



Pixels for Progress:

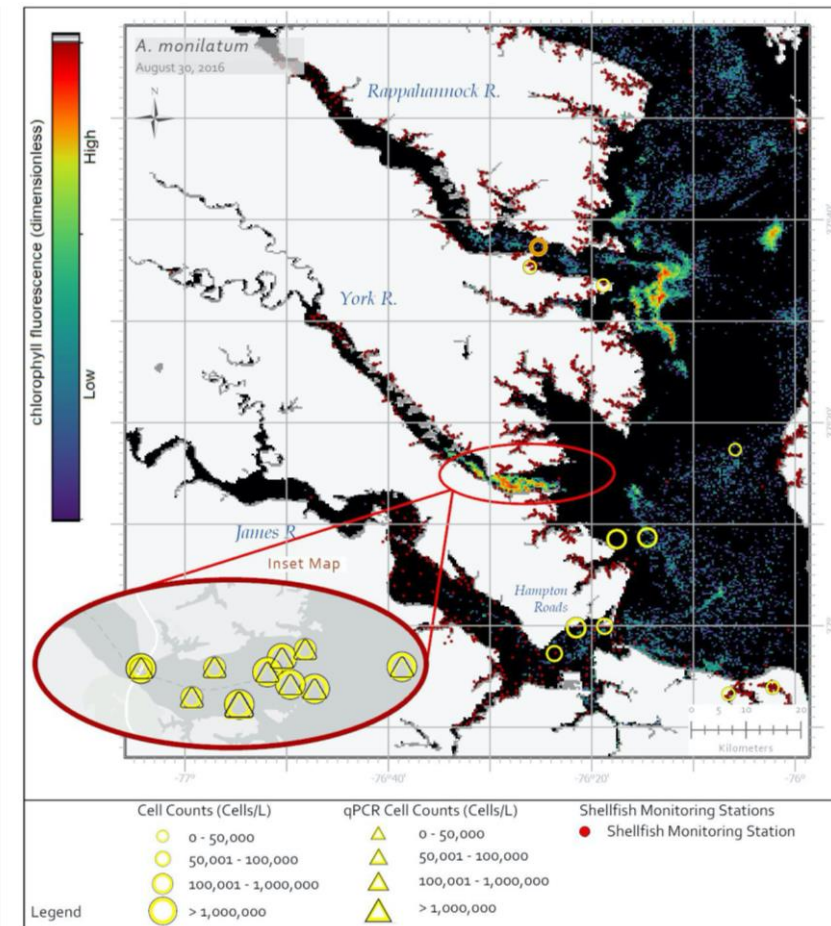
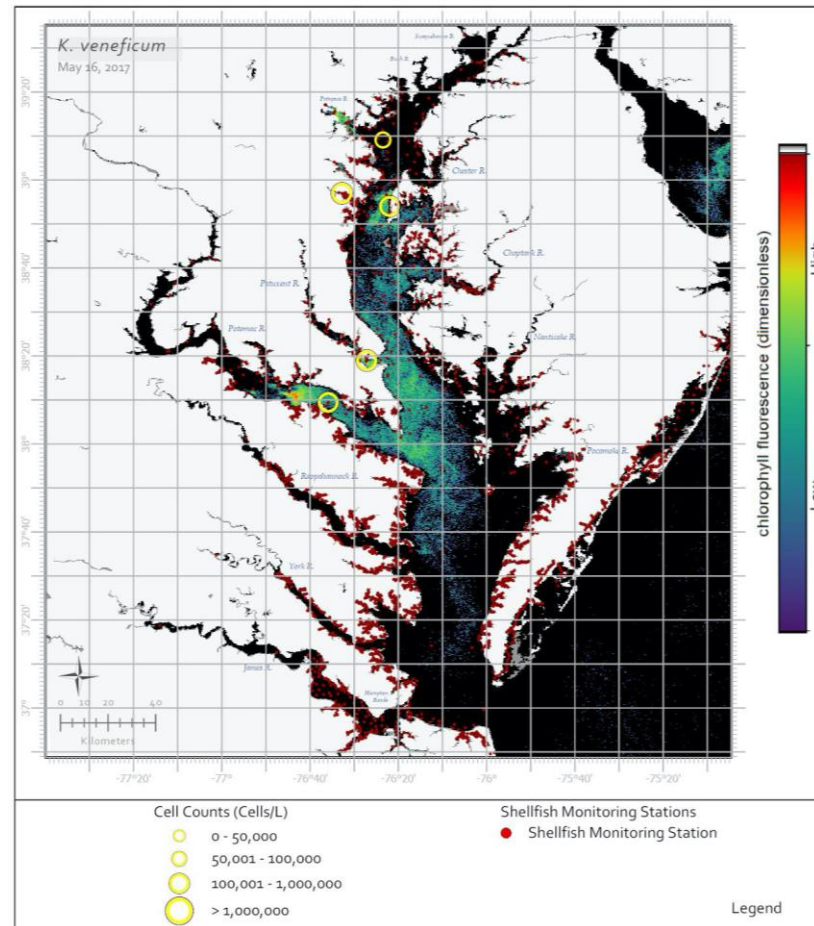
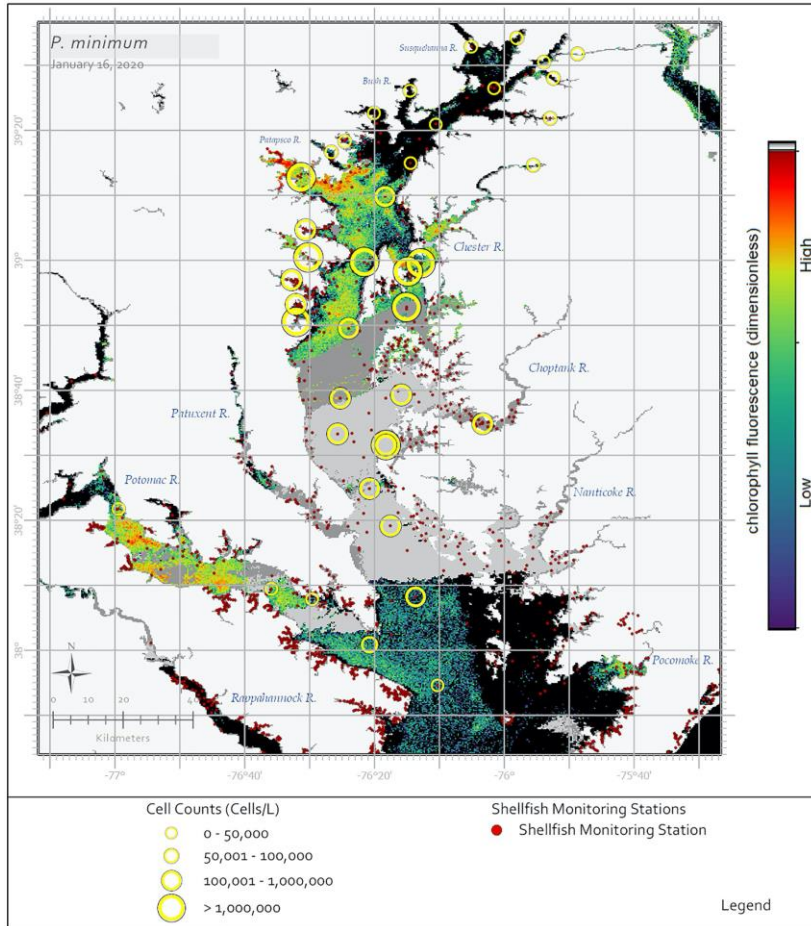
A collaborative endeavor to construct regional image repositories for harmful phytoplankton in the Chesapeake Bay

