

RESEARCH

The High Cost of Algae Blooms in U.S. Waters

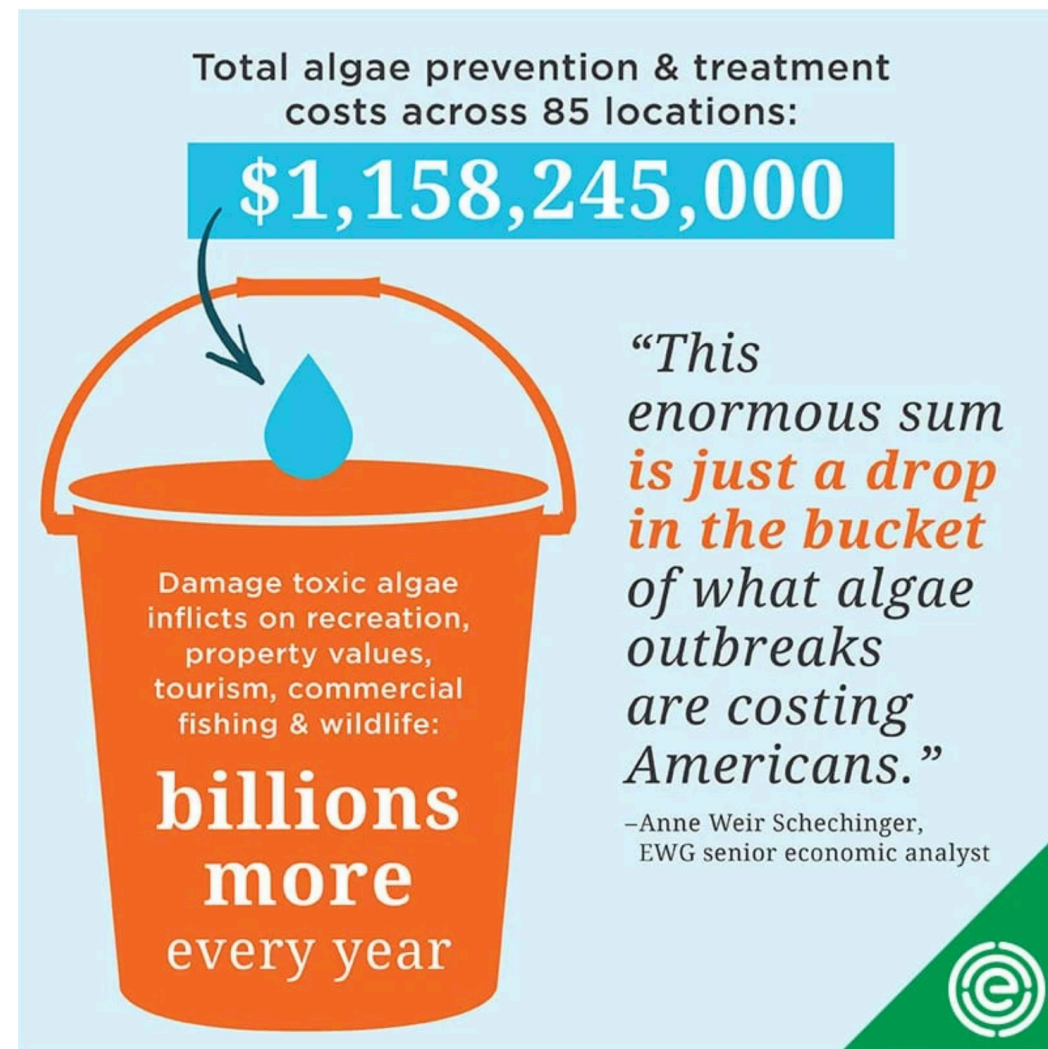
More Than \$1 Billion in 10 Years



Communities across the United States have spent more than \$1 billion since 2010 dealing with outbreaks of potentially toxic algae in lakes, rivers, bays and drinking water supplies, according to an analysis by the Environmental Working Group.

