



Guide to the Diving and Small Boat Operations Safety Tool

Center for Operational Oceanographic Products & Services (CO-OPS)

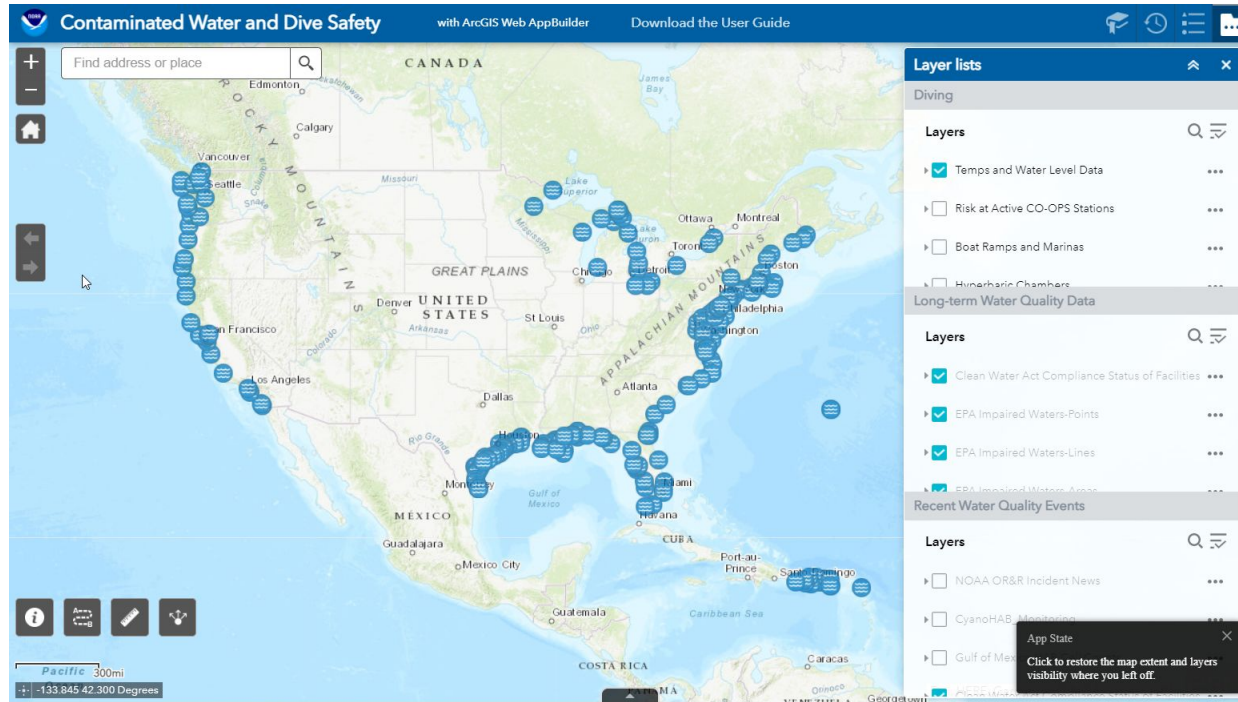
Updated: May 5, 2022

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Overview

This is a guide for using the Diving and Small Boat Operations Safety (DASBOS) tool to evaluate the risk at locations of interest. It contains information on how to interpret each of the layers included in the map.



Getting started: Interacting with the map

- The layers are set to automatically become visible/invisible depending on how far in you zoom on a location.
- You may also turn layers on/off by checking/unchecking the box in the “Layer lists”.


The screenshot displays the 'Diving and Small Boat Operations Safety Tool (in Beta Testing)'. The main map shows North America with various data points (blue circles and yellow triangles) overlaid. A search bar at the top left contains the text 'Find address or place'. The bottom left shows a scale bar and coordinates: -56.765 11.510 Degrees. The bottom right corner indicates the map uses 'Esri, HERE' data.

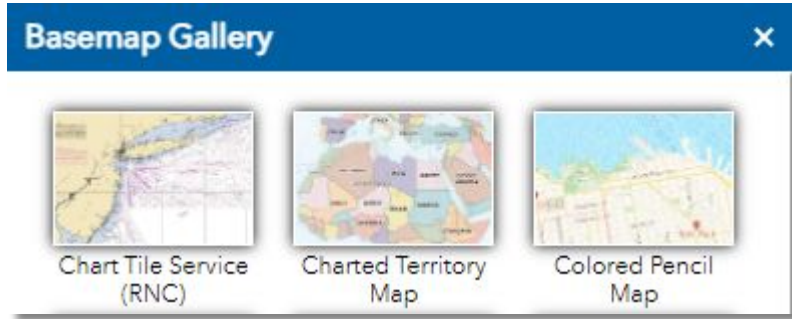
Overlaid on the right is the 'Layer lists' panel, which is titled 'Diving'. It contains a search icon and a list of layers:

- Temps and Water Level Data
- Boat Ramps and Marinas
- Hyperbaric Chambers

Each layer has a three-dot menu icon to its right. A red rectangle highlights the 'Temps and Water Level Data' layer. Below the Layer lists panel, a 'Recent Water Quality Events' panel is partially visible, showing a list of events with their own layer controls.

Change the basemap

- Click the  widget in the lower left of the screen.
- In the pop-up window, select the basemap thumbnail to set the active basemap for the DASBOS application.



All Tools



Help documentation



Regional bookmarks



Driving directions



Time slider



Measure distances between points



Map legend



Change the basemap



Layer list



NOAA/CO-OPS only-Add Field Layer



Zoom in/out



Return to the “home” extent



Go to previous/next extent

Diving

Layers with data relevant to diving including contaminated water risk



Temps and Water Level Data

- **Purpose:** Provides a direct link to CO-OPS station data including water temperature and water levels.

Temperature & Water Level Data

Station Name: Monterey
Station ID: 9413450

Temp. & Water Level Data: [Click here.](#)

[Zoom to](#)

Legend

Temps and Water Level Data

Monterey, CA [9413450] [Station Home](#) [More Data](#)