Savannah Mapes, PhD Candidate

VIMS

Virginia HAB Task Force Meeting 2024

HABs throughout the Chesapeake Bay



Figures from: *Current and Future Remote Sensing of Harmful Algal Blooms in the Chesapeake Bay to Support the Shellfish Industry.*
Wolny et al. 2020

Collaborative effort to develop methodology to minimize sample process time and streamline data sharing

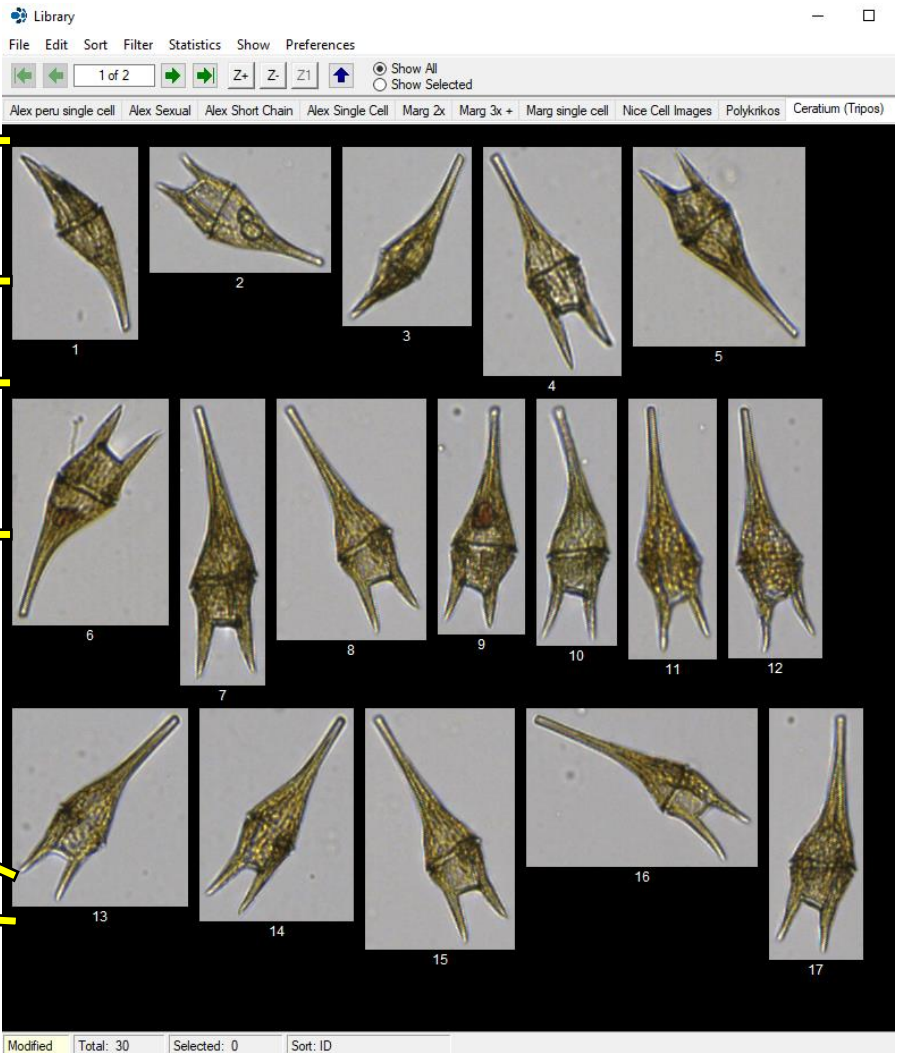
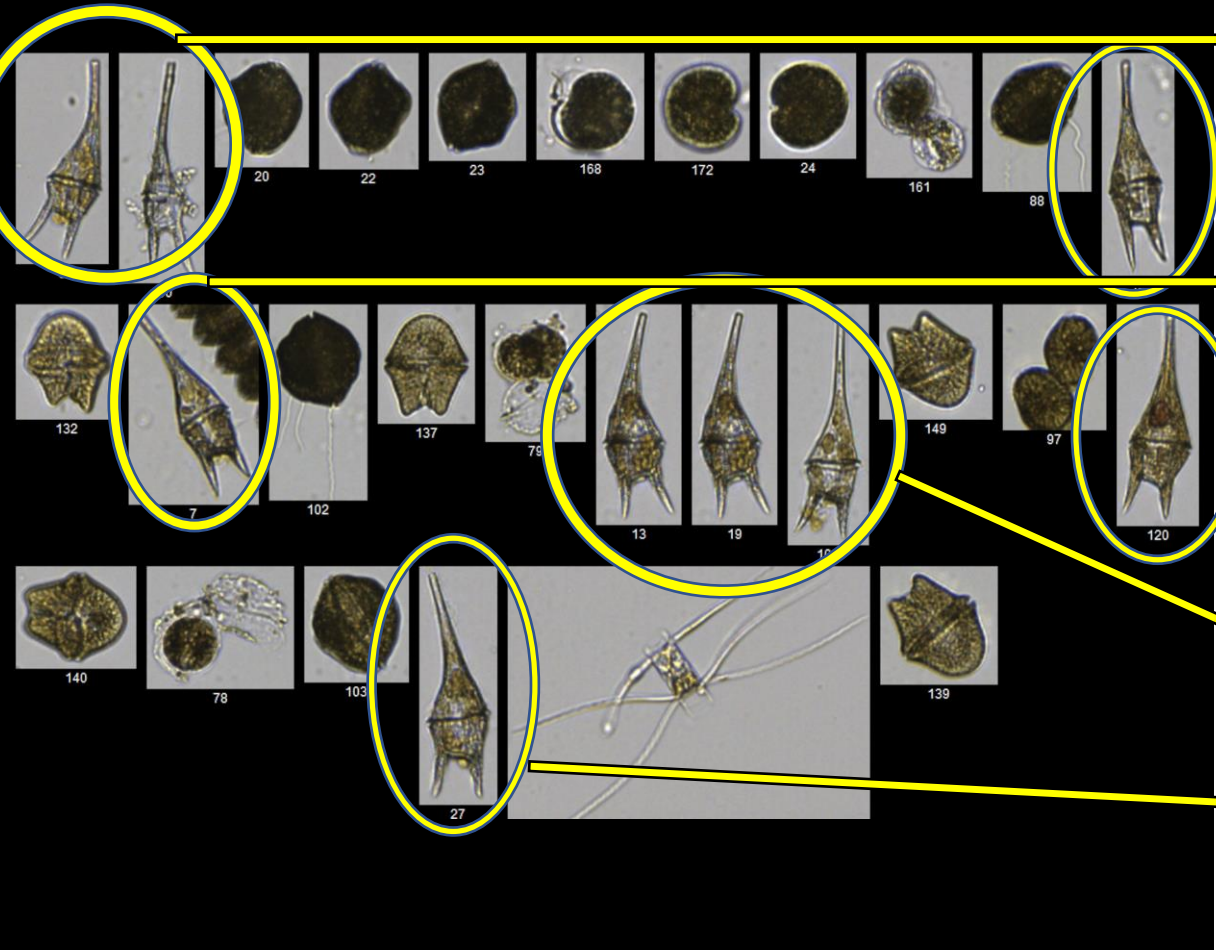
The FlowCam