By **Anne Schechinger**
(EWG)

AUGUST 26, 2020



CDC collects data about harmful algal bloom (HAB) events¹ and associated human or animal illnesses in the United States through the One Health Harmful Algal Bloom System (OHHABS)

HAB-Associated Human Illnesses



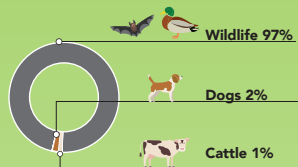
About half of ill people were **under the age of 18 years**



74% sought medical care

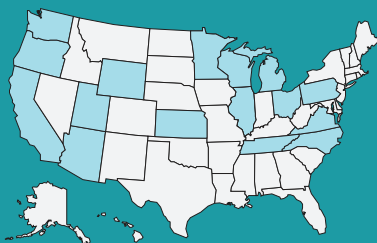
Most (89%) of the HAB-associated human illnesses were classified as probable cases²

HAB-Associated Animal Illnesses



92% of ill animals died

Most (94%) of the HAB-associated animal illnesses were classified as confirmed cases, including deaths of 2,000+ bats



16 states reported data for 2021

368 Harmful Algal Bloom Events



117 Human Illnesses



2,715 Animal Illnesses

Harmful Algal Bloom Events



9 out of 10 HAB events were in **fresh water**, like lakes



HAB events peaked in **August**

Most (85%) were classified as confirmed events²

Environmental Testing



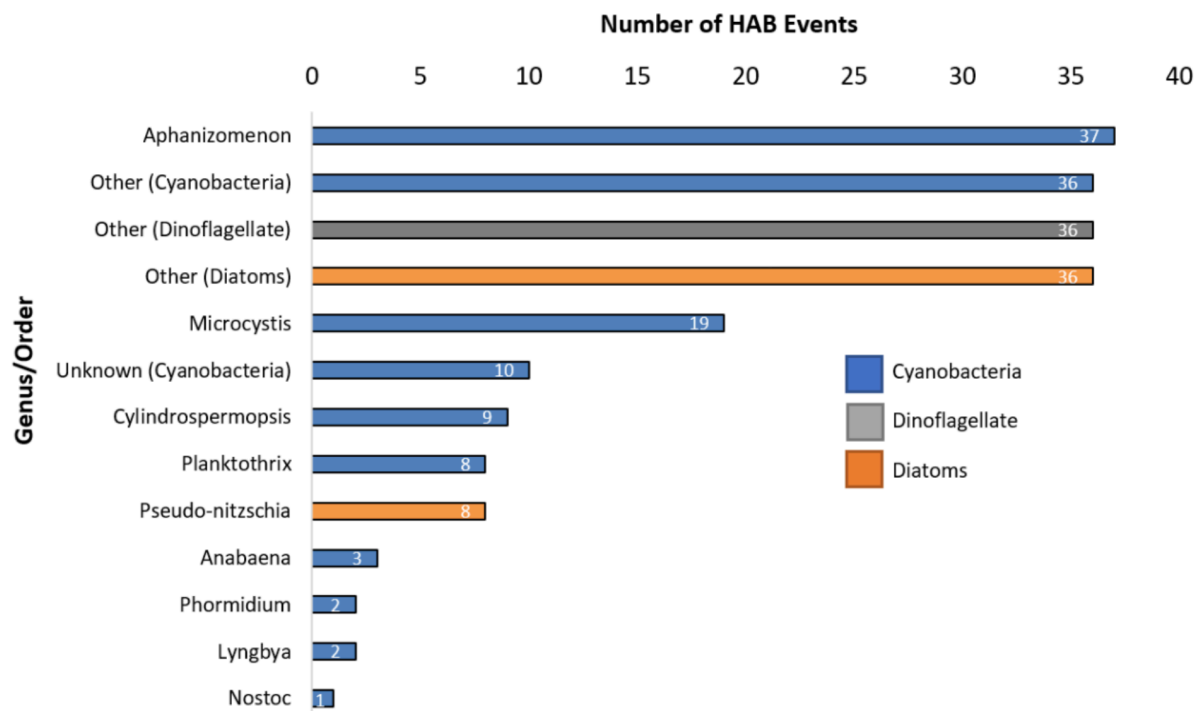
Water quality monitoring (65%) was the most common reason for conducting environmental testing during HAB events



Toxins were detected **in over 50%** of HAB events

¹A HAB event is either an identification of a bloom or a detection of HAB toxins in water or food without a visible bloom
²Cases are classified as confirmed, probable, or suspected. HAB events are classified as suspected or confirmed.

