United States Environmental Protection Agency

May 2019

Freshwater HABs Newsletter

EPA's *Recommended Recreational Ambient Water Quality Criteria or Swimming Advisories for Cyanotoxins*

On May 22nd, the EPA issued recommended concentrations for microcystins and cylindrospermopsin at or below which human health is protected while swimming or participating in other recreational activities in and on the water. States, territories, and authorized tribes can consider adopting these recommended criteria into their water quality standards and using them for Clean Water Act purposes. Alternatively, they can use these same values as the basis of swimming advisories for public notification purposes at recreational waters. The recommended criteria or swimming advisories are based on peer-reviewed, published science and methods. For more information on these recommendations go to https://www.epa.gov/wqc/recreational-water-quality-criteria-and-methods

HABs Infographics

EPA also published new infographics that state and local governments can use to communicate basic information about HABs to the public. The infographics highlight how a HAB may affect both people and animals, and provide information concerning how to identify and respond to a potential bloom. Downloadable and printable versions are for two versions: a more detailed poster for display and another as an abbreviated handout.

This newsletter was created by Dr. Lesley D'Anglada, Office of Science and Technology, Office of Water. Mention of trade names, products, or services does not convey and should not be interpreted as conveying official EPA endorsement, approval or recommendation for use.

UPCOMING EVENTS

EPA WEBINARS: Preparing for HABs Season 2019

Planning and Responding to Cyanotoxins in Recreational Waters
June 20th, 2019 11:00 EST

CONFERENCES

IAGLR 2019 Conference
June 10-14, 2019
Brockport, NY

2019 Gordon Research Conference on Mycotoxins and Phycotoxins: Risk and Regulation in a Multi-Toxin Exposure World
June 16-21, 2019
Stonehill College, Easton, MA

10th US HAB Symposium
Nov 3-8, 2019
Orange Beach, Alabama
* July 31st - Student and Manager Travel Award Deadline
* August 31st - Early Bird Registration and Abstract Submission Deadline

SETAC North America Annual Meeting, Benthic and Pelagic HABs and their Toxins: Detection, Fate, Effects, Monitoring and Management
Nov 3-7, 2019
Toronto, Canada

NEW

The EPA has updated and reorganized the CyanoHABs website, creating a site with scientific information, EPA tools, and collaborative work on cyanobacterial HABs.

Please visit the *EPA's CyanoHABs in Water Bodies* website here www.epa.gov/cyanohabs

Important HABs Resources

- ✓ **EPA's Webinar: Planning for and Responding to HABs in Coastal Waters**
  On May 23rd, the Office of Water, Office of Science and Technology, hosted a webinar focusing on HABs in coastal waters. Presentations included an overview of guidance on the control of biotoxins in seafood, monitoring for early warning, and mitigation options for marine HABs. Additionally, The Florida Department of Health presented on the public health implications of marine HABs in Florida. Presentations and recording of the webinar are posted *here*.
- ✓ **NOAA's Citizen Science Marine HAB Monitoring Network: A Model for Harnessing the Power of Citizen Science Programs for Monitoring Freshwater HABs Webinar Recording**
- ✓ **NOAA's Lake Erie and HAB Forecasting**
- ✓ **FDA's Training Video on Marine Biotoxin Management**
- ✓ **Oregon Health Authority Cyanotoxin Resources for Drinking Water**
- ✓ **Florida Department of Environmental Protection HABs Web Tool for Risk Communication**

Recently Published Articles

A Comprehensive Review: Development of Electrochemical Biosensors for Detection of Cyanotoxins in Freshwater
Vasileia Vogiazi, Armah de la Cruz, Siddharth Mishra, Vesselin Shanov, William R. Heineman, and Dionysios D. Dionysiou. ACS Sens, 2019, 45, 1151-1173.

Using rapid quantification of adenosine triphosphate (ATP) as an indicator for early detection and treatment of cyanobacterial blooms
Katherine E. Greenstein and Eric C. Wert. Water Research, Volume 154, 2019, Pages 171-179.

Spatial and temporal scales of variability of cyanobacteria harmful algal blooms from NOAA GLERL airborne hyperspectral imagery
Andrea Vander Woude, Steve Ruberg, Thomas Johengen, Russ Miller, and Dack Stuart. Journal of Great Lakes Research, 2019.

Effects of cylindrospermopsin on cultured immortalized human airway epithelial cells
Barbara Kubickova, Petra Laboha, Jan-Peter Hildebrandt, Klara Hilscherová, and Pavel Babica. Chemosphere, Volume 220, 2019, Pages 620-628.

