

ACE Viewer User Guide

The ACE viewer displays the ACE data layers and model results, and allows the user to overlay information about stressors, ownership, and other landscape variables. This guide provides a quick introduction to the functionality of the viewer.

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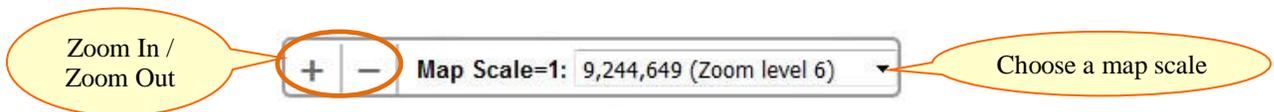
VIEWER BASICS

Navigating on the map

Click and drag to move the map in the desired direction.

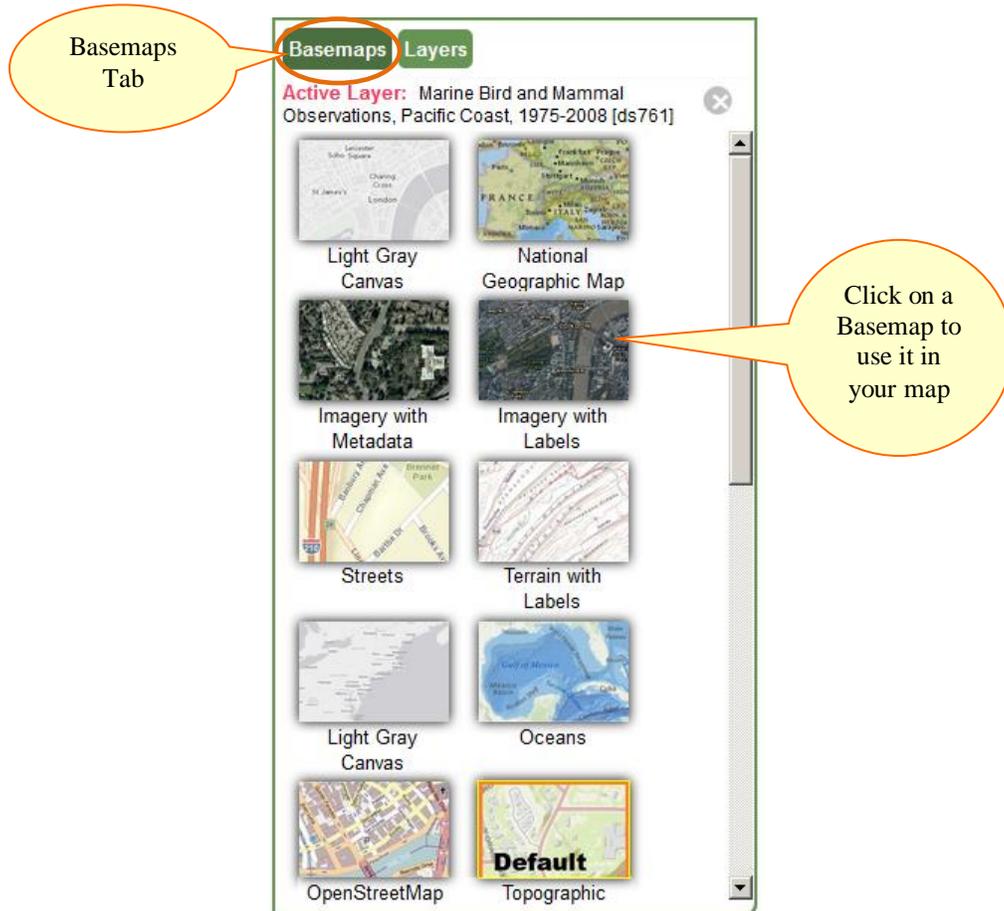
Zoom

You can use the scroll wheel on your to zoom in and out. You can also use the zoom in/zoom out buttons or choose a set map scale from the pick list to zoom the map.



Basemaps

Various basemaps and imagery can be viewed along with the ACE data. To change the basemap, click the Basemaps tab in the upper right hand corner of the map window, and select the one that you would like to use. You will see the map update to display the basemap that you have selected.