- Particle analysis instrument
 - Flow cytometry
 - Microscopy
 - Digital imaging
- Alternative to manual microscopy
 - Phytoplankton ID
 - Cell counts
 - Digital images

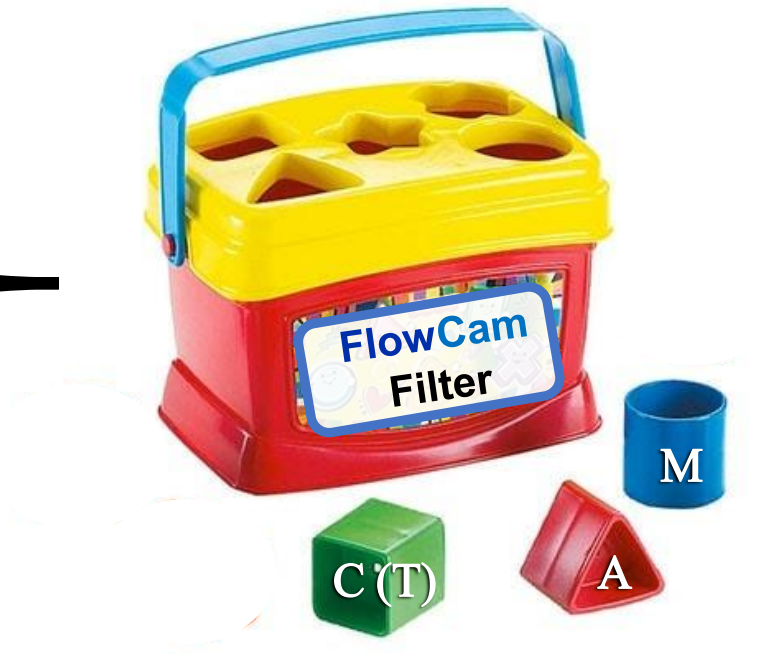
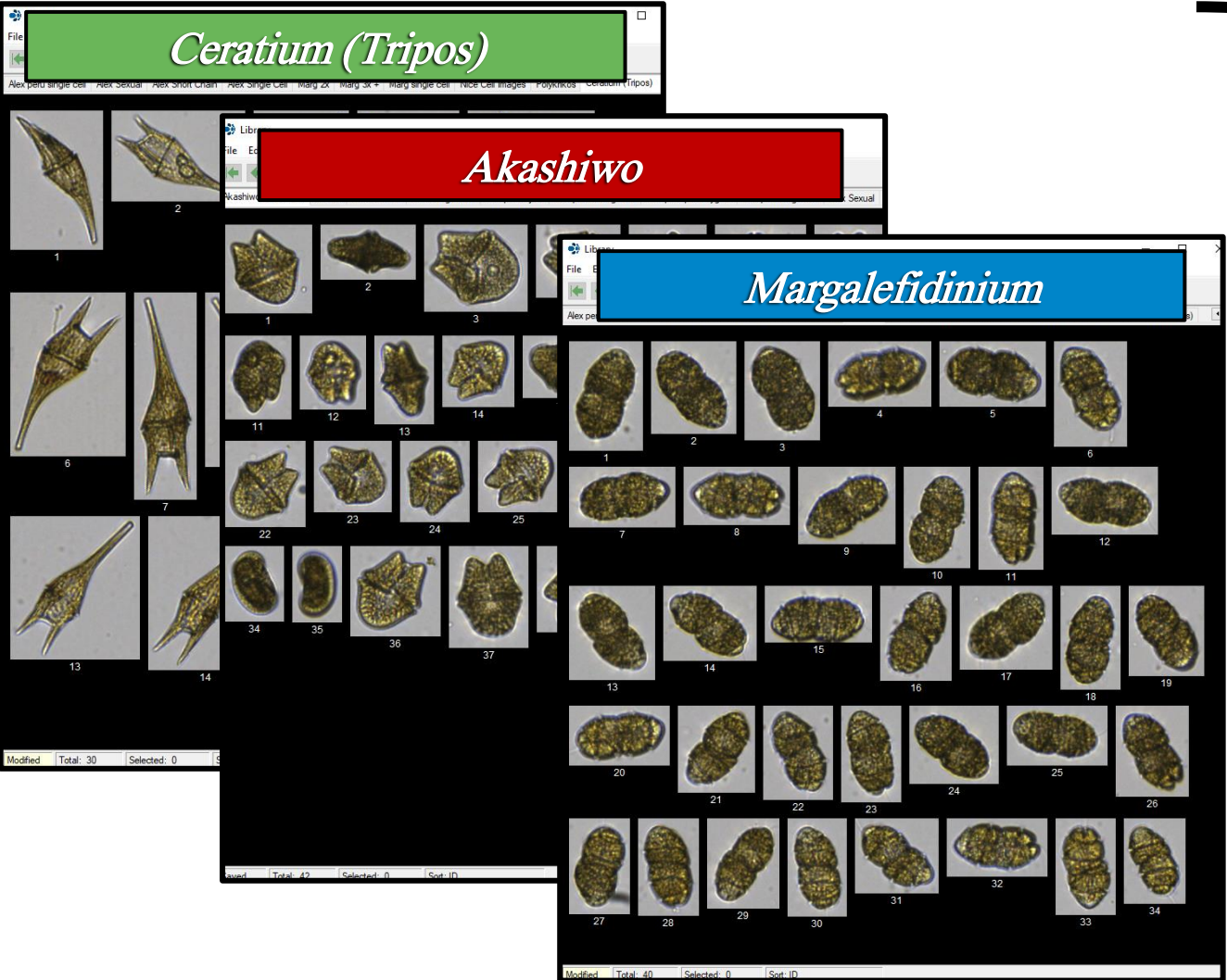


Create species classification libraries...