Figure 9b. Identified genera during environmental testing of HAB events, 2021
Aphanizomenon was the most commonly identified genus during environmental testing, detected in 37 HAB events (30%).



Multiple options could be selected.

US Harmful Algal Bloom Control Technologies Incubator (HAB CTI)



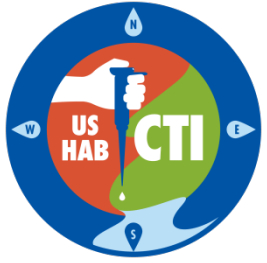
Dr. Allen R. Place
Director

Professor, Institute of Marine and Environmental Technology
University of Maryland Center for Environmental Sciences

Kevin Claridge
Vice President

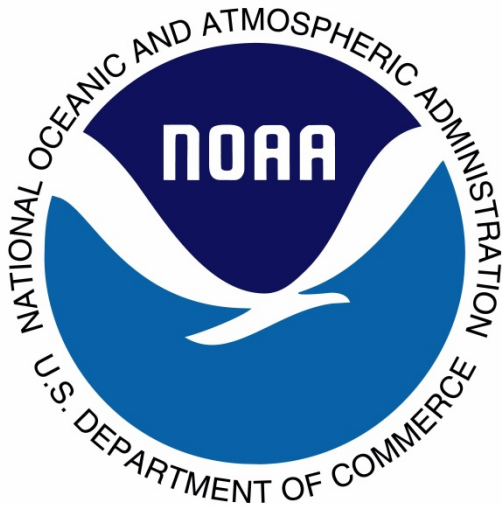
Sponsored Research and Coastal Policy Programs
Mote Marine Laboratory

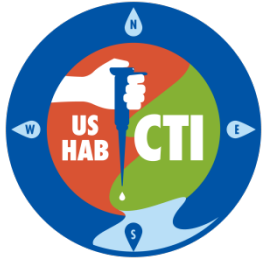
January 13, 2023



Partners

- National Oceanic and Atmospheric Administration
- University of Maryland, Institute of Marine and Environmental Technology
- Mote Marine Laboratory





