

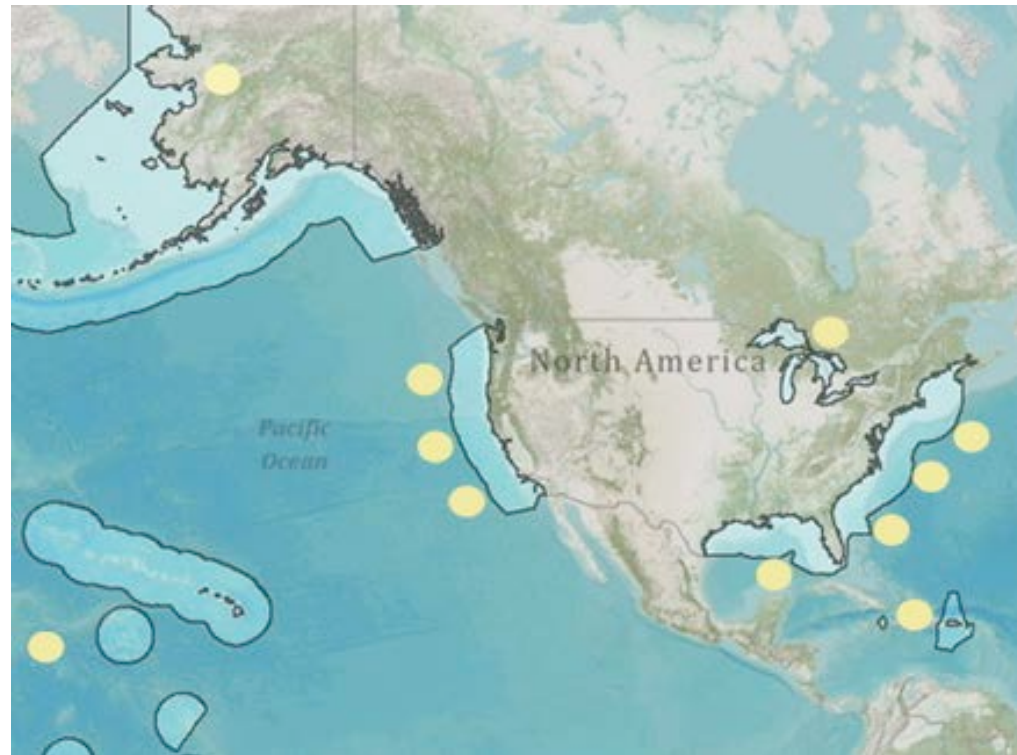
INTEGRATION OF WATER QUALITY MONITORING DATA SETS INTO THE GULF OF MEXICO COASTAL OCEAN OBSERVING SYSTEM DATA PORTAL

Barbara Kirkpatrick, Ann Jochens, Larry Lloyd, Kate Kohler and Worth Nowlin



What is GCOOS?

- GCOOS is one of 11 regions that comprise the U.S. Integrated Ocean Observing System (IOOS).
- Goal: to maximize access to data and generation of information products, inform decision making, and promote economic, environmental, and social benefits to our nation and the world.



“Who” is GCOOS?

- Industry – primarily gas and oil
- Academic
- NGOs
- Federal government agencies
- Regional government agencies
- State government agencies
- Local government agencies

GCOOS Data Portal

Goal: Integration



COASTAL OCEAN
OBSERVING SYSTEM

DATA PORTAL

Assets

Monitoring

Direct Data Access

SOS

LDN SOS URLs

Vocabularies

Downloads

Contact Us

Welcome to GCOOS Data Portal

This **Data Portal** provides timely information about the environment of the United States portion of the Gulf of Mexico and its estuaries for use by decision-makers, including researchers, government managers, industry, the military, educators, emergency responders, and the general public. Observing stations in the region are monitored constantly.

Region's Data Sources

The following is an interactive map to display resources. Click on the station to view status and station details. Not all stations may be visible at the current scale. Zoom-in on an area to reveal all the stations. The HF Radar overlay uses Coastal Observing Research and Development Center (CORDC) published [HF RADAR API](#). [Click here](#) to toggle back to 2D mapping from 3D display.



