

Layer displaying historic Indigenous Territories within California.

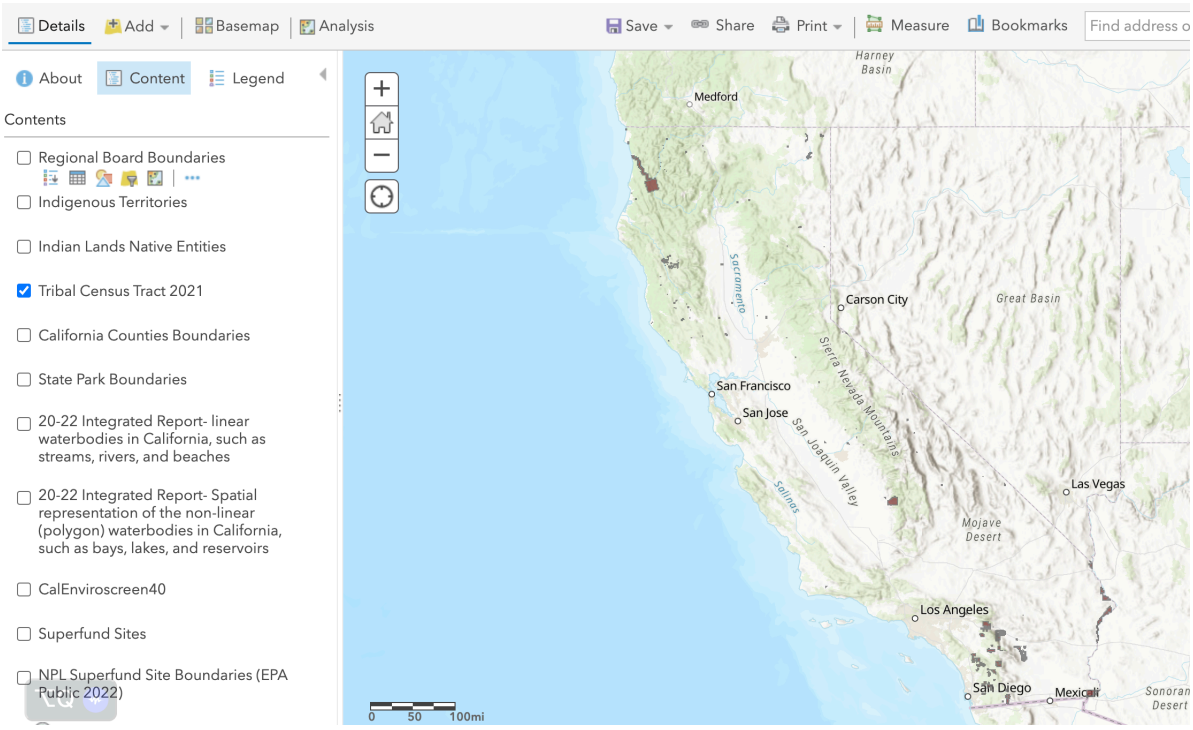
Native Land Digital strives to create and foster conversations about the history of colonialism, Indigenous ways of knowing, and settler-Indigenous relations, through educational resources such as our map and Territory Acknowledgement Guide. We strive to go beyond old ways of talking about Indigenous people and to develop a platform where Indigenous communities can represent themselves and their histories on their own terms. In doing so, Native Land Digital creates spaces where non-Indigenous people can be invited and challenged to learn more about the lands they inhabit, the history of those lands, and how to actively be part of a better future going forward together.



Source: native-land.ca

3.1.2 Tribal Census Tract 2021

Layer showing Tribal areas identified by the U.S. Census Bureau.



