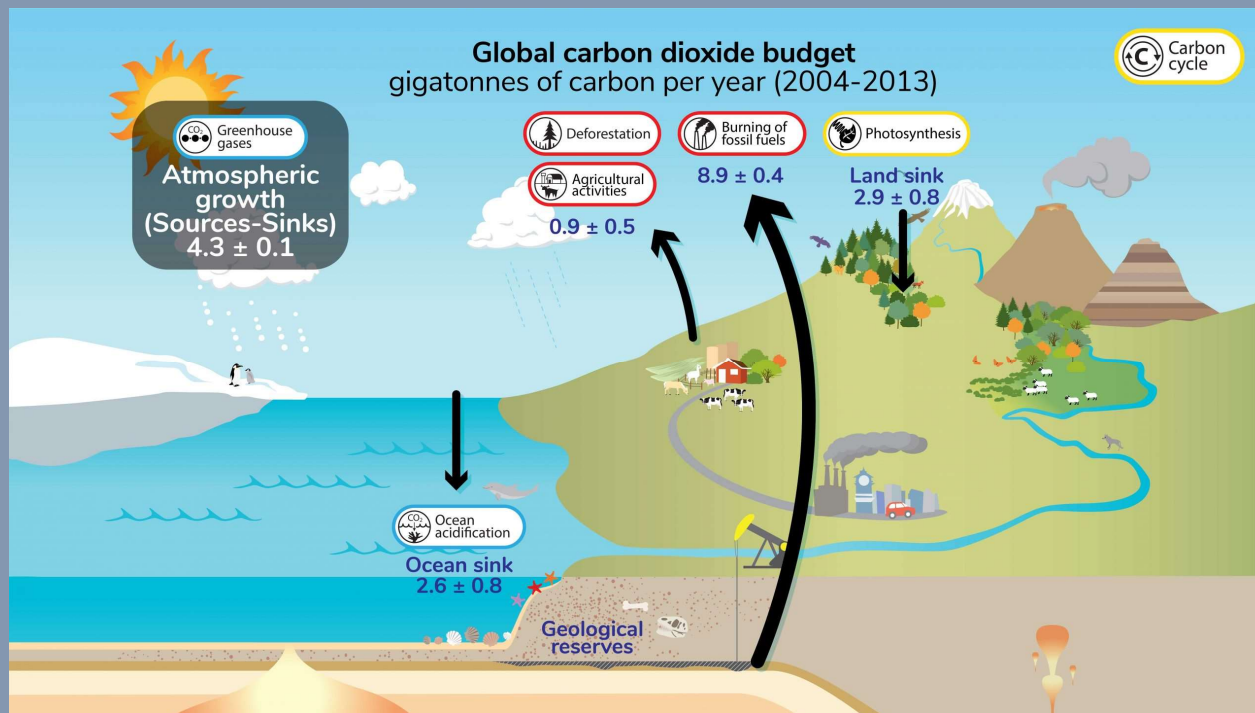


Climate Change: A Wicked Problem



Key recommendations:
“Further development of event-scale observing capacity (e.g., novel autonomous platforms) in all continental margin systems to better quantify impacts of episodic events on coastal carbon budgets”

A Science Plan for Carbon Cycle Research in North American Coastal Waters 2016, Ocean Carbon and Bio. Program and NA Carbon Program

