

DOCKETED

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California Energy Commission

Environmental Information for Energy Planning

Data and Applications to Examine Assumptions and Outcomes

Scott Flint

California Energy Commission

Staff Workshop

April 6, 2017

Science Based Planning

Use of high-quality science results in –

- Policy implementation in a fully informed manner
- Effective and efficient planning
- Empowered decision making
 - Natural resource conservation and management
 - Smart development for sustainable communities and economies

Science Based Planning

RETI 2.0 Environmental and Land Use Technical Group – Report Recommendations and Next Steps:

- Assemble accurate and representative datasets, keep them available online for use by the agencies, stakeholders, and the public
- Periodically update and work to fill data gaps to provide a basic set of information that can be used as an input to agency planning and regulatory processes
- Agencies and stakeholders should work together to complete the Environmental Report Writer that uses the data in landscape-scale planning processes so that the data and information could be easily used in planning and decision making.

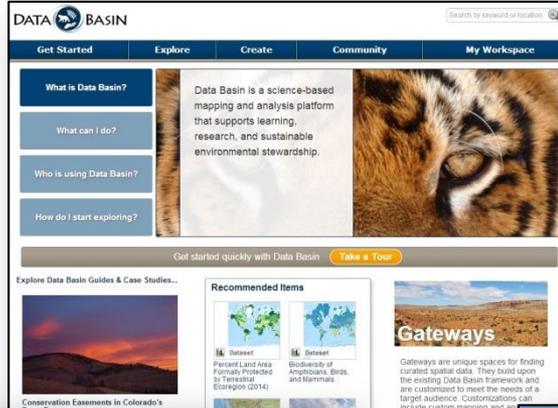
Science Based Planning

2017 Integrated Energy Policy Report – Recommendations for Statewide Energy Planning and Permit Coordination:

- Continue to apply proactive tools and approaches like landscape-scale planning, to help meet renewable energy and GHG reduction goals.
- Integrate information gathered and produced from energy planning efforts, including DRECP, San Joaquin Valley Identification of Least Conflict Lands, and the Renewable Energy Transmission Initiative (RETI) to inform energy planning.
- Expedite permitting of the highest priority transmission projects.

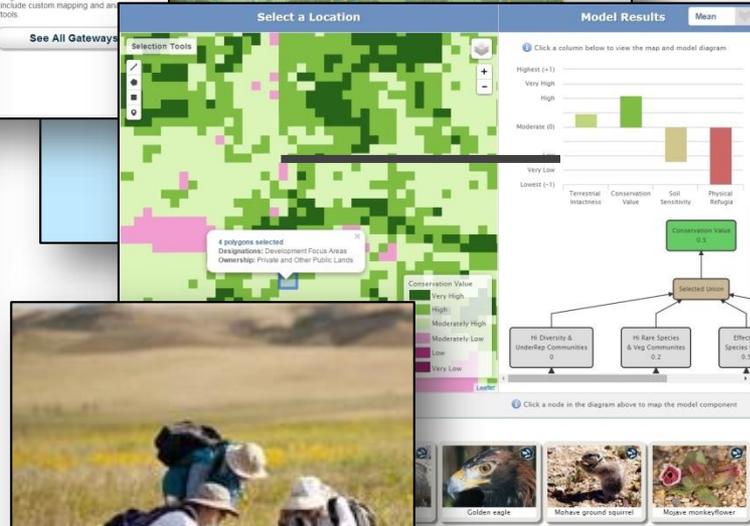
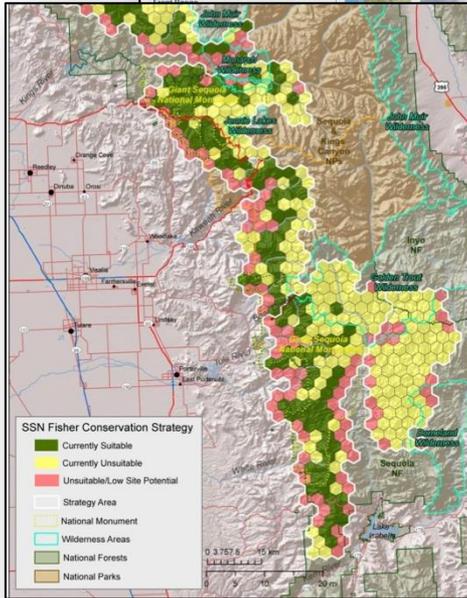
Data Basin as a Service

The Platform



Conservation
Planning &
Assessments

Ecological
Models



Science
Interpretation
Support
Tools



Monitoring &
Management



A web-based mapping and analysis platform that enhances knowledge sharing by integrating **science, mapping and people**



Chrome



Firefox



Safari



Internet Explorer

- [What is Data Basin?](#)
- [What can I do?](#)
- [Who is using Data Basin?](#)
- [How do I start exploring?](#)

Data Basin is a science-based mapping and analysis platform that supports learning, research, and sustainable environmental stewardship.



Get started quickly with Data Basin [Take a Tour](#)

Explore Data Basin Guides & Case Studies...



Conservation Easements in Colorado's Front Range

Biodiversity in the Colorado Front Range is a critical component for the sustainable development of the region (Chivian and Bernstein, 2010; Pague, et al, 1996; Pague, et al, 1993). Modern land conservation efforts, which are often a result of donated gifts or opportunistic purchases, risk ...

[read more](#)

New Map Page!

We are pleased to announce that our new map page is now available for you to use. Includes:

- Full screen, all the time
- Improved toolbar
- Layer swiper allows you to 'swipe' layers over the map

How to Create a Map



Gateways

Gateways are unique spaces for finding curated spatial data. They build upon the existing Data Basin framework and are customized to meet the needs of a target audience. Customizations can include custom mapping and analysis tools.

[See All Gateways](#)

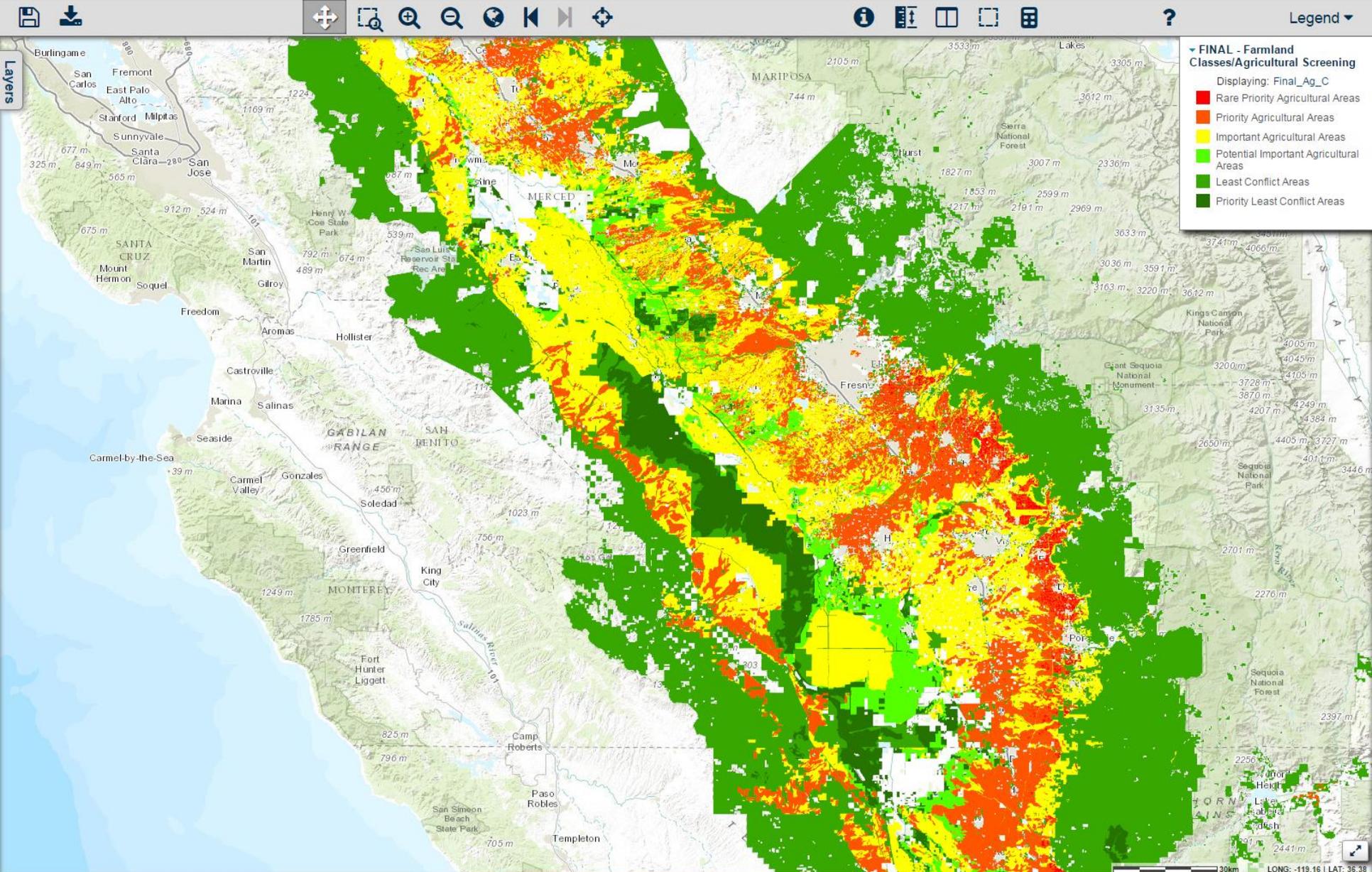
Upcoming Events

No items at this time
[see more](#)