Source: U.S. Census Bureau

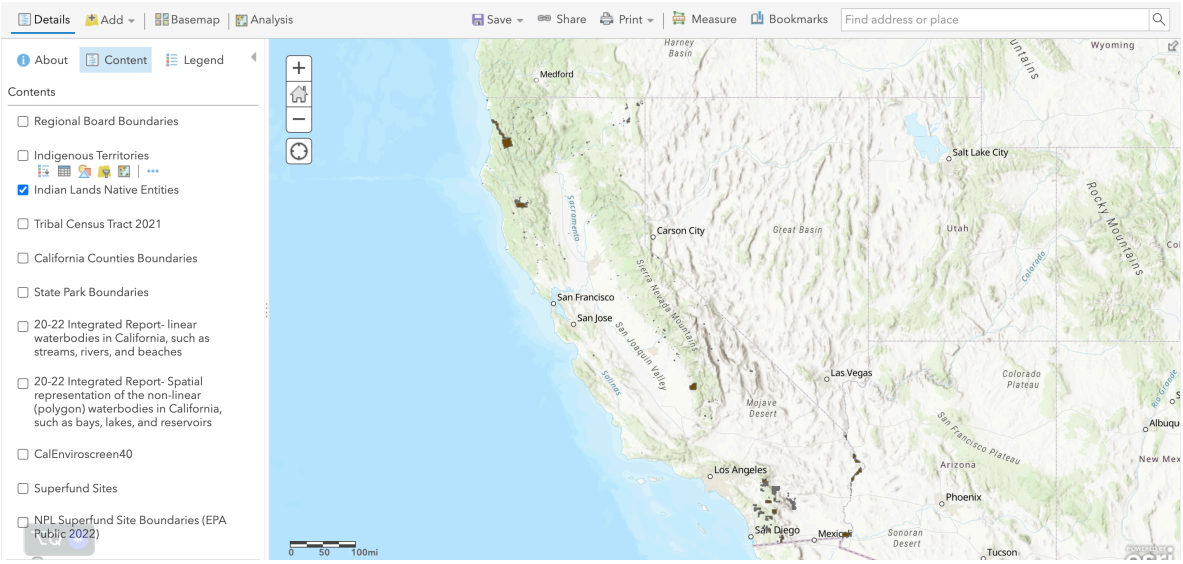
3.1.3 Indian Lands and Native Entities

Layer showing American Indians Reservations/Federally Recognized Tribal Entities.

The American Indians Reservations/Federally Recognized Tribal Entities dataset depicts feature location, selected demographics and other associated data for the 561 Federally Recognized Tribal entities in the contiguous U.S. and Alaska. Categories included are: American Indian Reservations (AIR), Federally Recognized Tribal Entities (FRTE) and Alaska Native Villages (ANV).

The American Indian Reservations / Federally Recognized Tribal Entities dataset was compiled using USGS 7.5' quadrangle maps (1:24,000), Bureau of Census 1995 TIGER data sets (1:100,000), Bureau of Census 2000 TIGER data sets (1:100,000),Bureau of Census 2004

TIGER data sets (1:100,000), BIA Pacific and Alaska Regional Office coverages (1:24,000) and the GDSC-developed Land Title Mapper (LTM) (1:24,000).



Source: Cal OES

3.2 CA Water Boards Layers

3.2.1 Regional Water Board Boundaries

Layer showing the Nine Regional Water Quality Control Boards in California.

The Nine Regional Water Quality Control Boards in California The State Water Resources Control Board has jurisdiction throughout California. Created by the State Legislature in 1967, the Board protects water quality by setting statewide policy, coordinating and supporting the Regional Water Board efforts, and reviewing petitions that contest Regional Board actions. There are nine regional water quality control boards that exercise rulemaking and regulatory activities by basins.

Region 1 -- North Coast Regional Water Quality Control Board: Del Norte, Glenn, Humboldt, Lake, Marin, Mendocino, Modoc, Siskiyou, Sonoma, and Trinity counties.

Region 2 -- San Francisco Regional Water Quality Control Board: Alameda, Contra Costa, San Francisco, Santa Clara (north of Morgan Hill), San Mateo, Marin, Sonoma, Napa, Solano counties.

Region 3 -- Central Coast Regional Water Quality Control Board: Santa Clara (south of Morgan Hill), San Mateo (southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (northern portion) counties.

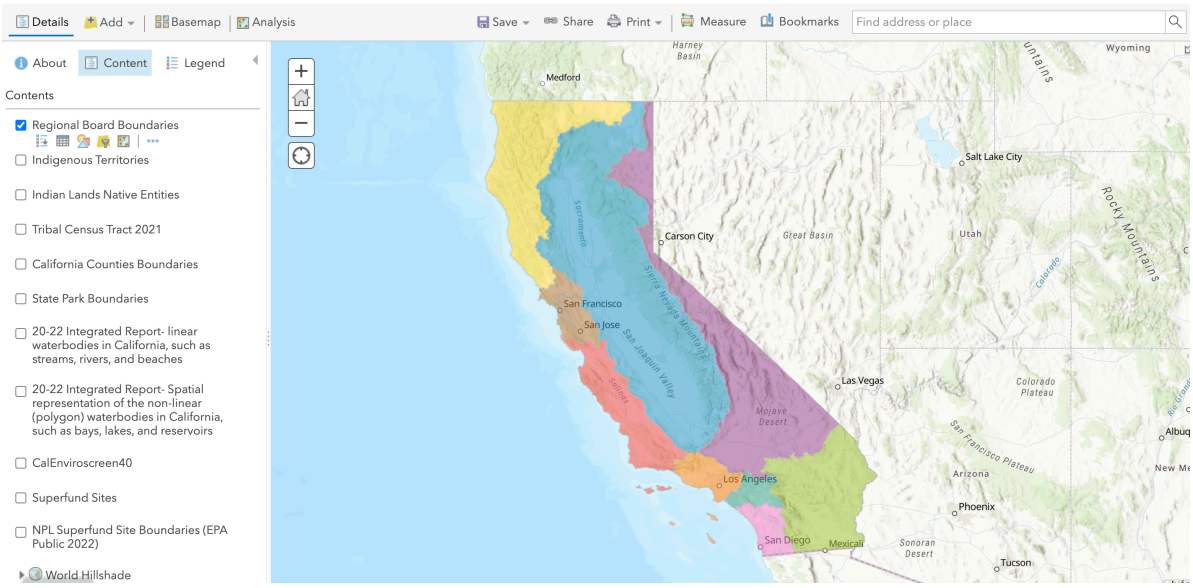
Region 4 -- Los Angeles Regional Water Quality Control Board: Los Angeles, Ventura counties, (small portions of Kern and Santa Barbara counties).

