



WEB SERVICES • GIS • VISUALIZATION

Open and Collaborative
Natural Resource Management



Live
Conditions



Maps
GIS



Mobile



Document
Management



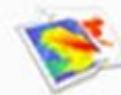
What is
OpenNRM?



Project
Management



Knowledge
Wiki



Data Visualization
Engine



CMS

A collaborative resource management workspace and project management application for data collection, analysis, reporting and visualization

Discovery. Analyze. Research.

Collaborative Science for the Bay-Delta Community.



Live Conditions



Daily Operations



News



Community



Major Reservoir
Storage



Snowpack/Runoff



Water Quality



DWR Fish Salvage



Ecosystem Projects



Scientific Studies



Data Animations



GIS/Map Layers



Delta Atlas



Photos/Videos



Boating Fishing



Data Workspace

WATER NEWS

City Beat: Sacramento mayor, city manager oppose Delta water tunnels

MERCED SUN-STAR TUE, 16 JUL 2013 21:19:01 GMT

EDITORIAL : CAN STEINBERG HEAD OFF A DELTA TRAIN WRECK ?

THE SAN LUIS OBISPO TRIBUNE MON, 15 JUL 2013 16:58:21 GMT

CALTRANS YANKS ANTI-TUNNEL SIGNS IN DELTA, IGNITES FUROR

SACRAMENTO BEE THU, 11 JUL 2013 07:02:12 GMT

SACRAMENTO RIVER SALMON SPAWNING THREATENED BY MASSIVE WATER EXPORTS

BAY AREA INDYMEDIA SAT, 06 JUL 2013 01:49:51 GMT

THE DROUGHT, DELTA SMELT AND A RATIONAL WATER POLICY

WALL STREET JOURNAL FRI, 19 JUL 2013 19:11:22 GMT

WEEKLY QUESTION

What Delta Risks Are you Concerned About Most?

Please select one answer



Earthquakes



Fish Decline



Toxics



Other



Flood

SUBMIT

NEW UPLOADS



Water Supply Update.jpg

JUL 09, 2013



Lower Yolo Restoration Project DRAFT EIR Vol. 1

MAY 21, 2013



Lower Yolo Restoration Project DEIR Volume 2

MAY 21, 2013



Cache Slough Region

MAY 08, 2013

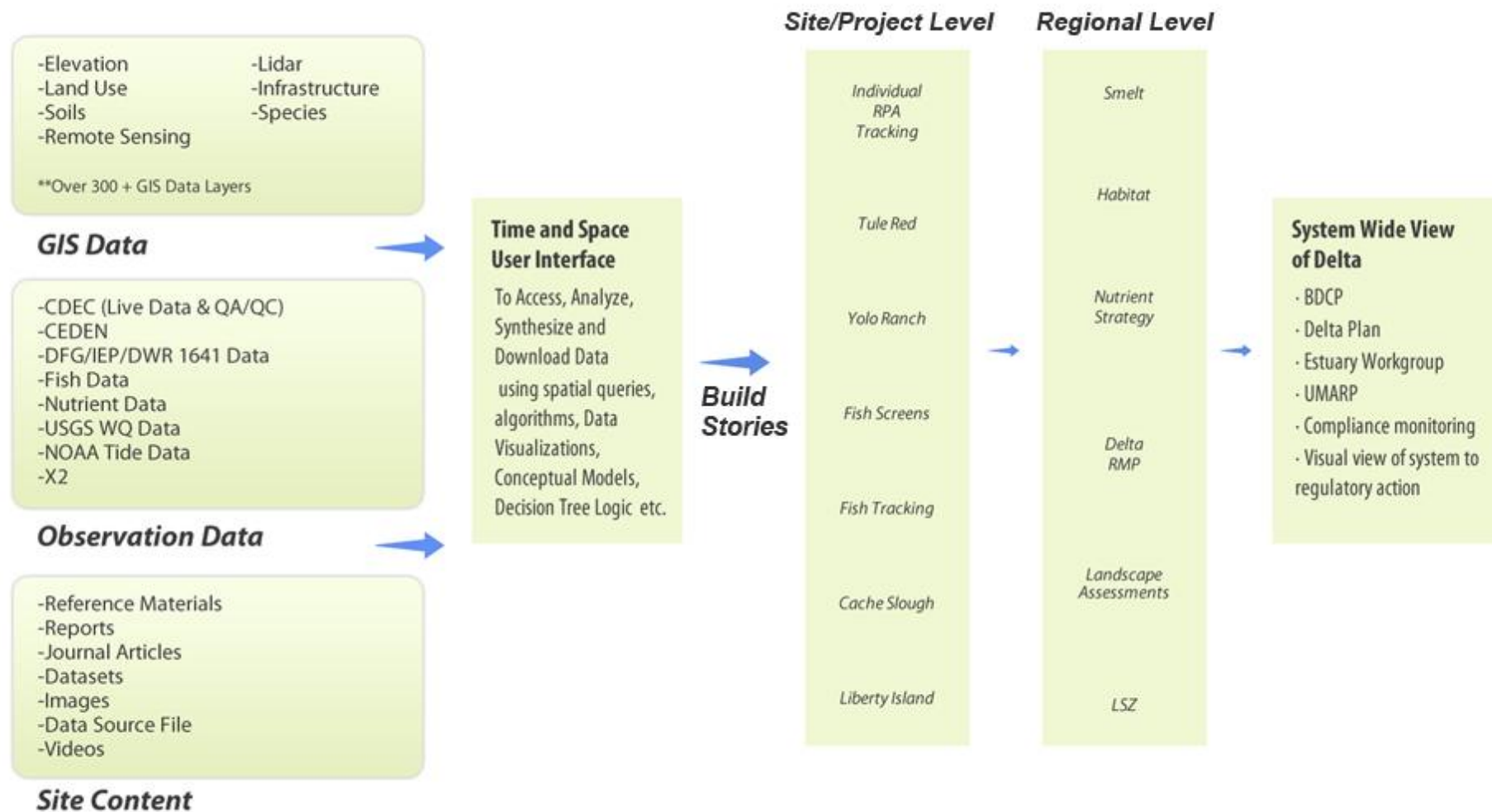


Pelagic Organism Decline

MAY 07, 2013



wrd1641 1999der79.pdf



Using OpenNRM content management, start building stories



Build your data stories using:

Document Library-reports, images, video

Interactive Maps

Delta Data-Easy to Access Data

Graphing and Data Interpolation Engine

Real Time Condition Data

Wikis

Project Data

Operations Data

Communications are live and always up to data:
synced with the data.



TOOLS

RECENT ACTIVITY

DOCUMENTS

IMAGES/VIDEO

MAPS

SUMMARY/REPORT



Cache Slough Region

PROJECT DATA

COMMENTS

RECENT UPDATES

SHARE

INVITE

(6 members, 0 following)

DESCRIPTION

Creating new, self-sustaining wetlands will require excavating new channels at various depths, sizes and configurations. This 1,100-acre project will apply various designs and monitor their effectiveness in relation to tidal and storm pulses and the establishment of plants in the created wetlands. Ecologically, the goal is to provide important new sources of food and shelter for a variety of native fish species at the appropriate scale in strategic locations. Locally, the goal is a process with stakeholder input and ensuring continued or enhanced flood protection.

CONTACT

The Lower Yolo Restoration Project is a cooperative effort with water districts receiving supplies via the Delta's State Water Project (SWP), Central Valley Project (CVP) and the Department of Water Resources (DWR). The WWD owns a portion of the project site. Additional financial support is provided by the State and Federal Contractors Water Agency, (SFCWA) a joint powers authority representing members of the SWP and CVP. This agency will be the lead in developing the restoration project.

MORE INFO URL

<http://www.baydeltalive.com/site/loweryol>

Add comment



BDL Admin

Add your comments here

Jun 20, 2013 11:04 AM



BDL Admin

The DRAFT EIR for the Lower Yolo Restoration Project is available now. See the New Uploads section on the right side of this page for viewing or download.