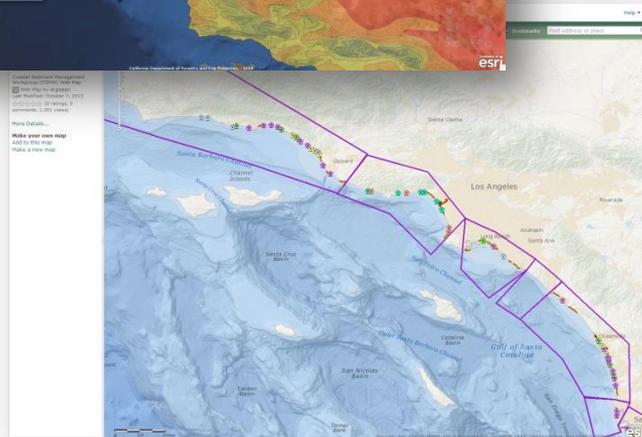
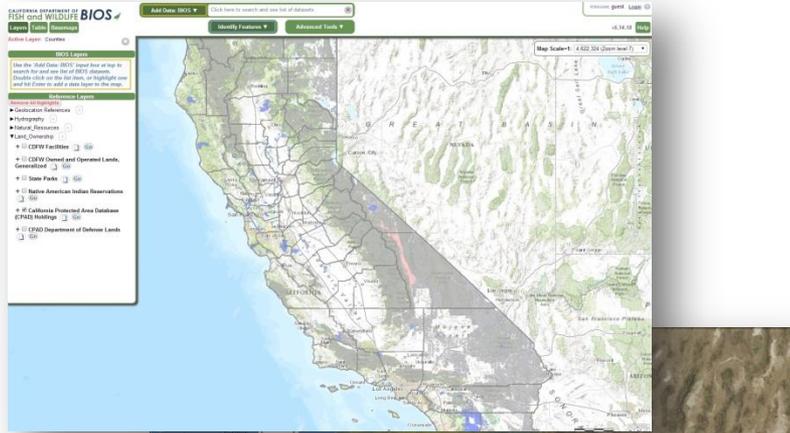
The Willburforce Foundation provides funding to maintain and develop Data Basin.



Powerful Viewer

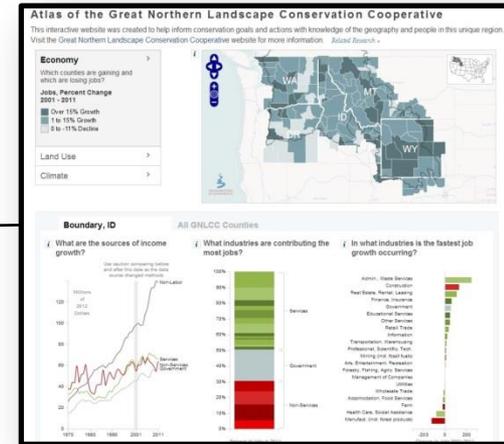


All Platforms & Viewers are NOT the Same



Data

Simple Viewer



Audience



Data Basin - Managed Content

NOT JUST DATA



DATASETS – individual spatial data files (or layers)



MAPS – customized maps made by members using the platform



GALLERIES – collections of datasets and/or maps



GUIDES and CASE STUDIES – explanations and examples of using data



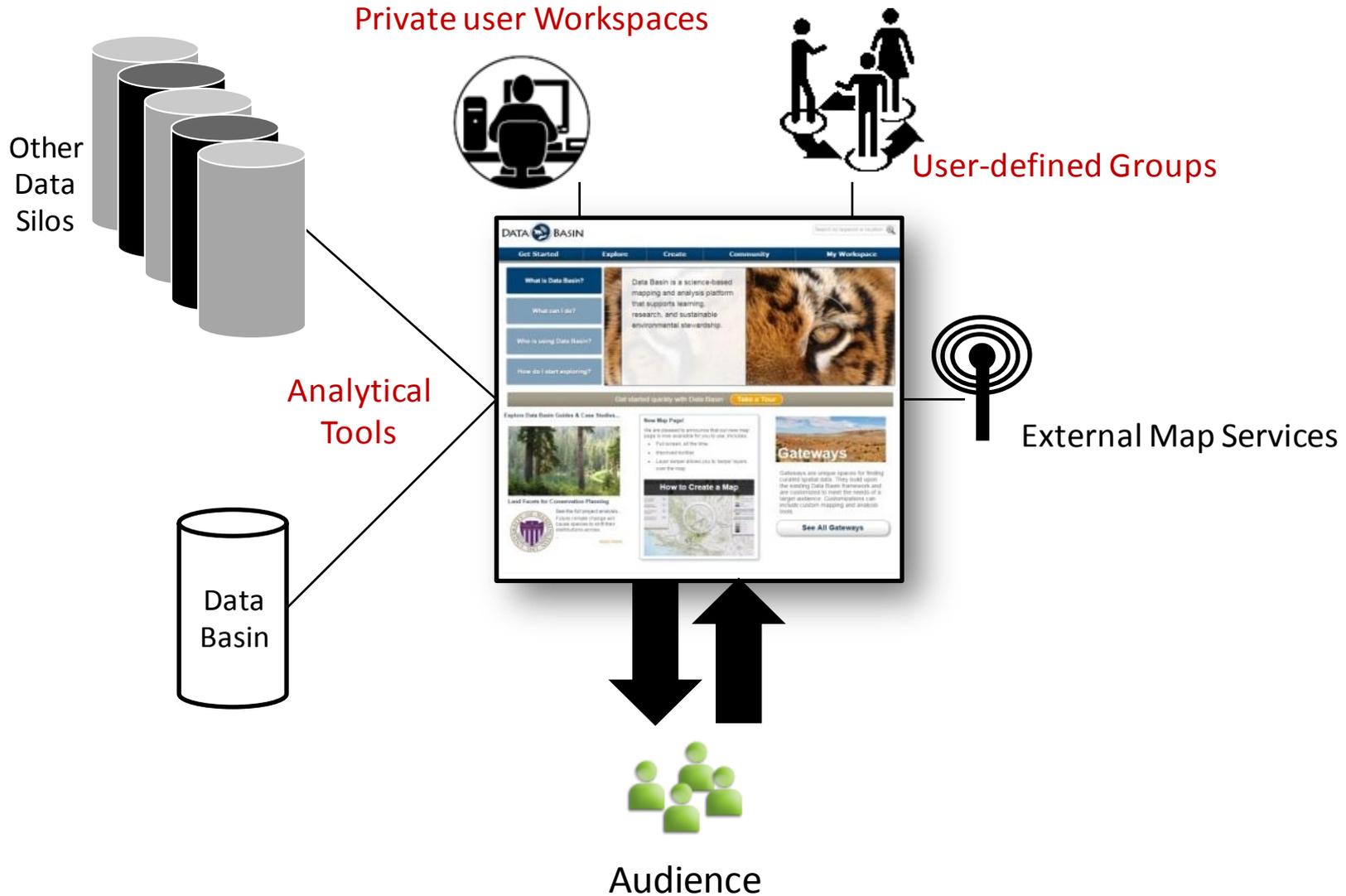
GROUPS – created by members to address specific issues