Region 5 -- Central Valley Regional Water Quality Control Board: Modoc, Shasta, Lassen, Plumas, Butte, Glen, Colusa, Lake, Sutter, Yuba, Sierra, Nevada, Placer, Yolo, Napa, (N. East), Solano (West), Sacramento, El Dorado, Amador, Calaveras, San Joaquin, Contra Costa (East), Stanislaus, Toulumne, Merced, Mariposa, Madera, Kings, Fresno, Tulare, Kern. (Very small portions of San Benito, San Luis Obispo) counties. Fresno Office: Fresno, Kern, Kings, Madera, Mariposa, Merced, and Tulare counties. Redding Office: Butte, Glen, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Tehama Counties.

Region 6 -- Lahontan Regional Water Quality Control Board: Modoc (East), Lassen (East side and Eagle Lake), Sierra, Nevada, Placer, El Dorado, Alpine, Mono, Inyo, Kern (East), San Bernardino, Los Angeles (N/E corner) counties.

Region 7 -- Colorado River Regional Water Quality Control Board: Imperial, San Bernardino, Riverside, San Diego counties. **Region 8** -- Santa Ana Regional Water Quality Control Board: Orange, Riverside, San Bernardino counties.

Region 9 -- San Diego Regional Water Quality Control Board: San Diego, Imperial, Riverside counties.



Source: CA SWRCB

3.3 Environmental Data Layers

3.3.1 2020-2022 Integrated Report (linear)

This layer shows the 2020-2022 Integrated Report for linear waterbodies in California.

State Water Resources Control Board Division of Water Quality staff have developed this map to graphically display the waterbodies assessed in the 2020-2022 California Integrated Report. This map contains waterbodies assessed for 305(b) categorization, including those placed on the 303(d) list of impaired waters.

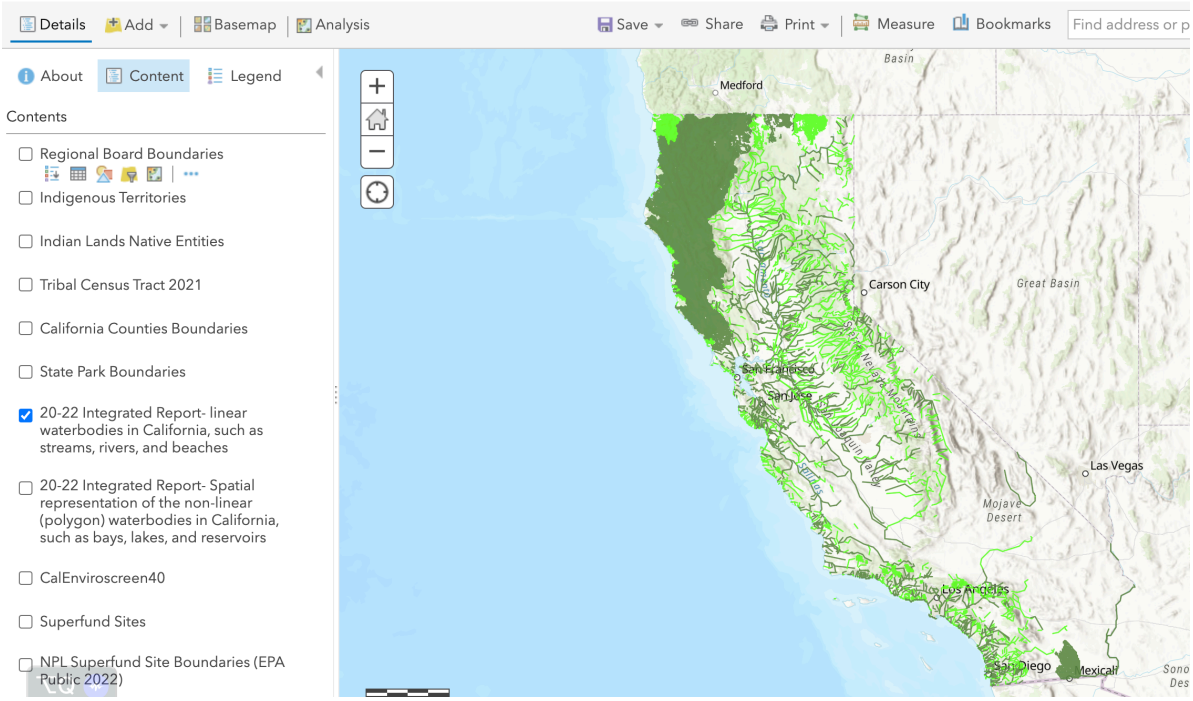
Note, these are not the final assessments.

Map Layers:

- **2020-22 Integrated Report Lines:** Spatial representation of the assessed linear waterbodies in California, such as streams, rivers, and beaches.
- **2020-22 Integrated Report Polygons:** Spatial representation of the non-linear (polygon) waterbodies in California, such as bays, lakes, and reservoirs.