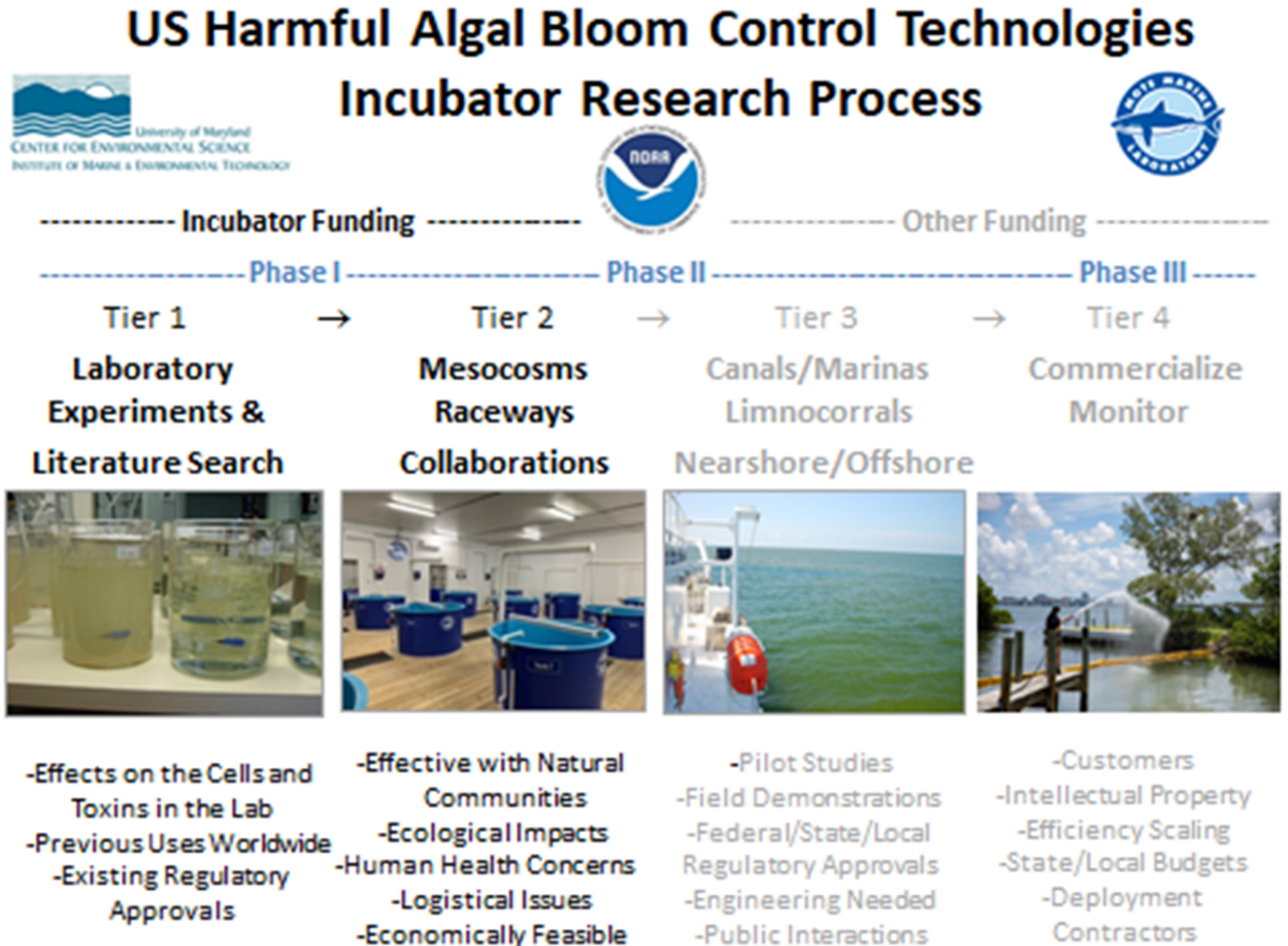
Objectives

- Fund extramural lab/tank-based proof of concept, innovative **freshwater and marine** Harmful Algal Bloom (HAB) control tool and technology projects to assess their real-world feasibility.
- Development and implementation of scalable, environmentally acceptable, cost-effective HAB control strategies.
- Provide guidance to end users and stakeholders on navigating the relevant licensing and permitting processes (e.g., state water and pesticide/device requirements, Environmental Protection Agency, National Environmental Protection Act, and Federal Insecticide, Fungicide, and Rodenticide Act requirements) via a Clearinghouse Website.
- Archive tool and technology project data for use/dissemination to the broader HAB and resource management community.