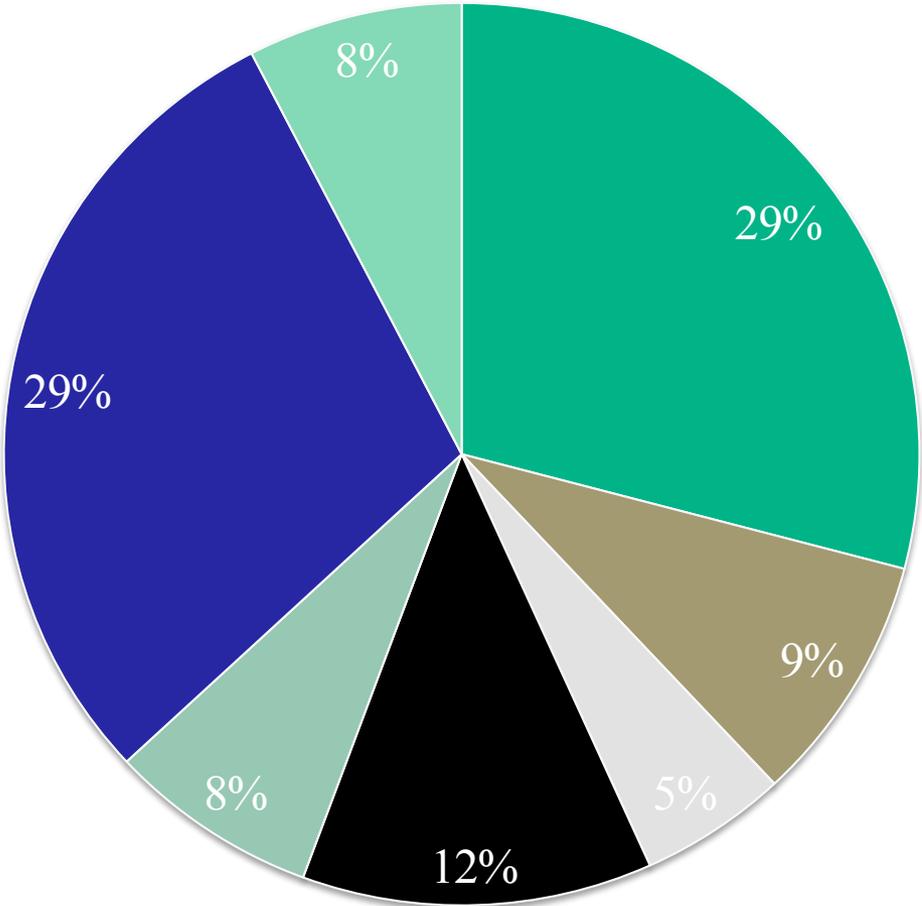
MEMBERS – individuals with platform accounts



Data Basin - Platform



Data Basin - Users



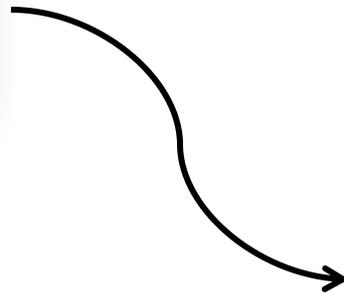
- Academic
- Federal Government
- State & Local Government
- Non-Profit
- Corporate
- Not Specified
- Other



Data Basin, Gateways, Models & Applications

The screenshot shows the Data Basin website interface. At the top, there is a navigation bar with tabs for 'Get Started', 'Explore', 'Create', 'Community', and 'My Workspace'. Below this, a main content area features a large image of a tiger's face on the right and a text box on the left that reads: 'Data Basin is a science-based mapping and analysis platform that supports learning, research, and sustainable environmental stewardship.' To the left of the tiger image are four blue buttons: 'What is Data Basin?', 'What can I do?', 'Who is using Data Basin?', and 'How do I start exploring?'. Below the main content area, there is a section titled 'Explore Data Basin Guides & Case Studies...' with three sub-sections: 'Explore Data Basin Mapping Tools', 'Sea Level Rise (SLR) Data Platform', and 'How to Create a Map'. A 'Take a Tour' button is also visible.

databasin.org



The screenshot shows the 'Gateways' section of the Data Basin website. The header reads 'Gateways Data Basin sites curated to meet a specific need'. Below this, a paragraph states: 'Gateways are sites powered by Data Basin and curated by members of various interest groups. They showcase spatial information for a particular geography, topic, project or organization. Gateways include a subset of the data available on Data Basin.' The main content area is a grid of 12 gateway cards, each with a representative image and a title:

- AdaptWest - A Climate Adaptation Conservation Planning Database for Western North America** (Image: A brown horse in a green field)
- Alaska and Northwest Canada Regional Conservation Planning Atlas** (Image: A coastal landscape with mountains and water)
- Appalachian LCC Conservation Planning Atlas** (Image: A forest stream)
- Bat Acoustic Monitoring Portal** (Image: A bat's face)
- The Boreal Avian Modelling Project** (Image: A bird perched on a branch)
- California Offshore Wind Energy Gateway** (Image: Ocean waves)
- California Water Planning Information Exchange** (Image: A river flowing over rocks)
- The Caribbean Landscape Conservation Cooperative** (Image: A tropical beach with turquoise water)
- Conservation Biology Institute Climate Center** (Image: A desert landscape)
- Conservation Biology Institute Protected Areas Center** (Image: Two moose in a forest)
- Desert LCC Conservation Planning Atlas** (Image: A desert landscape with mountains)
- Desert Renewable Energy Conservation Plan Gateway** (Image: Wind turbines against a sunset sky)

Data Basin, Gateways, Models & Applications

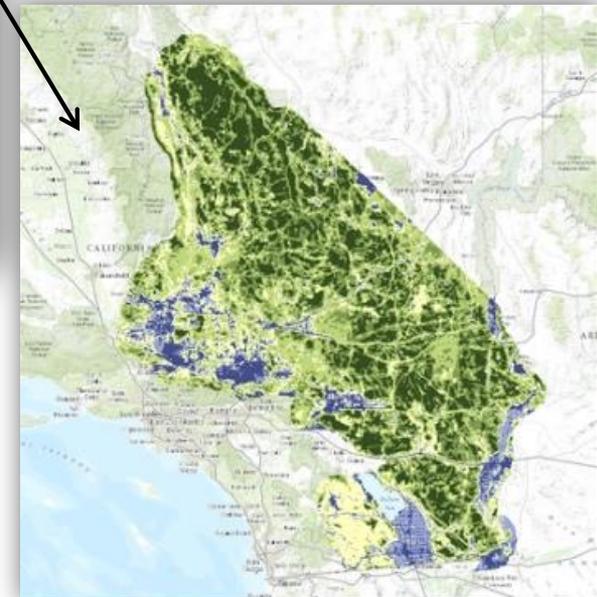
DRECP Gateway

Site Survey Analyst

The screenshot shows the 'DESERT RENEWABLE ENERGY CONSERVATION PLAN GATEWAY' website. It features a navigation bar with 'Get Started', 'Explore', 'Create', and 'My Workspace'. The main content area includes sections for 'What is the DRECP gateway?', 'How is the gateway organized?', and 'How do I get a copy of the BLM Proposed LUPA and FEIS?'. Below these are sections for 'Desert Renewable Energy Conservation Plan: BLM Proposed Land Use Plan Amendment and Final Environmental Impact Statement', 'BLM Proposed LUPA and FEIS' (with a map), 'Models' (with various model thumbnails), and 'Applications' (with a 'Site Survey Analyst' link).

The screenshot shows the 'DRECP SITE SURVEY ANALYST' application. It has a 'Select a Location' map on the left and a 'Model Results' section on the right. The 'Model Results' section includes a bar chart showing 'Terrestrial Intactness' (Very High), 'Conservation Value' (High), 'Soil Sensitivity' (Moderate), and 'Physical Barriers' (Low). Below the chart is a flowchart for 'Selected system' with categories: 'Low Development', 'Low Fragmentation', and 'Low Vag State Impacts'. At the bottom, there are sections for 'Covered Species' and 'Covered Communities' with images of various species like the Barstow woolly sunflower, Bell's vireo, Burrowing owl, California leaf-nosed bat, Desert bighorn sheep, and Desert cymopterus.

Terrestrial intactness



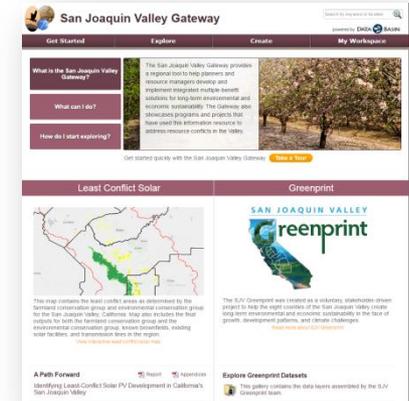
Data Basin, Gateways, Models & Applications



drecp.databasin.org



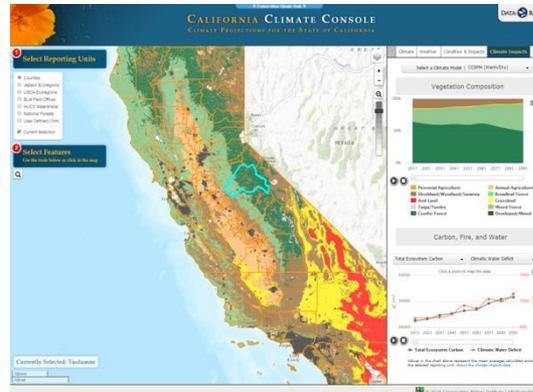
reti.databasin.org



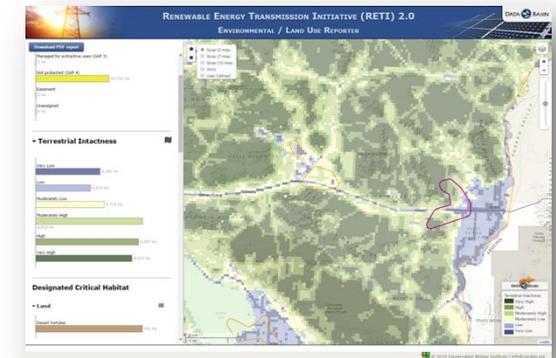
sjvp.databasin.org



caoffshorewind.databasin.org



climateconsole.org/ca



energyplanningapplications.com

Data Basin, Gateways, Models & Applications

powered by DATA BASIN



CALIFORNIA STATEWIDE ENERGY GATEWAY

Get Started

Explore

Create

My Workspace

About the California Statewide Energy Gateway

This gateway brings together energy planning related information and applications across California, and serves as a launchpad for accessing additional gateways and applications for specific planning processes.

