



Lake Erie HAB Forecast Guide

Upgrades & Enhancements

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

Boat —





New Look & Feel for NOAA's Lake Erie HAB Forecast

The Lake Erie HAB forecast has been enhanced by the integration of a 3D hydrodynamic model using recent satellite imagery to produce an estimate of daily *Microcystis* bloom location and 5-day forecast for bloom movement. Implementing enhancements created space for improved data visualization. The Lake Erie HAB forecast is now an interactive website, designed with a dashboard feel for easy consumption of maps & key elements. Bloom movement is provided as an animation with plots of vertical movement of *Microcystis* at select sampling locations. This guide will help familiarize users with the elements of the Lake Erie HAB forecast and how to interact with each web map.

Take the Forecast with you!

Click to generate a forecast product with a familiar look & feel.

[Generate Forecast PDF](#)

View archived forecasts & animations without scrolling.

[Archived Forecasts & Animations](#)

Click Subscribe to get forecast updates in your email.

[Subscribe](#)

Lake Erie Harmful Algal Bloom Forecast

Imagery Analysis & Forecasts

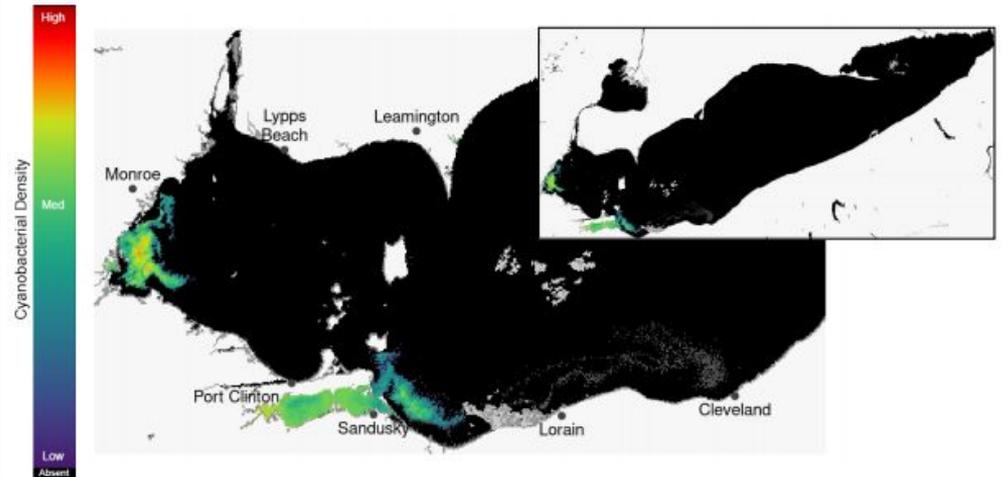


Analysis

The *Microcystis* cyanobacteria bloom continues in the western basin of Lake Erie. Sentinel imagery (8/7) shows the bloom extending from Maumee Bay north along the Michigan coast to Brest Bay, east along the Ohio coast to the Portage River; and up to 13 miles northeast of West Sister Island, nearing the Ontario coast. Mild winds observed since Monday (8/5-7) promoted scum formation, corresponding to areas of dark red and orange in satellite imagery. Measured toxin concentrations remain above the recreational threshold where the bloom is most dense (appearing green from a boat). *Keep pets and yourself out of the water in areas where scum is forming.* The persistent cyanobacteria bloom in Sandusky Bay continues. No other blooms are present in Lake Erie.

Forecasts

Winds (7-15 kn) forecast today through Saturday (8/8-10) will promote mixing and southeast transport of surface *Microcystis* concentrations. Winds (4-7 kn) forecast for Sunday and Monday (8/11-12) will promote scum formation. -Keeney, Davis



Forecasts & Analysis

The forecast analysis remain unchanged. This section is updated on Monday & Thursday during an active bloom, with email alerts for subscribers.

Imagery Analysis & Forecasts

Microcystis cyanobacteria in the western basin of Lake Erie continues to decrease in concentration and extent. Observed winds (10/3-6) caused mixing that may have reduced any remaining surface concentrations. Recent satellite imagery has been partially obscured by clouds, limiting analysis. Satellite imagery from yesterday (10/6) indicates some chlorophyll is still present within Maumee Bay, but is absent elsewhere within the western basin. The persistent cyanobacteria bloom in Sandusky Bay continues.