Today's Tides

Time	Tide	Height
6:01 AM	high	5.38 ft
1:36 PM	low	-0.74 ft
8:37 PM	high	3.83 ft

Recent Data as of 3/8/2021 1:42 PM
Local Time

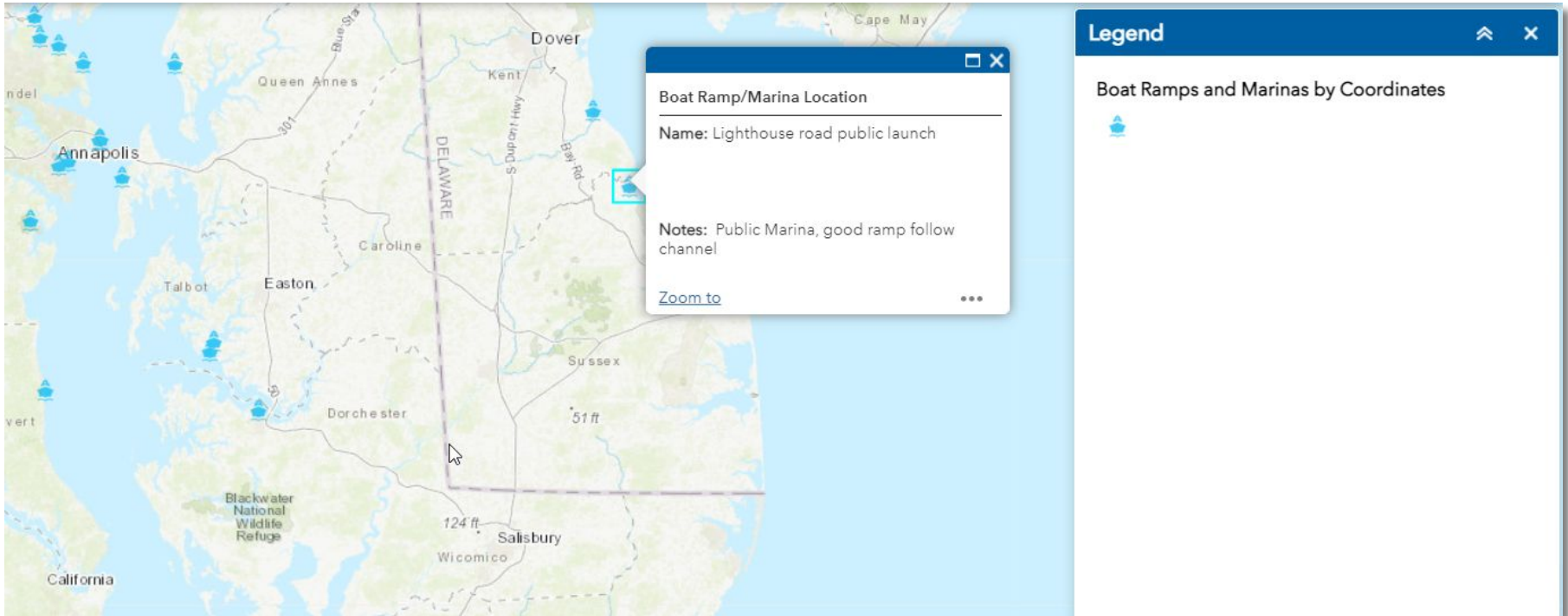
Water Level: 0.68 ft Below MLLW
Next Tide at 8:37 PM: high 3.83 ft above MLLW

Water Temp: n/a
Air Temp: 52.7 ° F
Barometric Pressure: 1023.6 mb
Winds: 7.2 kts from SW
Gusting to: 14.6 kts from SW

Plot Data [Standard](#) [Metric](#) Auto-Refresh:

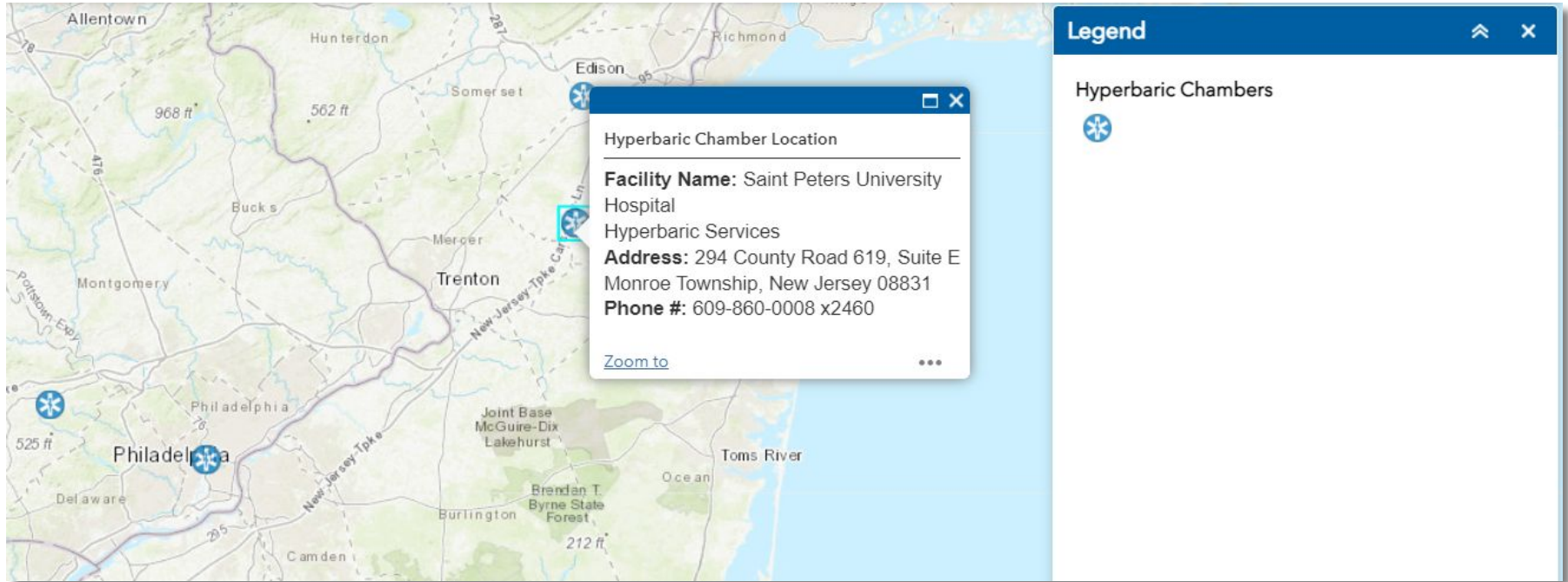
Boat Ramps and Marinas

- **Purpose:** Locations of boat ramps and marinas commonly used by NOAA
- **Updated by:** Manually based on [CO-OPS Dive Site Review](#)