California Statewide Energy Planning

ENERGY RELATED GATEWAYS



Desert Renewable Energy Conservation Plan Gateway

The DRECP Gateway was created to support final development of the Desert Renewable Energy Conservation Plan. It will be used to engage and inform all interested parties about ongoing planning and management issues in the California desert.



Renewable Energy Transmission 2.0 Gateway

The Renewable Energy Transmission Initiative (RETI) 2.0 Gateway supports the public process of identifying potential transmission that could access and integrate renewable energy with the most environmental, economic, and community benefits.



California Offshore Wind Energy Gateway

The Offshore Renewable Wind Energy Gateway assembles geospatial information on ocean wind resources, ecological and natural resources, ocean commercial and recreational uses and community values. This information will help identify areas off of California that are potentially suitable for wind energy generation.

ENERGY RELATED APPLICATIONS



California Climate Console

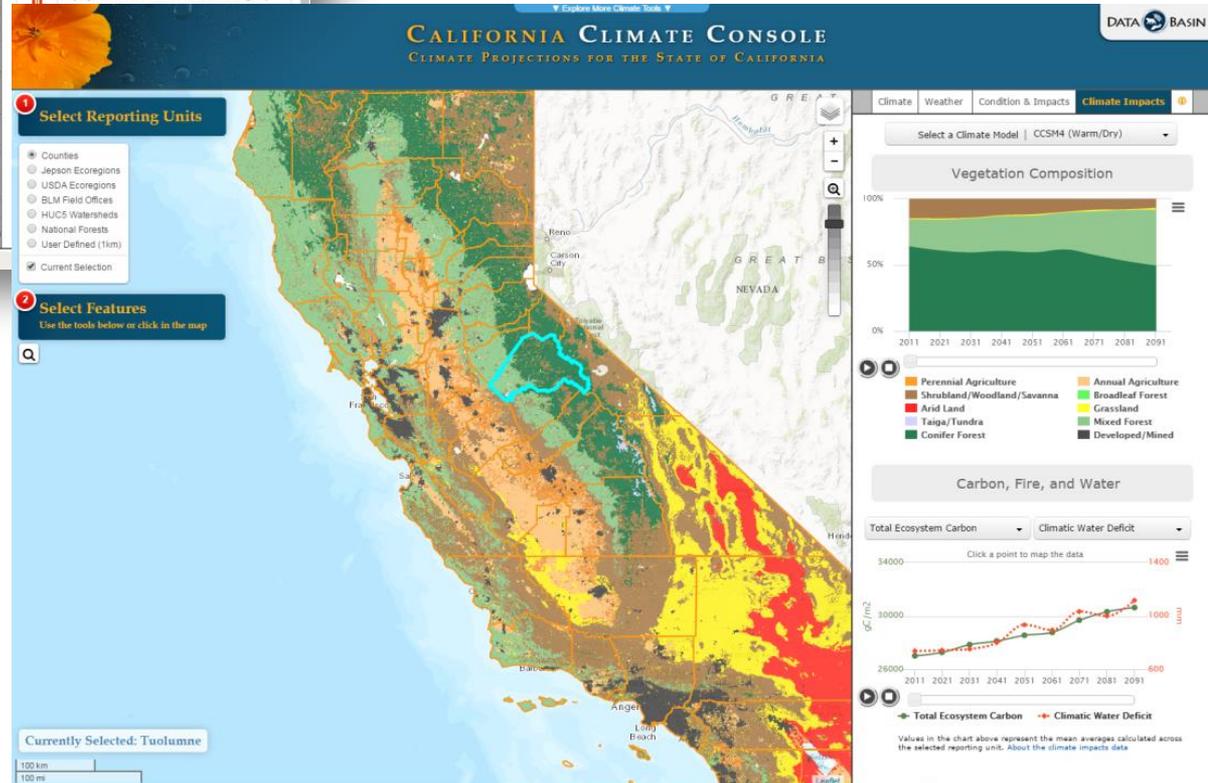
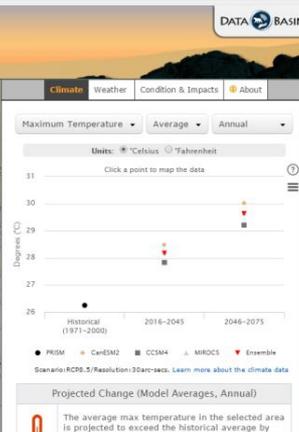
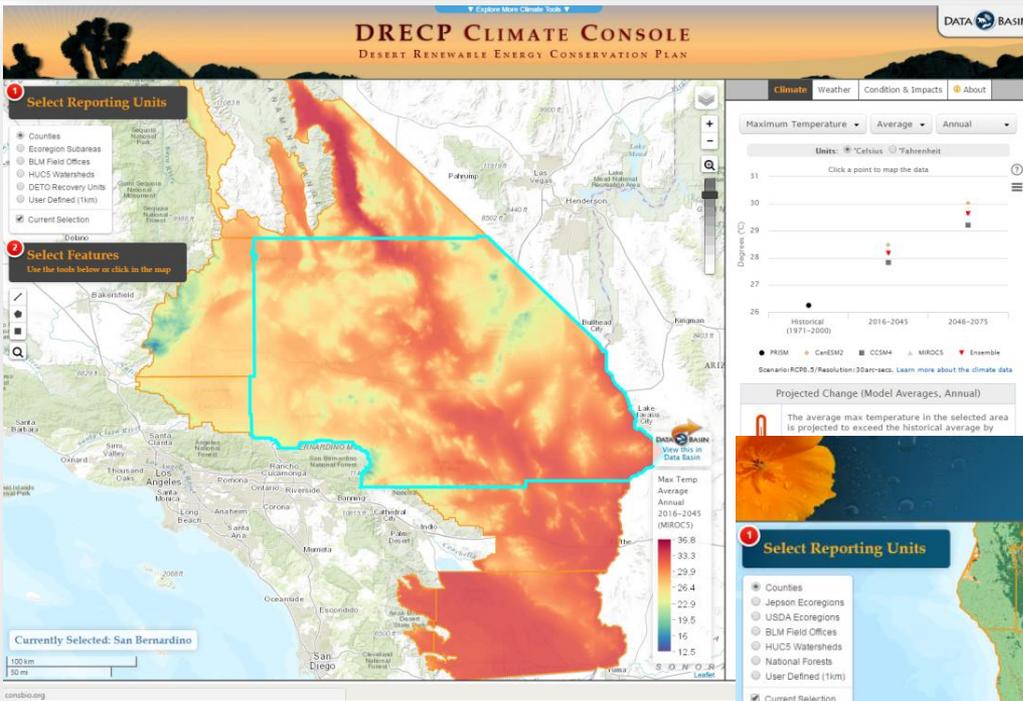
The climate console is a web application designed for exploring climate change projections for a selected area of interest.

Other applications currently under development.

