



Ecological Forecasting Roadmap HAB Team

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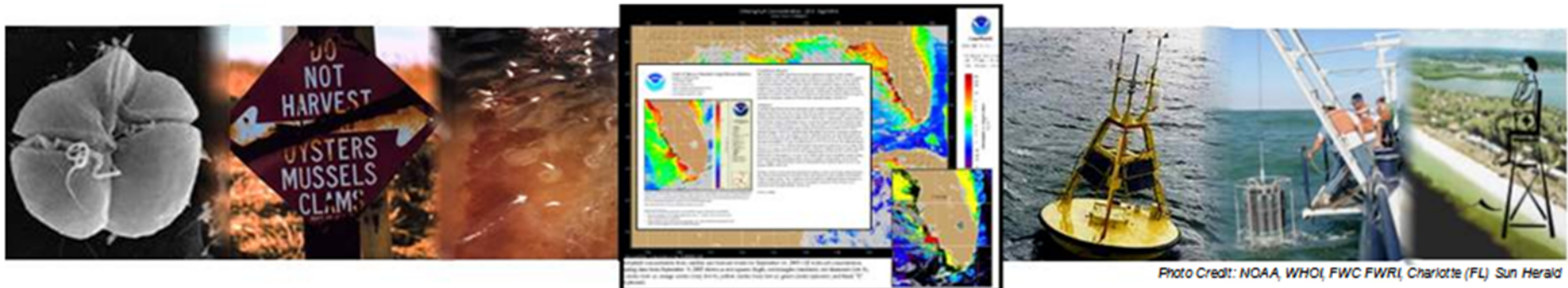
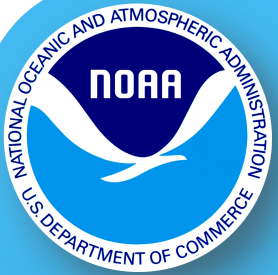
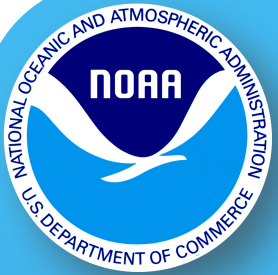


Photo Credit: NOAA, WHOI, FWC FWRI, Charlotte (FL) Sun Herald



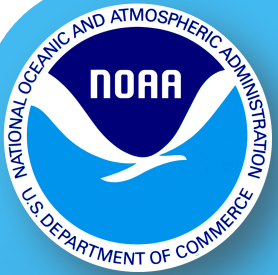
EFR HAB Goals

- Develop a standardized and modular data integration for analysis, production and dissemination of HAB forecasts on a national scale
- Ensure maintenance of existing operational HAB Forecasts, and improve through validation and refinement;
- Transition existing HAB forecasts from R&D and demo phases to operations;
- Build national infrastructure to support HAB forecast system , including advancing HAB detection capabilities



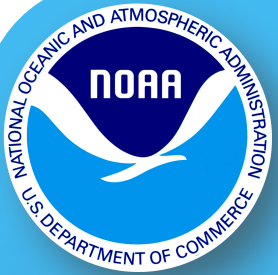
Status of HAB Forecasts

- Eastern Gulf of Mexico (FL): operational since 2004 (semi-weekly)
- Western Gulf of Mexico (TX): operational since 2010 (semi-weekly)
- Gulf of Maine: weekly forecasts since 2005 (transition phase)
 - seasonal since 2008 (transition phase)
- Lake Erie: weekly forecasts since 2009 (demonstration phase)
 - seasonal since 2012 (demonstration phase)
- Pacific Northwest: R&D, forecasts 2009-2012
- California: R&D
- Chesapeake Bay: R&D
- Puget Sound: R&D
- Other regions: Alaska, Caribbean



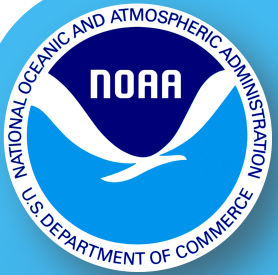
HAB Forecast Requirements

- Is there a critical need? Alaska, PSP issue
- Is the science mature enough for a forecast
 - Evidence for temperature/salinity dependencies
 - Habitat models? Probability models? Transport models?
- What forecast is needed and likely based on above; location, probability, other?
- What pieces are required?
 - Appropriate models and data & models as input
 - HAB observation techniques
 - HAB ob strategy



Alaska, a scenario

- A habitat probability model would help in planning and testing for PSP.
- Areas with known risk
- Would hydrodynamic model help with habitat inputs?
- Buoys, moorings as inputs (how do we propagate temperatures?)
- Measure toxin presence, measure cell presence
- Feedback into model testing



National Strategy

- Vision - national operational forecast network
 - Within 5 years:
 - operational forecasts in Gulf of Maine, Gulf of Mexico (FL, TX), Chesapeake Bay, Lake Erie, PNW, California;
 - Progress towards establishing operational systems in NY (Long Island Sound), Alaska, Caribbean, other regions
 - Capacity for National Forecast and Early Warning for Event Response to HABs (FEWER HABs)