



Harmful Algal Blooms (HABs) 101 Resources

Compiled by: Michigan Sea Grant, MSU Extension, Michigan Department of Health and Human Services and other partners around the state

Featured resources

- Is it a HAB?
 - [Michigan Harmful Algal Bloom Picture Guide](#) (slideshow PDF; EGLE, MDHHS)
 - [EGLE Classroom - Identifying Harmful Algal Blooms/Cyanobacteria](#) (YouTube video; EGLE)
- [Harmful Algal Blooms: FAQs](#) (PDF; MDHHS, MDARD, EGLE)
- [Harmful Algal Blooms: Pets and livestock](#) (PDF; MDARD)
- Reporting HABs in Michigan
 - Send photos to AlgaeBloom@michigan.gov email
 - View HABs reports: [Michigan HAB reports map](#) (ArcGIS map; MDHHS)
- [Harmful Algal Blooms: Prevention and Treatment for Landowners](#) (PDF; North Central Region Water Network Algal Bloom Action Team)

General resources

Webpages/Sites

- [Michigan HABs webpage](#) (webpage; EGLE)
- [Michigan Harmful Algal Blooms StoryMap](#) (ArcGIS StoryMap, EGLE)

Fact Sheets

Basics

- [Harmful Algal Blooms - What You Should Know](#) (PDF, North Central Region Water Network Algal Bloom Action Team)
- [Who Does What? A Guide to Agencies' Roles in HABs](#) (PDF, Great Lakes HABs Collaborative)
- [The Beach Managers Manual to Harmful Algal Blooms](#) (PDF, Michigan Sea Grant)

Human Health

- [Chronic Long-Term Health Effects of HAB Toxins](#) (PDF, Great Lakes HABs Collaborative)
- [Health Effects Associated with Exposure to HAB Toxins through Aerosolization](#) (PDF, Great Lakes HABs Collaborative)

Pets and Livestock

- [Harmful Algal Blooms: Veterinarians](#) (PDF; MDARD)
- [Harmful Algal Blooms and their Health-Related Effects on Animals](#) (PDF, North Central Region Water Network Algal Bloom Action Team)

Webinars

- [Harmful Algal Blooms in Michigan's Recreational Waters webinar](#) (YouTube, EGLE)

Deeper dive resources

Webpages/Sites

- [What are HABs?](#) (webpage, Ohio Sea Grant)
- [Algal Bloom Action Team / Resources](#) (webpage; North Central Region Water Network)
- [National: CDC resources](#) (webpage, CDC)
- [National: EPA resources](#) (webpage, EPA)
- [HABs online resources list](#) (PDF, CDC)

Fact Sheets

Science of HABs

- [Great Lakes Harmful Algal Blooms: Current Knowledge Gaps](#) (PDF, Great Lakes HABs Collaborative)
- [How Does Nitrogen Affect Harmful Algal Blooms?](#) (PDF, Great Lakes HABs Collaborative)
- [Phosphorus \(P\) and HABs: Sources of P from the Maumee River](#) (PDF, Great Lakes HABs Collaborative)
- [NOAA GLERL HABs research](#) (PDF, NOAA GLERL)
- [CIGLR HABs Hypoxia fact sheet](#) (PDF, CIGLR)
- [CIGLR HABs research bookmark](#) (PDF, CIGLR)

Human Health

- [Human Health Recreational Ambient Water Quality Criteria/Swimming Advisories for Microcystins and Cylindrospermopsin](#) (PDF, EPA)

Webinars

- [North Central Region Water Network HABs webinars and virtual research symposium](#) (YouTube channel, NCRWN)
- [Great Lakes HABs Collaborative webinars](#) (webpage, Great Lakes HABs Collaborative)
- [EPA Research Harmful Algal Blooms, Hypoxia and Nutrients Bimonthly webinar series](#) (webpage, EPA)

Other Tools

- [Great Lakes HABs Collaborative Research Mapper](#) (ArcGIS map, Great Lakes HABs Collaborative)
- [MI EnviroImpact Tool](#) (decision support tool for short-term manure application planning that shows daily runoff risk across Michigan, MSU Extension and MISG)
- Michigan HABs Risk Dashboard (MSU Extension/MISG articles explaining how to use tool):
 - [Online dashboard explores HABs and community health](#)
 - [Online tool identifies areas where people in Michigan are at greatest risk from harmful algal blooms \(HABs\)](#)