Goal: Products



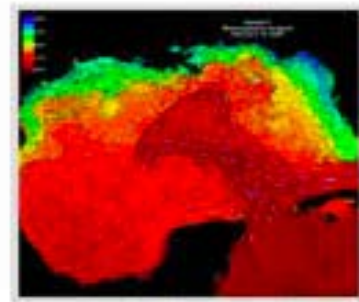
Recent Observations



Maps



Satellites



Model Forecasts



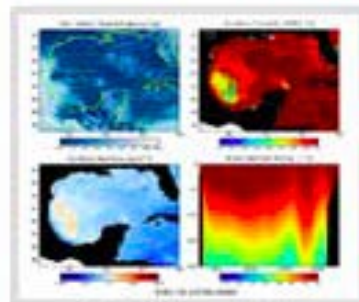
Oil Spill



Bathymetry



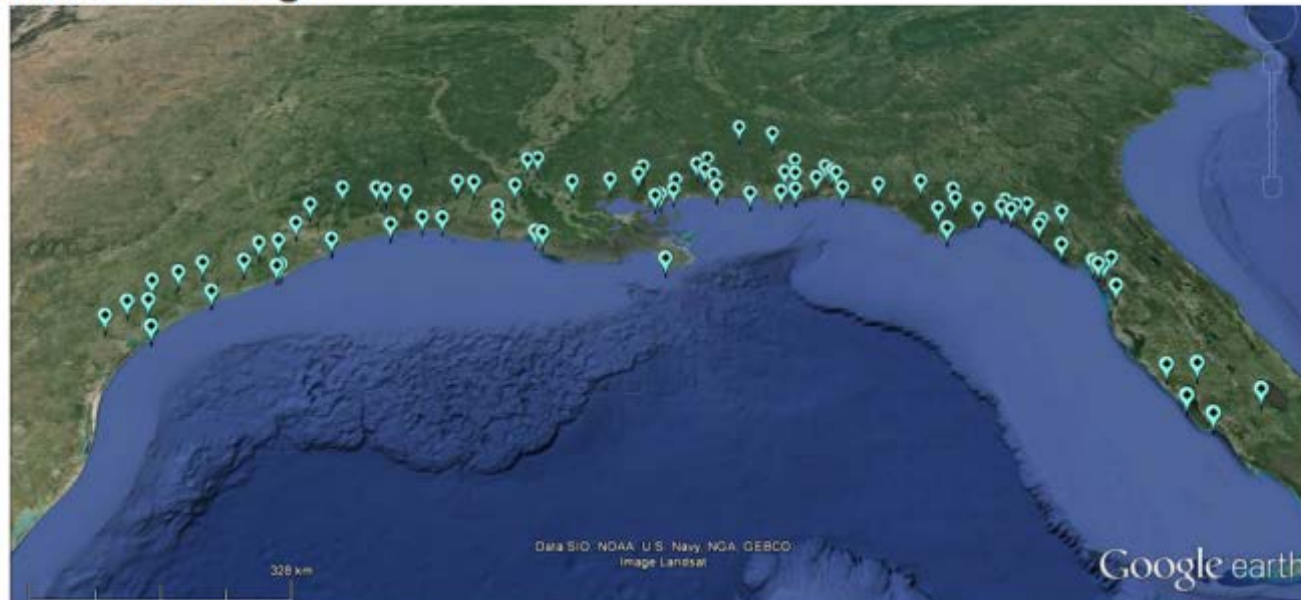
HABs



Model Resources



River Discharge



Records from 55 rivers that discharge into the Gulf of Mexico.

- [USGOM_RIVERS.kml](#) - 61.50 KB
- [README_GOMRIVERS.txt](#) - 9.28 KB
- [README_GOMRIVERS.rtf](#) - 9.73 KB

- [River Discharge \(netCDF\)](#)
- [River Discharge \(ASCII\)](#)

Issues

- Water quality
- Anthropogenic influences on our coastal waters
- Historical data
- Real time data
- Who has the data?