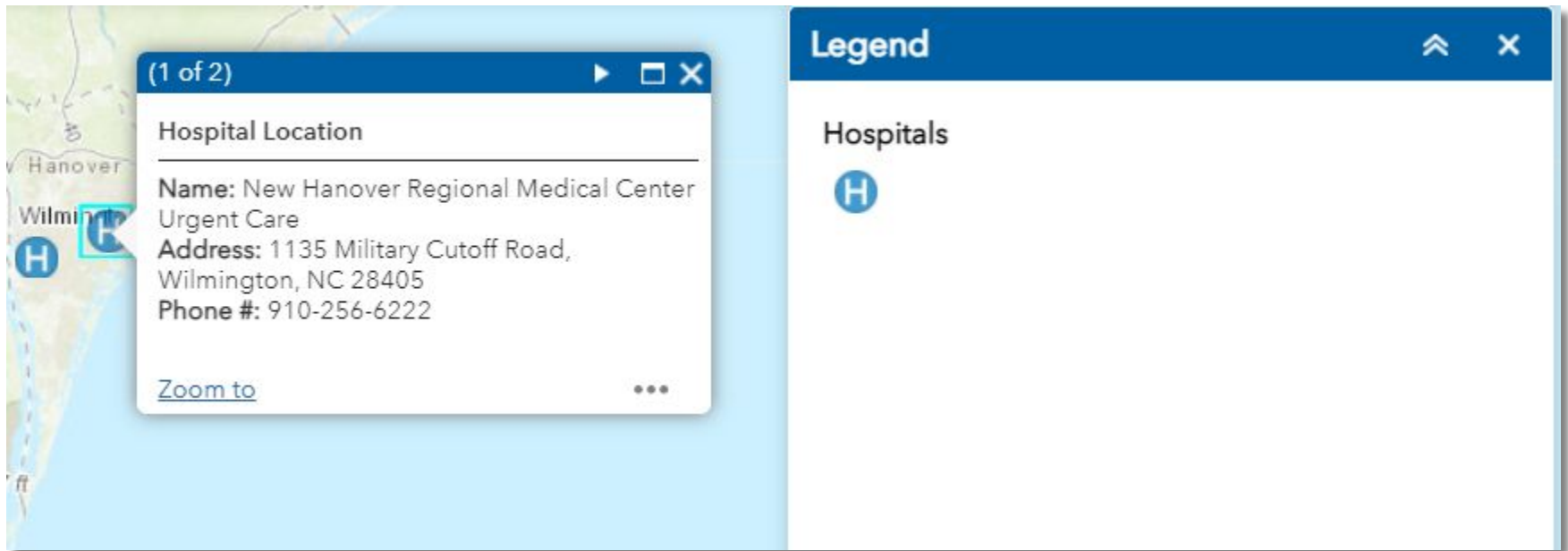
Hyperbaric Chambers

- **Purpose:** Locations of hospitals that have hyperbaric chambers
- **Updated by:** Manually based on [CO-OPS Dive Site Review](#)



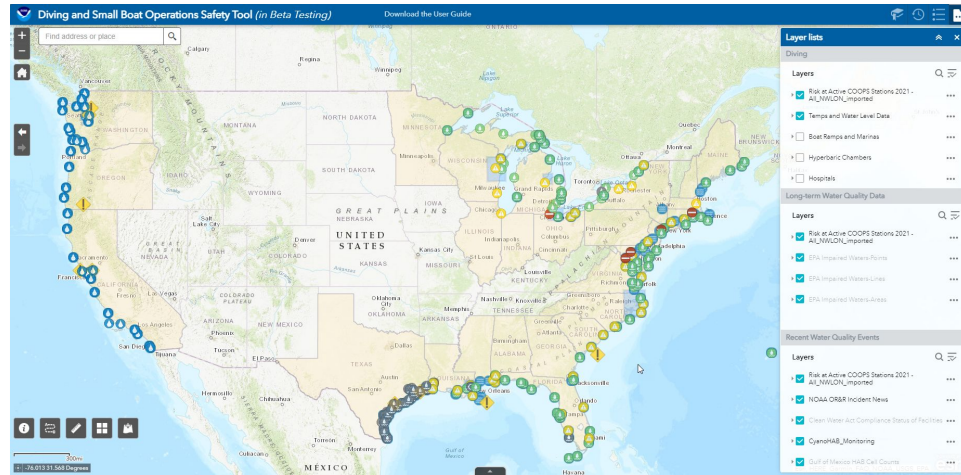
Hospitals

- **Purpose:** Locations of hospitals
- **Updated by:** Manually based on [CO-OPS Dive Site Review](#)




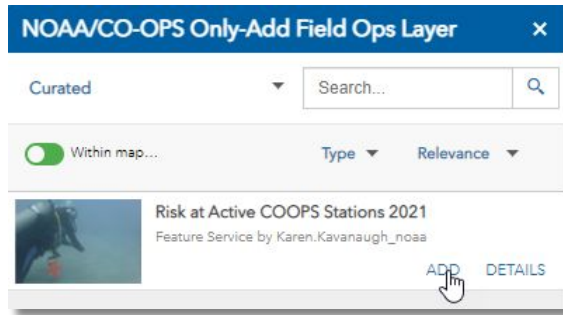
NOAA/CO-OPS Only-Field Operations Layer

- **Purpose:** GAR level for each CO-OPS station
 - Green= Low risk- Proceed with operations, continue to monitor conditions
 - Amber= Medium risk- Proceed with operations and vigilantly monitor conditions for deterioration
 - Red= High risk- CO-OPS should not dive
- **Updated by:** Manually based on [CO-OPS Dive Site Review](#)
- **Note:** This layer is intended for internal NOAA-use only.



NOAA/CO-OPS Only-Field Operations Layer

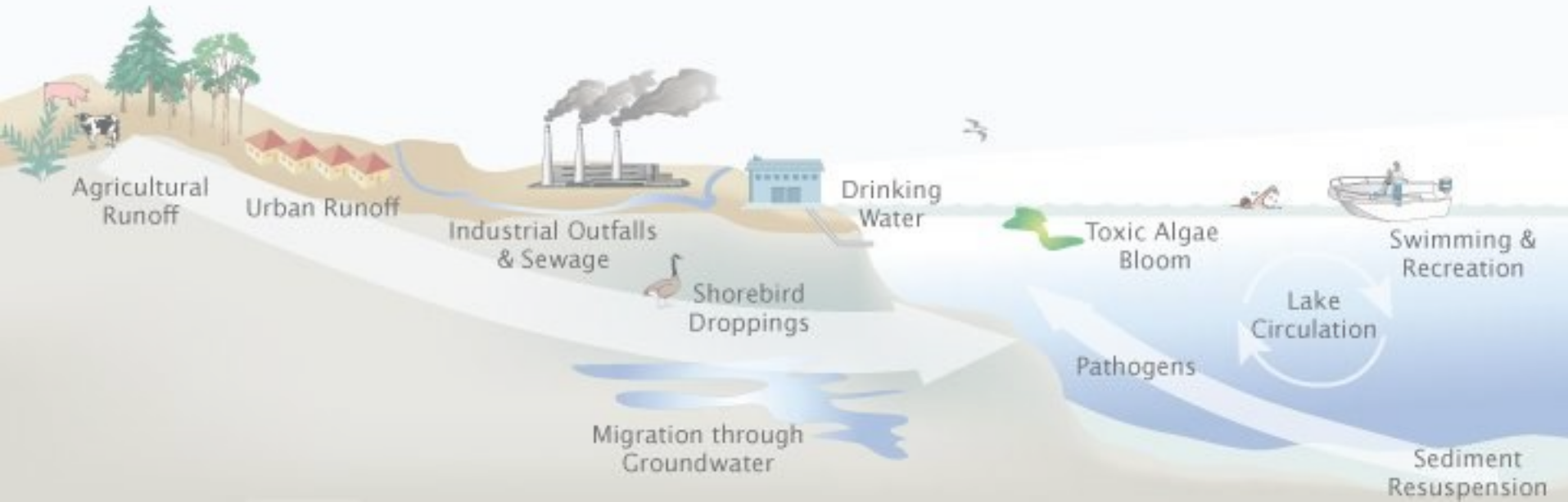
- Adding the layer
 - Click the  widget in the lower left corner of the screen.
 - In the pop-up window, click “ADD”.



- The layer is intended for internal NOAA use only so it is not visible to external users.

