



December 2021

Harmful Algal Blooms (HABs) Newsletter



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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.

More HABs information is available on EPA's [CyanoHABs in Water Bodies website](#)

EPA Updates!

HABs News, Research, Resources, and Tools



Mississippi River
Gulf of Mexico
Watershed Nutrient
Task Force

Virtual 2021 Hypoxia Task Force Meeting

The Hypoxia Task Force will host a Virtual 2021 Public Meeting on **Tuesday, December 14, 2021 at 10:00am - 2:55pm EST**

[Please register by December 10, 2021](#)

The Mississippi River/Gulf of Mexico Watershed Nutrient Task Force was established in the fall of 1997 to understand the causes and effects of eutrophication in the Gulf of Mexico; coordinate activities to reduce the size, severity, and duration; and ameliorate the effects of hypoxia. Activities include coordinating and supporting nutrient management activities from all sources, restoring habitats to trap and assimilate nutrients, and supporting other hypoxia related activities in the Mississippi River and Gulf of Mexico watersheds.

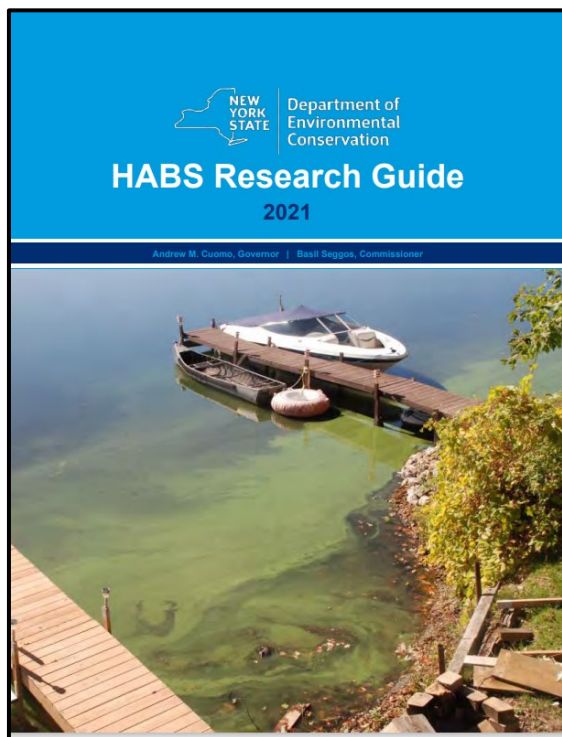
The Mississippi River/Gulf of Mexico Watershed Nutrient Task Force holds public meetings throughout the Mississippi River Basin to inform the public of the progress toward moving forward on Gulf Hypoxia.

More information on the Hypoxia Task Force is available on EPA's [Mississippi River/Gulf of Mexico Hypoxia Task Force website](#).

Related meetings are posted on this website, as well.

Interesting Reports on HABs Research

2021 New York State HABs Research Guide



Action Plan for Harmful Algal Bloom Monitoring, Research, Outreach, and Event Coordination in Alaska



NOAA's Notice of Funding Opportunity

The National Oceanic and Atmospheric Administration (NOAA) recently issued its Fiscal Year (FY) 22 Phase I Notice of Funding Opportunity for the Small Business Innovation Research (SBIR) program. Proposals are encouraged from qualified small businesses for highly innovative technologies with strong commercial potential. Research to commercialize HAB toxin detection, HAB control and mitigation technologies that advance a broad set of topics and agency priorities listed in Section 9.0 of the NOFO may be supported.

Submit a required Letter of Intent via [this form](#) by December 13, 2021 at 11:59 pm (ET) to be eligible to submit a Phase I application. More details and program contact information are on this [NOAA SBIR website](#).