Basemap choices include imagery, street maps, topographic maps and several years of NAIP imagery, among other options. The default basemap that is loaded when the viewer opens is the ESRI World Topographic Map and you will see it labeled as **Default** in the list.

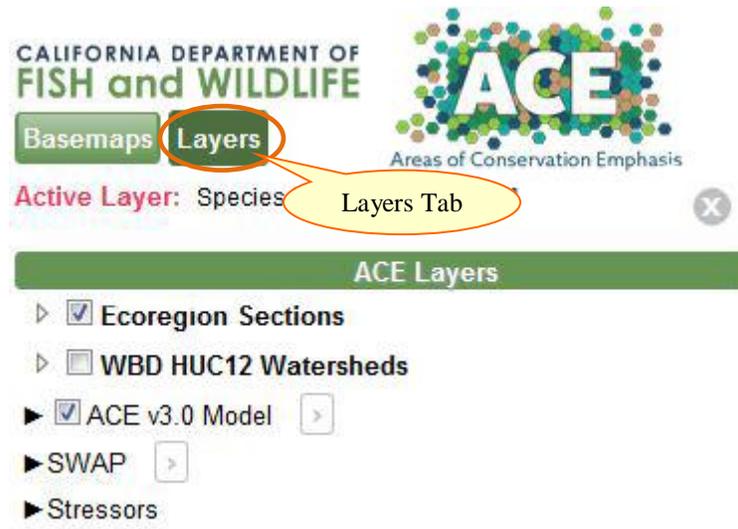
Reports and Documentation

Click on the Help button in the upper right hand corner of the map window and choose “About the data” to visit our Areas of Conservation Emphasis (ACE) webpage where you will find a list of reports and other documentation. Clicking on a document name will open the pdf file in a new window.

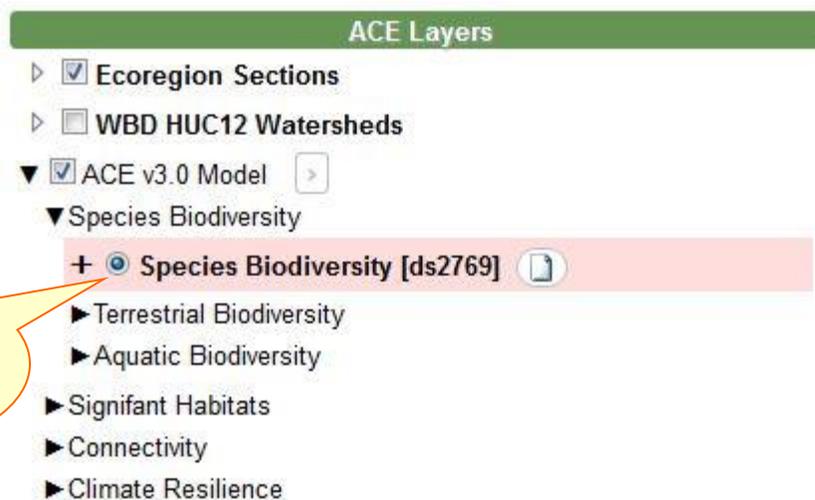
DATA LAYERS

Turning on data layers

All of the ACE data layers are available in the Layers section on the left hand side of the viewer. If this section is closed, click on the Layers tab in the upper left of the viewer to expand it and view the data layers.



Turn on any data layer by clicking the radio button to the left of the layer name. If no box is visible next to the name, click on the horizontal arrow to expand the list of viewable layers within that category.



- ▼ ACE v3.0 Model
- ▼ Species Biodiversity
 - + Species Biodiversity [ds2769]
 - ▼ Terrestrial Biodiversity
 - + Terrestrial Biodiversity Summary [ds2739]
 - + Terrestrial Species List [ds2700]
 - ▼ Terrestrial Biodiversity Datasets
 - ▶ Terrestrial Native Richness Datasets
 - ▶ Terrestrial Rarity Datasets
 - ▶ Terrestrial Irreplaceability Datasets
 - ▶ Aquatic Biodiversity
 - ▶ Significant Habitats
 - ▶ Connectivity
 - ▶ Climate Resilience

Click arrows to expand sections and show viewable layers

Note that only one ACE data layer can be displayed at a time. Each time a new ACE layer is selected, the new layer will turn on and the previously displayed ACE layer will turn off. However, the “Other Layers”, including the Ecoregions, the HUC12 watersheds, other base data, essential habitat connectivity data, limited data areas, and stressors, and the “Reference Layers” are meant to be viewed concurrently with the ACE data layers. More than one of these other layers can be turned on at a time, and once turned on they will remain on until they are manually turned off. If you are having difficulty viewing two layers together, try adjust the [Opacity](#) of one of the data layers.