Long-term Water Quality Data:

Layers with historical data to consult when evaluating a CO-OPS Dive Site



EPA Impaired Waters for Recreational Use

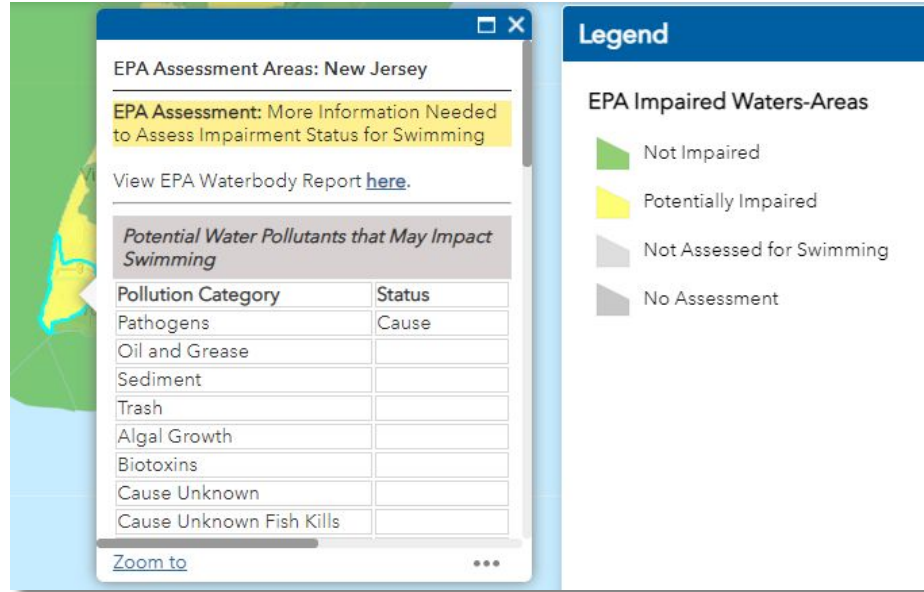
- **Purpose:** Displays the EPA rating for water areas supporting recreational use
- **Updated by:** Automatically by EPA
- **Interpretation:**
 - a. Review area near site of interest.
 - b. If the EPA assessment indicates recreational use is:
 - Not impaired-the site should normally be safe to dive unless there is a more recent contamination event.
 - Potentially Impaired-extra caution is needed to keep safe against the contaminant(s) causing the impairment. Direct contact may not be recommended.



EPA Impaired Waters

- **Interpretation:**

- b. The label “Potentially Impaired” applies if:
 1. The EPA assessed the waterbody as having insufficient information because they lack the necessary data to evaluate impairment for swimming. Click on the area, and in the pop-up, click the “Waterbody Report Link More Info” url to find details of the assessment.



The screenshot displays a web application interface for EPA Assessment Areas in New Jersey. A map on the left shows a waterbody highlighted in yellow, indicating it is 'Potentially Impaired'. A pop-up window titled 'EPA Assessment Areas: New Jersey' is open over this area. The pop-up contains the following text:

EPA Assessment: More Information Needed to Assess Impairment Status for Swimming

View EPA Waterbody Report [here](#).

Potential Water Pollutants that May Impact Swimming

Pollution Category	Status
Pathogens	Cause
Oil and Grease	
Sediment	
Trash	
Algal Growth	
Biotoxins	
Cause Unknown	
Cause Unknown Fish Kills	

At the bottom of the pop-up, there is a 'Zoom to' button and a three-dot menu icon.

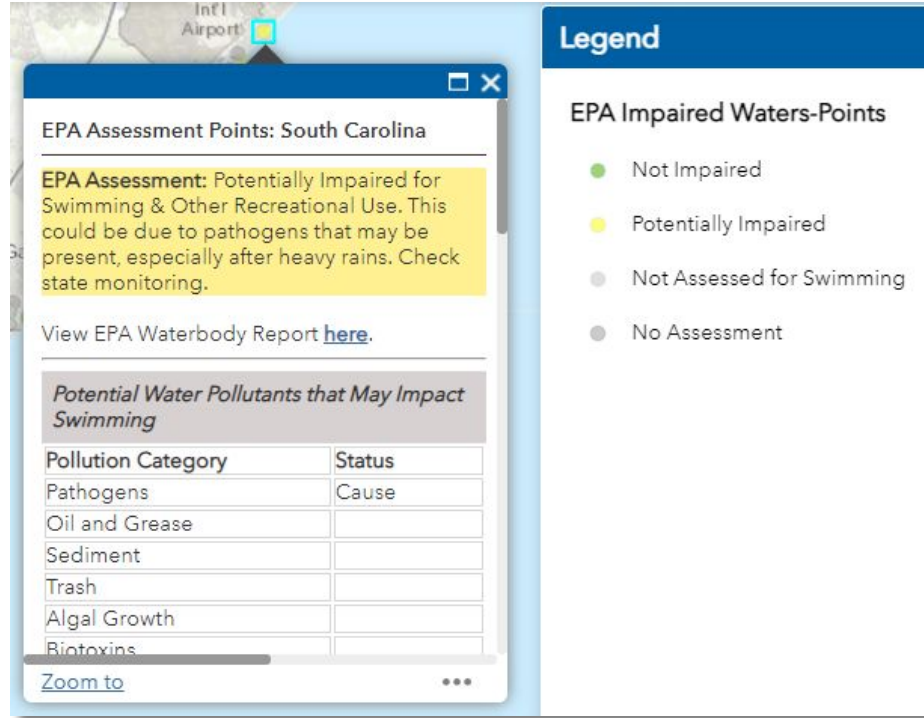
To the right of the pop-up is a legend titled 'EPA Impaired Waters-Areas' with the following categories:

- Not Impaired (Green square)
- Potentially Impaired (Yellow square)
- Not Assessed for Swimming (Light Gray square)
- No Assessment (Dark Gray square)

EPA Impaired Waters

- **Interpretation:**

- b. The label “Potentially Impaired” applies if:
 2. The EPA assessed the waterbody as “Impaired” due to pathogens which may be present, especially after a heavy rain.
 - If there has been a heavy rain, consider avoiding direct contact with the water for 5-7 days.
 - Check the state website (see this [slide](#)) for recent testing results.



The screenshot shows a map interface with a pop-up window titled "EPA Assessment Points: South Carolina". The pop-up contains the following text:

EPA Assessment: Potentially Impaired for Swimming & Other Recreational Use. This could be due to pathogens that may be present, especially after heavy rains. Check state monitoring.

View EPA Waterbody Report [here](#).

Potential Water Pollutants that May Impact Swimming

Pollution Category	Status
Pathogens	Cause
Oil and Grease	
Sediment	
Trash	
Algal Growth	
Biotoxins	

Zoom to

Legend

EPA Impaired Waters-Points

- Not Impaired
- Potentially Impaired
- Not Assessed for Swimming
- No Assessment

EPA Impaired Waters

- **Interpretation:**
 - b. If the EPA assessment indicates recreational use is:
 - **Not Assessed** -The site hasn't been specifically evaluated for swimming.
 - Click the “Waterbody Report Link More Info” url to find details of the assessment.

(1 of 2)

EPA Assessment Areas: Virginia

EPA Assessment: No Assessment for Swimming & Other Recreational Use

View EPA Waterbody Report [here](#).

Potential Water Pollutants that May Impact Swimming

Pollution Category	Status
Pathogens	
Oil and Grease	
Sediment	
Trash	
Algal Growth	
Biotoxins	
Cause Unknown	
Cause Unknown Fish Kills	

[Zoom to](#) ...

Legend

EPA Impaired Waters-Areas

- Not Impaired
- Potentially Impaired
- Not Assessed for Swimming
- No Assessment

EPA Impaired Waters

- **Instructions:**

- a. Zoom to area of interest to visualize this layer (will be grayed out in map contents if zoomed out to far)
- b. Click on Impaired Waters Points, Lines, or Area to bring up a pop-up

EPA Assessment Areas: Massachusetts

EPA Assessment: Potentially Impaired for Swimming & Other Recreational Use

View EPA Waterbody Report [here](#).