May 17, 2013 10:29 AM

NEW UPLOADS



Lower Yolo Restoration Project DRAFT EIR Vol. 1
MAY 21, 2013



Lower Yolo Restoration Project DEIR Volume 2
MAY 21, 2013



Lower Yolo Bypass Area
APR 16, 2013



Lower Yolo Turbidity Sensor
APR 16, 2013



Liberty Island OSM Map
APR 16, 2013

** LESS **

MEMBERS AND FOLLOWERS



Admin, BDL



Hemenway, Nathan



TOOLS

RECENT ACTIVITY

DOCUMENTS

IMAGES/VIDEO

MAPS

SUMMARY/REPORT

Cache Slough Region

YOLO BYPASS WITH SACRAMENTO SKYLINE



DOWNLOAD

SHARE

AUTHOR/SOURCE

Dave Feliz

SUBTYPE

Image

Added By: BDL Admin

Date Added: Feb 25, 2013 10:27 AM

Last Edited By: BDL Admin

Last Edited : Feb 25, 2013 01:36 PM

Public



YOLO BYPASS WITH SACRAMENTO SKYLINE

MORE

...

IMAGES / VIDEO

II ►



Cache Slough Region

LOWER YOLO BYPASS AREA



SHARE

CAPTION

Northwest Delta Points of Diversions, Bridges, Ag Drain Returns and Railroads

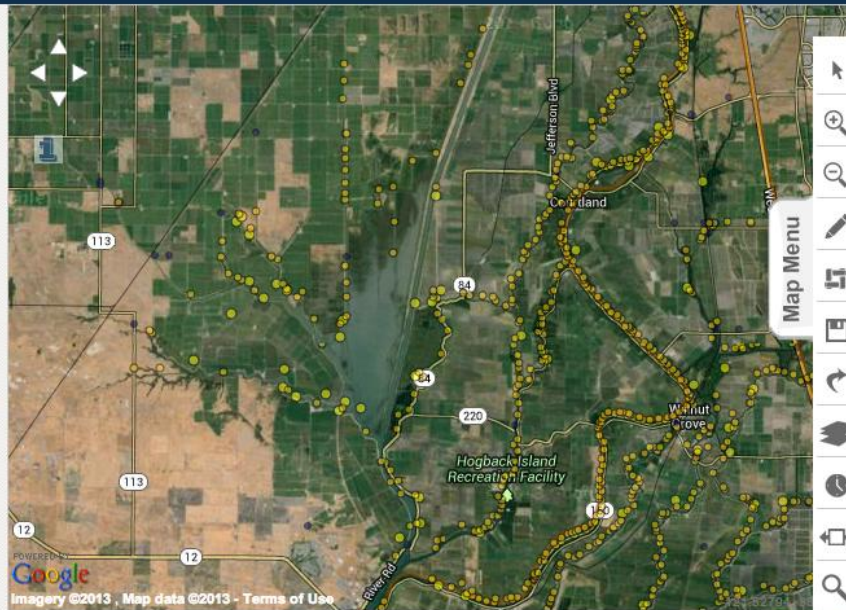
Added By: BDL Admin

Date Added: Feb 25, 2013 07:50 PM

Last Edited By: Site Admin 02

Last Edited : Apr 16, 2013 01:37 PM

Public



LOWER YOLO BYPASS AREA

MORE

MAPS



- Manage / Upload
- Layers And Web Services
- Draw, Measure, Query
- Save And Share
- Associate To Projects,
- Documents, Wiki, Anything
- Build A Story
- Overlay With Datasets



TOOLS

RECENT ACTIVITY

DOCUMENTS

IMAGES/VIDEO

MAPS

Hyaella Azteca Barbara Albrecht

HYALELLA AZTECA BARBARA ALBRECHT



DOWNLOAD

SHARE

CAPTION

Hyaella azteca is a 1/4-inch-long amphipod that is common in aquatic systems.

AUTHOR/SOURCE

Barbara Albrecht

DESCRIPTION

Hyaella azteca is a 1/4-inch-long amphipod that is common in aquatic systems.

SUBTYPE

Image

KEYWORDS

Foodweb, Science, Restoration, Habitat, Fish, Rivers, species

Last Edited : Aug 07, 2011 01:18 PM

Public Syndicated



HYALELLA AZTECA BARBARA ALBRECHT

MORE

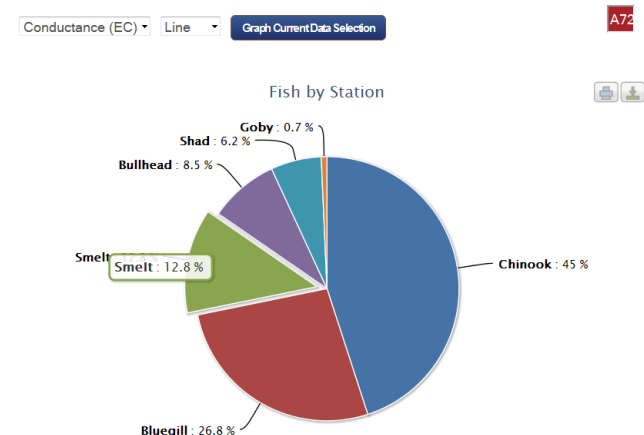
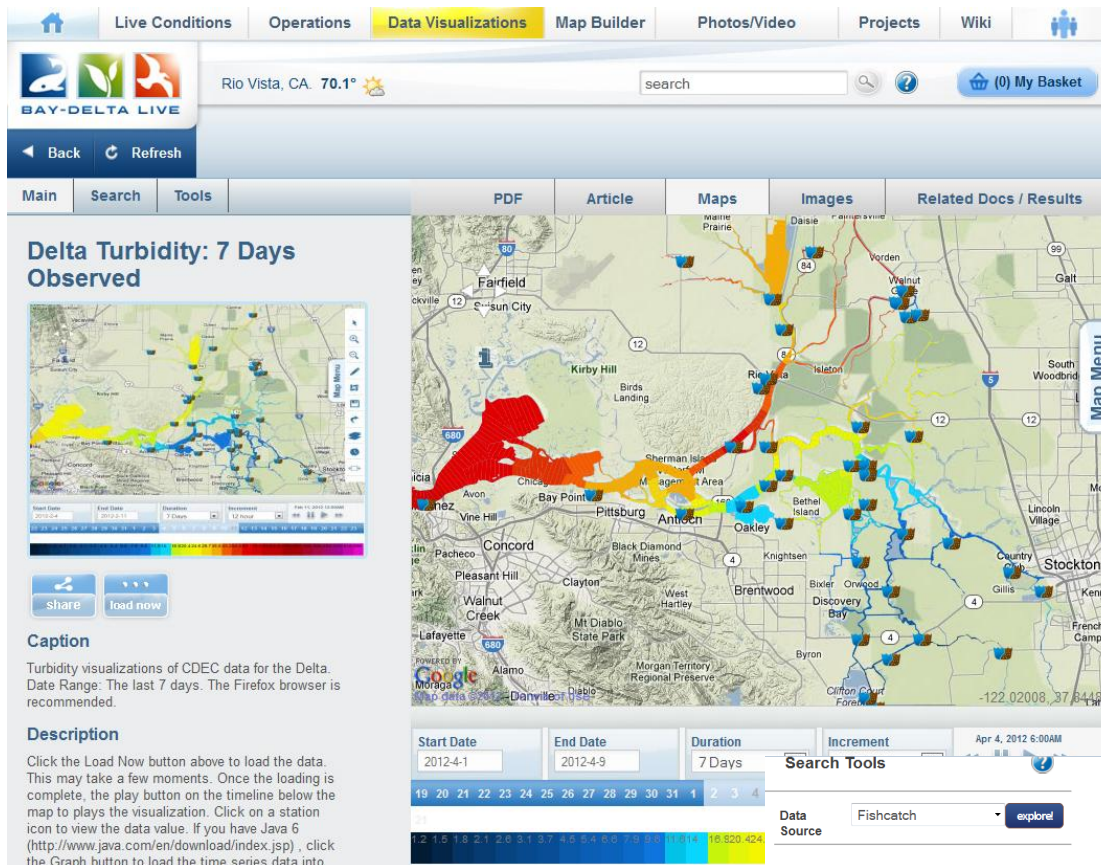
Hyaella azteca is a 1/4-inch-long amphipod that is common in aquatic systems. ...