Approach

- Two workshops to bring together water quality data collectors around Gulf of Mexico
 - Federal
 - State
 - County
 - Municipalities

Two workshops

- Held at the Sanibel Captiva Conservation Foundation (June `12) and New Orleans (March `13)
- 1 day workshops
- FL-Identified 28 organizations with water quality monitoring history in southwest Florida – 19 attended
- NO- 12 data providers invited, 6 attended
- Each organization gave a brief summary (7 minutes) of their monitoring program
 - Duration
 - Locations
 - Parameters
 - Posted to website or larger database

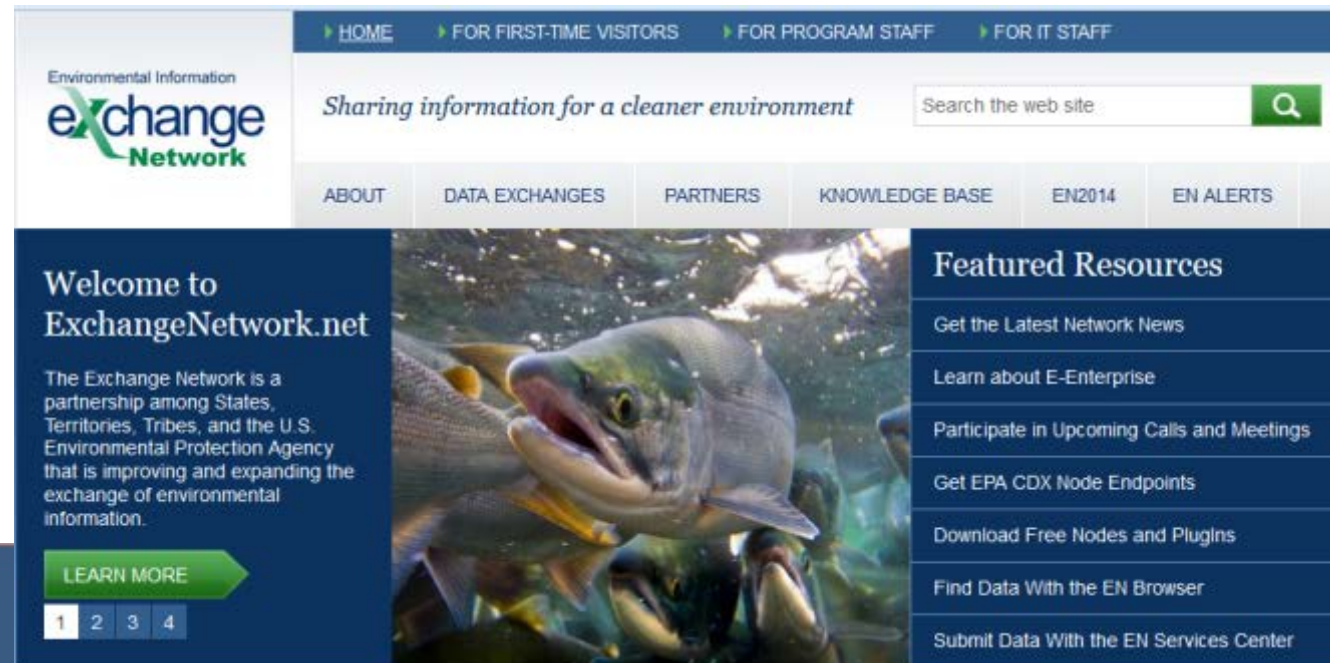
Next step

- Follow up after the workshops
 - Create a specific data content table
 - Confirm if data available for Internet transfer
 - Obtain written permission to acquire and display the data
 - Identify metadata



Successes

- Obtained a 2 year grant from the Gulf of Mexico Alliance to develop a Hypoxia-Nutrient Data Portal
 - Both historical and dynamically from remote databases
 - Parameters (NO₂, NO₃, NH₄, urea, PO₄)
 - Range: Northern Gulf of Mexico
 - Standards; EPA Environmental Information Exchange Network



The screenshot shows the homepage of the Exchange Network website. The header includes navigation links for HOME, FOR FIRST-TIME VISITORS, FOR PROGRAM STAFF, and FOR IT STAFF. The main navigation menu contains ABOUT, DATA EXCHANGES, PARTNERS, KNOWLEDGE BASE, EN2014, and EN ALERTS. A search bar is located in the top right corner. The main content area features a large image of a fish and a sidebar with featured resources.