Potential Water Pollutants that May Impact Swimming

Pollution Category	Status
Pathogens	Cause
Oil and Grease	Cause
Sediment	
Trash	
Algal Growth	
Biotoxins	
Cause Unknown	
Cause Unknown Fish Kills	

[Zoom to](#)

Legend

EPA Impaired Waters-Areas

- Not Impaired
- Potentially Impaired
- Not Assessed for Swimming
- No Assessment

- c. Click on the url “here”. This will open up a link to the EPA Waterbody Report for that area.
- d. Review the “Assessment Information” to determine the status of “Primary Contact Recreation” and other uses

EPA Impaired Waters

- **Tip:** In the pop-up, for some locations, the cause of the Impairment Status is listed.

EPA Assessment Areas: Massachusetts

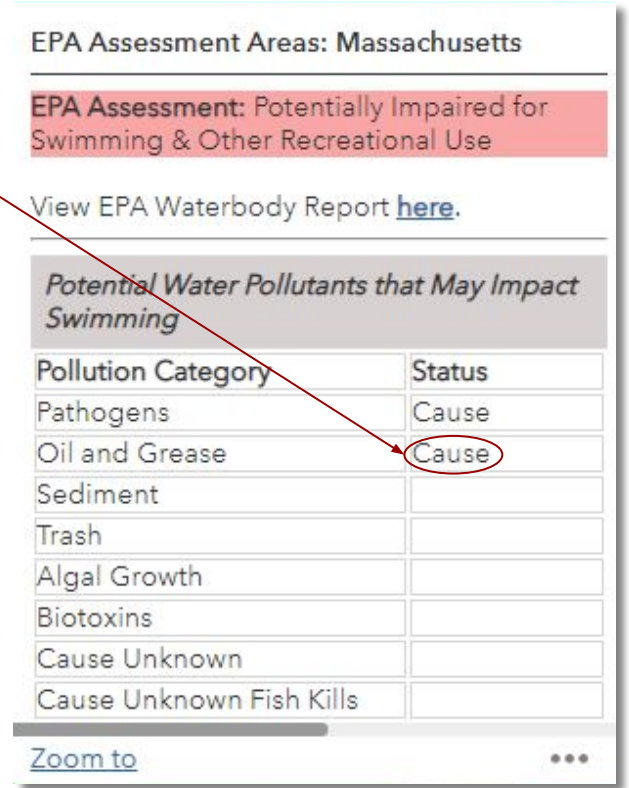
EPA Assessment: Potentially Impaired for Swimming & Other Recreational Use

View EPA Waterbody Report [here](#).

Potential Water Pollutants that May Impact Swimming

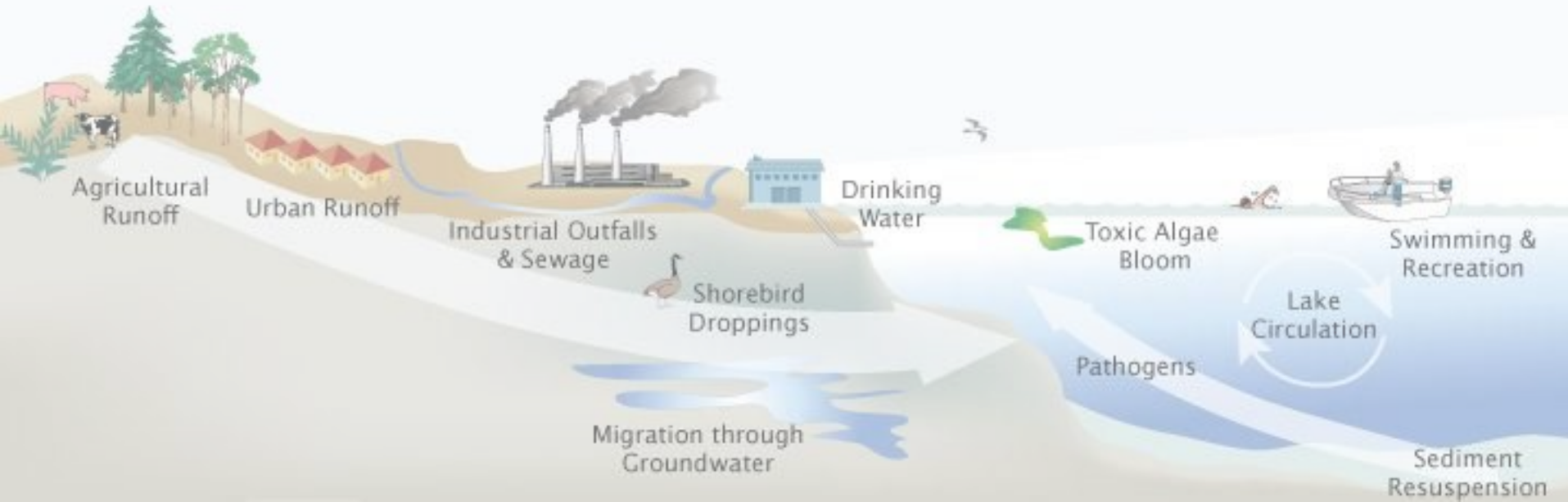
Pollution Category	Status
Pathogens	Cause
Oil and Grease	Cause
Sediment	
Trash	
Algal Growth	
Biotoxins	
Cause Unknown	
Cause Unknown Fish Kills	

Zoom to ...



Long-term/Recent Water Quality Data:

Layers with both historic and recent data to consult when evaluating a CO-OPS Dive Site or planning an upcoming dive



Clean Water Act Compliance Status of Facilities

- **Purpose:** Display the quarterly compliance status of facilities that have an EPA permit to discharge pollutants (ex: suspended solids, fecal coliform, oil) into water
- **Updated by:** Automatically by EPA
- **Interpretation:**
 - a. Facilities with large orange or red markers have major compliance or significant compliance violation. Nearby dive sites may not be safe if the “current violations” is “yes” in the pop-up.
- **Instructions:**
 - a. Click on the location and EPA Facility Report “here” url to go to the full report.

The screenshot displays a map interface with a pop-up window and a legend. The pop-up window, titled '(1 of 5)', provides details for 'PATAPSCO WWTP'. It lists the facility name, permit type (Major), and permit status (Significant/Category I Noncompliance). A red box highlights the current violations: 'Current Violations: Yes' and 'Reason for Current Status: Effluent - Non-monthly Average Limit'. A link is provided to view the EPA facility report. The history section shows a 13-quarter record (SVSSVSSVSSV) with a key explaining the symbols: S for Significant Noncompliance, V for Violation Identified, U for Unknown, and _ for No Violation Identified. The legend, titled 'Clean Water Act Compliance Status of Facilities', defines the status markers: red and orange pins for various noncompliance and violation levels, blue pins for no violations, and black and diamond markers for terminated permits and unknown status.

(1 of 5)

CWA Facilities: PATAPSCO WWTP

Facility Name: PATAPSCO WWTP
Permit Type: Major

Permit Status: Significant/Category I Noncompliance

Current Violations: Yes

Reason for Current Status: Effluent - Non-monthly Average Limit

* View EPA Facility Report [here](#).