<https://ugc.berkeley.edu/background-content/carbon-cycle/>

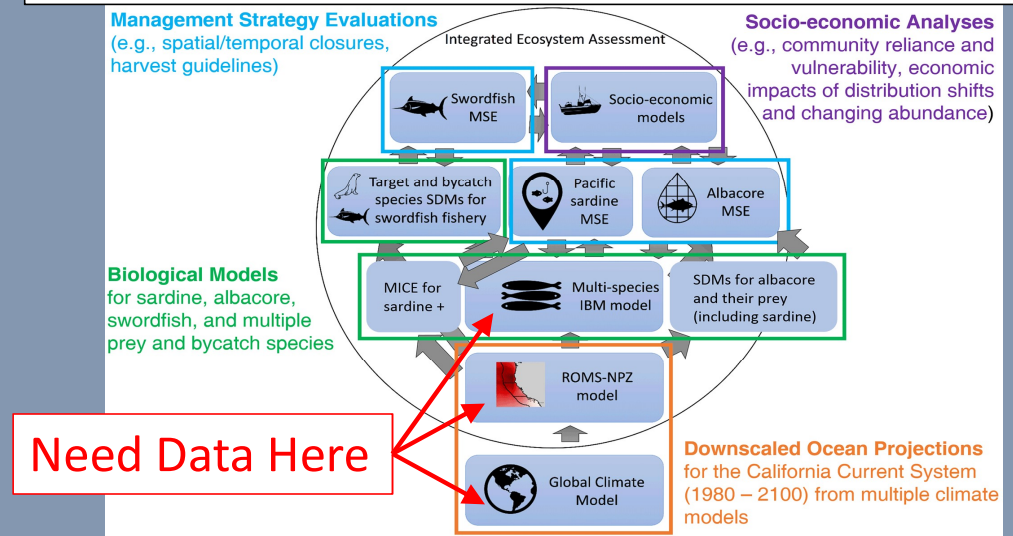
Threatened Fisheries: Another Wicked Problem

Sustain Lake Tanganyika



Committed to safeguarding the Lake Tanganyika ecosystem whilst improving the welfare of her local communities

NOAA Physics-to-Fisheries Management



Predictability of Species Distributions Deteriorates Under Novel Environmental Conditions in the California Current System

Front. Mar. Sci., 29 July 2020, Sec. Marine Fisheries, Aquaculture and Living Resources, Volume 7 - 2020

i.e., Fishery Managers need defensible, relevant data products in a timely fashion to develop science-base policies

The New Arctic: Another Wicked Problem



NSF'S 10 BIG IDEAS

Navigating the New Arctic

“Current Arctic observations are sparse and inadequate for enabling discovery or simulation of the processes underlying Arctic system change or to assess their environmental and economic impacts on the broader Earth system”

Polar Bears Spotted on
Crystal's Inaugural Northwest
Passage Voyage

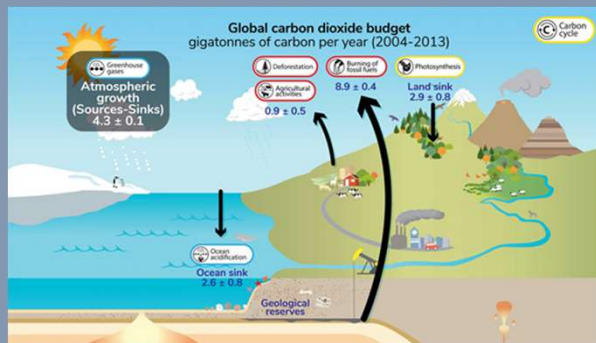


The WIM Challenge Statement

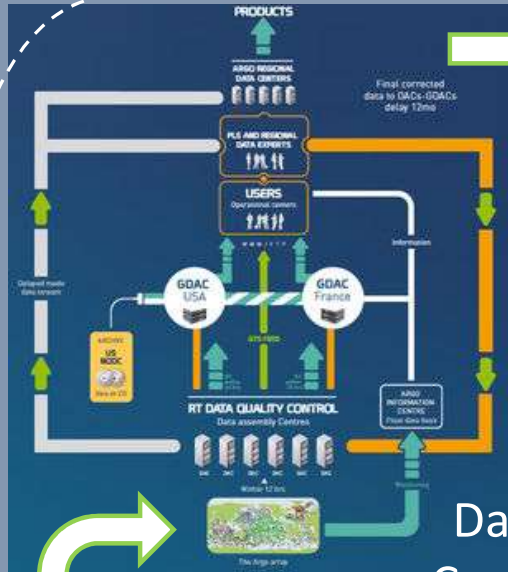
Can we provide effective ocean observing systems that get the right data products to the right people at the right time to address a range of current, critically important, global ocean health challenges using current research technology, like MBARI's Coastal Profiling Float observing system, combined with other ingredients ?