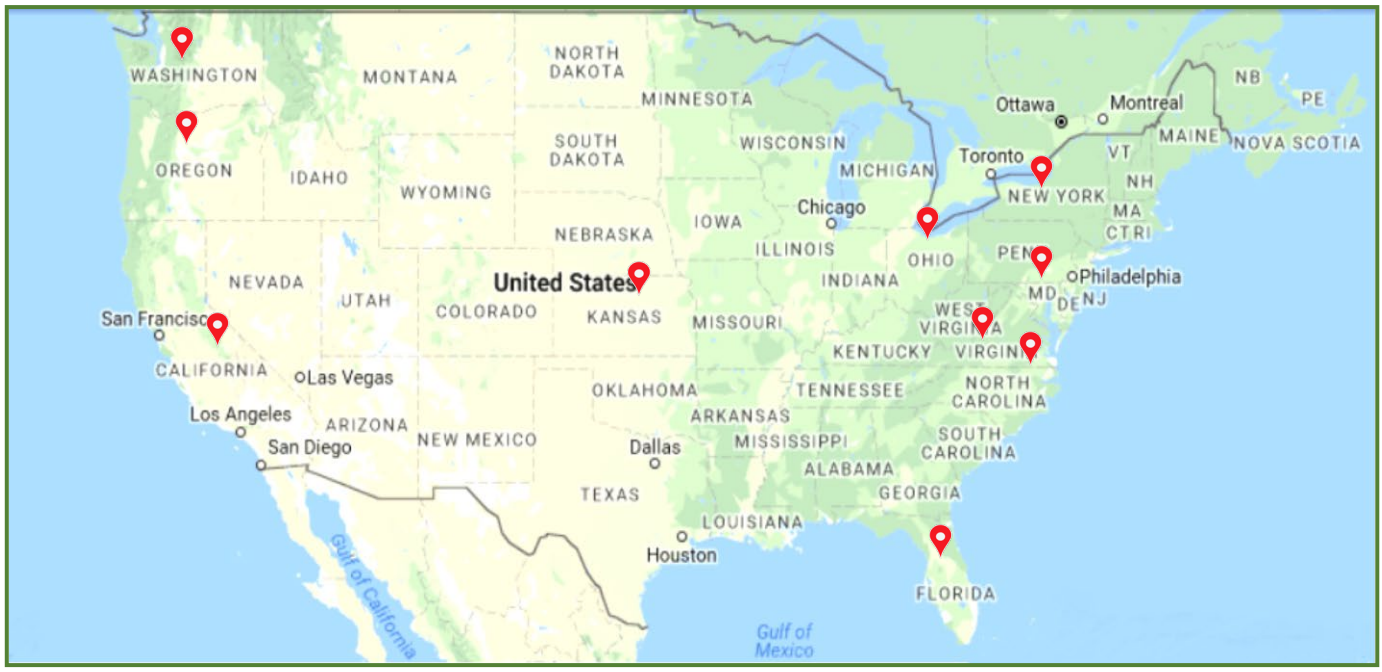
Silymarin as a therapeutic extract for intestinal and splenic injuries induced by microcystin-LR in mice
Ayman Al-hazmi, Anas Alomery, and Leila Ait Abderrahim. Journal of King Saud University - Science, 2019.

Harmful algal blooms: A climate change co-stressor in marine and freshwater ecosystems
Andrew W. Griffith, Christopher J. Gobler, Harmful Algae, July 2019.

Have pictures of confirmed HABs? We are happy to publish them in a new image gallery to be developed in the *Visual Signs of a Cyanobacterial Bloom* page. If you are interested in publishing your pictures, send the picture in .jpg format with your name, date and name of waterbody, specie(s) and toxins (if present) to epacyanohabs@epa.gov

Blooms, Beach Closures and Health Advisories* May 2019

* Include blooms, cautions, warnings, public health advisories, closings and detections over the State's threshold, due to the presence of algae, toxins or both. This is not a comprehensive list, and many blooms may have not been reported or are not actively monitored.



California (17): Lake Anza, Pinto Lake, Millerton Lake, West of Sulphur Bank Mercury Mine, Lake Perros, Moreno Swim Beach & West of Marina, Perris Swim Beach, Lake Hodges, Black Butte Lake Borrow Ponds, San Luis Resevoir at Basalt Boat Launch Black Butte Resevoir, Quarry Lakes, New Hogan Resevoir, H.V. Eastman Lake, Salt Springs Valley Resevoir, Lake Chabot, Lake San Marcos
Florida (9): St. Johns River, Lake George, Lake Rianhard, Scott Lake, Indian River, Lake Okeechobee, Caloosahatchee River, Crescent Lake, Pine Lake
Kansas (3): Watches (Atchison County State Fishing Lake, Hodgeman County State Fishing Lake, Marion Co. Lake)
Maryland (1): *Prorocentrum minimum* (168 cells/mL) at Harris Creek, reported as *HAB Present* by MDDNR
New York (5): Song Lake, Silver Lake, Prospect Pake Lake, Lake in Central Park, Indian Pond
North Carolina (1): Warrior Creek
Ohio (2): Grand Lake St. Marys, Buckeye Lake
Oregon (1): South Umpqua River
Virginia (2): York River Purtan Bay, Poropotank Bay
Washington (3): Lone Lake, Anderson Lake, Lake Minterwood

Toxins Journal **Topical Collection: "Freshwater HABs and Health in a Changing World"**

Manuscripts on cyanobacterial exposure assessment; health outcomes; outbreak investigations; wild and domestic animal poisonings; toxicology of cyanobacterial toxins in animals and humans, production of toxins in the environment, absorption, distribution, and elimination of toxins in animals and humans, and the control of toxins in the built and natural environment, are invited. **Go to www.mdpi.com to submit a manuscript.**

To sign up please send an email to: epacyanohabs@epa.gov