History (13-Quarters): SVSSVSSVSSV

* S=Significant Noncompliance
* V=Violation Identified
* U=Unknown
* _=No Violation Identified

Interpretation: Review the area of

[Zoom to](#)

Legend

Clean Water Act Compliance Status of Facilities

Status

- Significant/Category I Noncompliance at Major NPDES Facility
- Significant/Category I Noncompliance at Minor NPDES Facility
- Violation Identified at Major NPDES Facility
- Violation Identified at Minor NPDES Facility
- Violation Identified at NPDES Facility (permit size not noted)
- No Violation Identified at Major NPDES Facility
- No Violation at Minor NPDES Facility
- Terminated Permit for Major NPDES Facility
- Terminated Permit for Minor NPDES Facility
- Unknown/Not Applicable






Clean Water Act Compliance Status of Facilities

- Instructions:**

- In the Detailed Facility Report, you can view the 3-Year Compliance History by Quarter along with information about the pollutants that exceeded the permit. If a violation was detected in a recent quarter due to pollutants, dive plans might need to be adjusted.

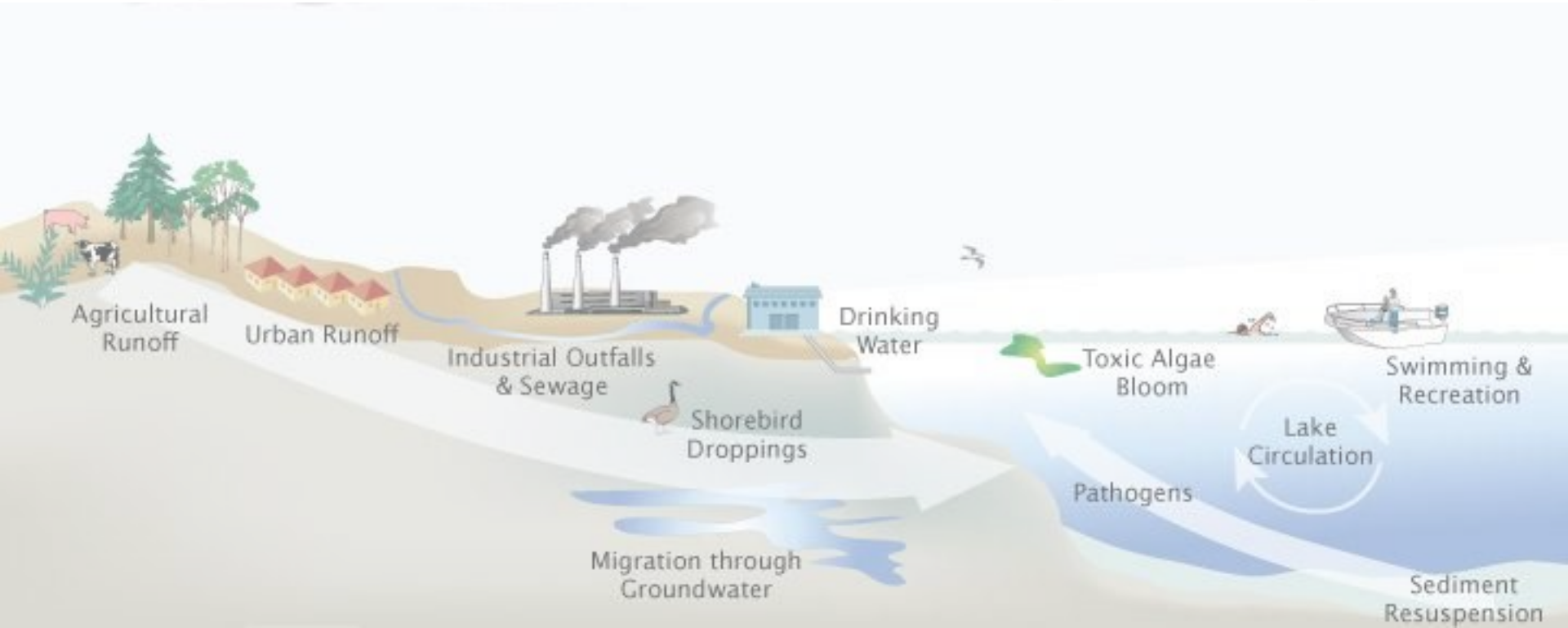
Three-Year Compliance History by Quarter

[Download Data](#) 

Statute	Program/Pollutant/Violation Type				QTR 1	QTR 2	QTR 3	QTR 4	QTR 5	QTR 6	QTR 7	QTR 8	QTR 9	QTR 10	QTR 11	QTR 12	QTR 13+ 
	CWA (Source ID: GA0039047)				07/01-09/30/17	10/01-12/31/17	01/01-03/31/18	04/01-06/30/18	07/01-09/30/18	10/01-12/31/18	01/01-03/31/19	04/01-06/30/19	07/01-09/30/19	10/01-12/31/19	01/01-03/31/20	04/01-06/30/20	07/01-09/25/20
	Facility-Level Status				Violation Identified	Violation Identified	Violation Identified	Violation Identified	Violation Identified	Significant/Category I Noncompliance	No Violation Identified	Violation Identified	Significant/Category I Noncompliance	No Violation Identified	No Violation Identified	Violation Identified	Violation Identified
	Quarterly Noncompliance Report History				Other Violation	Other Violation	Other Violation	Other Violation	Other Violation	Effluent - Monthly Average Limit	Resolved	Other Violation	Effluent - Monthly Average Limit	Resolved - Pending	Resolved	Reportable Noncompliance	
	Pollutant	Disch Point	Mon Loc	Freq													
▶ CWA	Coliform, fecal general 	001 - 0	Effluent Gross	NMth												505%	385%
▶ CWA	Coliform, fecal general 	001 - 0	Effluent Gross	Neither												427%	457%
▶ CWA	Nitrogen, ammonia total [as N] 	001 - 0	Effluent Gross	NMth												3%	
▶ CWA	Phosphorus, total [as P] 	001 - 0	Effluent Gross	Mthly							40%	70%	50%	30%	10%		