Environmental Information
exchange
Network

Sharing information for a cleaner environment

Search the web site

ABOUT DATA EXCHANGES PARTNERS KNOWLEDGE BASE EN2014 EN ALERTS

Welcome to
ExchangeNetwork.net

The Exchange Network is a partnership among States, Territories, Tribes, and the U.S. Environmental Protection Agency that is improving and expanding the exchange of environmental information.

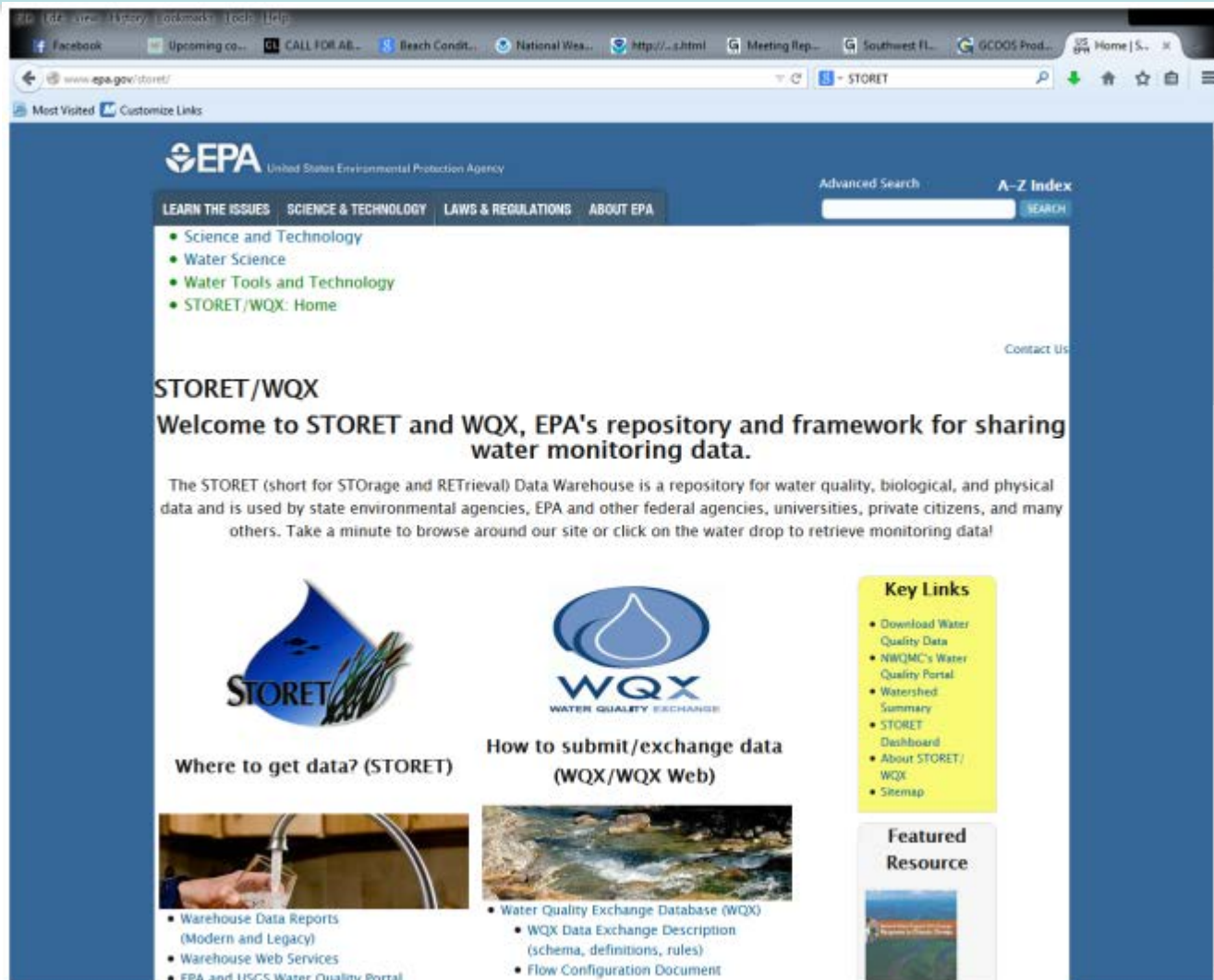
LEARN MORE

1 2 3 4

Featured Resources

- Get the Latest Network News
- Learn about E-Enterprise
- Participate in Upcoming Calls and Meetings
- Get EPA CDX Node Endpoints
- Download Free Nodes and Plugins
- Find Data With the EN Browser
- Submit Data With the EN Services Center