IMAGES / VIDEO



DATA VISUALIZATION TOOLS

- Access Data In Time And
- Space
- Compare Datasets
- Save Data Presets
- Share Data
- Associate To Projects, Documents, Wiki, Anything
- Build A Story
- Syndicate Results
- Track Lineage



[Live Conditions](#)[Operations](#)[Data Visualizations](#)[Map Builder](#)[Photos/Video](#)[Projects](#)[Wiki](#)

Rio Vista, CA 70.1°



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Delta Turbidity: 7 Days Observed

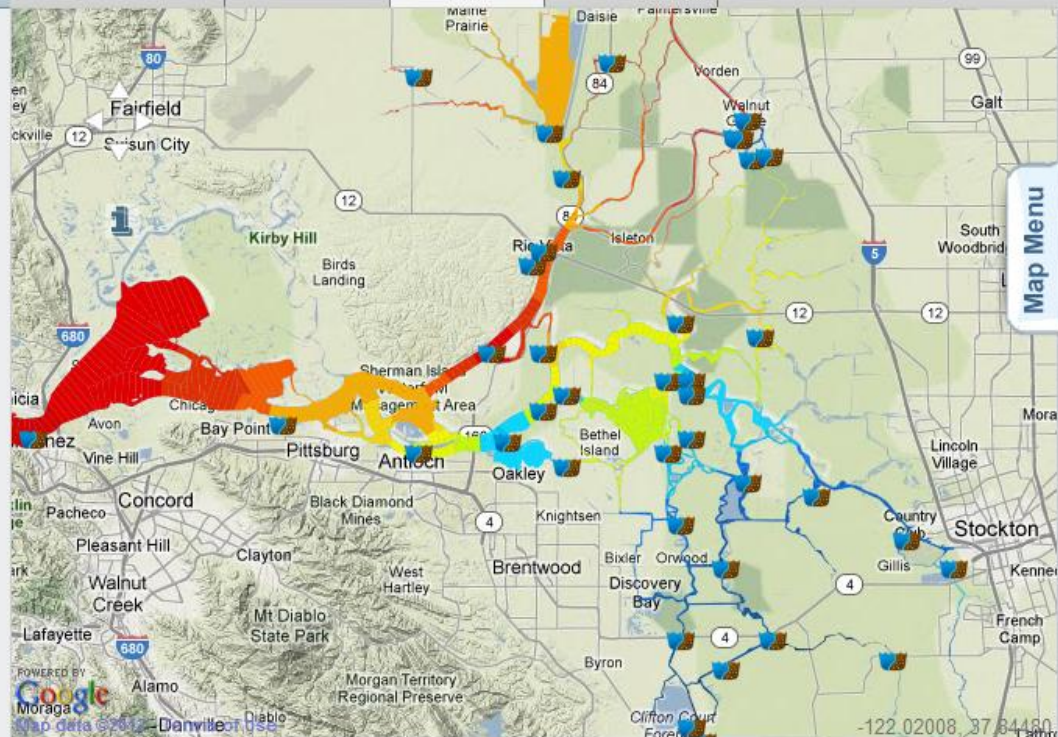


Caption

Turbidity visualizations of CDEC data for the Delta. Date Range: The last 7 days. The Firefox browser is recommended.

Description

Click the Load Now button above to load the data. This may take a few moments. Once the loading is complete, the play button on the timeline below the map to plays the visualization. Click on a station icon to view the data value. If you have Java 6 (<http://www.java.com/en/download/index.jsp>), click the Graph button to load the time series data into