Pop Up Description:

- Waterbody ID: Unique identifier for each waterbody used in the Integrated Report.
- Waterbody Name: Name of the listed waterbody.
- Waterbody Type: Type of water (river, lake, etc)
- Regional Board: Which Regional Water Quality Control Board has jurisdiction over the waterbody.
- WB Size: Approximate size of the waterbody and the corresponding unit of measurement.
- WB Category: Integrated Report Category for the waterbody.
- Listing Status: If identified on the 303(d) list as impaired.
- Listed Pollutants: If identified on the 303(d) list as impaired, the listing pollutant and associated Decision ID.
- Fact Sheet: Link to the complete waterbody fact sheet with assessment details.



Source: CA SWRCB

3.3.2 Integrated Report (non-linear) 2020-2022

This layer shows a spatial representation of the 2020-2022 Integrated Report-non-linear (polygon) waterbodies in California, such as bays, lakes, and reservoirs.

State Water Resources Control Board Division of Water Quality staff have developed this map to graphically display the waterbodies assessed in the 2020-2022 California Integrated Report. This map contains waterbodies assessed for 305(b) categorization, including those placed on the 303(d) list of impaired waters.

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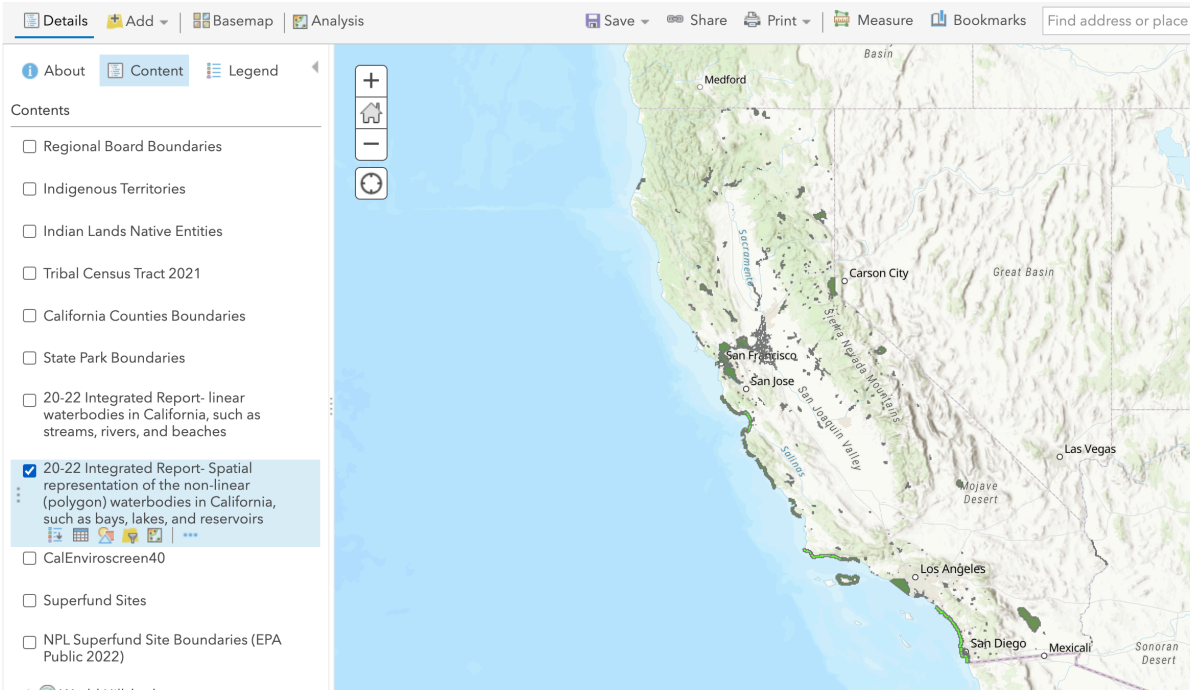
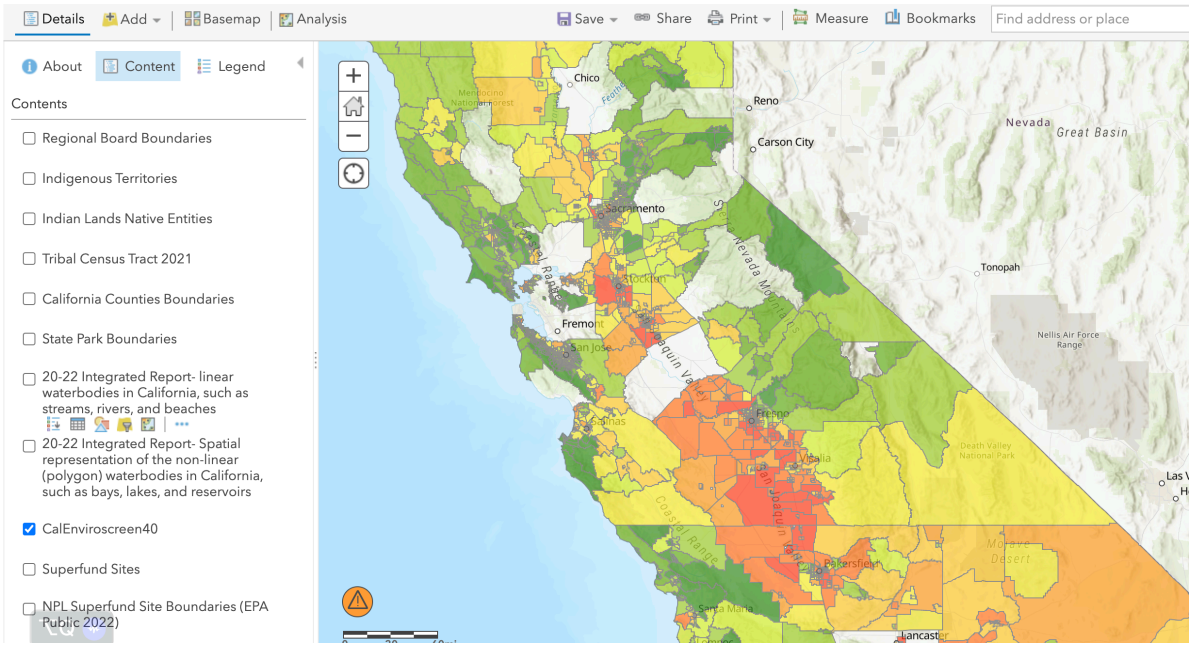