Data

The viewer allows the display of statewide terrestrial and aquatic data layers as well as a combined terrestrial and aquatic species biodiversity layer.

Terrestrial Data

The Terrestrial Biodiversity Summary is a compilation of the best available information on terrestrial species biodiversity in California, including amphibians, birds, mammals, plants, and reptiles. It combines the three measures of biodiversity developed for ACE into a single metric: 1) terrestrial native species richness, which represents overall native diversity of all species in the state, both common and rare; 2) terrestrial rare species richness, which represents diversity of rare species; and, 3) terrestrial irreplaceability, which is a weighted measure of endemism. The data can be used to view patterns of overall species diversity, and identify areas of highest biodiversity across the state and in each ecoregion, taking into account common, rare, and rare endemic species. Users can view a list of species that contribute to the biodiversity measures for each hexagon (See the section on Species lists). The terrestrial biodiversity summary is a sum of values normalized by taxonomic group and by ecoregion, so that areas of high diversity within each ecoregion are highlighted, and areas of highest diversity for each taxonomic group contribute equally to the final map. The various pieces that make up the Terrestrial Biodiversity Summary are also available in the viewer.

In addition to the terrestrial biodiversity data, there are several other terrestrial datasets available in the viewer including Terrestrial Climate Change Resilience, Terrestrial Connectivity and several datasets representing Significant Terrestrial Habitats.

Aquatic Data

The Aquatic Biodiversity Summary is a compilation of the best available information on aquatic species biodiversity in California, including aquatic amphibians, fish, aquatic invertebrates, and aquatic reptiles. It combines the three measures of biodiversity developed for ACE into a single metric: 1) aquatic native species richness, which represents overall native diversity of all species in the state, both common and rare; 2) aquatic rare species richness, which represents diversity of rare species; and, 3) aquatic irreplaceability, which is a weighted measure of rarity and endemism. The data can be used to view patterns of overall species diversity, and identify areas of highest biodiversity across the state, taking into account common, rare, and rare endemic species. Users can view a list of species that contribute to the biodiversity measures for each watershed (See the section on Species lists). The aquatic biodiversity summary is a sum of values normalized by taxonomic group, so that areas of highest diversity for each taxonomic group contribute equally to the final map. The various pieces that make up the Aquatic Biodiversity Summary are also available in the viewer.

In addition to the aquatic biodiversity data, there are several datasets available in the viewer representing Significant Terrestrial Habitats.

Combined Terrestrial and Aquatic Species Biodiversity data

The Species Biodiversity dataset synthesizes information from the ACE Terrestrial Biodiversity Summary, which is compiled by hexagon, and the Aquatic Biodiversity Summary, which is compiled by watershed. The biodiversity summary combines three measures of biodiversity: 1) native species richness, which represents overall native **diversity of all species in the state, both common and rare; 2) rare species richness, which** represents diversity of rare species; and, 3) irreplaceability, which is a weighted measure of endemism. The data can be used to view patterns of overall species diversity, and identify areas of highest biodiversity, taking into account common, rare, and rare endemic species.

Layer descriptions/Metadata

To find more information about each data layer, including the data sources used to create the layer, a description of the process used to develop the layer, field name definitions, and data limitations and use constraints, click on the metadata button to the right of the layer name in the layer list.



A brief summary of the metadata will be displayed in a panel on the right side of the viewer.



If you scroll down in the panel where the Metadata is displayed, You will see a button that will open the complete metadata for the layer in a new tab in your browser.