Forecasts

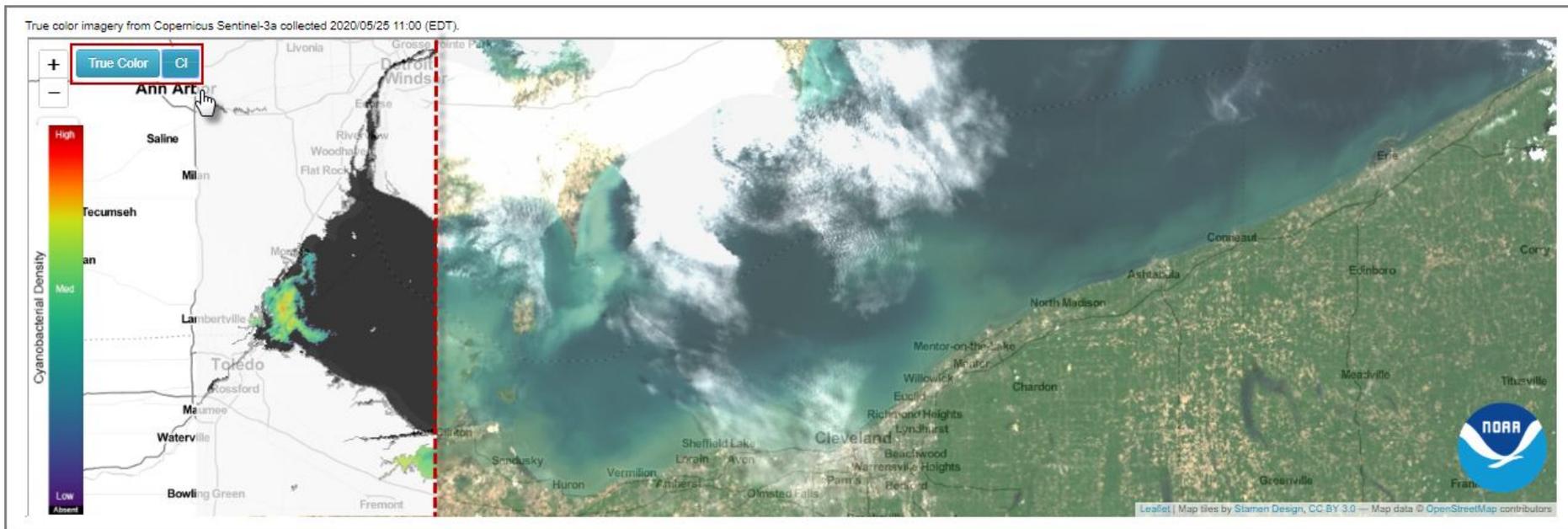
Forecast winds (5-12 kn) today through Thursday (10/7-10) will promote mixing of any remaining surface *Microcystis* concentrations. The water temperature has dropped below 68°F (20°C) and an increase in bloom concentrations is no longer possible. -Davis, Keeney



Clear cached browsing data to best view each forecast!