Source: CA SWRCB

3.3.3 CalEnviroScreen 4.0

This layer shows the CalEnviroScreen 4.0 based on the CL Score percentile (ClscoreP).

CalEnviroScreen is a screening methodology that can be used to help identify California communities that are disproportionately burdened by multiple sources of pollution.



Source: OEHHA

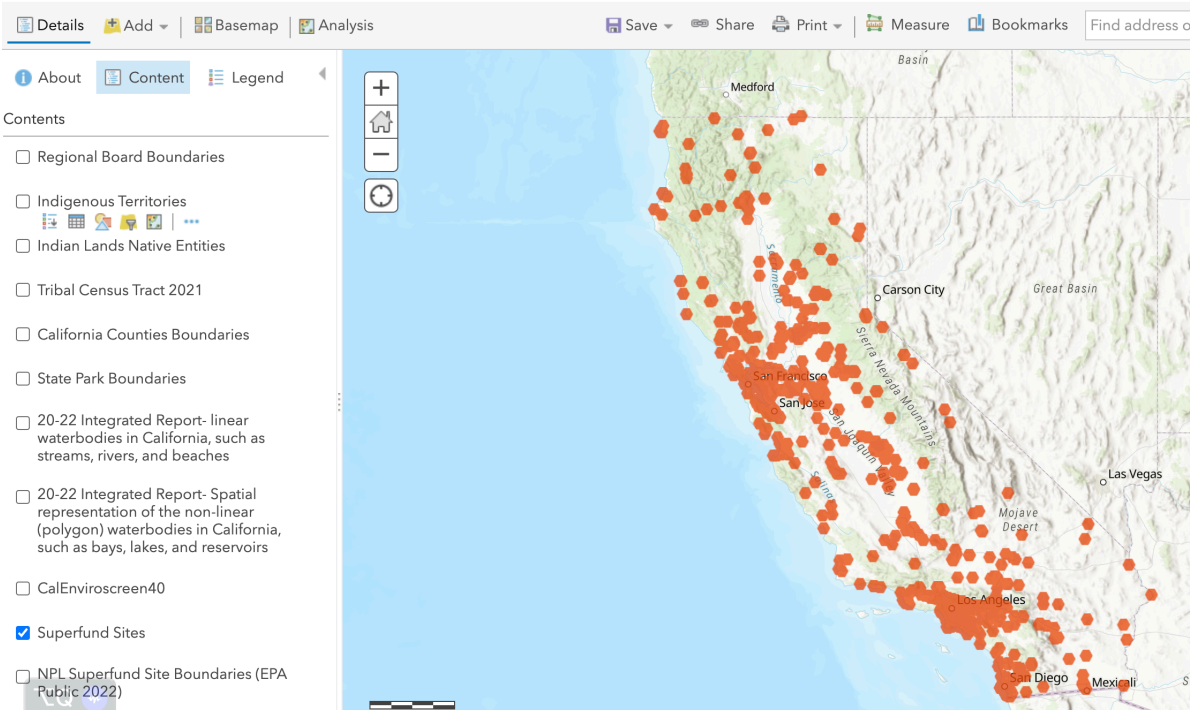
3.4 Environmental Justice Layers

3.4.1 Superfund Sites

This layer shows Superfund Sites from EPA's Facility Registry Service (FRS).

This data provides location and attribute information on Facilities regulated under the Superfund Enterprise Management System (SEMS). The Superfund Enterprise Management System (SEMS) integrates multiple legacy systems (e.g., CERCLIS, ICTS, SDMS) into a comprehensive tracking and reporting tool, providing data on the inventory of active and archived hazardous waste sites evaluated by the Superfund program. It contains sites that are either proposed to be, or are on, the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The data provided in this service are obtained from EPA's Facility Registry Service (FRS). The FRS is an integrated source of comprehensive (air, water, and waste) environmental information about facilities, sites or places. This service connects directly to the FRS database to provide this data as a feature service. FRS creates high-quality, accurate, and authoritative facility identification

records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.



