

Freshwater HABs Newsletter



Updated "Phyto" App

NOAA's Phytoplankton Monitoring Network (PMN) has recently updated and released the "Phyto" app on Apple iTunes (free). Phyto was originally developed by PMN volunteer Sean Gano in 2010 to help identify phytoplankton and provide pronunciations. The updated version has several improvements including the addition of freshwater organisms, a shaped-based species guide to aid in identifications, and the ability to enter data directly through the app.

USGS Entry Places in Top Three in Phosphorus Removal Challenge

The U.S. Geological Survey's new technology for the removal of phosphorus from wastewater placed third at the recent Stage 2 award event of the George Barley Water Prize contest. This is an international challenge competition for the development of technology to removal phosphorus from waste water streams. Excess inputs of phosphorus are adversely affecting sensitive water bodies world-wide, causing HABs and anoxic dead zones with severe impacts on aquatic life in those areas. The patented technology is based on the use of ochres made from mine drainage to adsorb phosphorus from wastewater. These ochres are an iron oxide byproduct from the mining industry so they are both economical and very effective at soaking up phosphorus. An additional benefit of this process is the capability to recover the phosphorus as a potentially marketable fertilizer, effectively recycling the phosphorus. Contact information: Philip L. Sibrell, USGS, psibrell@usgs.gov



Sampling Acid Mine Drainage ochre in Elk County, PA

Removal and Recovery of Phosphorus from Wastewaters Using Mine Drainage Ochres Overview

- ✓ Phosphorus can be stripped from the media, precipitated, and recycled to agricultural applications.
- ✓ The sorption media can be regenerated and reused for many cycles of sorption and regeneration, thus leading to decreased operating costs.

UPCOMING EVENTS

WEBINARS

[HABs Collaboratory: Current and Emerging Technology in the Great Lakes](#)

November 14, 11:00 AM EST

[EPA Tools and Resources Webinar: Monitoring Cyanobacteria with Satellites](#)

November 15 3:00 PM EST

CONFERENCES

[9th Symposium on Harmful Algae](#)

November 11-17, 2017
Baltimore, MD

[19th International Conference on Harmful Algae](#)

December 18-19, 2017
San Diego, CA

[SETAC Europe -Global Challenge of freshwater and marine harmful algal blooms \(HABs\): treatment, detection, toxic effects, risk assessment and management](#)

May 13-17, 2018
Rome, Italy

This newsletter was created by [Dr. Lesley V. D'Anglada](#), Office of Science and Technology, Office of Water, U.S. EPA.

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To see previous editions of this newsletter, go to [Freshwater HABs Newsletter](#).

States with Blooms, Advisories and/or Beach Closures Reported in October 2017



BLOOMS, BEACH CLOSURES and/or HEALTH ADVISORIES, OCTOBER 2017

California: Lake Almaden, Lake Anza, Lake Cunningham, Lake Temescal, Quarry Lakes, Scottsdale Pond, Clear Lake, San Luis Reservoir

Florida: New River Canal

Idaho: Blacks Creek Reservoir, Little Camas Reservoir, Thorn Creek Reservoir, Lake Lowell, Spicer Pond, Henrys Lake, Long Tom Reservoir, Mountain Home Reservoir, Mormon Reservoir

Kansas: Lake Scott State Park, Overbrook City Lake, Overbrook City Lake, Brown County State Fishing Lake, Central Park Lake, Hiawatha City Lake, Hodgeman County State Fishing Lake, Melvern Outlet River Pond, South Lake, Memorial Park

Massachusetts: Chauncy Lake, Keyes Pond, Riley Pond, Walkers Pond, Santuit Pond, Wampatuck Pond, Upper Mill Pond

Nebraska: From 09/18/17 - Big Indian Lake, Iron Horse Trail, Kirkman's Cove Lake, Maple Crake Recreation Area Lake, Pawnee Lake, Rockford Lake, Swan Creek Lake, West Mormon Island Lake, Willow Creek Reservoir

New York: Agawam Lake, Barger Pond, Basic Creek Reservoir, Beaver Lake, Cannonsville Reservoir, Cayuga Lake, Chautauqua Lake, Clove Lake, Cossayuna Lake, Harlem Meer, Hiawatha Lake, Indian Lake, Kellis Pond, Lake at Victorian Gardens, Lake Huntington, Lake Neatahwanta, Lake Tiorati, Lawson Lake, Mariaville Lake, Mill Pond, Oakland Lake, Old Town Pond, Pleasure Lake, Prospect Park Lake, Roth Pond, Silver Lake, The Lake in Central Park, Tomhannock Reservoir, Turtle Pond, Washington Park Pond

New Jersey: Branch Brook Lake, Deal Lake, Pemberton Lake, Lake Sara, Swartswood Lake, Sunset Lake, Silver Lake, Lake Ceva, Penbryn Lake, Lincoln Oak Lake

North Dakota: As 09/25/17: Harvey Reservoir, Lake LaMoure, Bowman-Haley Reservoir, Long Lake, Renwick Dam, Fordville Dan, Channel A -Devils Lake, Homme Dam, Upper Des Lacs Lake, Sweet Briar Dam

