

# Harmful Algal Blooms (HABs) Newsletter



## In this issue

EPA Updates **P.1**

News **P.2**

Upcoming Events **P.3**

Useful Resources **P.3**

HABs Advisories **P.3**

Recently Published  
Articles **P.4**

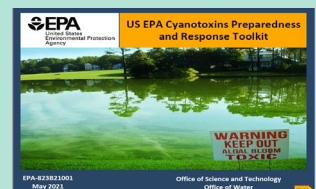
Mention of trade names, products, or services in this newsletter does not convey and should not be interpreted as conveying official EPA endorsement, approval, or recommendation for use.

'Looking for even more HABs information? Visit EPA's [CyanoHABs in Water Bodies website](#)

## EPA Updates!

### *HABs Research, Resources, and Tools*

## Cyanotoxins Preparedness and Response Toolkit (CPRT)



EPA published the *Cyanotoxins Preparedness and Response Toolkit (CPRT)*, an online tool with the resources that drinking water systems and waterbody managers can use to be prepared before a cyanoHAB event, and to respond to cyanotoxins in drinking water and to cyanobacteria and their toxins in recreational waters. The CPRT includes:

- A template to develop a Cyanobacteria/Cyanotoxins Management Plan, including worksheets and checklists to assist before and during a bloom event;
- Frequently Asked Questions on cyanoHABs, drinking water health advisories, and EPA's Recommended Recreational Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin;
- Links to key tools relevant to effective risk communication during cyanotoxin events;
- A cyanoHABs incident response questionnaire to use when a cyanotoxins event is suspected or confirmed; and
- A post-incident technical support questionnaire to evaluate the effectiveness of the response.

The resources in the toolkit can be completed electronically, downloaded, and shared. The CPRT does not cover long-term management actions or the control and mitigation of cyanoHABs.

## New Data Dashboard on BloomWatch Phone App

The EPA Region 1 Cyanobacteria Monitoring Collaborative is now hosting a data dashboard on [Cyanos.org](https://cyanos.org) for the [bloomWatch phone App](#). The dashboard has been built using ArcGIS Online and Survey123 so that data can be readily incorporated into other ArcGIS applications. A short [training video](#) has also been developed on how to use the App.

[Feedback](#) on the tool is appreciated.

## EPA Announces \$9.6 Million in BEACH Act Grants to States, Tribes, Territories

EPA will be awarding BEACH Act grants funding to carry out beach water quality monitoring and public notification programs in 30 states, five territories, and four Indian Nations to be used to monitor beaches for fecal indicator bacteria, maintain and operate public notification systems, identify local pollution sources, and report results of monitoring and notification activities to EPA and the public. The grants are part of a broader EPA effort to address sources of water pollution that contribute to beach closures. For example, In April 2021 the [agency released](#) an improved web-based app to help communities identify such pollution sources to local recreational water bodies, including reporting HABs.

To check on the latest closings and advisories at particular beaches, contact the relevant state, tribal, or territorial beach program listed at:

<https://www.epa.gov/beaches/state-territorial-tribal-and-epa-beach-program-contacts>.

To view data on water quality monitoring results and public notifications that have been reported to EPA over the years, see EPA's national beach database, BEACON, at: <https://watersgeo.epa.gov/beacon2/>.

To access the EPA Sanitary Survey App for Marine and Fresh Waters, see: <https://www.epa.gov/beach-tech/sanitary-surveys-recreational-waters#epa>.

## USEFUL RESOURCES

- ✓ [CYANOnews, May 2021 Issue](#)
- ✓ [WHO Virtual Book Launch Video of “Toxic Cyanobacteria in Water”](#)
- ✓ [NOAA's Western Lake Erie HAB Early Season Projection](#)
- ✓ [DEC Launches NYHABS for 2021: New York Harmful Algal Blooms Notification and Reporting System](#)



# Reported Blooms, Beach Closures, and Health Advisories\* - May 2021

*\*Includes blooms, cautions, warnings, public health advisories, closings, and detections over state thresholds due to the presence of algae, toxins, or both. This is not a comprehensive list; many blooms may not have been reported and/or lakes may not be actively monitored.*



*Click the State below to see the reported blooms for the month of May 2021*

[Arizona](#) (1), [California](#) (25), [Florida](#) (10) and [1 drinking water report](#), [Kansas](#) (1), [Michigan](#) (1), [New Jersey](#) (2), [Oregon](#) (1), [South Carolina](#) (1), [Texas](#) (1), [Utah](#) (1), [Washington](#) (2), [Wyoming](#) (1)