Requests For Proposals

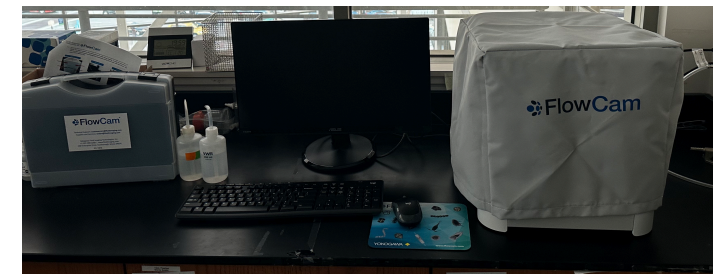
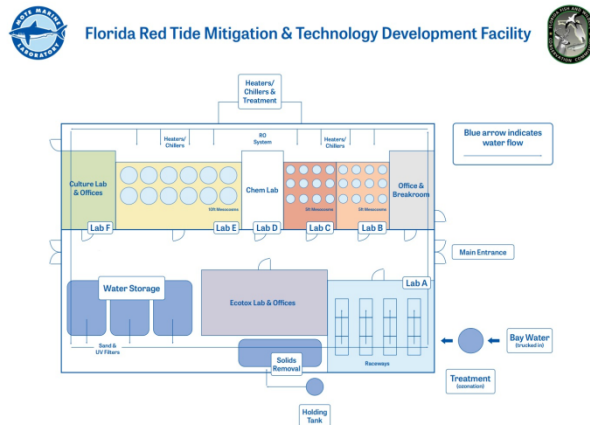
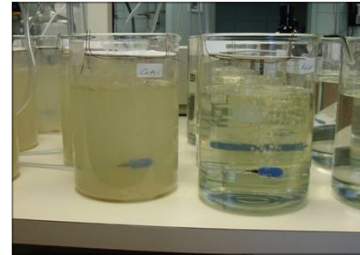
- Annual RFP for approximately \$1 Million for lab/tank-based projects
- Each award generally less than \$200,000
- Contracts not to exceed 12 months
- Promising US HAB CTI projects will be encouraged to apply to NOAA Prevention, Control, and Mitigation of HAB funding or other opportunities





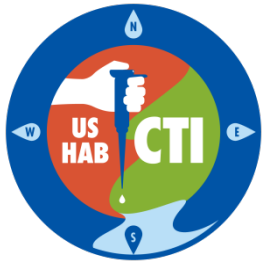
Mote and IMET Facilities: Available for CTI Use

*Details and Fee Schedule on US HAB CTI Website



Mote Red Tide Initiative Facility
(Sarasota, FL)

Institute of Marine and Environmental Technology
(Baltimore, MD)



Executive Board

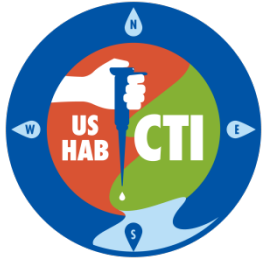
- Dr. Allen R. Place, Professor & Director- University of Maryland Institute of Marine and Environmental Technology
- Dr. Michael P. Crosby, President & CEO- Mote Marine Laboratory
- Kevin Claridge, Vice President of Sponsored Research & Coastal Policy Programs- Mote Marine Laboratory
- Felix Martinez, Program Manager of NOS/NCCOS/Competitive Research Program- National Oceanic and Atmospheric Administration



Advisory and Review Board

Role: advise and make recommendations on the overall US HAB CTI processes and progress as well as serving as liaisons to the segments they represent, membership includes representatives from:

- National Oceanic and Atmospheric Administration
- Environmental Protection Agency
- Army Corps of Engineers
- United States Geological Survey
- State Agency
- Industry
- Academic Institution
- Non-Governmental Institution



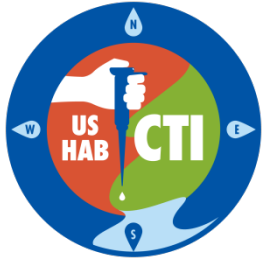
General Timeline for Year 1 2023

Jan 31 (11:59pm EST): Letter of Intent Deadline

April 10 (11:59pm EST): Request For Proposals Deadline

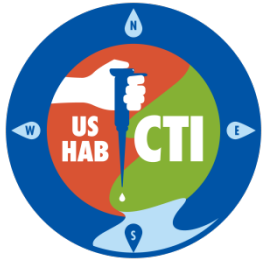
July: Award notification

September 1, 2023 – August 30, 2024: Subaward Project Period



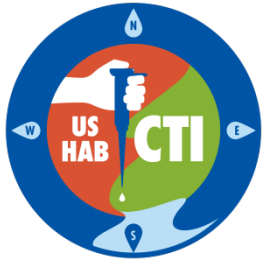
Letter of Intent (LOI)