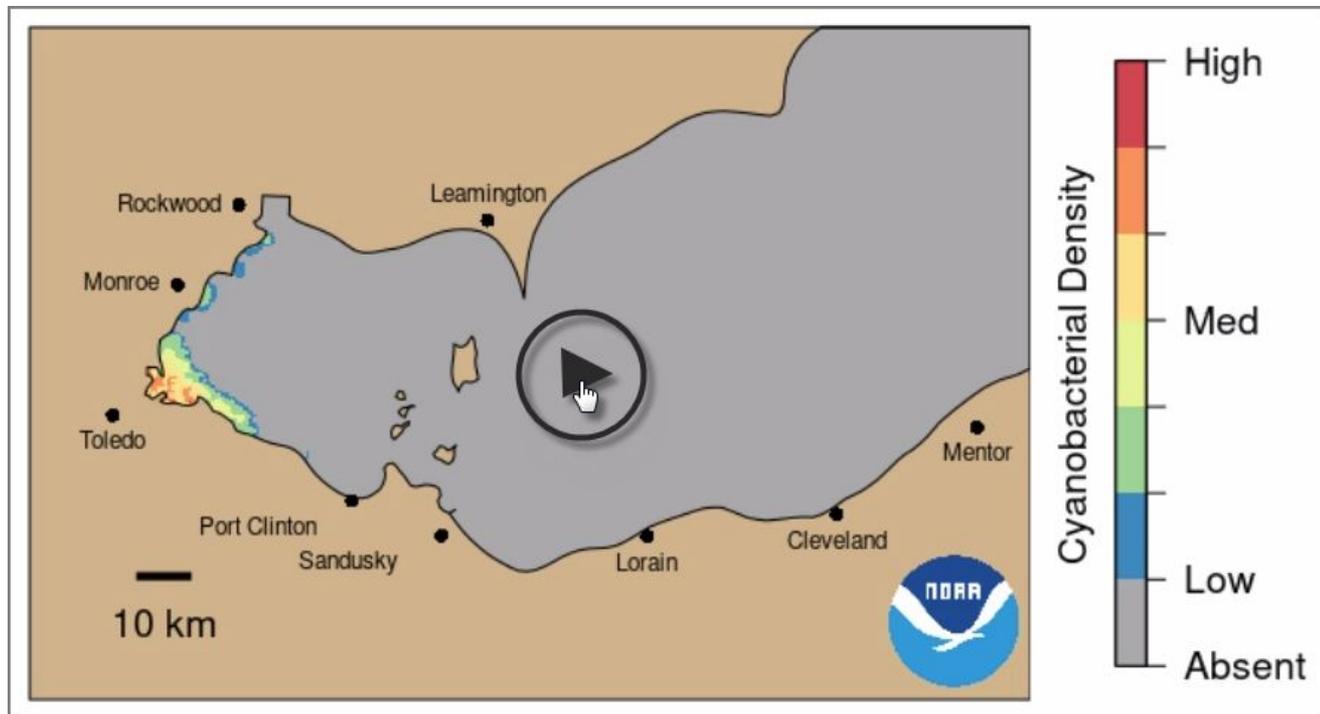
Satellite Imagery

- Copernicus Sentinel-3 and MODIS Aqua & Terra imagery are available with Chlorophyll Indexing by surface