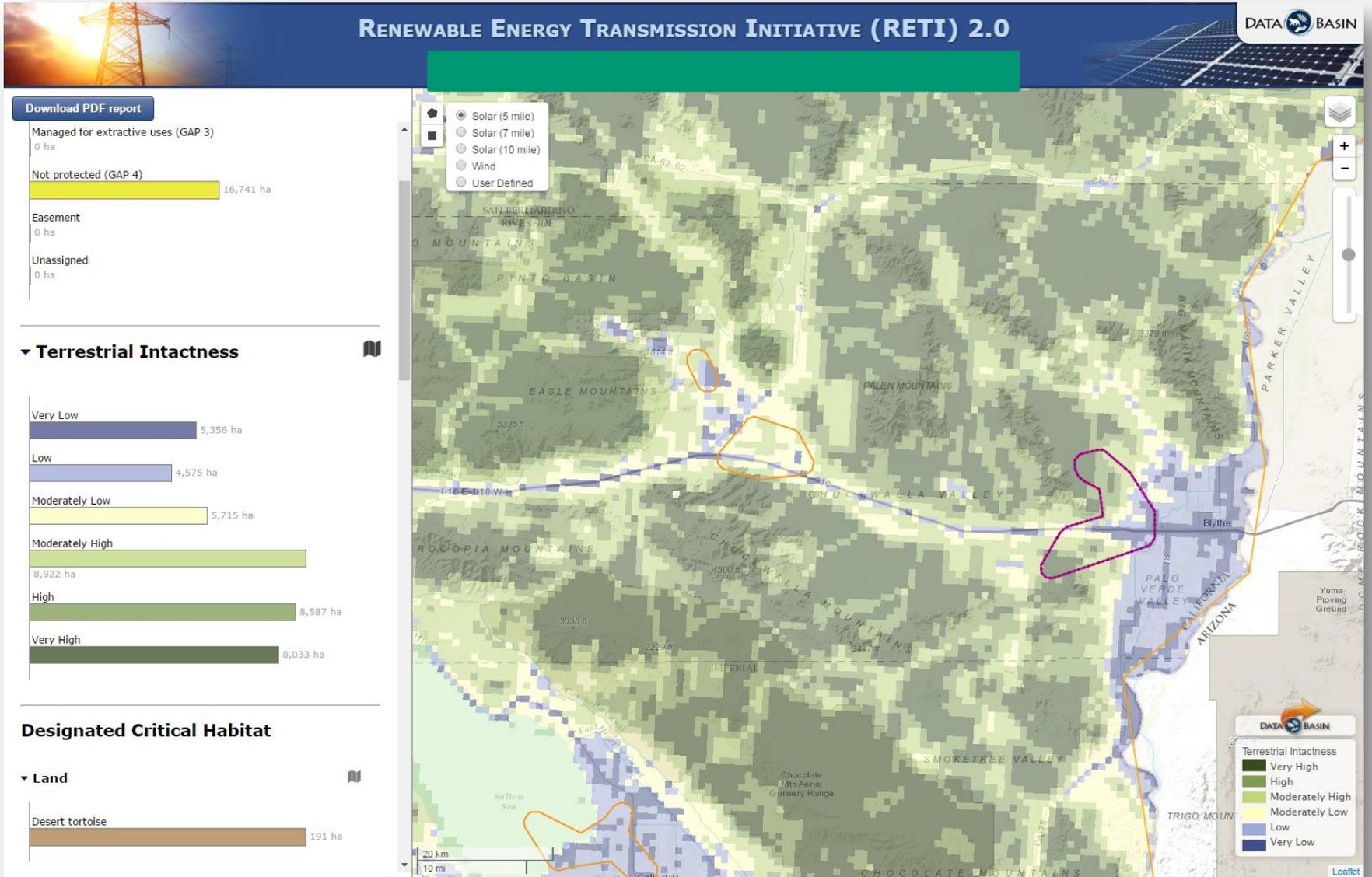
Gateways

Applications

Data Basin, Gateways, Models & Applications



Data Basin, Gateways, Models & Applications



Data Basin, Gateways, Models & Applications

RENEWABLE ENERGY INFRASTRUCTURE PLANNING ASSISTANT

1. Define Your Search Area
Click in the map to select a single county or use the drawing tools to select multiple counties.

2. Define Your Search Criteria

General Requirements | **Environmental Settings**

Enable
Adjust the slider bars below to set the maximum allowable values for each environmental setting.
Move the sliders to the ← left for a more constrained search (avoiding potentially environmentally sensitive areas).
Move the sliders to the → right for a more relaxed search (potentially including more environmentally sensitive areas).

Terrestrial Intactness: Moderately Low (0.87)

Conservation Value: Moderately High (0.87)

Number of Covered Species: 5

3. Map the Results

Currently Selected: San Bernardino

Distributed Generation Screening Tool

Introduction | **Inputs** | Results

Energy | Environmental | Cost

Exclude Protected Areas

Adjust the slider bars below to set the maximum allowable values for each environmental setting. Move the sliders to the ← left for a more restrictive search (avoiding potentially environmentally sensitive areas). Move the sliders to the → right for a more inclusive search (potentially including more environmentally sensitive areas).

More Restrictive ← → More Inclusive

Number of Focal Species Max number to include: 23

None 23

Avoid these species' habitats

Level of Development < Very Low (1.00)

Very High High Moderately High Moderately Low Low Very Low

Conservation Value < Very High (1.00)

Very Low Low Moderately Low Moderately High High Very High

Wildlife Linkage Priority < Very High (1.00)

Very Low Low Moderately Low Moderately High High Very High

Map the Results

Contact Us

Created by the Conservation Biology Institute in partnership with Black & Veatch

Data Categories – Environmental Conservation

- Conservation Lands
- Conservation Elements
 - Species occurrences
 - Natural communities occurrences
- Land Cover – GAP Analysis/Special Communities
- Focal Species Distributions
- Connectivity – Corridors/Landscape Permeability
- Landscape Condition – Terrestrial and Aquatic Intactness
- High Conservation Priorities

Data Sources



California Biological Data

Created by Conservation Biology Institute

Jan 18, 2016

Manage...

Add to...



About

This gallery contains datasets pertaining to biological content in the State of California, including species, natural communities, and some model aggregation results.

Tags

biological, values, california



This gallery is visible to everyone

Gallery contains



14 Folders



39 Datasets



6 Galleries

Usage



bookmarked by 1 member

Gallery Contents

Gallery Credits

Attachments

Comments (0)

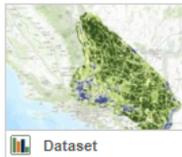
Sort by: Default

Display:

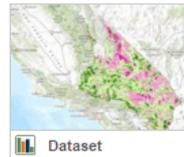


Conservation Model Results (3 folders)

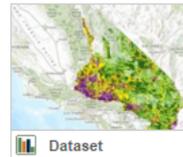
DRECP (5 items)



Dataset
Current Terrestrial Landscape Intactness (1km), DRECP



Dataset
Conservation Value (1km), DRECP



Dataset
Terrestrial Intactness - Conservation Value Combination (1km), DRECP



Dataset
Covered Species Stack - The Combined Distribution of 37 Covered Species ...



Dataset
Other Species Stack - The Combined Distribution of 55 Non-Covered ...

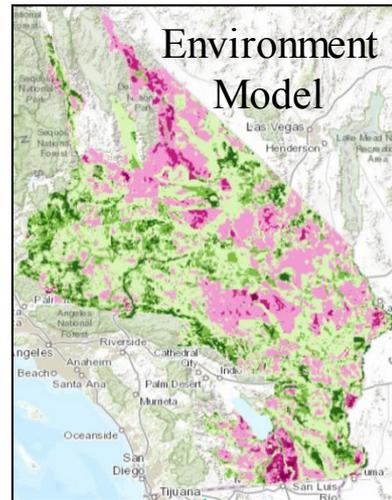
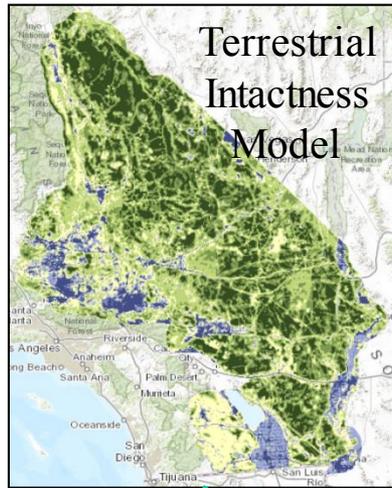
San JoaquinValley (2 items)

Statewide (1 item)

Natural Communities (4 folders)

Species (4 folders)

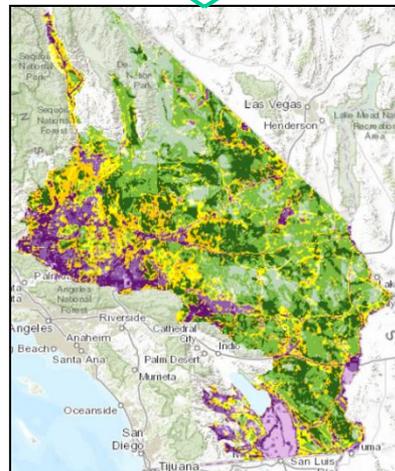
Statewide and Regional Data – DRECP Example



Agriculture Model
Now Have

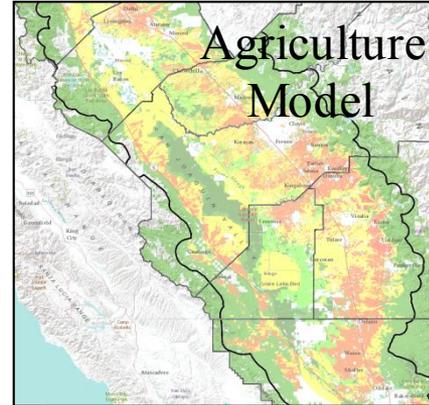
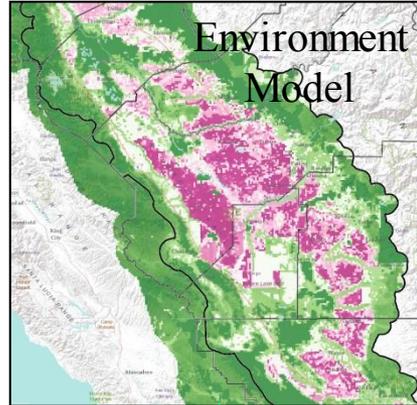
Aquatic Intactness Model