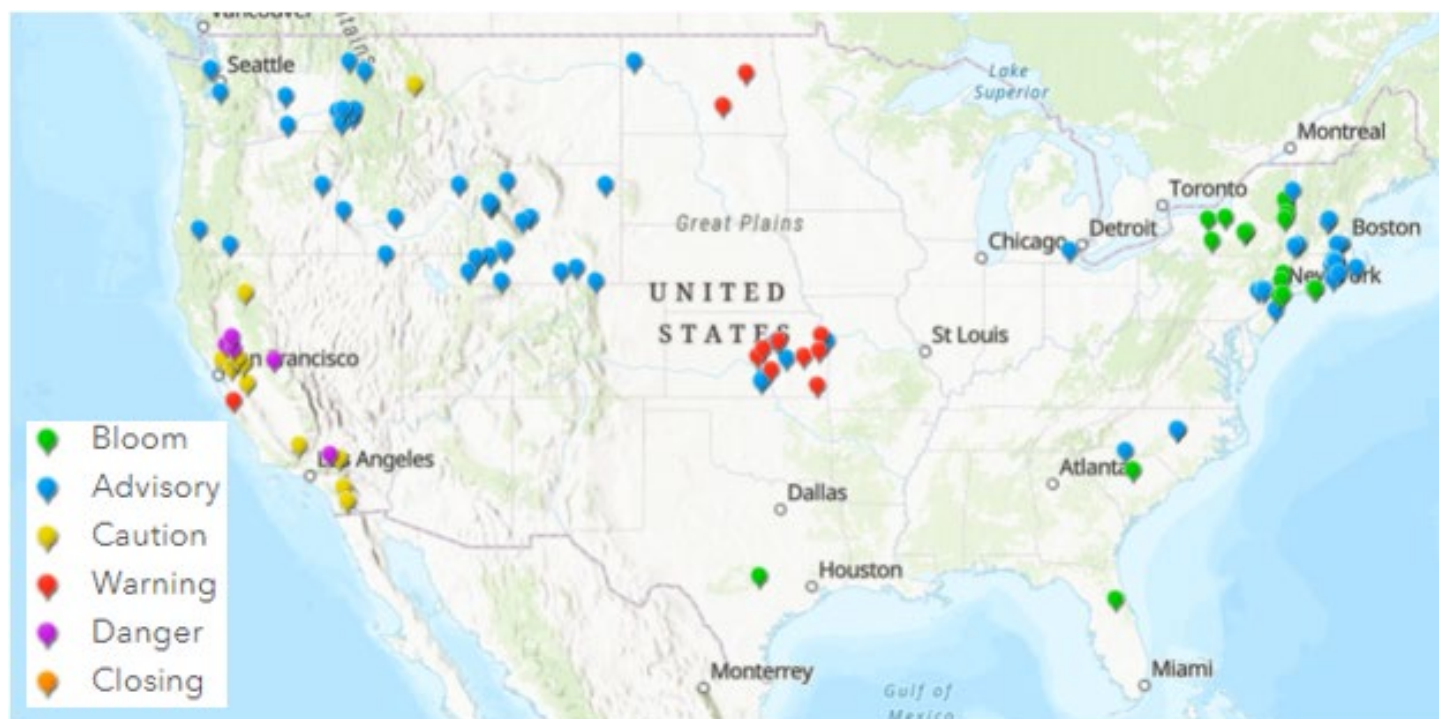
Would you or a colleague like to sign up to receive future issues of this newsletter? Simply send an email to epacyanohabs@epa.gov



Reported Blooms, Beach Closures, and Health Advisories* - November 2021

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

Go to EPA's interactive [Tracking CyanoHABs Story Map](#) to access the data points underlying the map and for more information.



Click the state name to see the reported blooms for the month of November 2021:

[California \(19\)](#); [Florida \(1\)](#); [Idaho \(10\)](#); [Kansas \(13\)](#); [Massachusetts \(5\)](#); [Michigan \(1\)](#); [Montana \(2\)](#); [New Hampshire \(2\)](#); [New Jersey \(4\)](#); [New York \(15\)](#); [North Carolina \(2\)](#); [North Dakota \(3\)](#); [Oregon \(3\)](#); [Rhode Island \(12\)](#); [South Carolina \(2\)](#); [Texas \(1\)](#); [Vermont \(1\)](#); [Washington \(4\)](#); [Wyoming \(18\)](#)

Upcoming Virtual Events

2nd Annual Virtual Harmful Algal Bloom Symposium

January 6-7, 2022

Emerging Research & Case Studies

12th International Conference on Toxic Cyanobacteria

May 22-27, 2022, Toledo, Ohio

Abstract Deadline: January 15th, 2022

Early Registration: March 1st, 2022

Pathogens and Natural Toxins e-Conference

July 1st to August 31st, 2022

U.S. Symposium on Harmful Algae

October 23-28, 2022, Albany, New York

ADDITIONAL USEFUL

resources



Save the Date

Upcoming US EPA Benthic HAB
Discussion Group Webinar on

February 8, 2022

For more information visit the
[EPA's Benthics Discussion
Group website](#)

Recently Published Articles*

Occurrence of cyanobacteria in water used for food production: A review

Mulalo Mutoti, Jabulani Gumbo, Afam Jideani, Physics and Chemistry of the Earth, Parts A/B/C, 2021, 103101.

