

Village Blue Lake Pontchartrain

Real-time water quality monitoring to help communities better understand Lake Pontchartrain water quality and its connection to the Mississippi River

What is Village Blue Lake Pontchartrain?

EPA and the U.S. Geological Survey (USGS) initiated the Village Blue research project in 2017 to provide real-time water quality monitoring data to local and regional communities and increase public awareness about water quality.

A new Village Blue monitoring site has been established in New Orleans, Louisiana on Lake Pontchartrain, a 630-square-mile estuary used for recreational and commercial uses such as swimming, boating, kayaking, camping and fishing.

Village Blue Lake Pontchartrain expands on a former Village Blue project in Baltimore, Maryland. Village Blue Baltimore was launched in 2017 to measure water quality in the Baltimore Inner Harbor. Village Blue also builds on EPA's Village Green project, which provided air quality information to eight communities across the U.S.

Who are our partners?

The Village Blue Lake Pontchartrain partners presently include EPA, USGS, the U.S. Army Corps of Engineers (USACE), and the Pontchartrain Conservancy, however the project's coordinators also plan to partner with local



The proposed sensor deployment site on the south shore of Lake Pontchartrain. *Photo: Lake Pontchartrain Basin Foundation*

organizations. EPA and USGS are looking for community and academic partners interested in water quality, water quality sensors, ecological and human health, and communication of water quality information. The project may also provide opportunities for additional research efforts.

What will the water quality sensors measure?

EPA and USGS installed a new water quality sensor site near the New Canal Lighthouse on the south shore of Lake Pontchartrain in early 2021. The sensors will measure algae, chlorophyll, dissolved oxygen, pH, temperature, turbidity and

nitrate and will be updated every hour. Water sensor data from this new site and an existing USGS site on the Mississippi River in Baton Rouge, Louisiana will be combined and displayed in near real-time on the USGS National Water Information System (NWIS) website.

The two measurement sites will allow river and lake conditions to be evaluated separately under normal weather and flow conditions, and in combination when river and lake waters come together during openings of the Bonnet Carre Spillway. The Bonnet Carre Spillway is a flood control feature of USACE's Mississippi River and Tributaries project 12 miles west

of New Orleans that diverts floodwaters from the Mississippi River through Lake Pontchartrain into the Gulf of Mexico.

Additional water sampling will be conducted to evaluate potential harmful algal blooms (HABs) based on satellite data from the Cyanobacteria Assessment Network web application (CyAN app). EPA scientists developed the CyAN app to help local and state water quality managers make faster and better-informed management decisions related to cyanobacterial blooms.

The water sensor data displayed online will complement work that state and local organizations are doing to make water quality data available to the public.

How will data be displayed online?

Data collected by the Village Blue Lake Pontchartrain sensors will be displayed on the USGS National Water Information System (NWIS) website. The project and associated outreach activities will be described on EPA's Village Blue website. Village Blue data could be used to show how factors in Lake Pontchartrain, like nutrient inputs, contribute to environmental challenges such as stormwater runoff and potential harmful algal blooms.

How will this project benefit the community?

Beginning in February 2021 and continuing over the next two years, the Village Blue Lake Pontchartrain project will provide real-time water quality information on nutrients and potential algal blooms. This information will allow users to develop a greater understanding of

water quality issues, such as the ways that heavy rainfall can contribute to changes in nitrate, turbidity, and dissolved oxygen levels in water bodies. This information can be used by citizens and water quality professionals to inform community, policy, and environmental restoration efforts.

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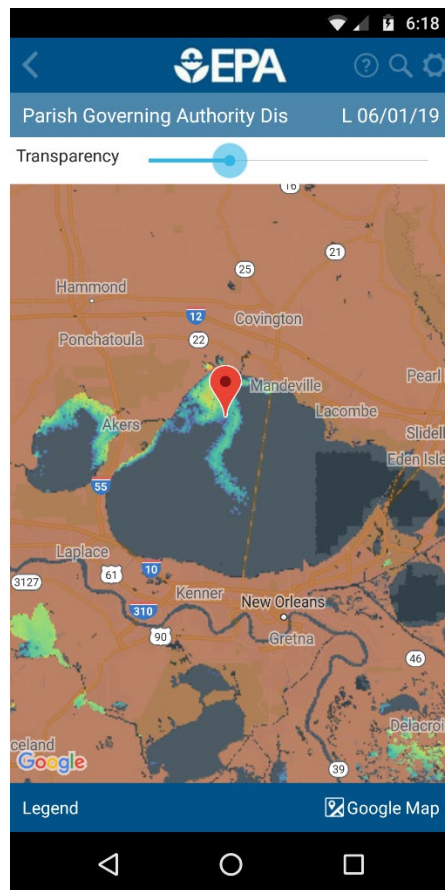
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epa.gov/research/regional-science-program-fact-sheet



A satellite image of an algal bloom on Lake Pontchartrain from the CyAN application.

RESOURCES:

1. Village Blue Website: epa.gov/water-research/village-blue
2. Village Green Website: epa.gov/air-research/village-green-project
3. USGS National Water Information System (NWIS): waterdata.usgs.gov/nwis
4. Cyanobacteria Assessment Network Mobile Application epa.gov/water-research/CyANapp