Ohio: Maumee Bay, Lake Erie, Sandusky Bay, Buckeye Lake

Oregon: South Umpqua River and Lawson Bar - Permanent Advisory, Coffenbury Lake, Howard Bay, Agency Lake, Klamath Lake and Klamath River

Utah: Rockport Reservoir, Echo Reservoir, Deer Creek, Jordanelle Reservoir, Utah Lake

Vermont: Lake Carmi State Park and North Beach

Virginia: Prince Edward Lake, York River, Chris Greene Lake

Washington: Spanaway Lake, Steilacoom Lake, Kitsap Lake, Ohop Lake

RECENTLY PUBLISHED ARTICLES

[Relationship of chlorophyll to phosphorus and nitrogen in nutrient-rich lakes](#)

Filstrup, C. and Downing, J. Inland Waters Journal. October 9, 2017, pp. 1-16.

[Cyanobacteria of the 2016 Lake Okeechobee and Okeechobee Waterway harmful algal bloom](#)

Rosen, B.H., Davis, T.W., Gobler, C.J., Kramer, B.J., and Loftin, K.A. Open-File Report. 2017, pp. 2017-1054.

[Assessment of synergistic interactions between environmental factors on *Microcystis aeruginosa* growth and microcystin production](#)

Pedro Geadá, Ricardo N. Pereira, Victor Vasconcelos, António A. Vicente, Bruno D. Fernandes. Algal Research. Vol. 27. November 2017. pp. 235-243

[Microcystin in Lake Erie fish: Risk to human health and relationship to cyanobacterial blooms](#)

David M. Wituszynski, Chenlin Hu, Feng Zhang, Justin D. Chaffin, Jiyoung Lee, Stuart A. Ludsin, Jay F. Martin. Journal of Great Lakes Research, 2017.

[Solving Lake Erie's harmful algal blooms by restoring the Great Black Swamp in Ohio](#)

William J. Mitsch, Ecological Engineering, Volume 108, Part B, 2017, pp. 406-413.

[Using stable isotope labeling to study the nitrogen metabolism in *Anabaena flos-aquae* growth and anatoxin biosynthesis](#)

Zong-Yao Qian, Jian Ma, Chun-lei Sun, Zhi-Gang Li, Qi-Ming Xian, Ting-Ting Gong, Bin Xu. Water Research. 127, 2017. pp.223-229.

[The roles of cyanobacterial bloom in nitrogen removal](#)

Yuke Peng, Lu Liu, Lijuan Jiang, Lin Xiao, Science of the Total Environment, Volume 609, 2017, pp. 297-303.

[Bloom dynamics and chemical defenses of benthic cyanobacteria in the Indian River Lagoon, Florida](#)

Jennifer M. Sneed, Theresa Meickle, Niclas Engene, Sherry Reed, Sarath Gunasekera, Valerie J. Paul. Harmful Algae, Volume 69, 2017, pp. 75-82.

[Associations between county-level land cover classes and cyanobacteria blooms in the United States](#)

Jason W. Marion, Feng Zhang, David Cutting, Jiyoung Lee, Ecological Engineering, Volume 108, Part B, 2017, pp. 556-563.

[Climate warming and cyanobacteria blooms: Looks at their relationships from a new perspective](#)

Xingcheng Yan, Xiaoguang Xu, Mingyue Wang, Guoxiang Wang, Songjun Wu, Zhichun Li, Hao Sun, Ao Shi, Yunhao Yang, Water Research, Volume 125, 2017, pp. 449-457.

[Effects of different light source and media on growth and production of phycobiliprotein from freshwater cyanobacteria](#)

Helena Khatoon, Lai Kok Leong, Norazira Abdu Rahman, Sohel Mian, Hasina Begum, Sanjoy Banerjee, Azizah Endut, Bioresource Technology, 2017.

[The relative importance of water temperature and residence time in predicting cyanobacteria abundance in regulated rivers](#)

YoonKyung Cha, Kyung Hwa Cho, Hyuk Lee, Taegu Kang, Joon Ha Kim. Water Research, Volume 124, 2017, pp. 11-19.

[Developing a two-step method for retrieving cyanobacteria abundance from inland eutrophic lakes using MERIS data](#)

Qi Jin, Heng Lyu, Lei Shi, Song Miao, Zhiming Wu, Yunmei Li, Qiao Wang. Ecological Indicators, Volume 81, 2017, pp. 543-554.

[Identification of cyanobacteria and microalgae in aerosols of various sizes in the air over the Southern Baltic Sea](#)


Anita Urszula Lewandowska, Sylwia Śliwińska-Wilczewska, Dominika Woźniczka. Marine Pollution Bulletin, 2017.

[Hot and toxic: Temperature regulates microcystin release from cyanobacteria](#)

Jeremy T. Walls, Kevin H. Wyatt, Jason C. Doll, Eric M. Rubenstein, Allison R. Rober, Science of The Total Environment, Volumes 610–611, January 2018, pp.786-795.

Important Links

- ‡ [Chile's Fish Information and Services Harmful Algae Study Centre \(news report in English\)](#)
- ‡ [Weed Science Society of America \(WSSA\) Harmful Algal Bloom Fact Sheet](#)

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For more information, please visit the [USEPA's CyanoHABs Website](#)