Contact Information

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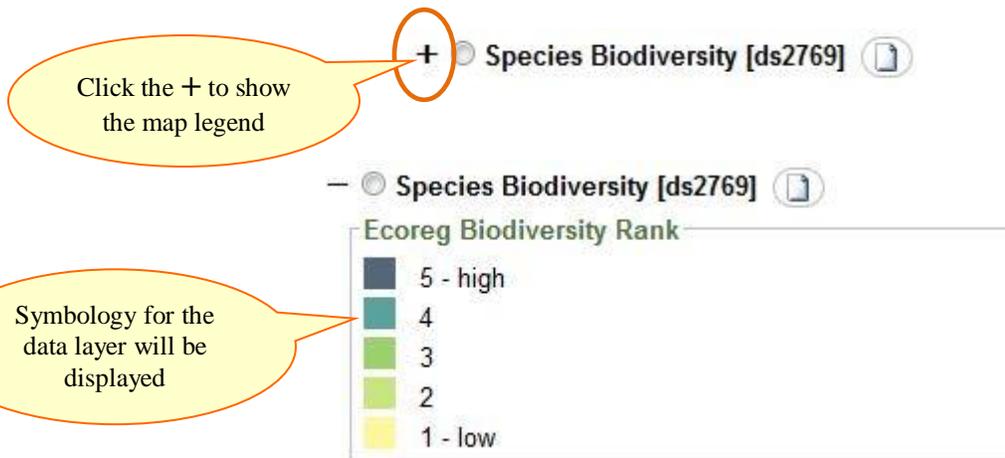
Click to open the complete metadata

[Complete metadata](#) [Download data](#)

Additional information about the data layers and modeling process can also be found in the factsheets. These are available on the [ACE website](#) and also through a link in the metadata for each layer.

Map legend

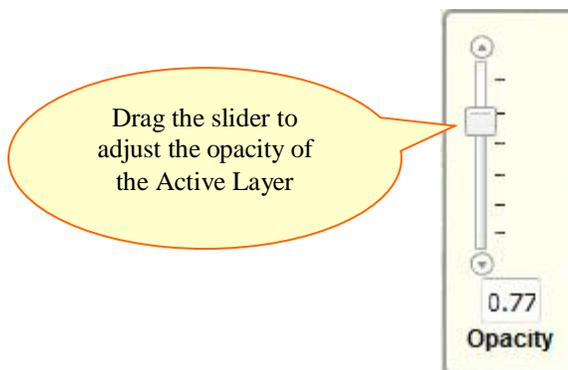
A legend for each data layer is available within the layer list on the left hand side of the map. Click on the plus sign next to the layer name. This opens a box that displays the legend.



Opacity

The opacity of any of the data layers can be adjusted.

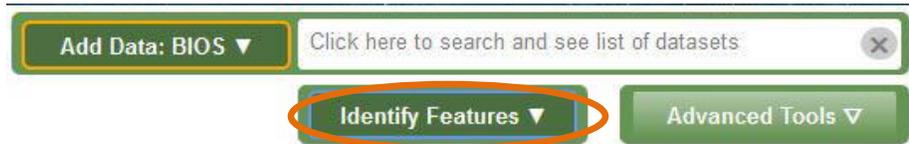
- 1) Activate the layer of interest from the left hand layer list by clicking on the radio button next to the layer title or on the layer title itself. Once active, the layer should be highlighted in pink.
- 2) Adjust the opacity using the bar on the lower right hand side of the map.
- 3) The opacity will remain as adjusted for each layer until it is manually changed again.



Identify Features

More information about each hexagon or polygon can be obtained by using the Identify Features tool.

- 1) Activate the layer of interest from the left hand layer list by clicking on the radio button next to the layer title or by clicking on the layer title. Once active, the layer should be highlighted in pink.
- 2) Choose the Identify Features tool from the Map Tools menu.