Start Date

2012-4-1

End Date

2012-4-9

Duration

7 Days

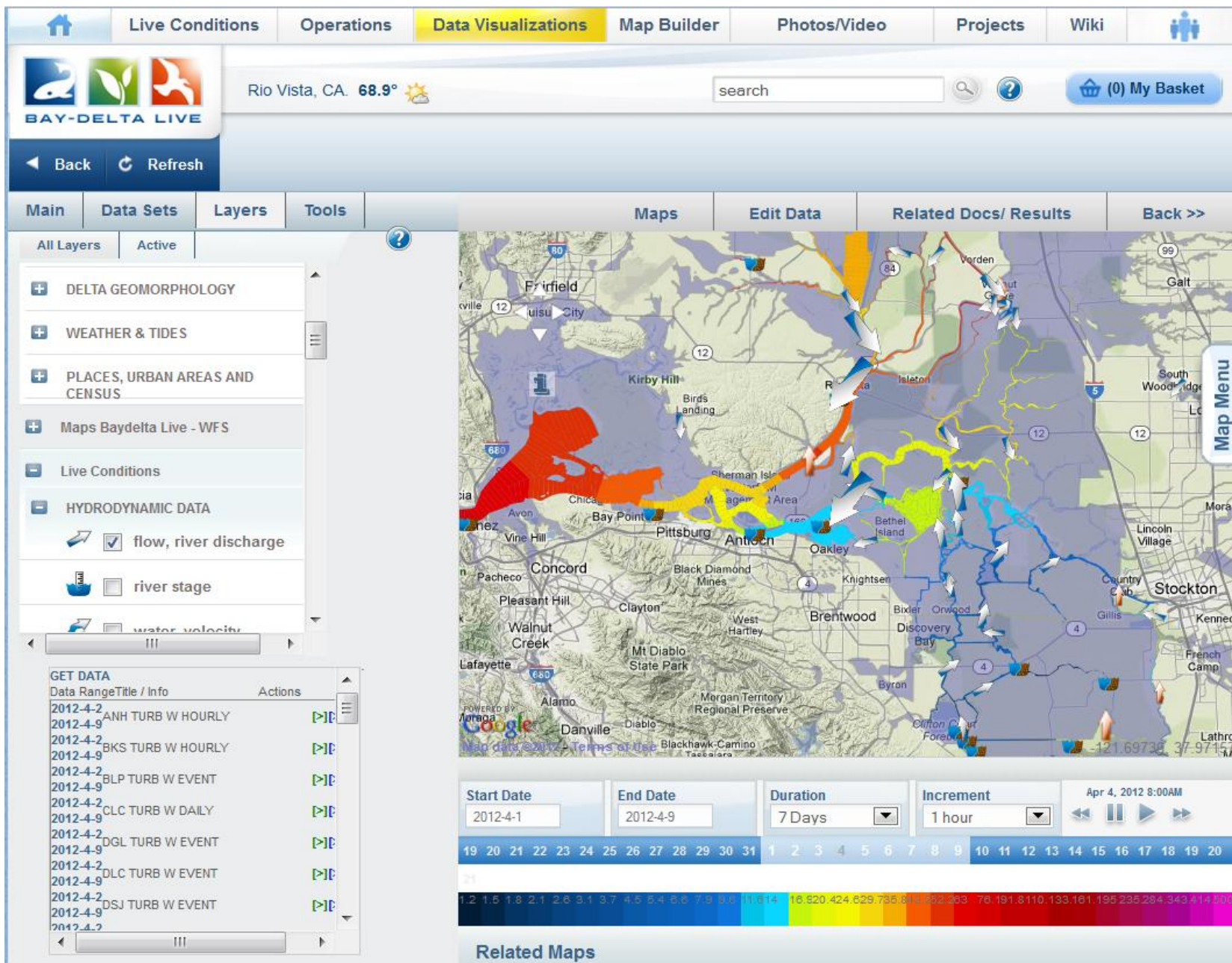
Increment

15 minute

Apr 4, 2012 6:00AM

19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

1.2 1.5 1.8 2.1 2.6 3.1 3.7 4.5 5.4 6.6 7.9 9.3 11.0 14 16.8 20.4 24.2 29.5 35.1 42.3 50.3 60.3 70.1 81.0 93.0 107.0 123.0 141.0 161.0 183.0 207.0 233.0 261.0 291.0 323.0 357.0 393.0 431.0 471.0 513.0 557.0 603.0 651.0 701.0 753.0 807.0 863.0 921.0 981.0 1043.0 1107.0 1173.0 1241.0 1311.0 1383.0 1457.0 1533.0 1611.0 1691.0 1773.0 1857.0 1943.0 2031.0 2121.0 2213.0 2307.0 2403.0 2501.0 2601.0 2703.0 2807.0 2913.0 3021.0 3131.0 3243.0 3357.0 3473.0 3591.0 3711.0 3833.0 3957.0 4083.0 4211.0 4341.0 4473.0 4607.0 4743.0 4881.0 5021.0 5163.0 5307.0 5453.0 5601.0 5751.0 5903.0 6057.0 6213.0 6371.0 6531.0 6693.0 6857.0 7023.0 7191.0 7361.0 7533.0 7707.0 7883.0 8061.0 8241.0 8423.0 8607.0 8793.0 8981.0 9171.0 9363.0 9557.0 9753.0 9951.0 10151.0 10353.0 10557.0 10763.0 10971.0 11181.0 11393.0 11607.0 11823.0 12041.0 12261.0 12483.0 12707.0 12933.0 13161.0 13391.0 13623.0 13857.0 14093.0 14331.0 14571.0 14813.0 15057.0 15303.0 15551.0 15801.0 16053.0 16307.0 16563.0 16821.0 17081.0 17343.0 17607.0 17873.0 18141.0 18411.0 18683.0 18957.0 19233.0 19511.0 19791.0 20073.0 20357.0 20643.0 20931.0 21221.0 21513.0 21807.0 22103.0 22401.0 22701.0 23003.0 23307.0 23613.0 23921.0 24231.0 24543.0 24857.0 25173.0 25491.0 25811.0 26133.0 26457.0 26783.0 27111.0 27441.0 27773.0 28107.0 28443.0 28781.0 29121.0 29463.0 29807.0 30153.0 30501.0 30851.0 31203.0 31557.0 31913.0 32271.0 32631.0 33093.0 33557.0 34023.0 34491.0 34961.0 35433.0 35907.0 36383.0 36861.0 37341.0 37823.0 38307.0 38793.0 39281.0 39771.0 40263.0 40757.0 41253.0 41751.0 42251.0 42753.0 43257.0 43763.0 44271.0 44781.0 45293.0 45807.0 46323.0 46841.0 47361.0 47883.0 48407.0 48933.0 49461.0 49991.0 50523.0 51057.0 51593.0 52131.0 52671.0 53213.0 53757.0 54303.0 54851.0 55401.0 55953.0 56507.0 57063.0 57621.0 58181.0 58743.0 59307.0 59873.0 60441.0 61011.0 61583.0 62157.0 62733.0 63311.0 63891.0 64473.0 65057.0 65643.0 66231.0 66821.0 67413.0 68007.0 68603.0 69201.0 69801.0 70403.0 71007.0 71613.0 72221.0 72831.0 73443.0 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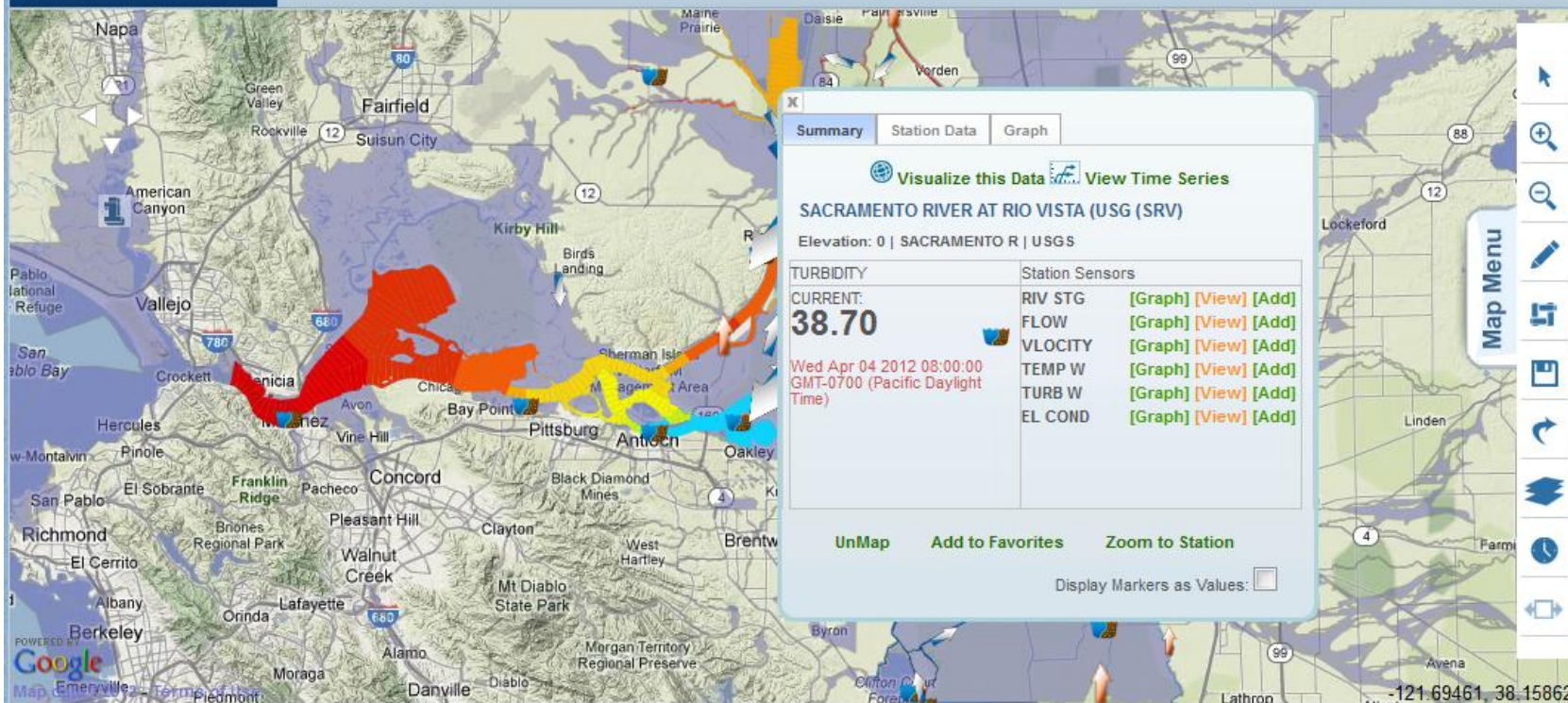


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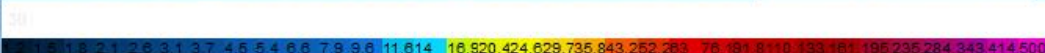
Duration

Increment

Apr 4, 2012 8:00AM



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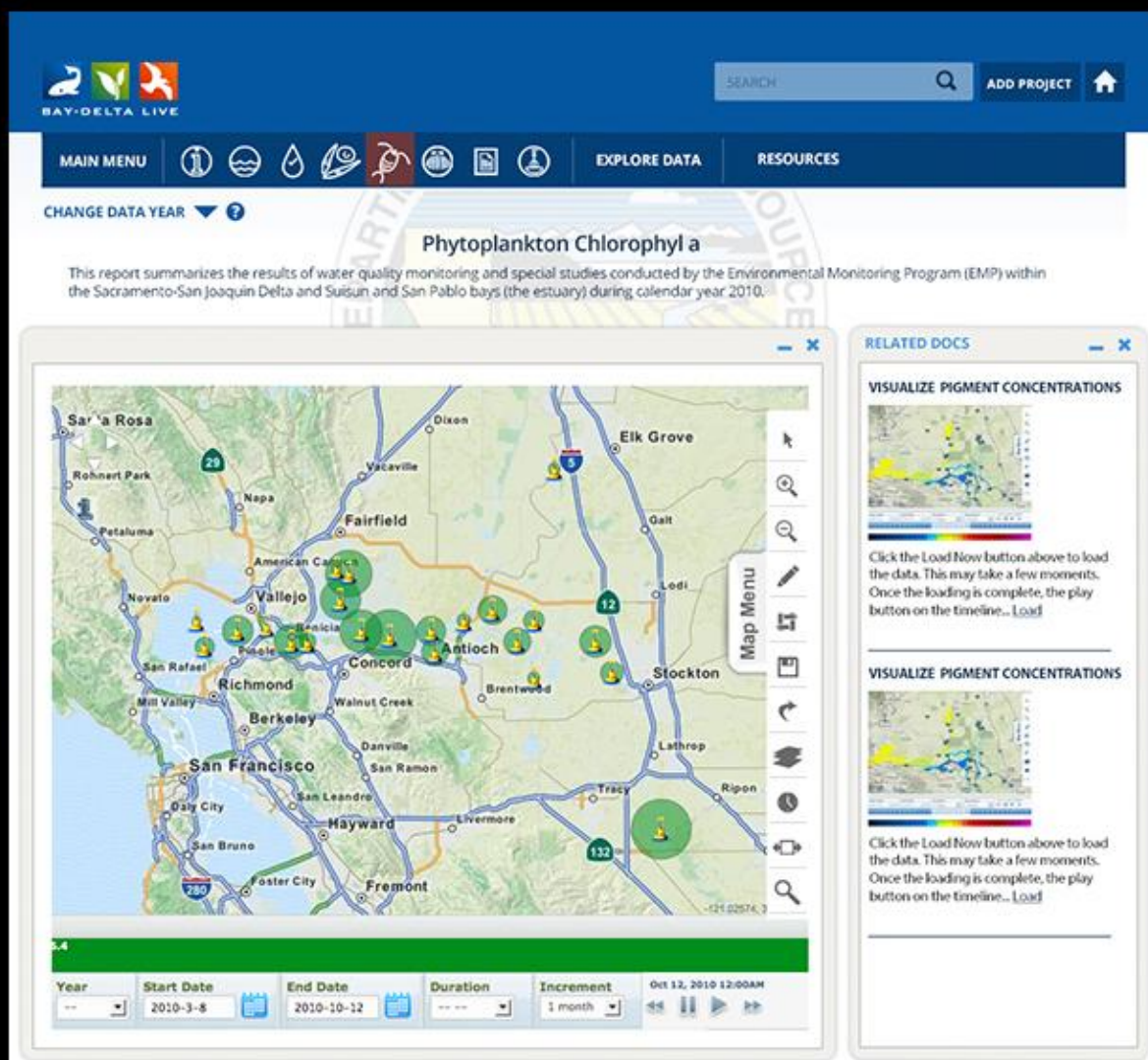
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Communicate with stakeholders by building:

