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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 site is being developed 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 an existing Village Blue Baltimore location, launched in 2017, to measure water quality in the Baltimore Inner Harbor. Village Blue also builds on EPA's Village Green project, which provides air quality information to eight communities across the U.S.

Who are our partners?

The Village Blue Lake Pontchartrain partners presently include EPA and USGS, however the project's coordinators also plan to partner with local 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.

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

How will the project work?

EPA and USGS plan to install a new water sensor site near the New Canal Lighthouse on the south shore of Lake Pontchartrain in the Fall of 2019. The sensors will measure algae, chlorophyll, dissolved oxygen, pH, temperature, turbidity and nitrate concentrations every 30 minutes.

Water sensor data from this new site and an existing USGS site on the Mississippi River in Baton Rouge will be combined and displayed in near real-time on EPA's Village Blue website. The two measurement sites will allow river and lake conditions to be evaluated separately under normal conditions on the river and in combination when river and lake waters come together during openings of the Bonnet Carre Spillway, a flood control operation 12 miles west of New Orleans that allows floodwaters from the Mississippi River to flow into Lake Pontchartrain and then on to the Gulf of Mexico.

Additional water sampling will be conducted to evaluate potential harmful algal blooms (HABs) based on information from satellite data from the Cyanobacteria Assessment Network mobile 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. It will also be visualized on EPA's Village Blue monitoring application — which does not require a download and is compatible with all operating systems. The application will display the data in a mobile friendly, easy-to-understand format to provide the community with insights on the relationship between water quality and environmental conditions.

For example, the Village Blue website could 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 Fall 2019 and continuing over the following two years, the Village Blue Lake Pontchartrain project will provide real-time water quality information on nutrients and potential algal blooms. This information can allow users to develop 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 also be used by both citizens and professionals to inform community, policy, and environmental restoration efforts.

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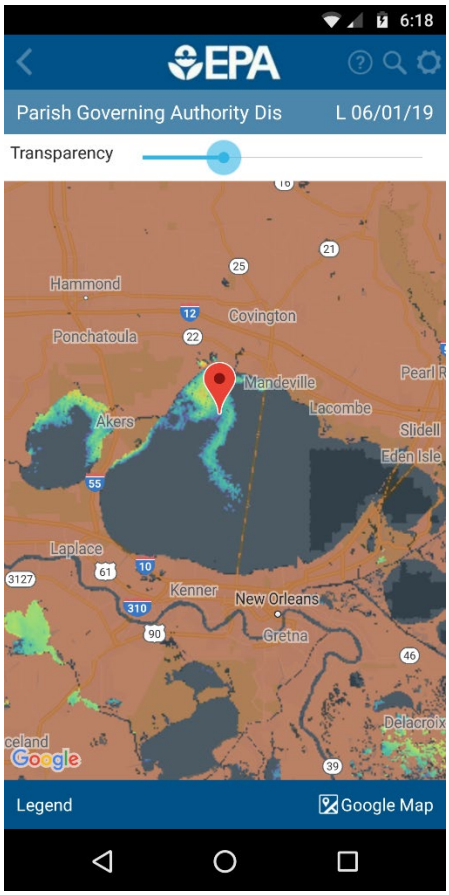
RESOURCES:

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 (CyAN app): epa.gov/water-research/CyANapp



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