## Upcoming Virtual Events

**ASLO 2021 Aquatic Sciences Meeting** - June 22-27  
Special Session on *Interactions of HABs, Eutrophication and Carbonate Chemistry in Coastal Oceans and Large Lakes*

**19th International Conference on Harmful Algae**  
October, 10-15, La Paz, B.C.S. (live and virtual)

**CERF 2021** - November 1-4 and 8-11  
Impact of Climate Change on Harmful Algal Blooms

**SETAC North America 42nd Annual Meeting** - November 14-18  
Pelagic and Benthic Harmful algal blooms (HABs): The detection, fate, effects, monitoring, and management of blooms and their associated toxins

**12<sup>th</sup> International Conference on Toxic Cyanobacteria**  
May 22-27, 2022, Toledo, Ohio

## OTHER USEFUL

resources



Agendas, presentations and recordings from the EPA, NOAA and Sitka Tribe *Managing Harmful Algal Blooms in Tribal Waters Webinar Series*, held virtually on March are now available online [here](#)

## Recently Published Articles\*

### Complete genomes derived by directly sequencing freshwater bloom populations emphasize the significance of the genus level ADA clade within the Nostocales

Dreher, T.W., Davis II, E.W. and Mueller, R.S., 2021. *Harmful Algae*, 103, 102005.

### Comparative genomics of the ADA clade within the Nostocales

Dreher, T.W., Davis II, E.W., Mueller, R.S. and Otten, T.G., 2021. *Harmful Algae*, 104, 102037.

### Antibacterial and antiviral metabolites from cyanobacteria: Their application and their impact on human health

Roberta Carpine, Simon Sieber, Current Research in Biotechnology, Volume 3, 2021, Pages 65-81.

### Coastal eutrophication drives acidification, oxygen loss, and ecosystem change in a major oceanic upwelling system

Faycal Kessouri et al., *Proceedings of the National Academy of Sciences*, 2021.

### Insight into cyanobacterial preservation in shallow marine environments from experimental simulation of cyanobacteria-clay co-aggregation

Hongchang Liu, Peng Yuan, Dong Liu, Weiwei Zhang, Qian Tian, Hongling Bu, Yanfu Wei, Jinlan Xia, Yinchu Wang, Junming Zhou. *Chemical Geology*, 2021, 120285.

### Cell density-dependent regulation of microcystin synthetase genes (mcy) expression and microcystin-LR production in *Microcystis aeruginosa* that mimics quorum sensing

Shanlin Wang, Ping Ding, Siyu Lu, Pian Wu, Xiaoqian Wei, Ruixue Huang, Tianhan Kai, *Ecotoxicology and Environmental Safety*, Volume 220, 2021, 112330.

### Monitoring cyanoHABs and water quality in Laguna Lake (Philippines) with Sentinel-2 satellites during the 2020 Pacific typhoon season

Isabel Caballero, Gabriel Navarro, *Science of The Total Environment*, Volume 788, 2021, 147700.

### Corrigendum to Dynamics of microcystins and saxitoxin in the Indian River Lagoon, Florida

Abdiel E. Laureano-Rosario, Malcolm McFarland, David J. Bradshaw, Jackie Metz, Rachel A. Brewton, Tara Pitts, Carlie Perricone, Stephanie Schreiber, Nicole Stockley, Guojun Wang, Esther A. Guzmán, Brian E. Lapointe, Amy E. Wright, Charles A. Jacoby, Michael S. Twardowski, *Harmful Algae*, Volume 104, 2021, 102035.

### Advances in the toxicology research of microcystins based on Omics approaches

Ya Ma, Haohao Liu, Xingde Du, Ziang Shi, Xiaohui Liu, Rui Wang, Shiyu Zhang, Zhihui Tian, Linjia Shi, Hongxiang Guo, Huizhen Zhang, *Environment International*, Volume 154, 2021.

\*Articles are retrieved from Science Direct research database searching for the following key words: cyanobacteria, cyanotoxins, harmful algal blooms, and HAB(s).



Would you or a colleague like to sign up to receive future issues of this newsletter? Simply send an email to [epacyanohabs@epa.gov](mailto:epacyanohabs@epa.gov)