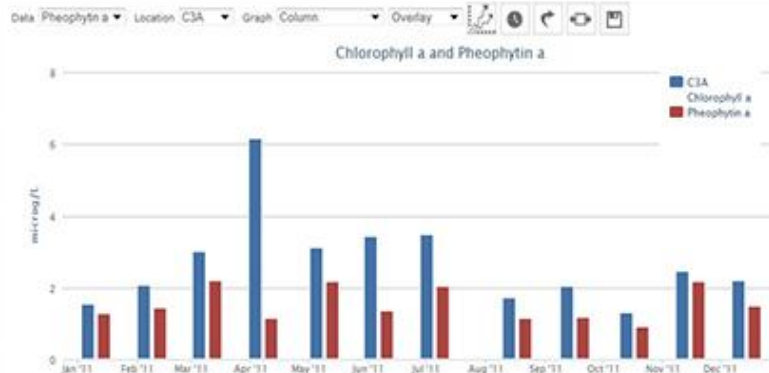
- Presentation Pages
- Project Management Dashboards
- Control Panels
- Interactive Reports
- Real Time Condition Dashboards
- Libraries of Information
- Interagency Workspaces
- Operational Pictures

Communications are live and always up to data: synced with the data.





GRAPHS



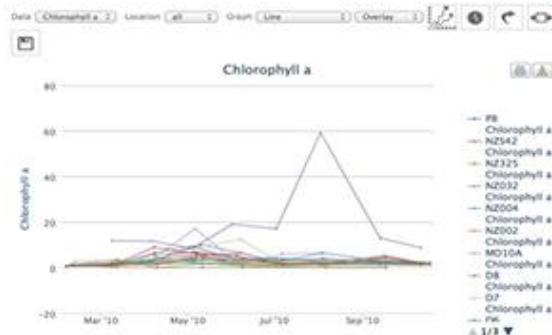
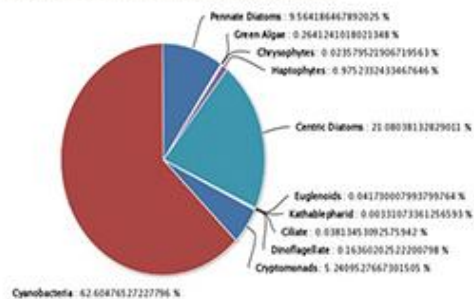
Phytoplankton and Chlorophyll a

Background

The Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (USBR) are required by Water Right Decision 1641 (D-1641) to collect phytoplankton and chlorophyll a samples in order to monitor algal community composition and biomass at selected sites in the upper San Francisco Estuary (estuary). The thirteen sampling sites range from eastern San Pablo Bay to the mouths of the Sacramento, Mokelumne, and San Joaquin rivers. These sites represent a variety of aquatic habitats from narrow, freshwater channels in the Delta to broad, estuarine bays. This chapter describes the results of these monitoring efforts for the 2011 calendar year.

Primary production (carbon fixation through photosynthesis) by phytoplankton is one of the key processes, which influence water quality in the estuary. Phytoplankton are small, free-floating organisms that occur as unicellular, colonial, or filamentous forms (Horne and Goldman 1994). Phytoplankton can affect pH, dissolved oxygen, color, taste, and odor and under certain conditions, some species can develop noxious blooms resulting in animal deaths and human illness (Carmichael 1981). In freshwater, the cyanobacteria or blue-green algae

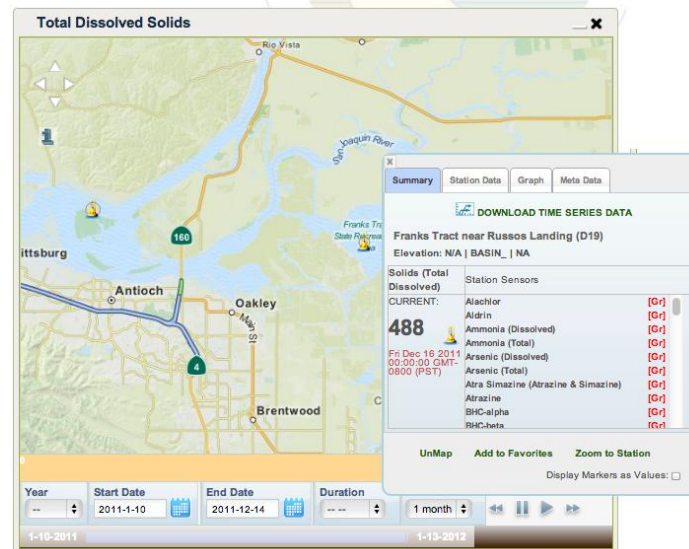
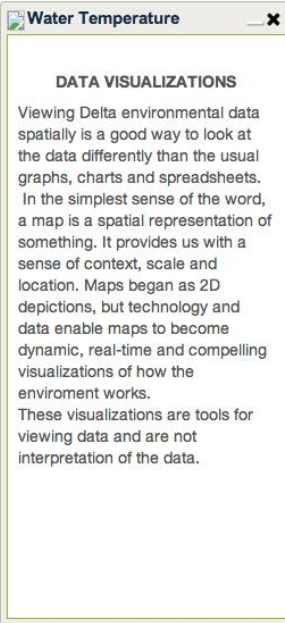
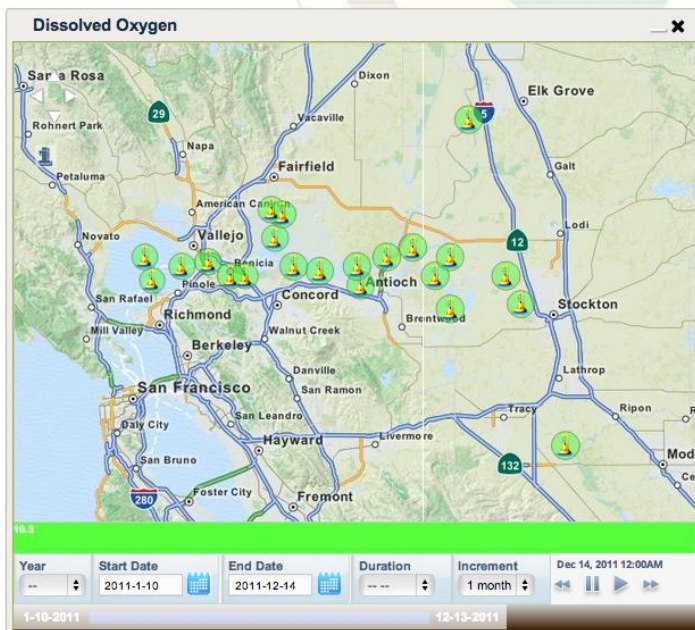
Percent of phytoplankton composition by group, 2011



Water Quality Monitoring

Water quality monitoring in 2011 continued according to the amended protocol implemented by DWR in 1996, with the incorporation of several changes recommended by the 2001-2002 EMP review. Discrete water quality sampling sites included the eleven representative sites as described in the 1996 Water Quality Report (Lehman et al. 2001), and stations C3A and C10A. Sampling site C3A replaced station C3 in 2004 and C10A replaced station C10 in 2005. Discrete samples were collected monthly at each site (Figure 3-1). Data were recorded within 1 hour of high slack tide and the time of each sample was recorded to the nearest 5 minutes of Pacific Standard Time. A qualitative statement of weather conditions (e.g. wind conditions and cloud cover) was recorded for each cruise. Samples were analyzed in terms of fifteen physical and chemical parameters. Thirteen sampling sites were used in this study to represent eight regions of the Bay-Delta system. Data results in this report are shown for each sample site.