Particle Image Gallery

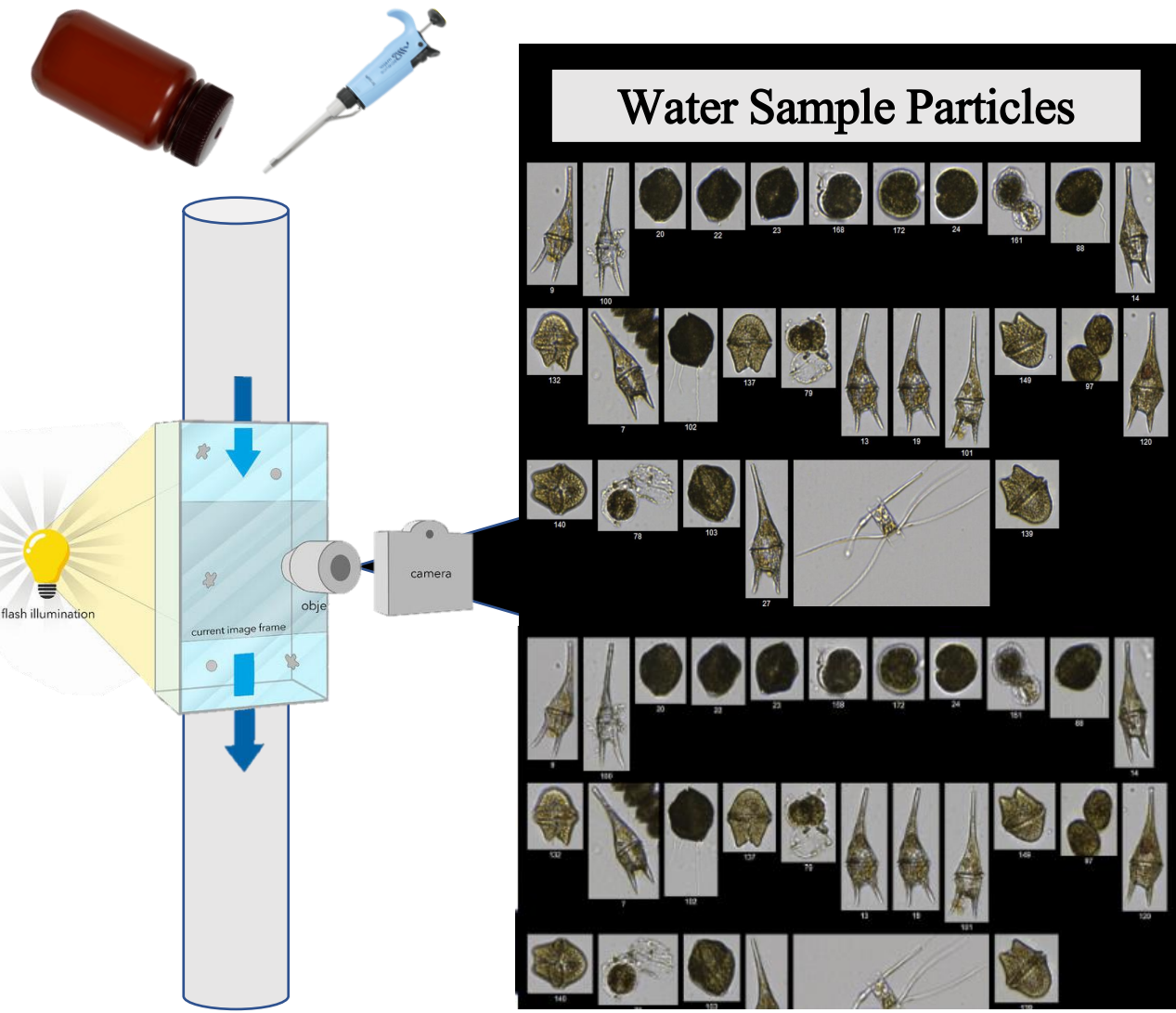


Build filters with class libraries...

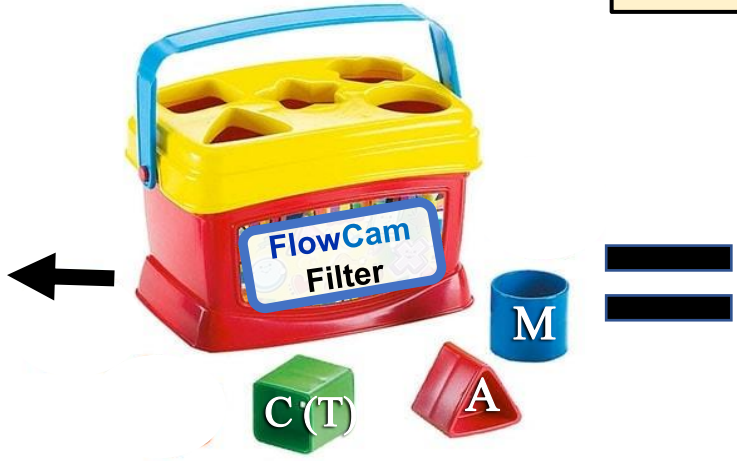


Libraries and filters can be shared between FlowCam users

Apply filter to processed samples...