- LOIs are required
- LOI process is to provide information to potential applicants on the relevance of their proposed project and the likelihood of it being competitive in advance of preparing a full application
- Deadline January 31 (11:59 EST), 2023
- Submit via the US HAB CTI Website (on IMET Website)
 - <https://imet.usmd.edu/harmful-algal-bloom-control-technology-incubator-hab-cti>
- Remember: Lab based testing of a scalable, environmentally acceptable, cost-effective HAB control strategy
- 2 page max, single spaced in 12-point font with 1-inch margins and should include:
 - Project Title
 - Principal Investigator(s) Name(s), Title(s), Affiliation(s), and Contact Information
 - Statement of Work Narrative
 - Estimated Budget
- Review by US HAB CTI Executive Board
- Response to Principal Investigator(s) in approximately 2 weeks



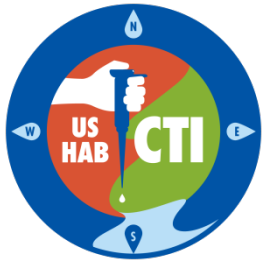
Request For Proposals

- Following LOI process, final decision to submit a Proposal is made by applicant
- Deadline April 10, 2023
- 5 page maximum and include:
 - Project Title
 - Principal Investigator(s) Name(s), Title(s), Affiliation(s), and Contact Information
 - Resume/CVs
 - Scope of Work
 - Budget Narrative and SF424A Information/Style
 - Letters of Support or Collaboration and CV's do not count against the page limit
- No Cost Sharing or Matching are Required under the US HAB CTI
- Submit via US HAB CTI Website (on IMET Website)
 - <https://imet.usmd.edu/harmful-algal-bloom-control-technology-incubator-hab-cti>
- Review by External Proposal Review Board with HAB/Related Expertise
- Award Notification in July 2023



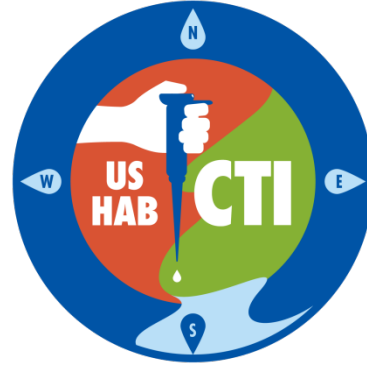
Sub-award Details

- Open to any/all applicants – businesses, academic institutions, government entities, NGO's, etc.
- Funding is being provided by NOAA under the Cooperative Ecosystem Studies Unit requirements.
 - Sub-award institutions do not have to be members of an eligible NOAA approved CESU, but they must adhere to the relevant CESU guidelines and use the established CESU indirect cost rate: **17.5%**
 - Indirect costs include things like facilities operations and maintenance, equipment use, clerical staff salaries, supplies, and student administrative services.
- 75% of sub-award amount at contract execution; interim technical report due at halfway/6 months; remaining 25% of sub-award amount at submittal of acceptable Final Technical and Financial Reports, supporting financial documentation is required.
- Funding is not intended for large capital infrastructure/lab items rather for salaries, travel, facility use, specific project related equipment, and supplies.



Anticipated Questions

- Can more than one LOI and/or RFP be submitted? [Yes](#)
- How many sub-awards will be given? [Estimated at 4-5, depends on award amounts.](#)
- May I include using the IMET or Mote facilities in the LOI/RFP application? [Yes, please contact IMET or Mote PI's or scientists for detailed questions on facility capabilities and HAB culturing.](#)
- Does the US HAB CTI include projects for HABs in the Great Lakes? [Yes](#)
- How is Intellectual Property handled for US HAB CTI projects and findings?
 - [The rights to any invention made by a University employee or other nonprofit research organization at an Institute under the cooperative agreement with NOAA are determined by the Bayh-Dole Act, Pub. L. 96-517, as amended, and codified in 35 U.S.C. 200 et seq. The specific rights and responsibilities are described in more detail in 37 CFR Part 401 and in particular, in the standard patent rights clause in 37 CFR 401.14.](#)
 - [Reference the NOAA Cooperative Institute Handbook and there will be Special Award Conditions in the Sub-award for Data and Information](#)
- Will there be another LOI/RFP application opportunity occur in 2024? [Yes](#)



Questions? Please Type Into Chat.

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