The reduction in water volume favors filamentous cyanobacteria and heterocyst production in semiarid tropical reservoirs without the influence of the N:P ratio

Camila Ferreira Mendes, Juliana dos Santos Severiano, Gustavo Correia de Moura, Ranielle Daiana dos Santos Silva, Flávia Morgana Monteiro, José Etham de Lucena Barbosa, Science of the Total Environment, 2021, 151584.

Nitrate as a predictor of cyanobacteria biomass in eutrophic lakes in a climate change context

Fabien Cremona, Burak Öglü, Mark J. McCarthy, Silvia E. Newell, Peeter Nõges, Tiina Nõges, Science of the Total Environment, 2021, 151807.

Monitoring of the impact of the proliferations of cyanobacteria on the characteristics of Natural Organic Matter in a eutrophic water resource: Comparison between 2012-2013 and 2017-2018

Hélène Thuret-Benoist, Virginie Pallier, Geneviève Feuillade-Cathalifaud, Chemosphere, 2021, 132834.

Co-occurrence of multiple cyanotoxins and taste-and-odor compounds in the large eutrophic Lake Taihu, China: Dynamics, driving factors, and challenges for risk assessment

Hongmin Li, Xiaohong Gu, Huihui Chen, Zhigang Mao, Ruijie Shen, Qingfei Zeng, You Ge, Environmental Pollution, 2021, 118594.

Phytotoxic effects of microcystins, antitoxin-a and cylindrospermopsin to aquatic plants: A meta-analysis

Yanyan Zhang, Sung Vo Duy, Gabriel Munoz, Sébastien Sauvé, Science of the Total Environment, 2021, 152104.

New insights into toxicity of microcystins produced by cyanobacteria using in silico ADMET prediction

Cristiane Gonçalves da Silva, Marcelo Dutra Duque, Cristina Souza Freire Nordi, Cristina Viana-Niero, Toxicon, Volume 204, 2021, Pages 64-71.

Influence of refrigeration and freezing in Microcystins and Cylindrospermopsin concentrations on fish muscle of tilapia (*Oreochromis niloticus*) and tench (*Tinca tinca*)

Leticia Diez-Quijada, Ana I. Prieto, Remedios Guzmán-Guillén, Ana M. Cameán, Ángeles Jos, Food and Chemical Toxicology, 2021, 112673.

Isolation from a fish kill and transcriptomic characterization of *Gyrodinium jinhaense* off Long Island Sound

Brittany N. Sprecher, Huan Zhang, Gihong Park, Senjie Lin, Harmful Algae, Volume 110, 2021, 102136.

Phycocyanin, a super functional ingredient from algae; properties, purification characterization, and applications

Tolulope Joshua Ashaolu, Katarzyna Samborska, Chi Ching Lee, Merve Tomas, Esra Capanoglu, Özgür Tarhan, Bengi Taze, Seid Mahdi Jafari, International Journal of Biological Macromolecules, 2021.

The presence of polystyrene nanoplastics enhances the MCLR uptake in zebrafish leading to the exacerbation of oxidative liver damage

Xiaodong Ling, Junli Zuo, Meiqi Pan, Hongyan Nie, Jianzhong Shen, Qing Yang, Tien-Chieh Hung, Guangyu Li, Science of the Total Environment, 2021, 151749.

MCLR-elicited hepatic fibrosis and carcinogenic gene expression changes persist in rats with diet-induced nonalcoholic steatohepatitis through a 4-week recovery period

Tarana Arman, J. Allen Baron, Katherine D. Lynch, Laura A. White, Johnny Aldan, John D. Clarke, Toxicology, Volume 464, 2021, 153021.

Environmental controls of harmful cyanobacterial blooms in Chinese inland waters

Hai Xu, Boqiang Qin, Hans W. Paerl, Kai Peng, Qingji Zhang, Guangwei Zhu, Yunlin Zhang, Harmful Algae, Volume 110, 2021, 102127.

Sensitive Electrochemical Detection of Microcystin-LR in Water Samples Via Target-Induced Displacement of Aptamer Associated $[Ru(NH_3)_6]^{3+}$

Vasileia Vogiazzi, Armah A. de la Cruz, Eunice A. Varughese, William R. Heineman, Ryan J. White, and Dionysios D. Dionysiou, ACS EST Engg. 2021, 1, 11, 1597-1605.

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