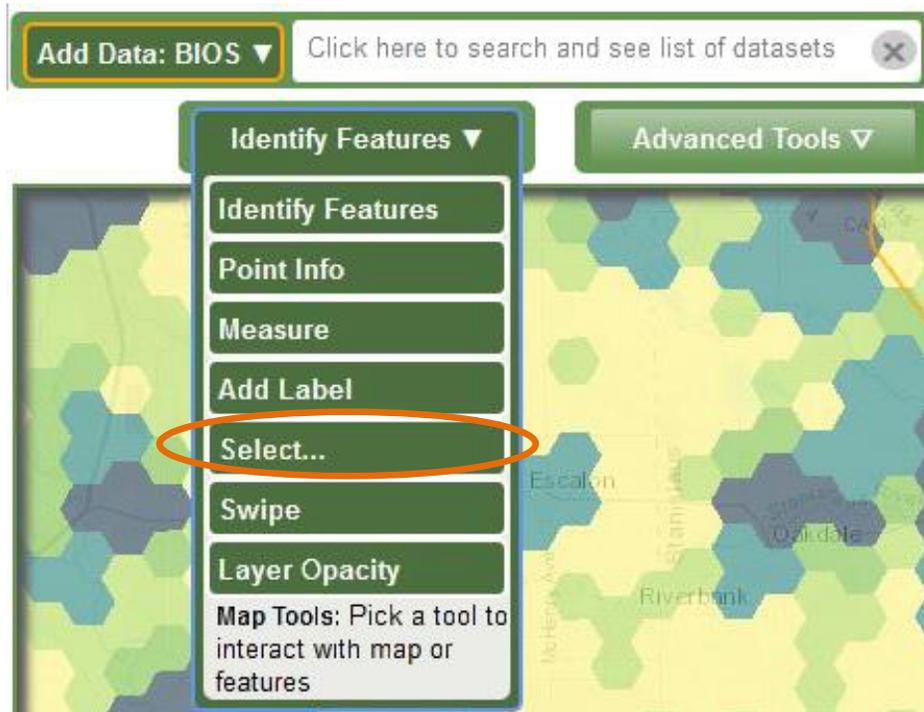


- 3) Click on the hexagon or polygon of interest on the map. A data box will pop up showing a table with additional data for that layer within that hexagon or location.

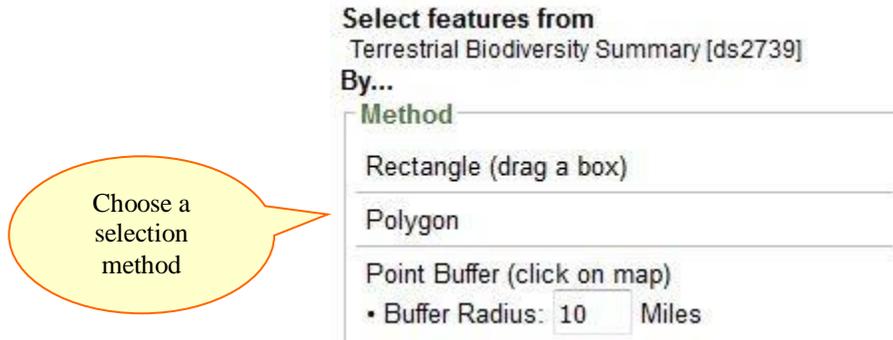
Select Features

Activate the layer of interest from the left hand layer list by clicking on the radio button next to the layer title or by clicking on the layer title. Once active, the layer should be highlighted in pink

- 1) Choose the Select tool from the Map Tools menu.



- 2) A tool panel will open on the right side of the viewer. Choose one of the selection methods (Select by Rectangle, Select by Polygon or Select by Point Buffer) and click on a hexagon or HUC12 watershed in the active layer in the map. A table panel will open at the bottom of the viewer displaying your results.



Species Lists

The Terrestrial Biodiversity Summary and the Aquatic Biodiversity Summary are each paired with a Species List dataset. Using the Identify Features tool described above, you can click on the hexagon in the Terrestrial Species List or a HUC in the Aquatic Species List to view a list of species that have been observed or have habitat within that hexagon or HUC. The results will be displayed in a table panel at the bottom of the viewer.

Data Download

For most users, viewing and manipulating the data within the ACE viewer is the most appropriate way to use the data for its intended purposes. For advanced users with a thorough understanding of the data limitations, the ACE GIS layers are available by request from the [ACE project lead](#). Users must consider the data limitations as well as common GIS pitfalls such as scale, currency, and error-propagation. Individual data layers can also be downloaded through the viewer. To do this, Open the Metadata panel as mentioned above, scroll to the bottom of the panel and click the Download Data button.

Contact Information

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[Complete metadata](#) [Download data](#)

Click to download GIS files for the layer.

The ACE Viewer shares many tools and options with our [BIOS Viewer](#). For detailed information about the other tools available in the ACE Viewer please refer to the [BIOS User Guide](#).