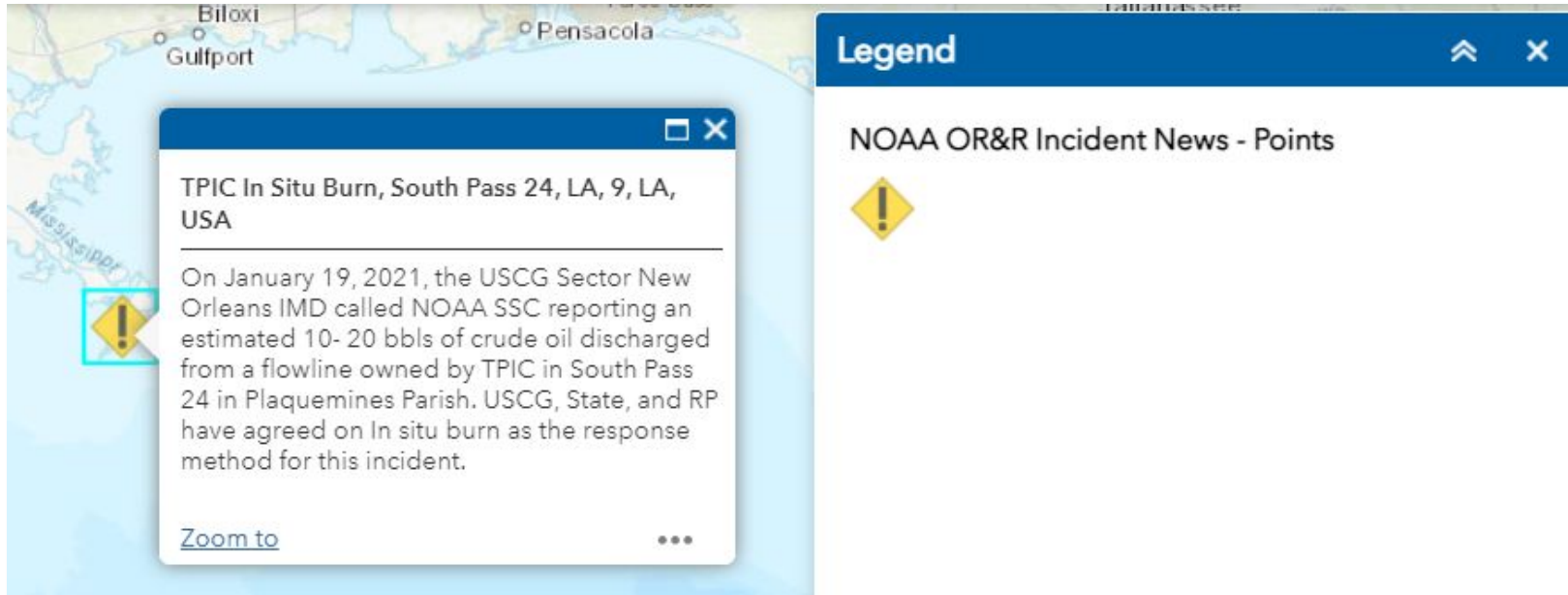
Recent Water Quality Data:

Layers with recent data to consult when planning an upcoming dive



NOAA OR&R Incident News

- **Purpose:** Helps determine if the water is safe now by displaying recent reports of spills and other events.
- **Updated by:** Automatically by [NOAA OR&R RSS feed](#)
- **Interpretation:** If there is a spill event near your dive location, consider postponing.



The screenshot displays a map interface with a legend and an incident popup. The map shows the Gulf of Mexico coastline with labels for Biloxi, Gulfport, and Pensacola. A yellow warning icon is visible on the map. The legend is titled "Legend" and contains the text "NOAA OR&R Incident News - Points" with a yellow warning icon. The popup window is titled "TPIC In Situ Burn, South Pass 24, LA, 9, LA, USA" and contains the following text: "On January 19, 2021, the USCG Sector New Orleans IMD called NOAA SSC reporting an estimated 10- 20 bbls of crude oil discharged from a flowline owned by TPIC in South Pass 24 in Plaquemines Parish. USCG, State, and RP have agreed on In situ burn as the response method for this incident." The popup also includes a "Zoom to" link and a close button.

Legend

NOAA OR&R Incident News - Points

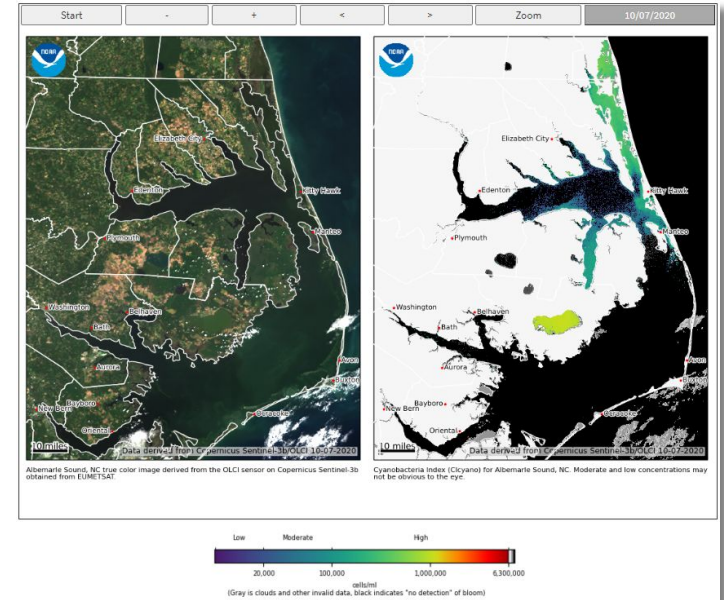
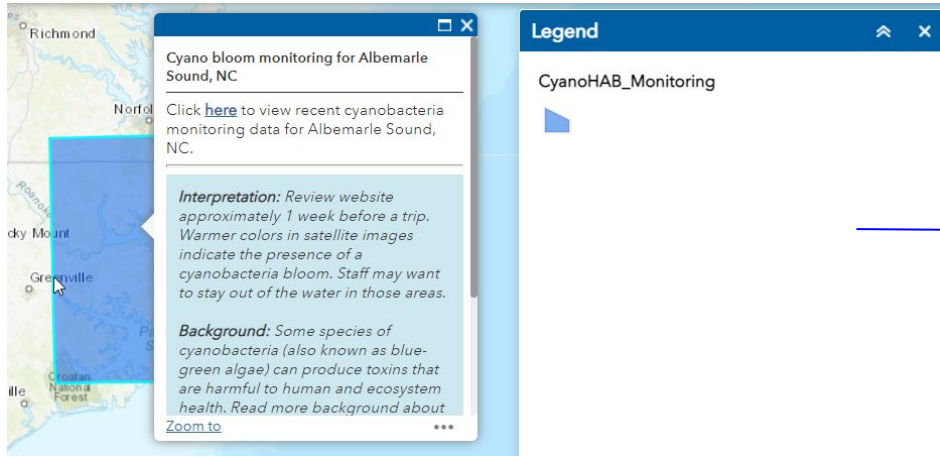
TPIC In Situ Burn, South Pass 24, LA, 9, LA, USA

On January 19, 2021, the USCG Sector New Orleans IMD called NOAA SSC reporting an estimated 10- 20 bbls of crude oil discharged from a flowline owned by TPIC in South Pass 24 in Plaquemines Parish. USCG, State, and RP have agreed on In situ burn as the response method for this incident.

[Zoom to](#)