Photo: Lori Eanes/Monterey Bay Aquarium



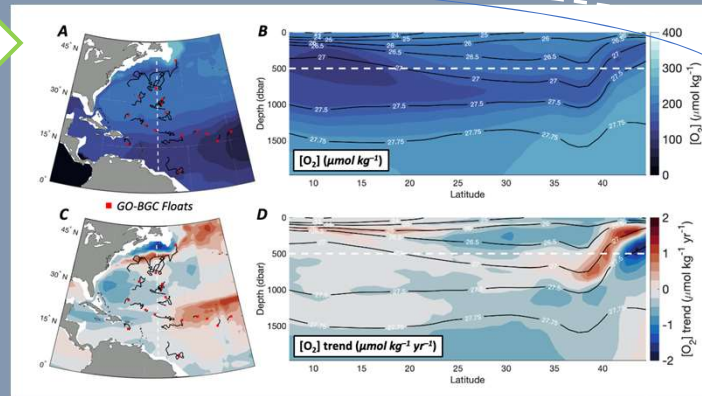
What is an Ocean Observing System?



Data Center

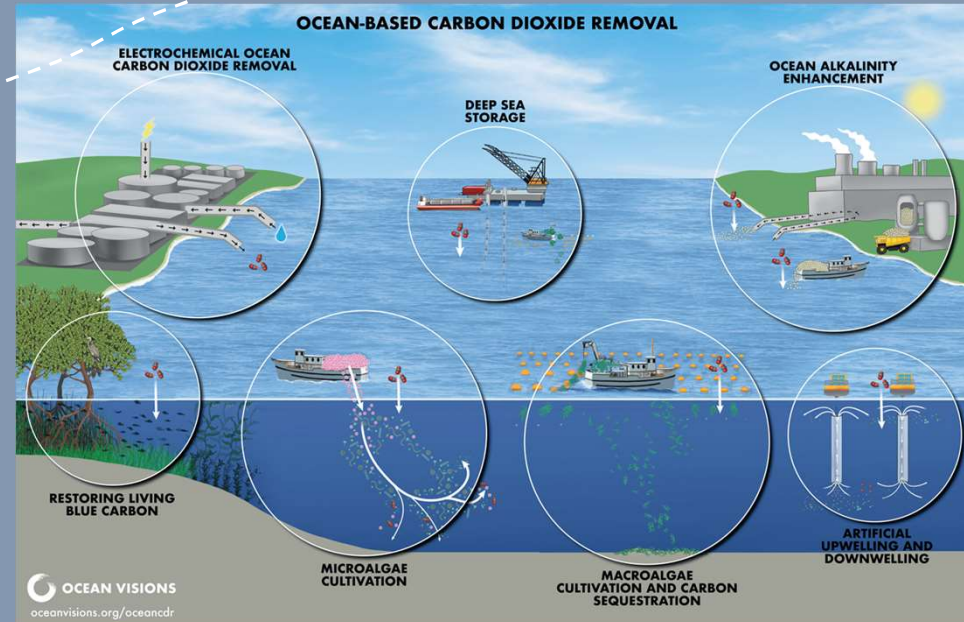


Instrumented observing platforms



Defensible, QC'd Research Data

What's Missing:
Tools to Generate a
Range of Data
Products



WIM Challenge Tasks

- Identify the stakeholders and have a conversation about their needs and contributions

↓ iterate (a lot) ↑

- Define your challenge, develop a minimum viable system and a realistic implementation plan
- Give the final presentation
- Potentially execute your plan

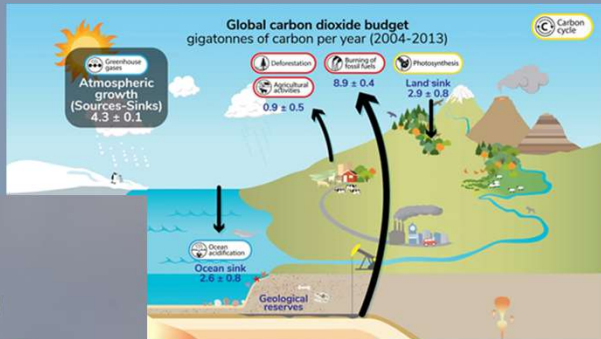


Photo: Lori Eanes/Monterey Bay Aquarium

Required Skills Include

- Market analysis and business development
- Environmental Science and Policy
- Electrical, Software, Ocean, Industrial Mechanical and System Engineering
- Data Science of all kinds
- **People Skills**
- Thanks for listening

