CHAB mitigation/prevention: what works and what doesn’t?

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Lake Taihu, China. Photos, H. Paerl
Drivers of CHABs: Interactive physical, chemical and biotic factors
Commonly-used prevention/mitigation strategies

1. Reduce nutrient inputs
2. Increase flow
3. Increase mixing
4. Ultrasonic treatment

1. Agricultural, industrial, residential, & urban sources
2. Deposition
3. Greenhouse effect
4. Drought
5. Ground water
6. Mixing
7. Shading
8. Grazing
9. Cyanobacteria bloom
10. Eukaryotic phytoplankton
11. Hypoxia
12. Cap sediments
13. Organic-rich sediments
14. Nitrogen, phosphorus

- NH₃, NO, NO₂, CO₂
- Nutrients: N, P
This includes watershed/airshed, tributary, wetland, and in-system approaches/treatments.
increase flow
ultrasonic treatment
cyanobacteria bloom

- graze
- introduce algae-grazing fish, zooplankton, & bacteria/viruses that attack and kill cyanophytes
apply CuSO4 or peroxide chemical treatments to kill cyanoHABs
Discussion..............