Choose a parameter:



Related Docs

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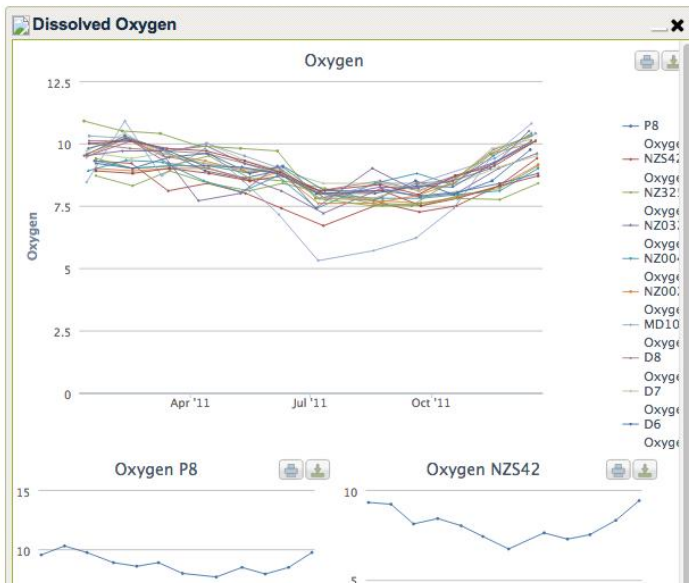
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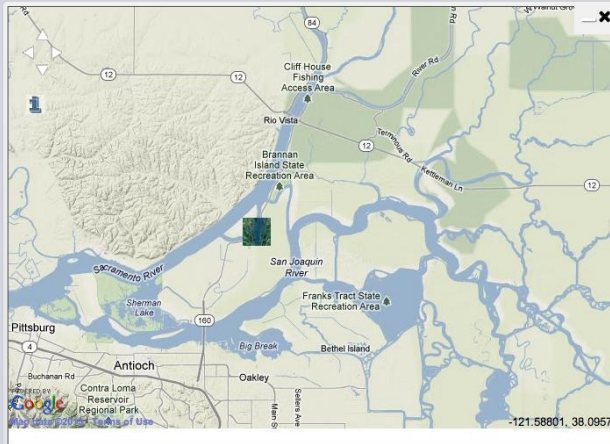


What is an Estuary?

What is an Estuary?

An estuary is a partly enclosed body of water where fresh water coming down the rivers mixes with salt water from the sea. A range of coastal landforms fit this description, including bays, lagoons, harbors, inlets, sounds, fiords and swamps.

Flush with nutrients and inhabited by resilient organisms, estuaries are among the most productive ecosystems on earth. They provide rich feeding grounds for coastal fish and migratory birds, and spawning areas for fish and shellfish. They are also important in maintaining the quality of coastal waters.



California Estuaries



Liberty Island

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Questions?

Question: Estuarine Food Web

As part of the overall question: What is the ecological condition of my estuary? The approach of group is to evaluate the estuary condition... More



Question: What is the San Francisco Estuary and Bay-Delta?

The San Francisco Bay is both a bay and an estuary. The former term refers to any inlet or cove providing a physical refuge from the open... More



Question: Estuarine Vegetation

The Estuary workgroup will refer to the Wetland Tracker for the data required to analyze this category. More



Question: Estuarine Fish

More



Question: What is a Healthy Estuarine Ecosystem?

More

Question: Estuarine Physical and Chemical

Metrics Used: Inundation Regime, Tidal Excursion, Residence Time, Temperature, Turbidity/Salinity, Dissolved Oxygen, pH, Nitrogen (NH3, NH4)... More

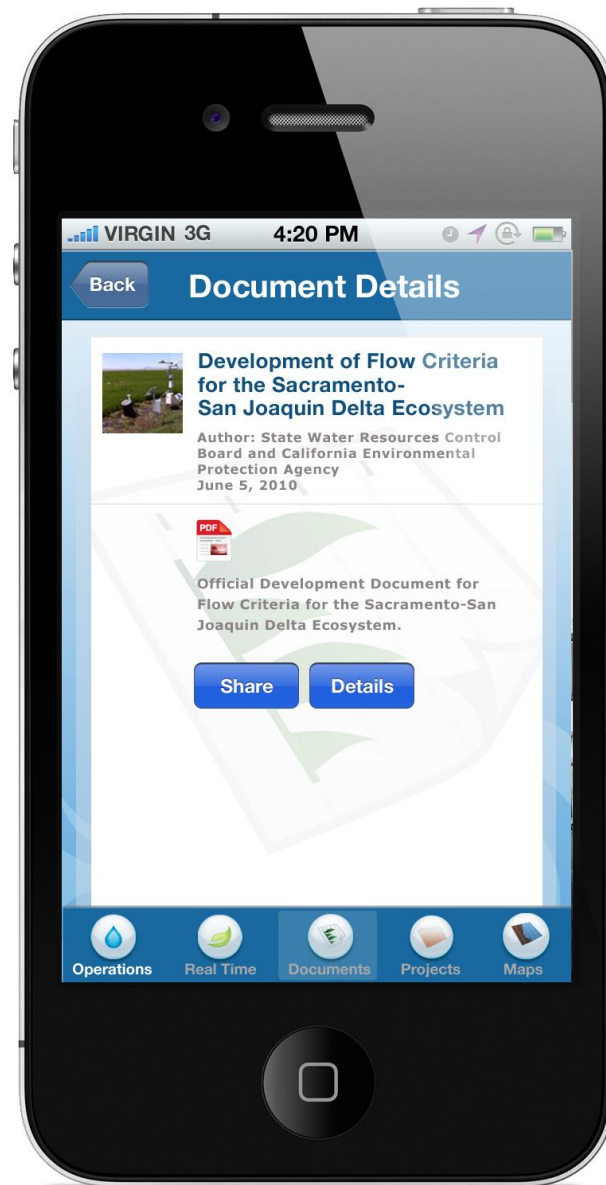
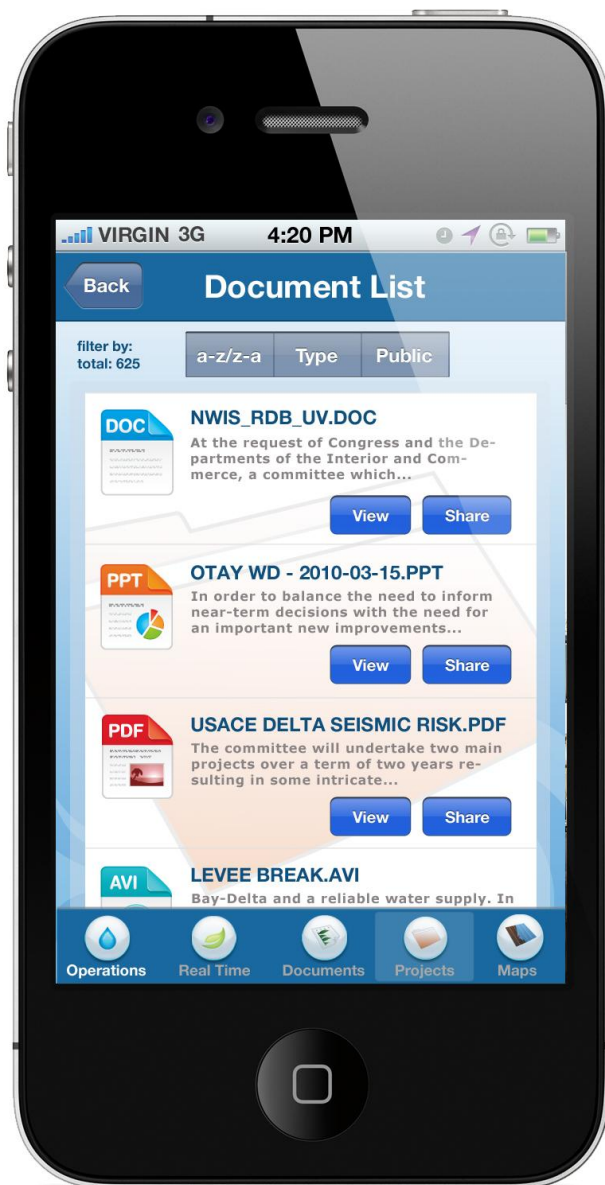


