United States Environmental Protection Agency

April 2019

Freshwater HABs Newsletter

Hypoxia Task Force Public Meeting & Webcast on May 16, 2019

Please join us via webcast or in person at the Hilton Baton Rouge Capitol Center in Baton Rouge, Louisiana on Thursday, May 16, 2019 from 8:30 am to noon CT for the Hypoxia Task Force public meeting. There will also be a networking session with the Hypoxia Task Force at the LSU/CPRA Center for River Studies on Wednesday, May 15, 2019 from 5:30 pm to 7:30 pm CT. For more information and to register go *here*.

If you have any questions about the meeting, please contact Katie Flahive, U.S. Environmental Protection Agency, at Flahive.Katie@epa.gov

Recordings and Presentations: EPA's Webinar: Planning for and Responding to Cyanotoxins in Drinking Water

On April 25th, the Office of Water, Office of Science and Technology, hosted a webinar focusing on approaches for managing HABs in drinking water systems. Presentations included the development of EPA's Health Advisories for Cyanotoxins, EPA's Support Tools for Managing Cyanotoxins in Drinking Water, Effective drinking water treatment approaches and tools for water treatment plant optimization, and the City of Salem's lessons learned during and after a cyanotoxins in drinking water event in 2018. Presentations and recording of the webinar are posted *here*.

NOAA's Story Map, "Hitting us where it hurts: The untold story of harmful algal blooms"

NOAA just released an interactive story map that documents the economic and social impacts of harmful algal blooms. It is based on a compilation of data from almost 40 events, but even so, our understanding and quantification of socioeconomic impacts of HABs remains incomplete. NOAA is planning a HAB social science workshop within the next year and will likely follow that with a dedicated Federal Funding Opportunity for HAB social science research.

Reservoir observer student scientists (ROSS): Engaging youth in harmful algal bloom monitoring Project

The North Central Region Water Network is funding a new project on HABs: *Reservoir observer student scientists (ROSS): Engaging youth in harmful algal bloom monitoring* to determine if cyanobacterial harmful algal blooms (CyanoHABs) occur and produce toxins in the shoulder and winter seasons. The team will engage high school students as Reservoir Observer Student Scientists in five U.S. states to collect year-round water samples. Engaging our youth and their teachers in actively serving as the stewards of water quality will empower these diverse and underrepresented populations to be knowledgeable and engaged in research related to CyanoHABs and their impact on economic and human health. The project directors are Dan Downing from the University of Missouri Extension, and Rebecca North from the University of Missouri.

UPCOMING EVENTS

EPA WEBINARS: Preparing for HABs Season 2019

Tools and Resources Webinar on Nutrient Management in Coastal Communities
May 22nd, 2019 3:00 EST

Planning and Responding to Cyanotoxins in Coastal Waters
May 23rd, 2019 11:00 EST

CONFERENCES

11th International Conference on Toxic Cyanobacteria
May 5-10, 2019
Krakow, Poland

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

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

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.

Important HABs Resources

Ohio River Valley Harmful Algae Bloom Network
Develop methods to identify HABs via image processing and machine learning techniques in ways extensible to a smart device application. In conjunction with several fixed monitoring sites at bodies of water, both on the Ohio River and beyond, use of the app could allow for easier and quicker alerts on these toxic outgrowths of cyanobacteria, aka blue-green algae. The Harmful Algal Bloom Network originated as a collaboration between the Mathematics & Statistics and Biological Sciences departments at Northern Kentucky University and has hosted several mathematics research students since its inception. The collaboration has been extended to include the Environmental Protection Agency, several other universities, and water intake personnel.

HABs Collaboratory
The Great Lakes HABs Collaboratory is a "collective laboratory" that seeks to improve communication among scientists, and between scientists and decision-makers, on issues related to HABs in the Great Lakes. To learn about what the Collaboratory have done over the last year, go here.

Interstate Technology and Regulatory Council HCBs Team
The goal of this project team is to develop a technical and regulatory guidance document as a comprehensive resource for prevention and management of HCBs. The project team will produce fact sheets on the primary steps of prevention and early response, best management practices, and risk communication. The group will also develop tools and training materials to aid regulators in identifying prevention and remediation approaches.

Workshops and Training Opportunities

Algae Bloom Remediation Workshop
Auditorium Broward County Library Downtown Ft. Lauderdale, May 21-22, 2019
The National Algae Association has invited commercially-minded algae bloom researchers, remediation technology and equipment companies to discuss differences between algae blooms created by phosphorous and nitrogen as well as HAB's and educate attendees about potential algae bloom remediation technologies.