Data access- STORET



The screenshot shows the EPA STORET/WQX website. At the top, there is the EPA logo and navigation tabs for 'LEARN THE ISSUES', 'SCIENCE & TECHNOLOGY', 'LAWS & REGULATIONS', and 'ABOUT EPA'. A search bar is located on the right. The main content area features a 'STORET/WQX' heading and a welcome message: 'Welcome to STORET and WQX, EPA's repository and framework for sharing water monitoring data.' Below this, a paragraph explains that the STORET (Storage and Retrieval) Data Warehouse is used by various agencies and citizens. The page is divided into three main sections: 'Where to get data? (STORET)', 'How to submit/exchange data (WQX/WQX Web)', and 'Key Links'. The 'Where to get data? (STORET)' section includes a photo of a water tap and a list of links: 'Warehouse Data Reports (Modern and Legacy)', 'Warehouse Web Services', and 'EPA and USGS Water Quality Portal'. The 'How to submit/exchange data (WQX/WQX Web)' section includes a photo of a river and a list of links: 'Water Quality Exchange Database (WQX)', 'WQX Data Exchange Description (schema, definitions, rules)', and 'Flow Configuration Document'. The 'Key Links' section is highlighted in yellow and includes: 'Download Water Quality Data', 'NWQMC's Water Quality Portal', 'Watershed Summary', 'STORET Dashboard', 'About STORET/WQX', and 'Sitemap'. A 'Featured Resource' section is also visible at the bottom right.

EPA United States Environmental Protection Agency

Advanced Search A-Z Index

LEARN THE ISSUES SCIENCE & TECHNOLOGY LAWS & REGULATIONS ABOUT EPA


- Science and Technology
- Water Science
- Water Tools and Technology
- STORET/WQX: Home

Contact Us


STORET/WQX

Welcome to STORET and WQX, EPA's repository and framework for sharing water monitoring data.


The STORET (short for STORage and RETrieval) Data Warehouse is a repository for water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. Take a minute to browse around our site or click on the water drop to retrieve monitoring data!




Where to get data? (STORET)



- Warehouse Data Reports (Modern and Legacy)
- Warehouse Web Services
- EPA and USGS Water Quality Portal



How to submit/exchange data (WQX/WQX Web)