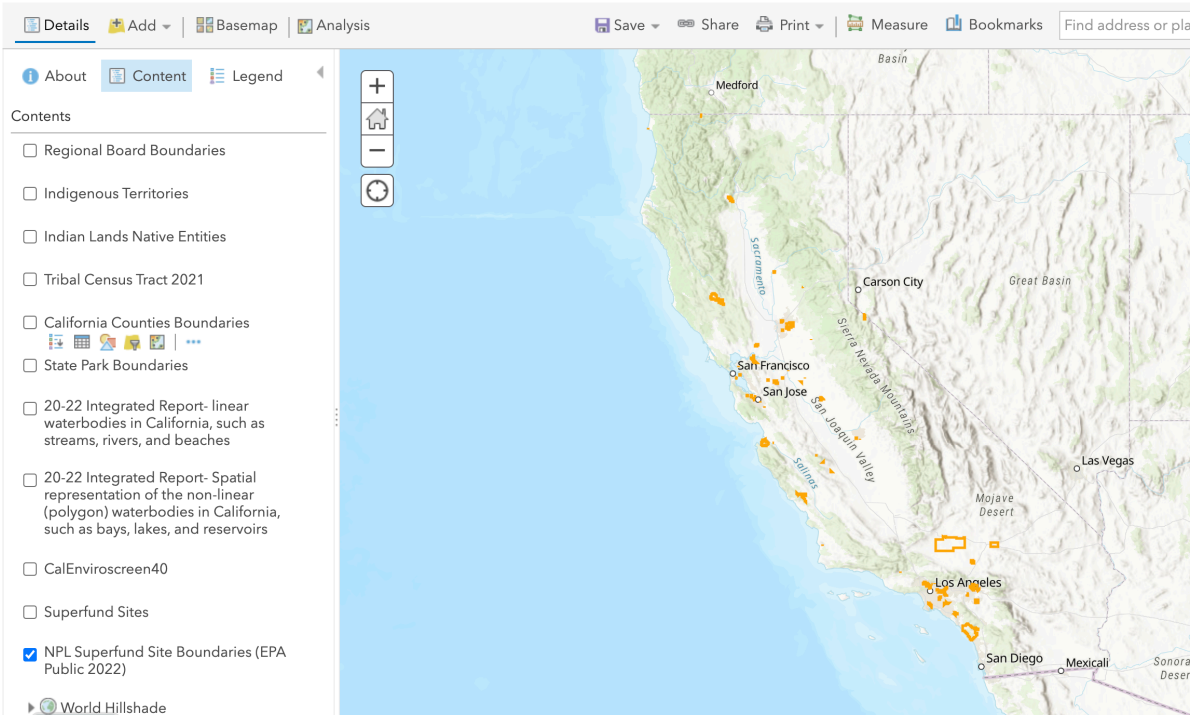
Source: EPA

3.4.2 NPL Superfund Site Boundaries

This layer shows entire Superfund Site Boundaries.

Shared Enterprise Geodata and Services (SEGS) provides an EPA-curated collection of recommended geodata assets that are nationally relevant and support the Agency's mission to protect human health and the environment. By connecting EPA users with curated datasets and promoting service reuse, SEGS aims to enhance information access, reduce data-storage costs, and improve the consistency and quality of data at the US EPA. This GIS dataset contains polygons depicting U.S. EPA Superfund Site boundaries. Site boundaries are polygons representing the footprint of a whole site, defined for purposes of this effort as the sum of all of the Operable Units and the current understanding of the full extent of contamination. For Federal Facility sites, the total site polygon may be the Facility boundary. As site investigation and remediation progress, OUs may be added, modified or refined, and the total site polygon should be updated accordingly. Superfund features are managed by regional teams of geospatial professionals and remedial program managers (RPMs), and SEGS harvests regional

data on a weekly basis to refresh the national dataset and feature services. EPA is interested in your feedback on this item and the SEGS collection. Please share any feedback to the SEGS Administrative Team at SEGServices@epa.gov.



Source: EPA

3.5 Other State or Local Government Layers

3.5.1 County Boundaries

This layer shows County Boundaries within California.

This layer provides an initial offering as “best available” at 1:24,000 scale.