Get results! Share data!



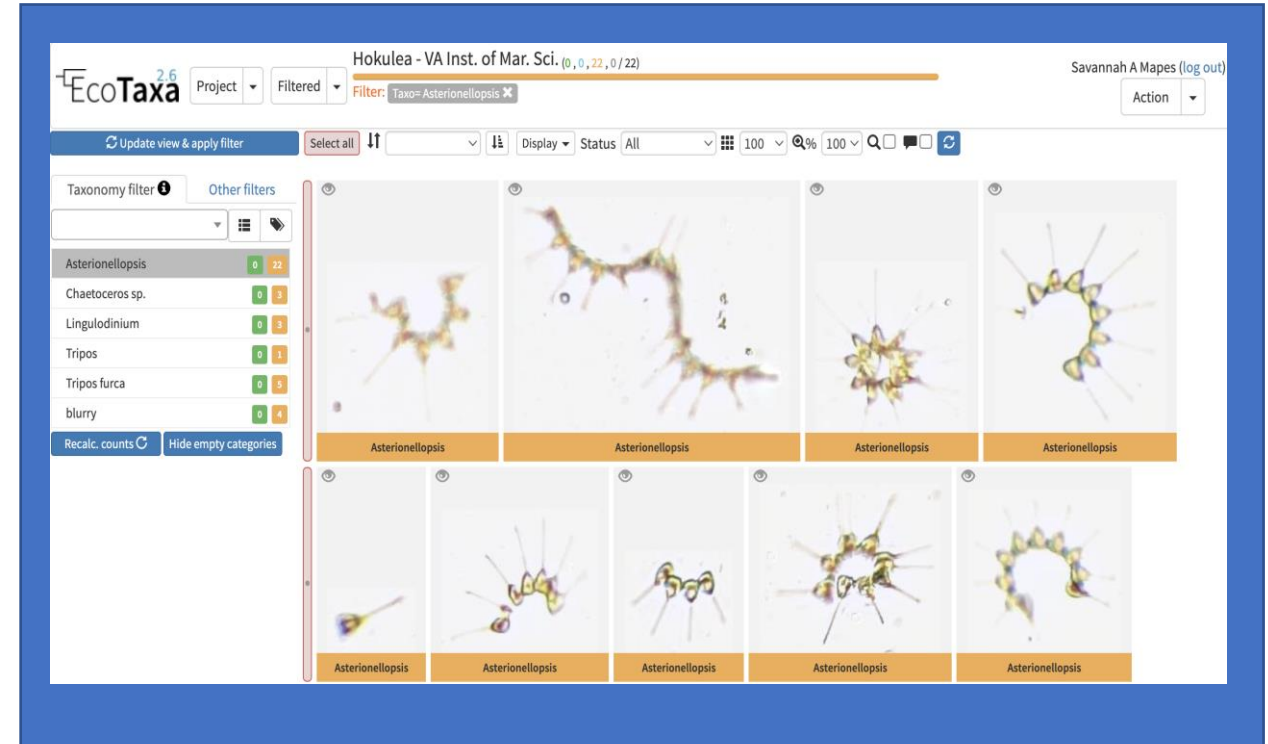
Semi-automatic
classification
&
enumeration

The Planktoscope



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PHOTOGRAPHER: IONAH APO

Sailing w/PVS



- Similar device to FlowCam, designed with citizen science in mind (smaller, cheaper, DIY, easy to use)
- Data can be uploaded to global database EcoTaxa for group analyses

Acknowledgements:

Reece Lab

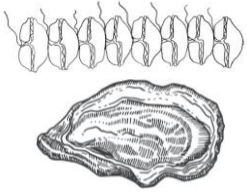
Fluid Imaging Technologies

NOAA

ODU

CBNERR

VIMS



Thank you!



Any questions?