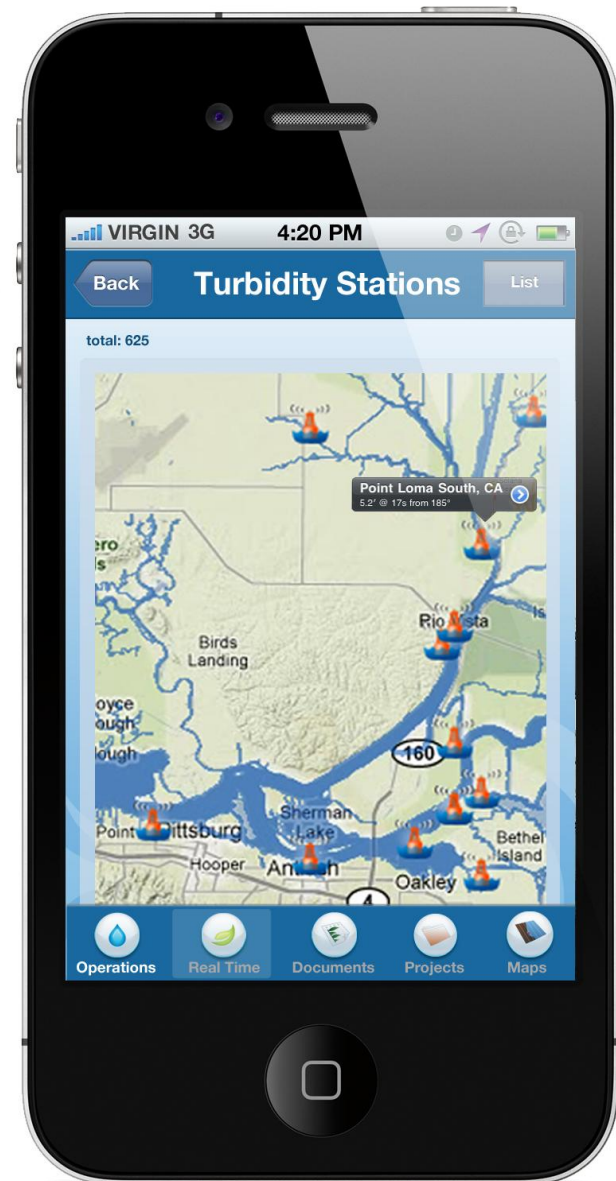
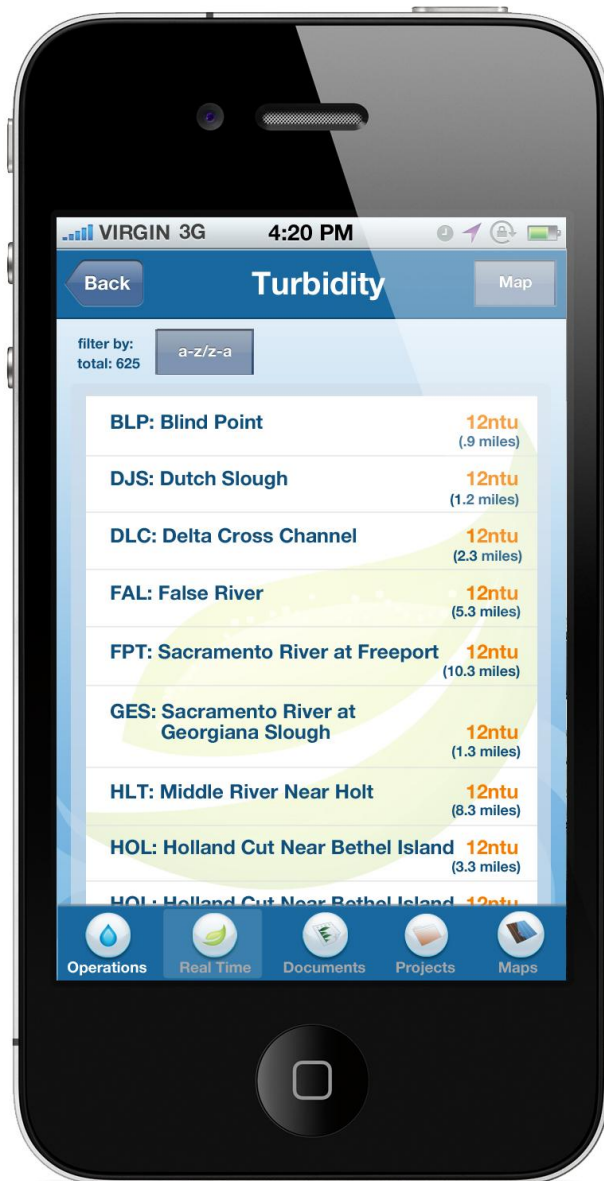
Question: Health of Estuarine

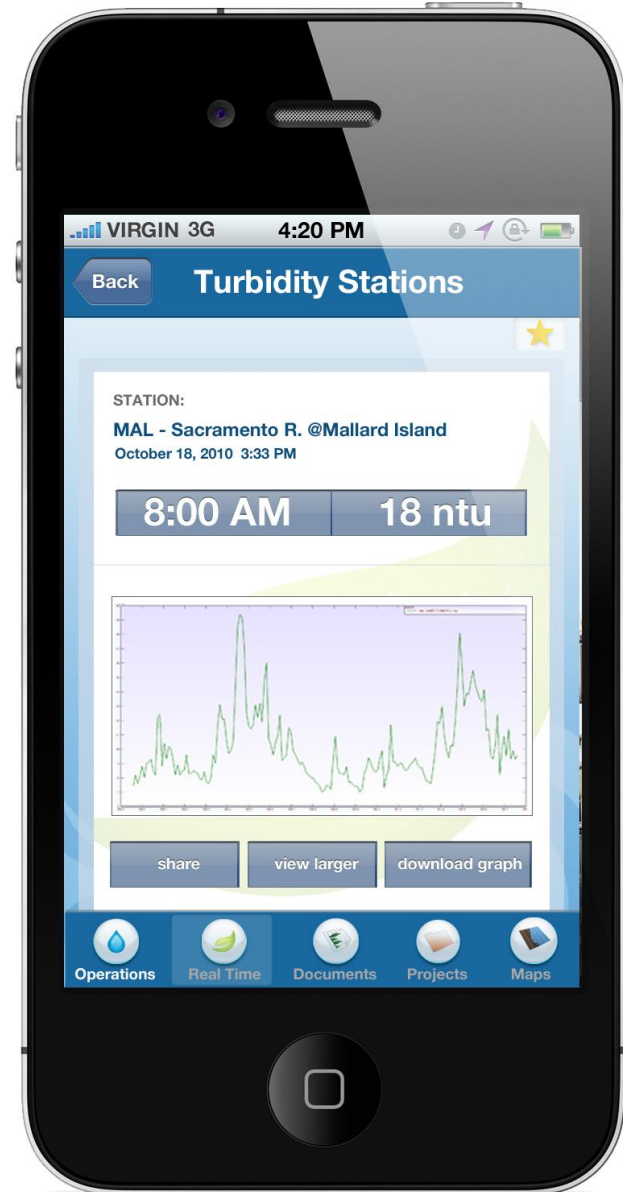
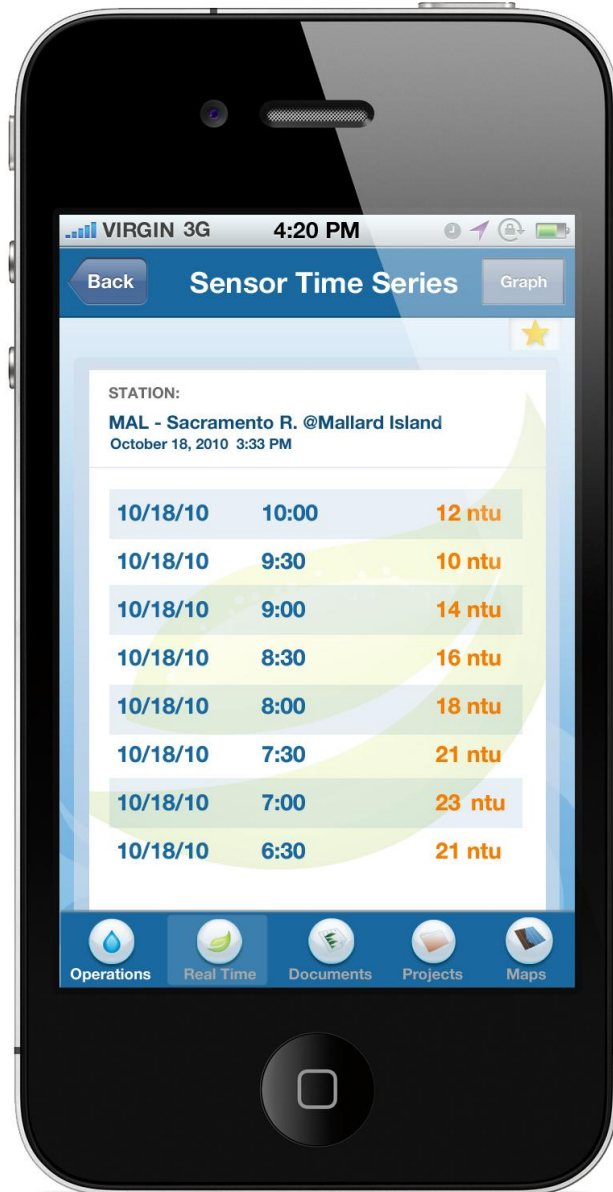