Composite Model



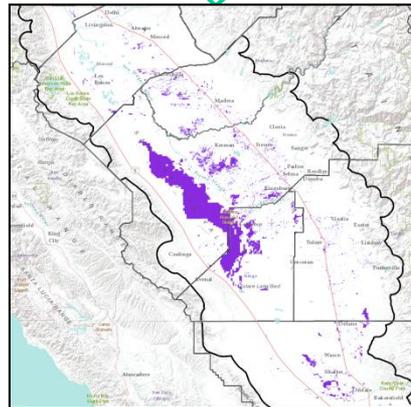
Statewide and Regional Data – SJ Example

Terrestrial
Intactness
Model
Now Have

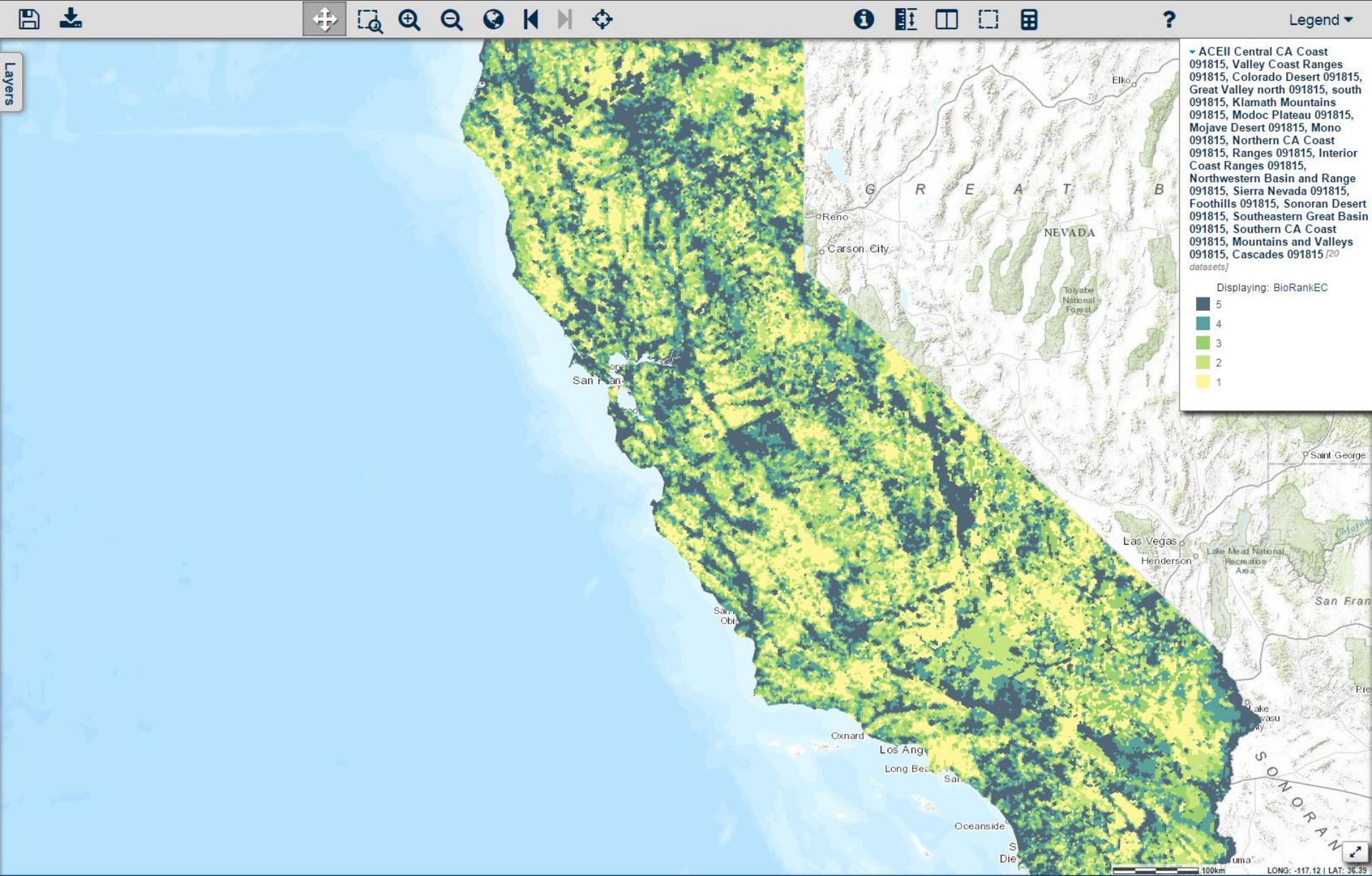


Aquatic
Intactness
Model

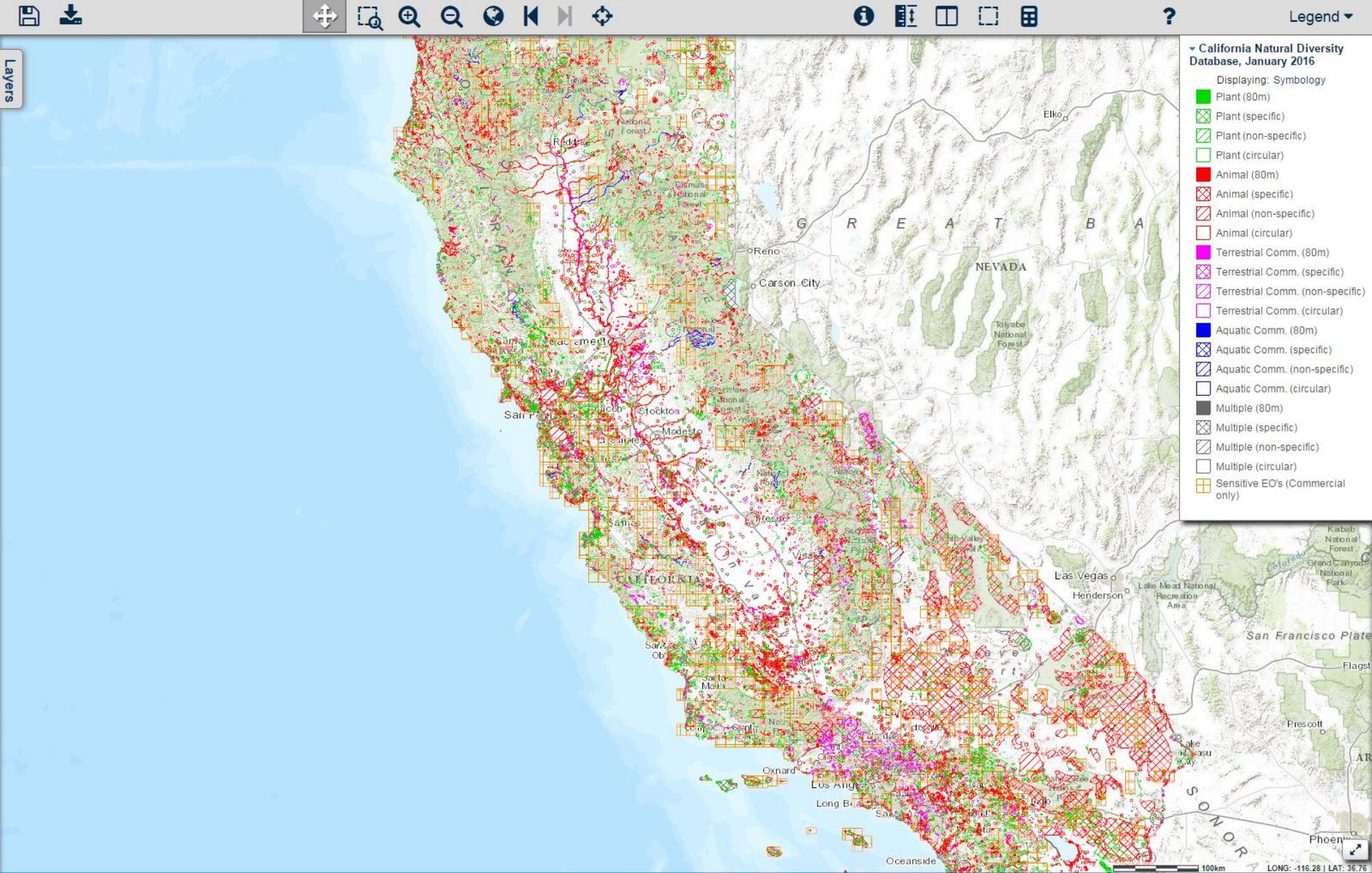
Composite
Model



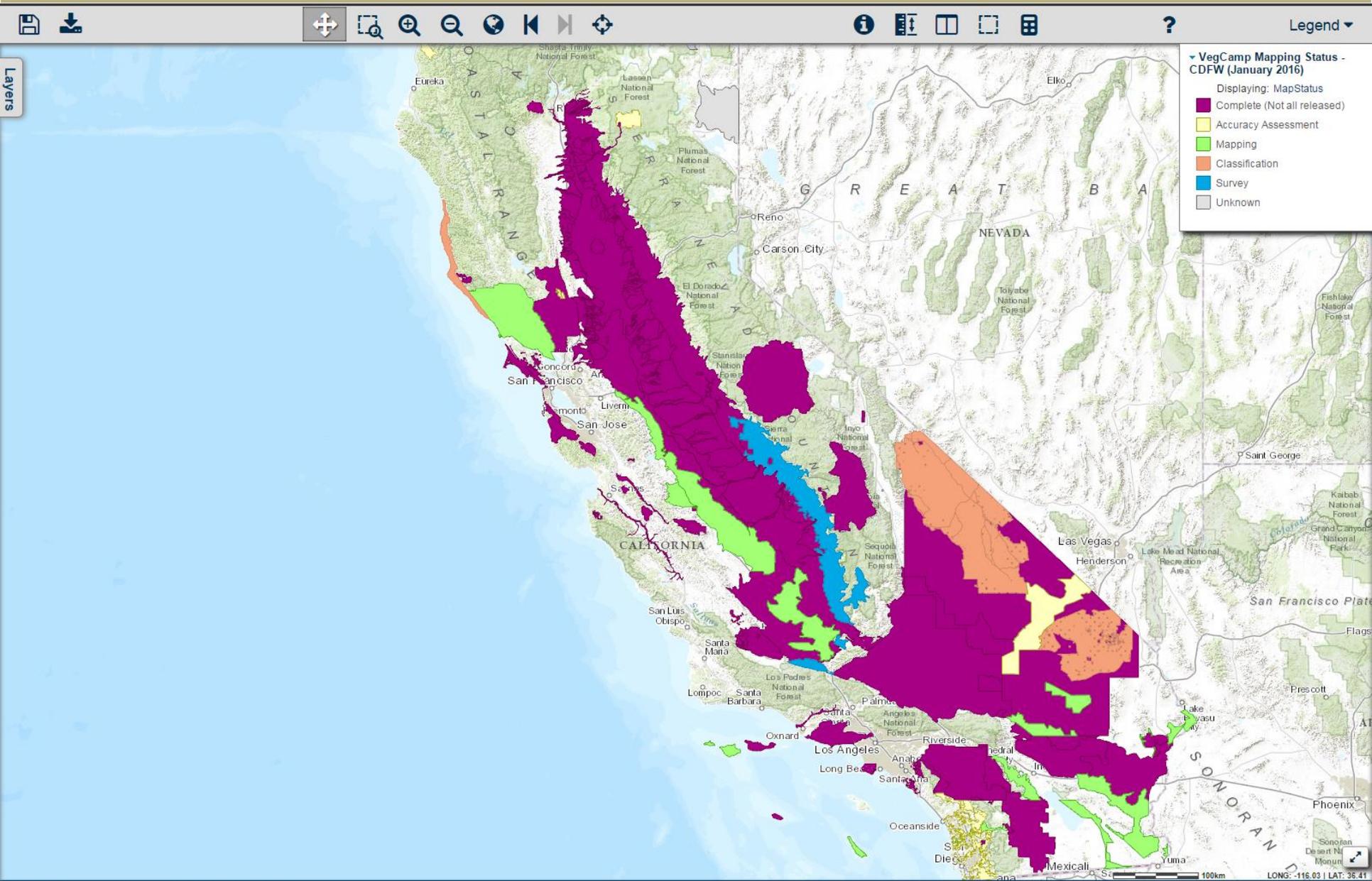
Data Sources – ACE II



Data Sources - CNDDDB

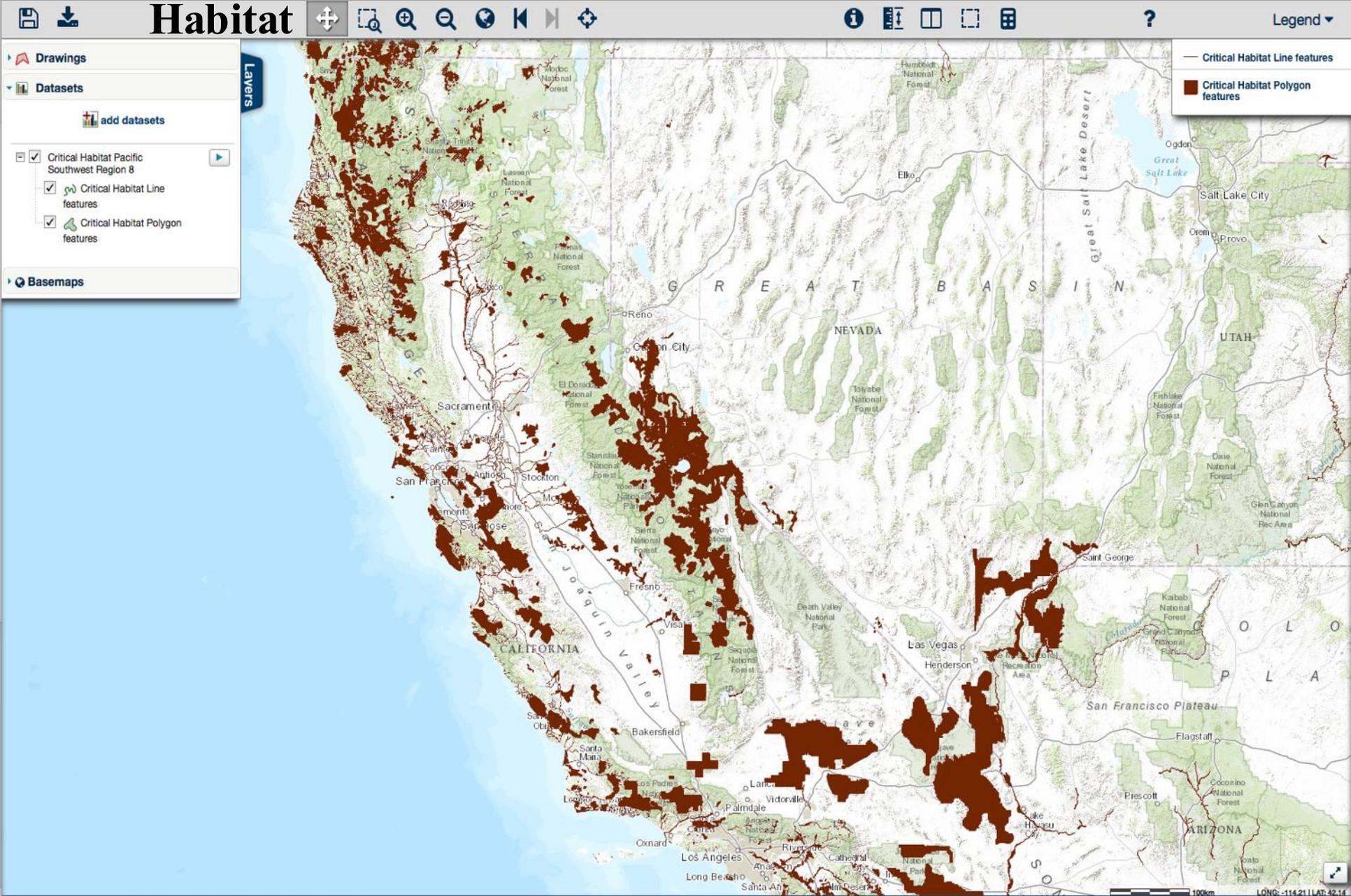


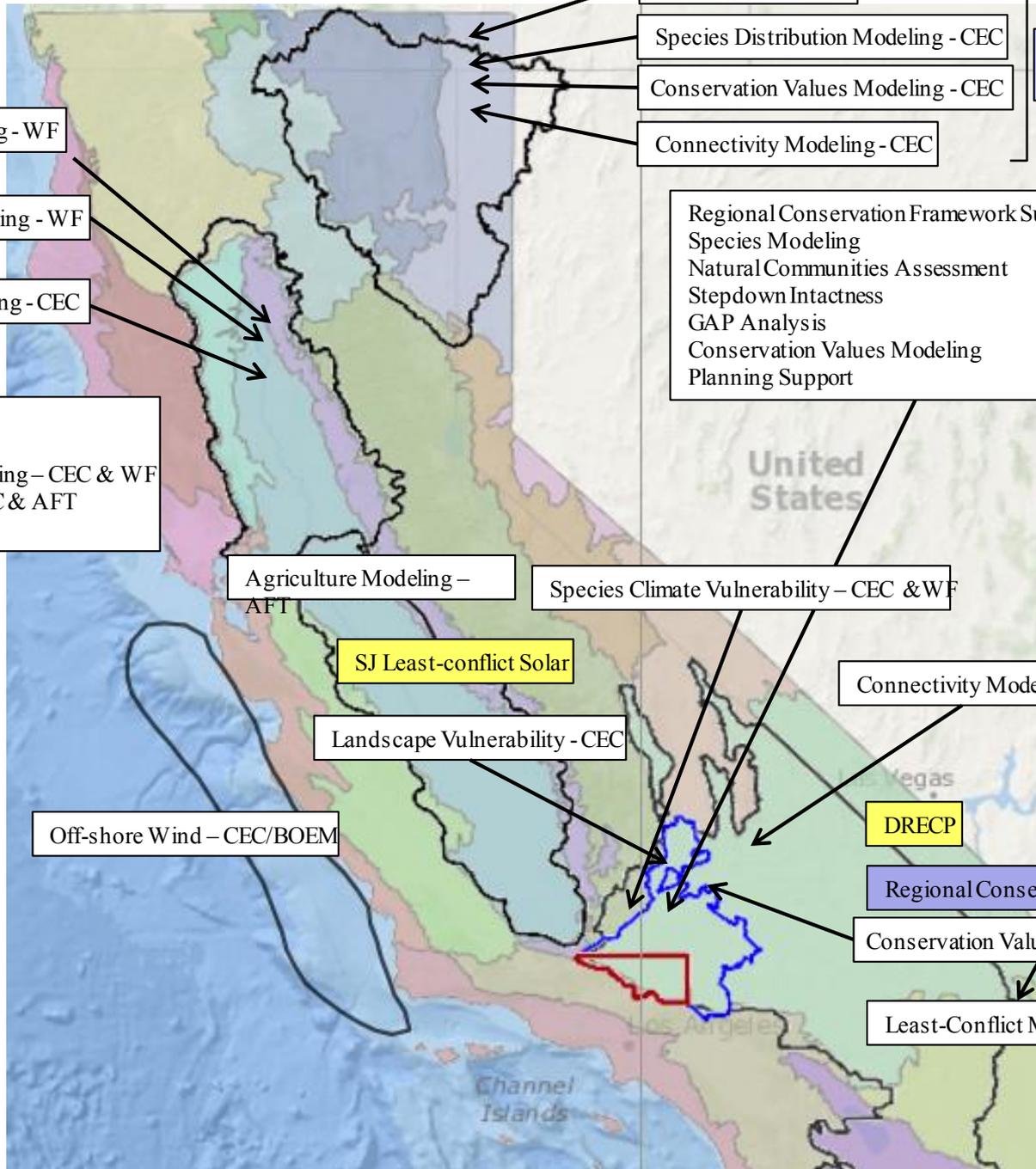
Data Sources – Vegetation Classification and Mapping Program



U.S. Fish & Wildlife Service - Designated Critical Habitat

Habitat





Fire Modeling - CEC

Species Distribution Modeling - CEC

Conservation Values Modeling - CEC

Connectivity Modeling - CEC

Regional Conservation Assessment - SGC

Connectivity Modeling - WF

Species Distribution Modeling - WF

Conservation Values Modeling - CEC

Statewide

Terrestrial Intactness Modeling – CEC & WF
Agriculture Modeling – CEC & AFT
EEMS Online – CEC & WF