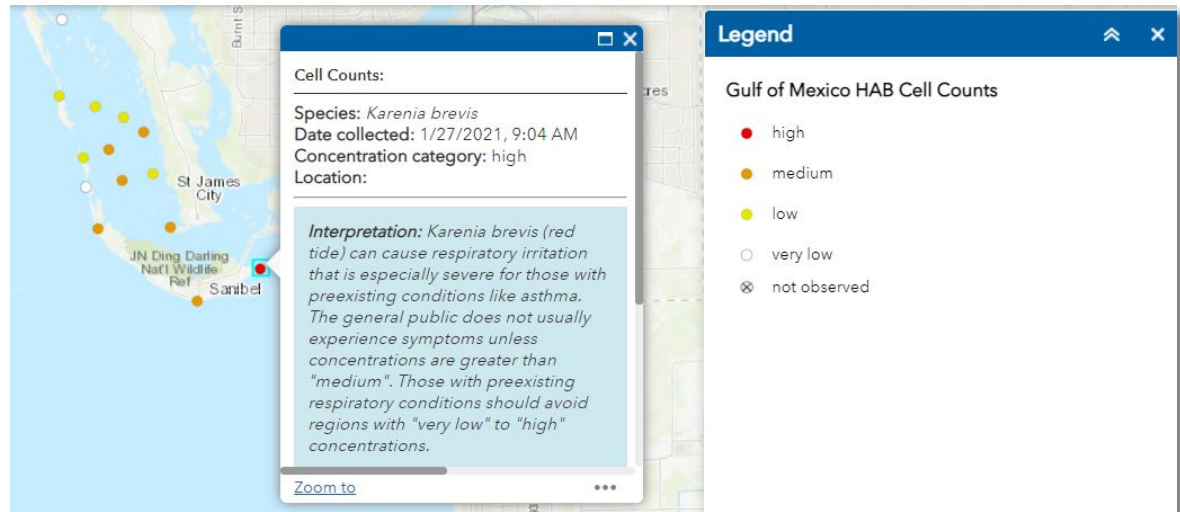
CyanoHAB Monitoring

- **Purpose:** Provides link to cyanobacteria bloom monitoring data.
- **Updated by:** Manually updated by CO-OPS GIS Team with links to NCCOS webpage
- **Interpretation:** Warmer colors in satellite images indicate the presence of a cyanobacteria bloom. You may want to stay out of the water in those areas.



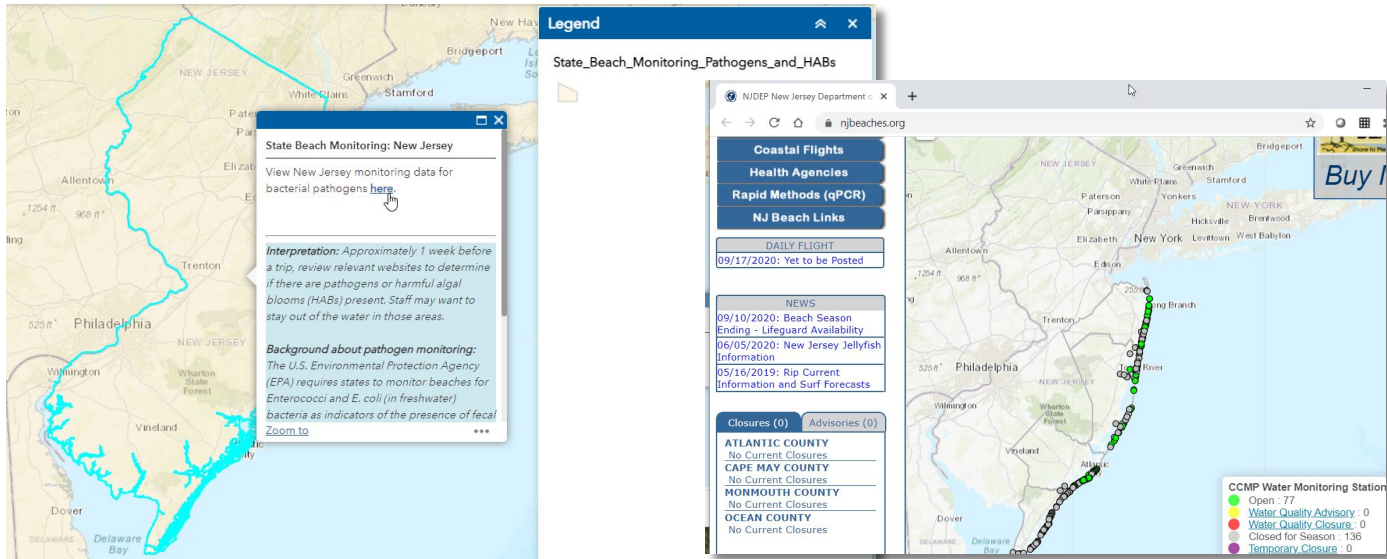
Gulf of Mexico HAB Cell Counts

- **Purpose:** Displays recent *Karenia brevis* HAB data for the Gulf of Mexico. This species of red tide can cause respiratory irritation that is especially severe for those w/ preexisting conditions like asthma.
- **Updated by:** Automatically by NOAA
- **Interpretation:**
 - General public usually doesn't experience symptoms unless concentrations are > "medium"
 - Those with preexisting respiratory conditions should avoid regions with "very low" to "high" concentrations.
 - [More info and forecasts](#)



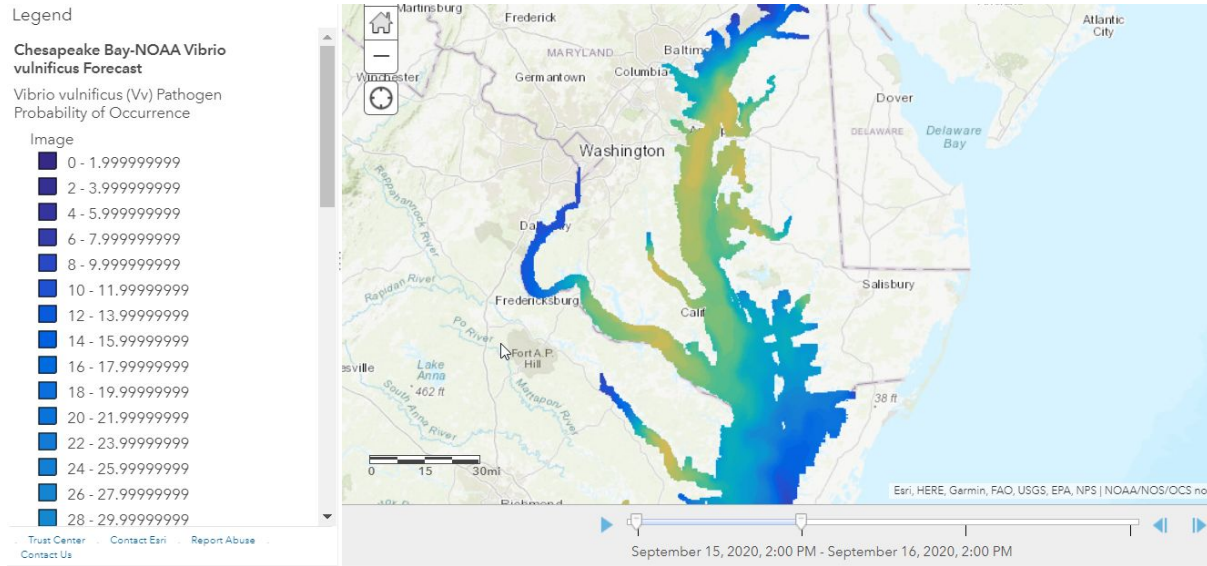
State Beach Monitoring Pathogens and HABs

- **Purpose:** Find recent data by going to state/territory beach monitoring webpages (EPA requires monitoring for *Enterococci* bacteria) and NOAA HAB forecasts (if available)
- **Updated by:** Manually by CO-OPS GIS team when urls change.
- **Interpretation:** When planning a dive, review relevant websites to determine if there are pathogens or HABs present. Consider not diving in those areas.



Vibrio forecasts

- **Purpose:** Animated forecast for *Vibrio vulnificus* in Chesapeake Bay
- **Updated by:** Automatically by NOAA
- **Interpretation:** Areas that are highlighted yellow have a higher probability of having *V. vulnificus* based on temperature and salinity. Avoid contact with open wounds. See CDC for additional guidance.





Questions or feedback?

Email nos.co-ops.gisteam@noaa.gov