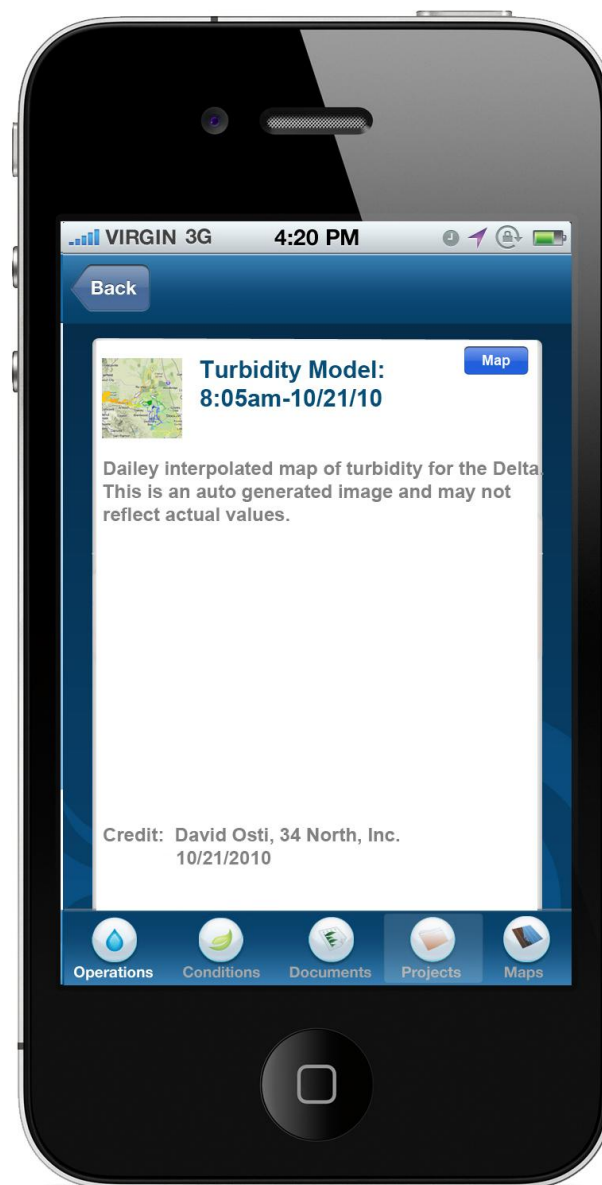
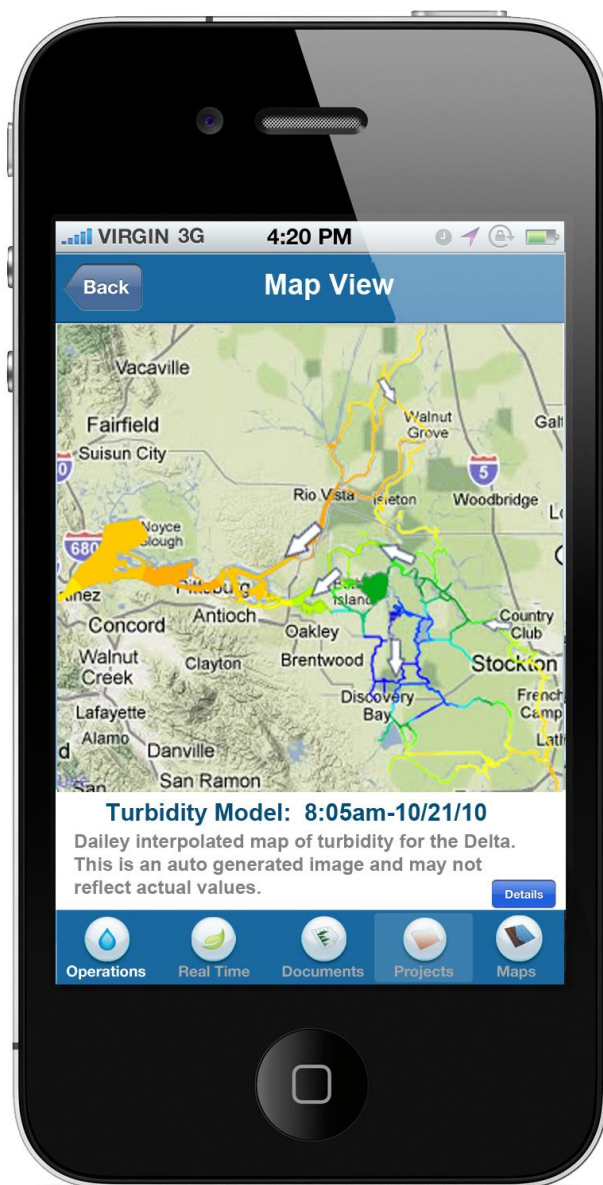
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Environmental Data

Current Data Sets Available or Work in Progress

Data

Discrete Water Quality Data

Lab Data 1996-Oct 2011

Lab Data 1985-1995

Lab Data 1975 to 1984

Field Data 2007-Oct 2011

Field Data 1988-2006

Field Data 1975-1987

Phytoplankton and Chlorophyll

All Data from 2008 to 2010

All Data from 1975 to 2007

2007 Common Name Data

Flat File for 1970-2000

Zooplankton

Discrete Benthic Data

Continuous Water Quality (CDEC QA/QC)

Fall Mid-Water Trawl

NOAA Tides and Currents

Historic Table Sample

SF Bay Water Quality and Nutrient Data (USGS)

Sediment Loads

DayFlow (X2)

CEDEN

20 MM Trawl & FMWT

Smelt Larva Survey

Salvage Monitoring

Historical Delta

Pelagic Organism Decline

TNC West Coast Estuary Assessment

Ca DFG ERP Project Database

Delta Science Council Projects Database

DFG Ecosystem Restoration Maps

Striped Bass Study

Current datasets or work in progress



California Delta Layer

A Compilation of Spatial Data

Data

GEOPOLITICAL

- State Water Districts
- Department of Water Resources Districts
- Private Water Districts
- Regional Water Quality Control Board Regions
- State Senate Districts
- California Congressional Districts
- State Assembly Districts
- Counties
- Department of Fish & Game Regions

VEGETATION

- Redwoods
- California Vegetation Types
- Kuchler Vegetation 1976
- Wieslander Vegetation 1946
- Hardwoods

WATER & INFRASTRUCTURE

- California Interagency Watershed Map
- Delta Project Levee
- Rivers & Bodies of Water (Linear)
- Reduced Bodies of Water (Polygon)
- FEMA Flood Data
- Dams
- Delta Non-Project Levees
- Canals
- Calds
- Rivers & Bodies of Water

LAND DESIGNATION

- California Eco Units
- Bio Regions
- California State Parks
- Land Holdings

TRANSPORTATION & INFRASTRUCTURE

- Gas & Oil Production Fields
- Railroads & Misc. Transportation Feat.
- Major Roads
- Transmission Lines Delta Marsh
- Gas & Oil Wells

DELTA GEOMORPHOLOGY

- Channels
- Fault Lines
- Tidal Area 1850
- Geology Uncertainty
- Seismic Hazards
- Volcanoes
- Geology
- Soils



The benefits of collaborative resource management application:

Organize and report between agencies.

Better understand and communicate real time continuous and discrete data with colleagues and management.

Visualize data live and with as many supporting resources as possible.

Create a workspace where all agencies can better view and comment on data to create reports to operational managers

view and archive data in one common interface

Create a data dashboard where agencies can monitor and comment on water quality in real time

Develop alerts generated from data thresholds and report in real time via apps and web portals

Use BDL to better communicate data and operational decisions to ALL stakeholders