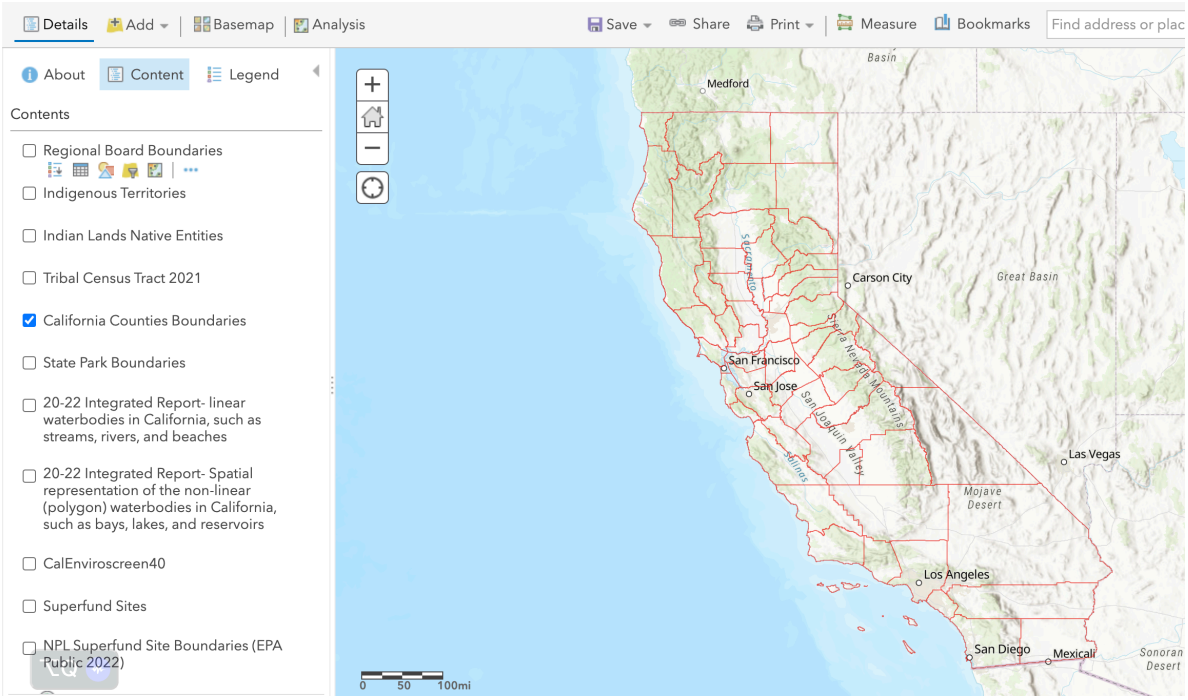
In late 1996, the Dept of Conservation (DOC) surveyed state and federal agencies about the county boundary coverage they used. As a result, DOC adopted the 1:24,000 (24K) scale U.S. Bureau of Reclamation (USBR) dataset (USGS source) for their Farmland Mapping and Monitoring Program (FMMP) but with several modifications. Detailed documentation of these changes is provided by FMMP and included in the lineage section of the metadata.

A dataset was made available (approximately 2004) through CALFIRE - FRAP and the California Spatial Information Library (CaSIL), with additional updates throughout subsequent

years. More recently, an effort was made to improve the coastal linework by using the previous interior linework from the 24k data, but replacing the coastal linework based on NOAA's ERMA coastal dataset (which used NAIP 2010).

In this dataset, all bays (plus bay islands and constructed features) are merged into the mainland, and coastal features (such as islands and constructed features) are not included, with the exception of the Channel Islands which ARE included.

This service represents the latest released version, and is updated when new versions are released. As of June, 2019 it represents cnty19_1.