density, and true color imagery, with the click of a button.



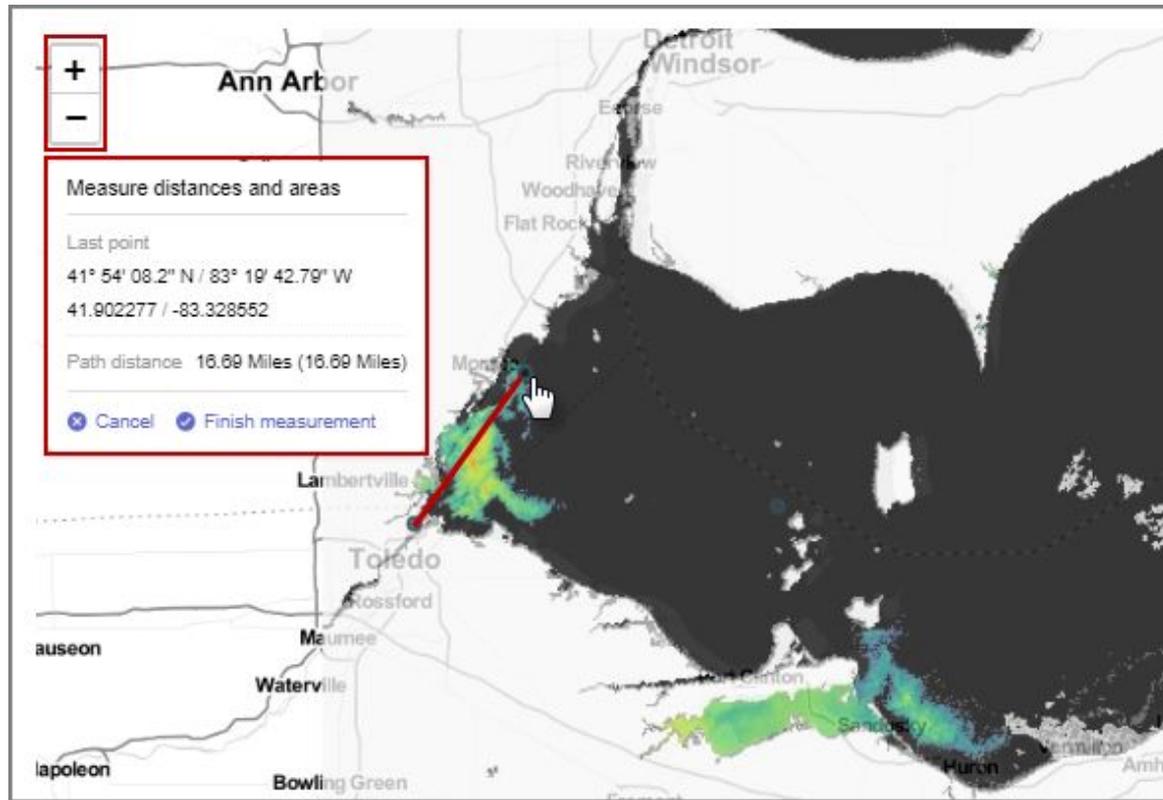
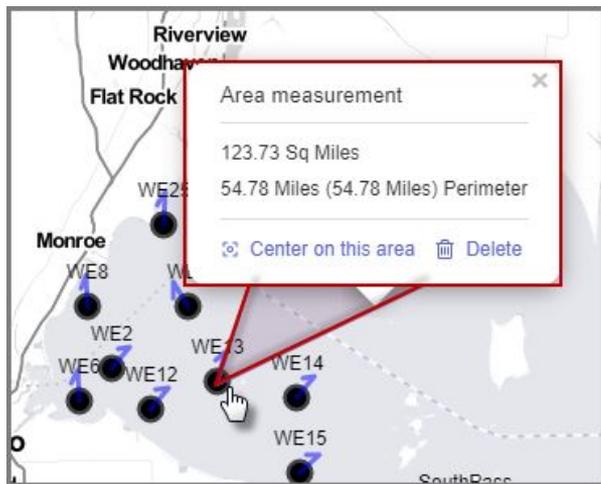
New Bloom Position Forecast