Ecology and Systematics of Algae Course
Iowa Lakeside Laboratory, June 10th – July 5th, 2019
This is an intensive, field-oriented class appropriate for advanced undergraduate students, graduate students, and post-graduate workers in bioassessment, algal ecology, and taxonomy. Students are encouraged to bring individual research materials, and there will be opportunities to discuss research approaches using algae. Students should have a working knowledge of basic biology. Class size is limited to 10.
Instructor: Kalina Manoylov, Georgia Coll. & State University.
Tuition: Undergraduate per credit: $324.00/Graduate per credit: $548.00

Recently Published Articles

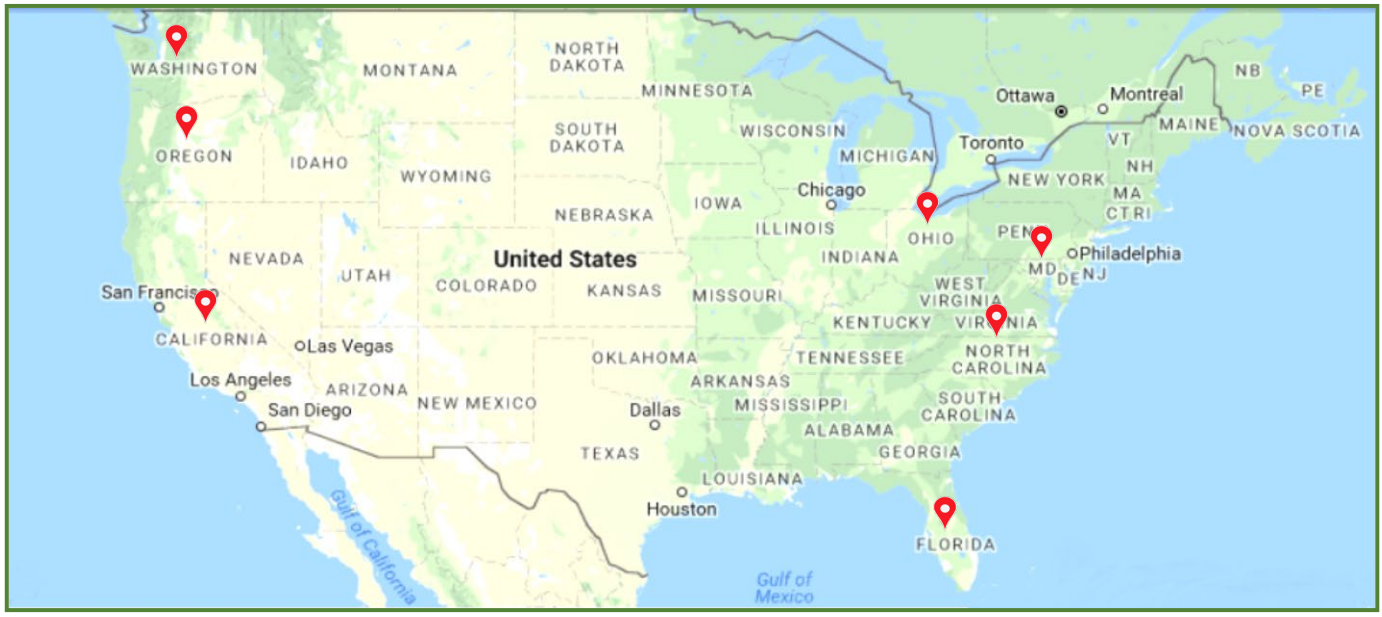
Anabaena/Dolichospermum as the source of lethal microcystin levels responsible for a large cattle toxicosis event
TW Dreher, LP Collart, RS Mueller, KH Halsey, RJ Bildfell, P Schreder, A Sobhakumari, and Rodney Ferry, 2019, Toxicon X, Volume 1, 100003.

Cyanobacterial peptides beyond microcystins e A review on co-occurrence, toxicity, and challenges for risk assessment
Elisabeth M.-L. Janssen, Water Research 151, 2019, 488-499.

Perspective: Advancing the research agenda for improving understanding of cyanobacteria in a future of global change
M.A Burford, M.A., Carey, C.C., Hamilton, D.P., Huisman, J., Paerl, H.W., Wood, S.A. and Wulff, A. Harmful Algae, April, 2019.

Blooms, Beach Closures and Health Advisories* April 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 as many States have closed the season for HABs monitoring efforts and will start monitoring late spring or early summer.



California (6): Clear Lake (several Microcystins detections below Caution advisory levels), Quarry Lakes, New Hogan Reservoir, Salt Springs Valley Reservoir, Hensley Lake, H.V. Eastman Lake, Salt Springs Valley Reservoir (under investigation)
Florida (7): St. Johns River, Lake George, Lake Rianhard, Scott Lake, Indian River, Lake Okeechobee, Caloosahatchee River
Maryland (3): Tanglier Sound, South River, Isle of Wight Bay
North Carolina (1): Warrior Creek
Ohio (1): Grand Lake St. Marys
Oregon (1): South Umpqua River
Washington (4): Summit Lake, Anderson Lake, Gibbs Lake, Lake Leland

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 and register to login and to submit a manuscript.**

NOTICE

We're in the process of revamping the EPA's Cyanobacteria Website. The website can be assessed using this temporary link. Apologies for the inconvenience, we expect the issue to be resolved soon.

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