Source: CALFIRE

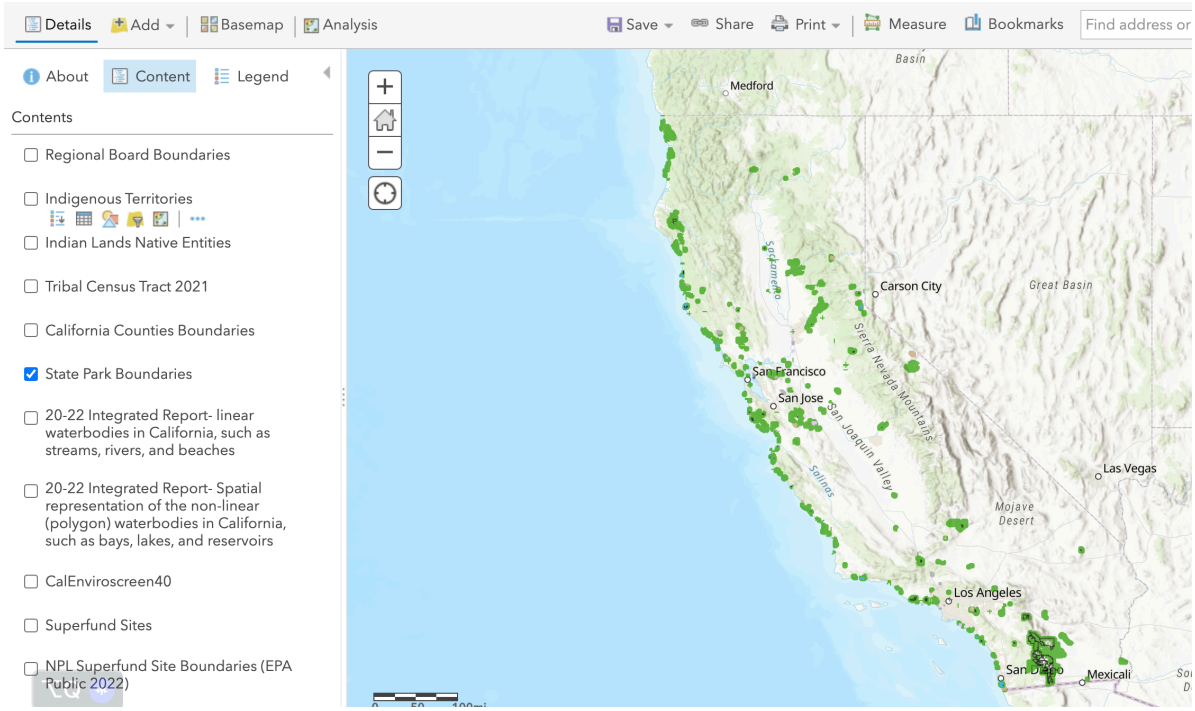
3.5.2 State Park Boundaries

This layer shows the State Parks in California.

California State Parks generates eight GIS datasets for public use.

These datasets and materials ("Materials") have been developed by the State of California, Department of Parks and Recreation ("DPR") for uses beneficial to DPR and as a public service to enhance open government, transparency and accountability. DPR is also known as California State Parks ("CSP").
All Materials are made available on an "as is" basis, on the express condition that users who

view, download, transfer or otherwise access or use the Materials expressly accept these Terms of Use and Disclaimers



Source: CA DPR

4 Resources

Here you will find a curated list of presentations, webpages and other resources related to the development, implementation and scaling of the Water Board's Tribal Water Data Map.

All Water Boards authors are **bolded** below.

4.1 Websites

Water Boards' Tribal Water Data Initiatives

4.2 Presentations

CA Water Boards' Tribal Water Data Resources Update. Aug 2023 (Summer Meeting). **Badhia Yunes Katz**, **Anna Holder**. California Issues Workgroup - US EPA Region 9 Regional Tribal Operations Committee (RTOC).

Introduction to CA Water Boards' Tribal Water Data Resources. Feb 2023 (Winter Meeting). **Badhia Yunes Katz**, **Anna Holder**. California Issues Workgroup - US EPA Region 9 Regional Tribal Operations Committee (RTOC).

5 Meet the Team!

The development of the Map and this User Manual has been a team effort from the start. Below is a list of team members within OIMA and tribal partners who have been integral to the development of these resources.

If you would like to join the Team, please email Anna Holder at: anna.holder@waterboards.ca.gov.

5.1 OIMA

Name	Title
Anna Holder	Environmental Scientist & OIMA Tribal Coordinator
Josh Davenport	Stanford Fellow
Leah Brosseau	CivicSpark Fellow

5.2 Tribal Partners

Table 5.2: Tribal partners listed in ascending order by Affiliation

Name	Title	Affiliation
Sarah Ryan	Environmental Director	Big Valley Band of Pomo Indians, Environmental Protection Department (Big Valley EPA)
Meyo Marrufo	Environmental Director	Guidiville Rancheria
Shasta Gaughen	Director	Pala Band of Mission Indians, Environmental Department (PED)

We also regularly receive critical feedback from the California Issues Workgroup of the US EPA Region 9 Regional Tribal Operations Committee (RTOC). See the Resource Chapter of this User Manual for past presentations.

5.3 Former OIMA Fellows & Interns

Name	Title	Year
Badhia Yunes Katz	CivicSpark Fellow	2023

6 Contributing

6.1 Who can contribute

Currently, only members of the OIMA Team are able to make *edits* to this User Manual and the Map, however we are always looking for feedback!

> **!** We want your feedback!
>
> If you have recommendations for improvement related to the Map or this User Manual you can send it to us by:
>
> - Emailing Anna Holder at: anna.holder@waterboards.ca.gov, OR
> - Submitting a GitHub Issue
>   - Note this requires the individual to have a GitHub Account.
>   - If you would like to create a GitHub Account, complete Step 3 in the Setup Section below; no other steps need to be completed to submit an Issue.

6.2 How we contribute

We develop the content for this User Manual using RStudio, build the book using Quarto (via RStudio), and collaborate and publish using GitHub (also via RStudio).

6.2.1 Setup

To contribute, OIMA Team members must do the following, and it should only take about 20 minutes to complete:

1. **Install R and RStudio**

   Both R and RStudio should be available in the Software Center (for Windows 10) or Company Portal (for Windows 11) – if you don't see them in your Software Center/Company Portal or you have issues/questions during the instillation process, please send a request to the DIT HelpDesk and they can help you install them.

Also see these step by step instructions on how to install these programs – you will only need to go through steps 1 and 2

If you are new to R, it would also be helpful if you could review the Getting Started Module so you can begin to familiarize yourself with the fundamentals of the program.

2. **Install Quarto**

   Quarto download and install instructions

3. **Create a GitHub Account**

   Create your free personal account GitHub account

   Tips on choosing your username

4. **Download and Install Git**

   Follow your operating system's normal Git installation process. Note: you will not see an application called Git listed but if the installation process completed it was likely successful, and we will confirm together.