Regional Conservation Framework Support – ICF
Species Modeling
Natural Communities Assessment
Stepdown Intactness
GAP Analysis
Conservation Values Modeling
Planning Support

Agriculture Modeling –
AFT

Species Climate Vulnerability – CEC & WF

SJ Least-conflict Solar

Landscape Vulnerability - CEC

Off-shore Wind – CEC/BOEM

Connectivity Modeling - WF

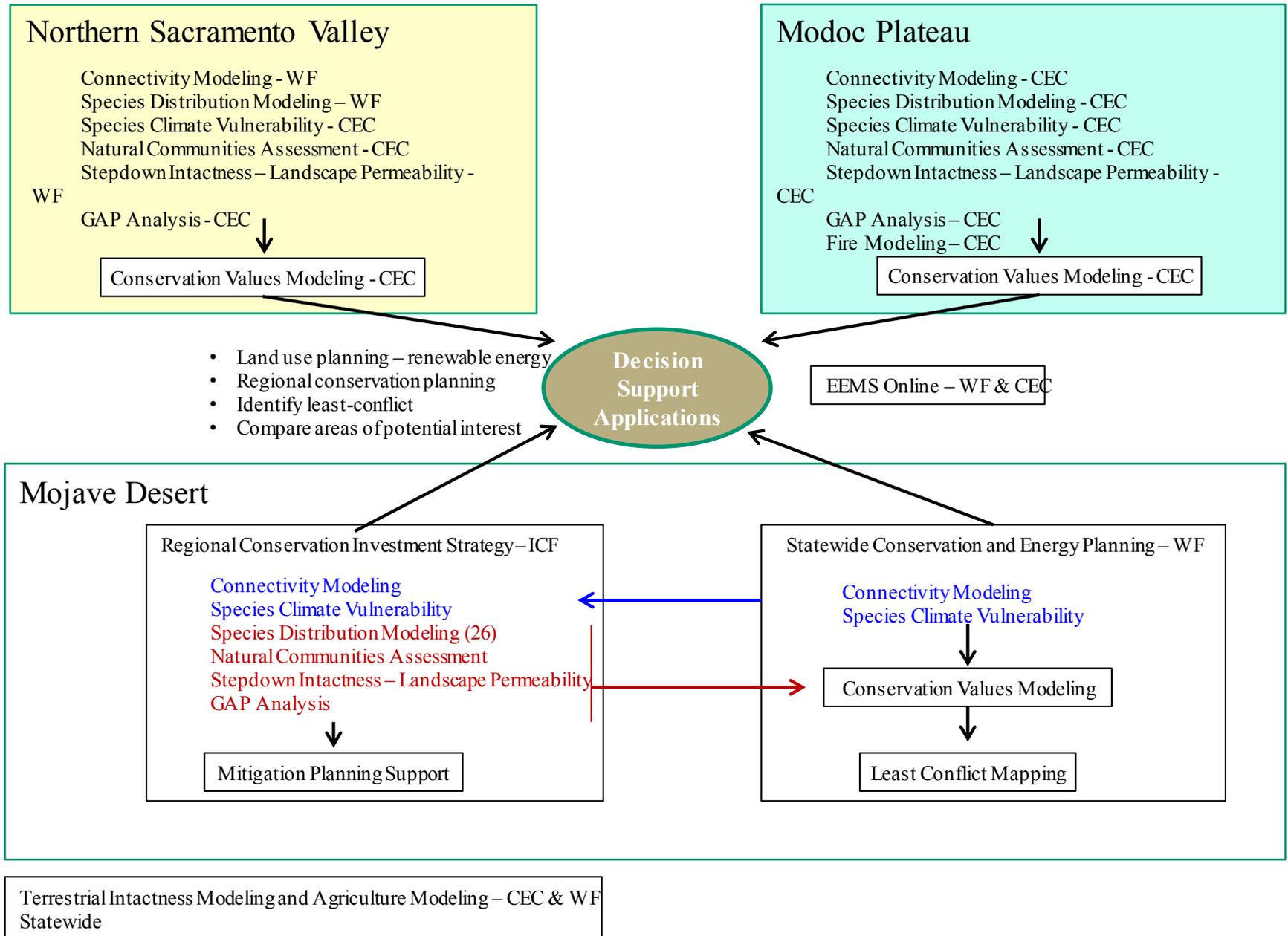
DRECP

Regional Conservation Assessment - SGC

Conservation Values Modeling - WF

Least-Conflict Mapping - WF

Relationship between Conservation and Energy Planning Projects - Windward Fund, CEC and ICF





Website and List Serve

- Sign up to receive workshop notices and materials, announcements, and other documents on this topic.
- Go to: http://www.energy.ca.gov/renewables/enviro_info-energy_planning/ and enter your info into the boxes indicated.
- Confirm your subscription by following instructions in the automated email to complete sign-up process.

A screenshot of a web browser showing the "Environmental Information for Energy Planning - Docket # 17-MISC-03" page. The page has a breadcrumb trail: "Home -> renewables -> enviro info-energy planning". The main content area contains text about Senate Bill 32 and the 2016 Integrated Energy Policy Report (IEPR) Update. On the right side, there are three sidebar sections: "Proceeding Information" with links to "Environmental Information for Energy Planning Main Page", "Workshops, Notices and Documents", "Submit comments (17-MISC-03)", and "Dockets Log"; "CALENDAR" with an entry for "April 06, 2017 Staff Workshop on Environmental Information for Energy Planning"; and "Subscribe" with the heading "Environmental Information for Energy Planning List Serve Automated Email Notifications". Below the "Subscribe" heading are input fields for "First name:", "Last name:", and "Email address:". A large blue arrow points to the "First name:" field.

