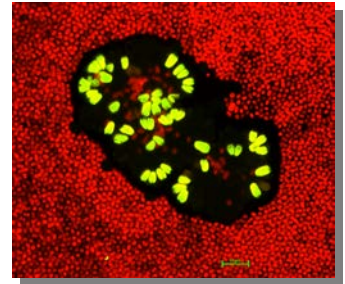


FRESHWATER HABs NEWSLETTER



Flow cytometry microscopy and hyperspectral imaging of microcystis (red) and algae (green). Photo by Robert Zucker, US EPA

Source Water Collaborative "[Protect the Source](#)" Story Map

The [Source Water Collaborative](#) recently released *Protect the Source*, a visually-engaging [ESRI Story Map](#) that highlights projects across the country working to reduce nutrient pollution of drinking water sources. This visually engaging presentation weaves together images, graphics, data, and interactive maps to tell the "story" of nutrient pollution and to introduce solutions. Viewers are invited to submit project descriptions to the *Project Inventory* map. The Source Water Collaborative is a partnership of twenty-seven national organizations united to protect sources of drinking water. See more events and resources at the [Collaborative's Learning Exchange](#) page.

NEWS* NEWS* NEWS* NEWS* NEWS

[EPA's Critical Loads Mapper Tool](#)

EPA published the [Critical Loads Mapper Tool](#) to enable decision makers, researchers, and the public to easily access information for the coterminous U.S. on atmospheric deposition of nitrogen and sulfur, critical loads, and critical load exceedances to better understand local and regional vulnerability to atmospheric pollution. This interactive mapping tool displays nitrogen and sulfur deposition levels through time for several air quality models, critical load levels for terrestrial and aquatic ecosystems from the National Atmospheric Deposition Program's National Critical Loads Database, and the exceedance of critical loads by deposition as an estimate of ecological vulnerability to air pollution. (Click on the red "Deposition" tile and then "Get Started" to access the CL Mapper Tool portion of the Global Change Explorer). For more information, please contact Christopher Clark at Clark.Christopher@epa.gov.

[CYANOCOST New website/blog and Newsletter](#)

CYANOCOST published a new blog, [Facebook](#) page and [twitter](#). A bimonthly newsletter, CYANOnews, was also published with news on cyanobacteria and cyanotoxins and from the CYA-NOCOST network.

This newsletter was created by Dr. Lesley V. D'Anglada, (danglada.lesley@epa.gov)
Office of Water, Office of Science and Technology, U. S. EPA
For more information, visit EPA's CyanoHABs website at www.epa.gov/cyanoHABs

UPCOMING EVENTS

Webinars

[EPA's Water Research Webinars](#)

[EPA Region 7 Virtual Harmful Algal Blooms Workshop](#)

February 3, 11am EST

[Inland HABs Discussion Group](#)

February 14, 1pm EST

Workshops

[Taxonomic ID of Harmful Algae in U.S. Marine Waters](#)

August 13-23, 2017
East Boothbay, ME

Conferences

[ASLO](#)
February 26 to March 3, 2017, Hawaii


[IAGLR](#)
May 15-19, 2017
Detroit, Michigan

[Gordon Research Conference](#) -Biotoxins
June 18-23, 2017
Easton, MA

[5th Iberoamerican Cyanotoxins Meeting](#)
July 17-19, 2017
Lugo, Spain

[9th Symposium on Harmful Algae](#)
November 11-17, 2017
Baltimore, MD

HABs, BEACH CLOSURES and HEALTH ADVISORIES, JANUARY 2017

 **Oregon** : South Umpqua River - Permanent Advisory

RECENTLY PUBLISHED ARTICLES

[Biotransport of Algal Toxins to Riparian Food Webs](#)

Nicholas J. Moy, Jenna Dodson, Spencer J. Tassone, Paul A. Bukaveckas, and Lesley P. Bulluck
Environmental Science & Technology 2016 50 (18), 10007-10014

[New SPE-LC-MS/MS method for simultaneous determination of multi-class cyanobacterial and algal toxins](#)

Sevasti-Kiriaki Zervou, Christophoros Christophoridis, Triantafyllos Kaloudis, Theodoros M. Triantis, Anastasia Hiskia (2017). *Journal of Hazardous Materials*, 323A, pp. 56-66

[Assessment of the roles of reactive oxygen species in the UV and visible light photocatalytic degradation of cyanotoxins and water taste and odor compounds using C-TiO₂](#)

Theodora Fotiou, Theodoros M. Triantis, Triantafyllos Kaloudis, Kevin E. O'Shea, Dionysios D. Dionysiou, Anastasia Hiskia (2016), *Water Research*, 90, 52-61.

[Network analysis reveals seasonal variation of co-occurrence correlations between Cyanobacteria and other bacterioplakton](#)

Dayong Zhao, Feng Shen, Jin Zeng, Rui Huang, Zhongbo Yu, Qinglong L. Wu. *Science of The Total Environment*, Volume 573, 15 December 2016, Pages 817-825

[Histopathological alterations in triangle sail mussel \(*Hyriopsis cumingii*\) exposed to toxic cyanobacteria \(*Microcystis aeruginosa*\) under hypoxia](#)

Fangli Wu, Hui Kong, Yueyong Shang, Zuoqiang Zhou, Yasmeen Gul, Qigen Liu, Menghong Hu, *Aquaculture*, Volume 467, 20 January 2017, Pages 182-189

Coming Soon! FROM EPA's Office of Research and Development

EPA's [NERL](#) and [NRMRL](#), along with colleagues from Thomas More College, Northern Kentucky University, and the Ohio River Valley Sanitation Commission (ORSANCO), are working on a ***cyanobacteria detection project*** to identify rare but toxic algal blooms as much as a day before they become a danger to drinking water. The project consists of a wireless camera on the banks of the Ohio River that will take a picture each hour and transmit it to a website where the pixels will be examined to determine the ratio of green to cyanobacteria. The app's algorithm used an artificial neural network to detect HABs via water color variances in the pictures. Drinking water operators will then be able use this information to plan accordingly for potential blooms. See [NPR's article](#).

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.

Useful Resources

- ✓ [Source Water Collaborative](#)
- ✓ [CYANOCOST](#)
- ✓ [CyanoBase](#)
- ✓ [EPA's Climate Change Impacts and Risk Analysis](#)
- ✓ [EPA's Green Infrastructure Modeling Toolkit](#)

 To sign up for the newsletter please send an email to Dr. Lesley V. D'Anglada at danglada.lesley@epa.gov