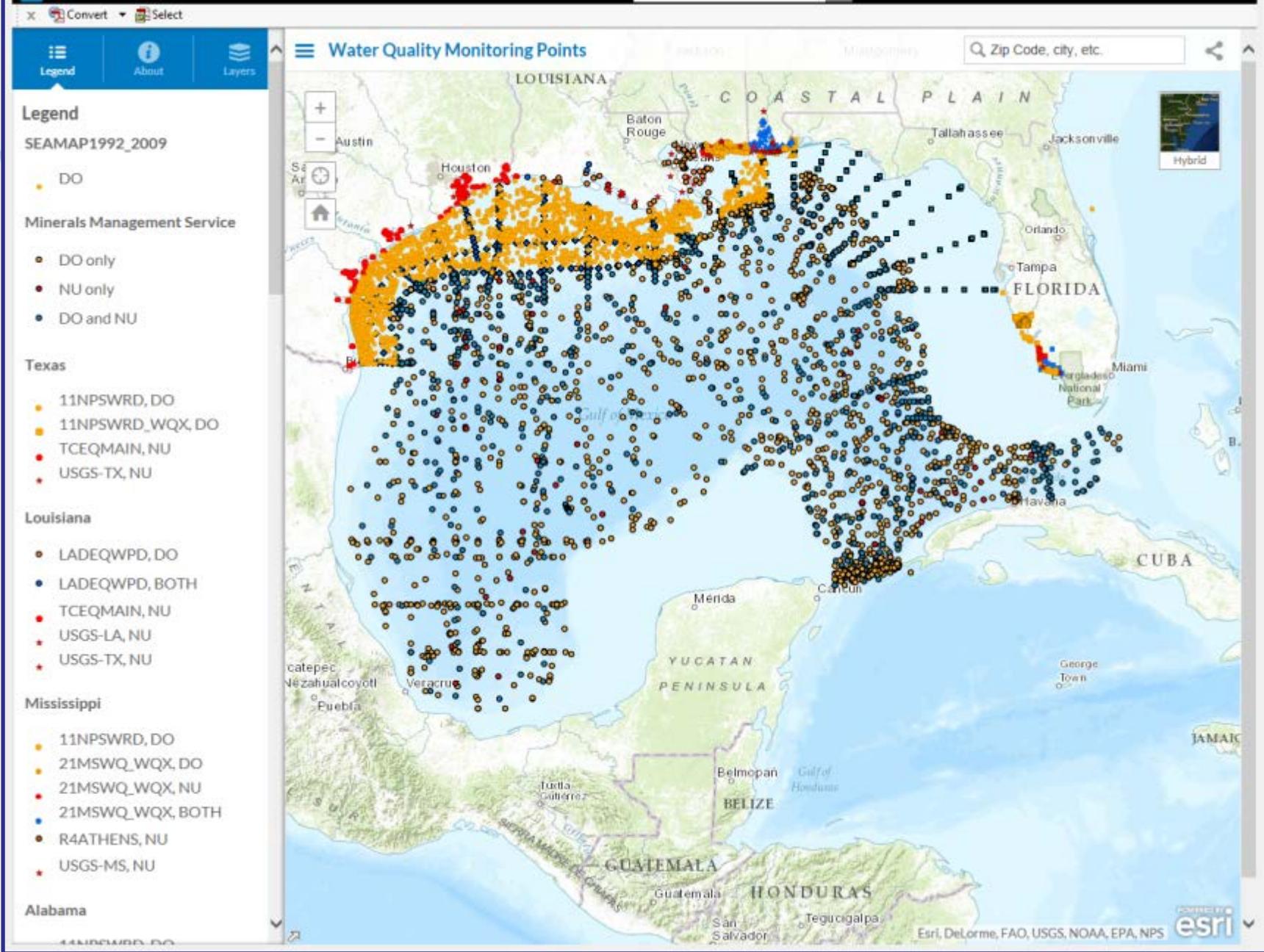
- Water Quality Exchange Database (WQX)
 - WQX Data Exchange Description (schema, definitions, rules)
 - Flow Configuration Document

Key Links

- Download Water Quality Data
- NWQMC's Water Quality Portal
- Watershed Summary
- STORET Dashboard
- About STORET/WQX
- Sitemap