NEW to the stage, this **animated map models bloom position** from date of satellite imagery to a minimum of **96 hours** from date of publication. The forecast is powered by modeled water currents data from the [Lake Erie Operational Forecast System \(LEOFS\)](#).



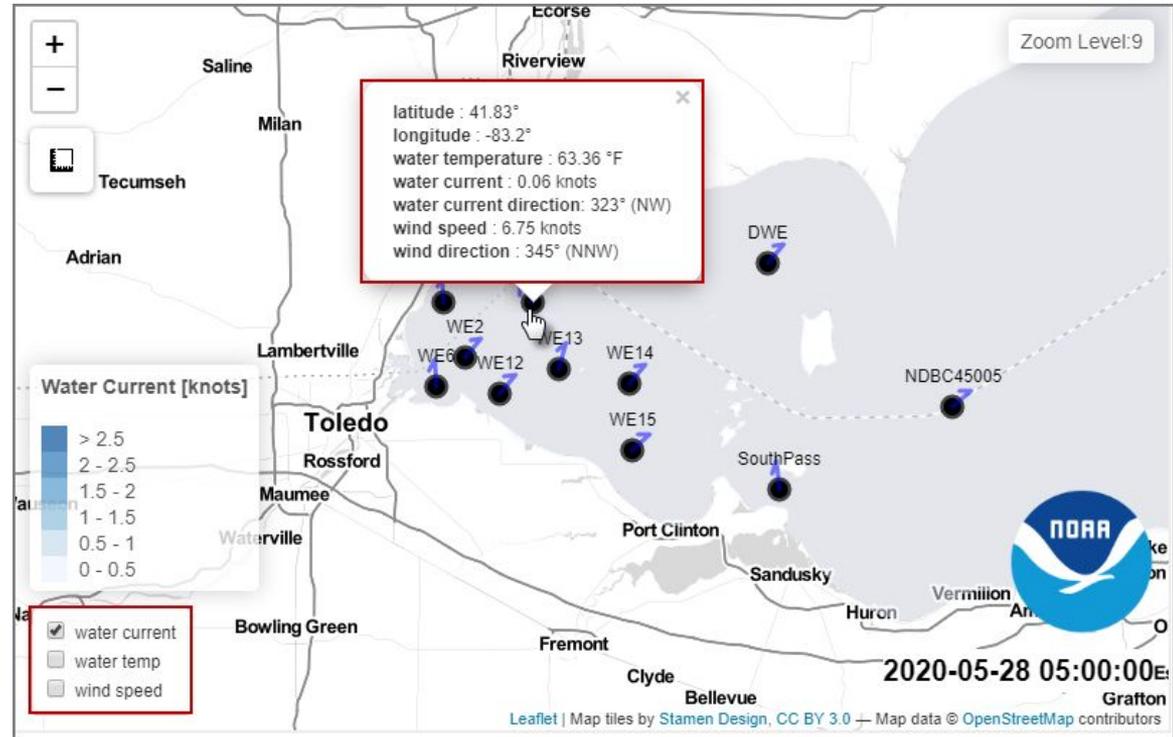
Interactive Map Tools

- **Zoom in & out** to examine bloom position.
- Find **latitude & longitude** with a **right-click**.
- **Measure** distance & area.



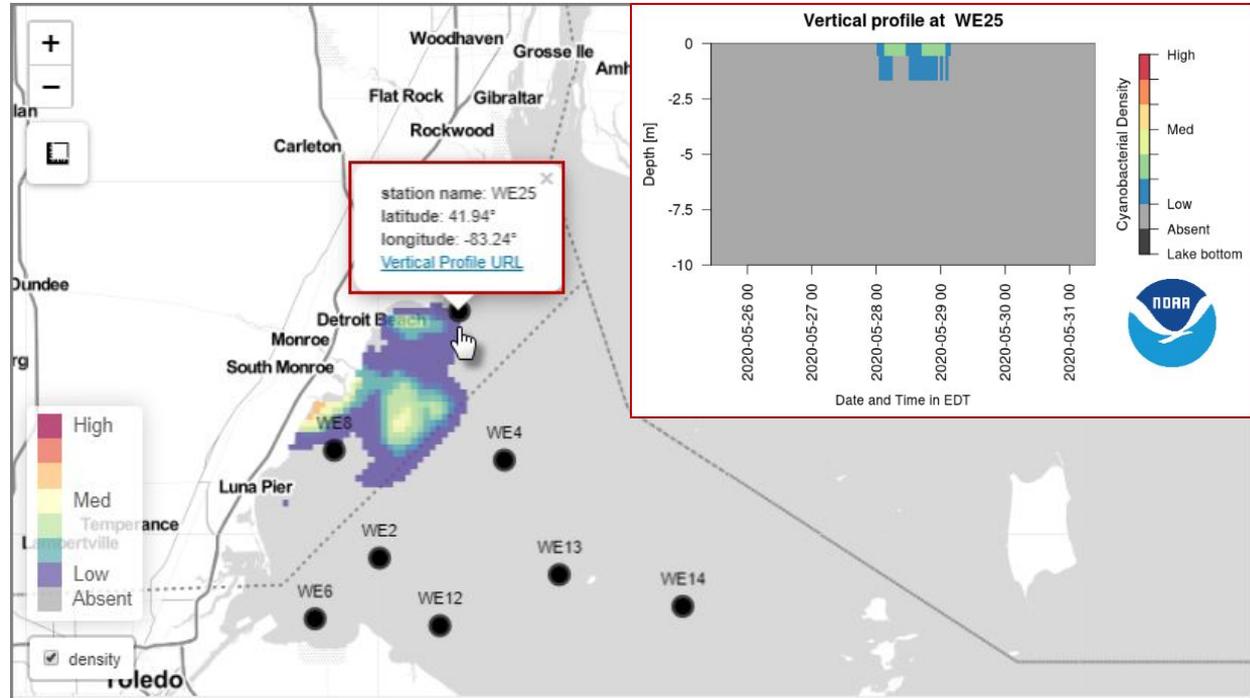
Forecast Lake Conditions

- Visualize modeled surface **currents**, **wind speeds**, and **water temperature** in real-time.
- Toggle between, or stack key features for analysis.
- View **conditions** at specific **water sampling locations**.



Forecast Bloom Position & Vertical Mixing

- Click a point to visualize bloom depth in the water column by date and modeled concentration.
- Forecast bloom position based on [LEOFS](#) currents.



Archived Lake Erie HAB Products

- Use the **dropdown menu** to retrieve **archived forecasts & model results**.
- **Generate a PDF** from the search, or **download the animation**.