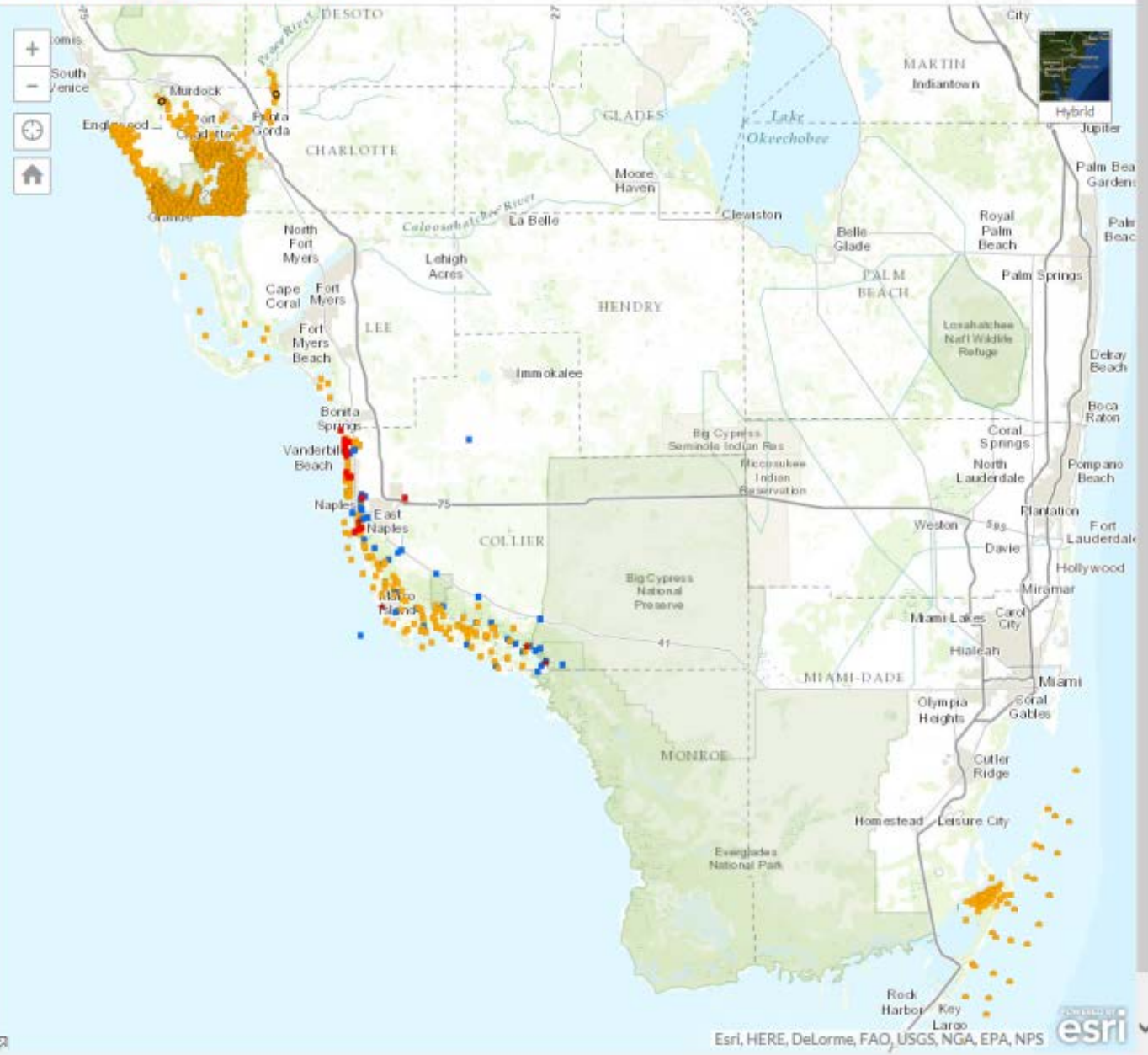
Featured Resource





Florida

- 11NPSWRD, 1
- 11NPSWRD_WQX, 1
- 21FLANER, 1
- 21FLA_WQX, 1
- 21FLBFA_WQX, 1
- 21FLBRA, 1
- 21FLBRA, 2
- 21FLBSG, 1
- 21FLCBA, 1
- 21FLCCZM_WQX, 1
- 21FLCCZM_WQX, 2
- 21FLCHAR, 1
- 21FLCHAR_WQX, 1
- 21FLCMP_WQX, 1
- 21FLCOLL, 1
- 21FLCOLL_WQX, 1
- 21FLCOLL_WQX, 3
- 21FLCONS_WQX, 1
- 21FLCONS_WQX, 2
- 21FLCPSJ, 1
- 21FLDADE_WQX, 1
- 21FLEECO_WQX, 1
- 21FLEECO_WQX, 3
- 21FLFMRI, 1
- 21FLFTM_WQX, 1
- 21FLGBO1, 1
- 21FLGFWF, 1
- 21FLGW_WQX, 1
- 21FLHILL, 1
- 21FLKEYW, 1
- 21FLMANA, 1
- 21FLMANA_WQX, 1
- 21FLNWFD, 1
- 21FLPCSW, 1



Lesson Learned

- People are open to sharing biogeochemical data.
- Data sharing within a county are hampered by communication.
- Follow-up takes resources - people and time.
- Need for dedicated personnel time to follow up, follow up, follow up!
- Historical data easier than near real-time data.
- Significant portions of the IWQN concept are being advanced by the Hypoxia-Nutrient Data Portal activity.

Thanks to:

- Matt Howard, Shin Kobara, and Marion Stoessel from GCOOS
- Gulf of Mexico Alliance
- IOOS
- www.gcoos.org
- bkirkpat@mote.org