



Daily to Decadal Ecological Forecasting along North American Coastlines

A joint Ocean Carbon and Biogeochemistry and US CLIVAR Programs Workshop

Welcome!

Originally scheduled for September 2021 -> April 12-14, 2022



History and Motivation

Conceived as an extension of the workshop held in La Jolla, CA, August 10-11, 2016
“Forecasting ENSO impacts on marine ecosystems of the US West Coast”

While ENSO provides an important source of predictability for the US West Coast, there is need for physical/biogeochemical/ecological predictions also in other regions along US coastlines over a range of spatial and temporal scales (e.g., open ocean vs. estuarine regions, daily to decadal timescales and beyond).

Important to explore the source of predictabilities along the entire US coastlines and their potential application to societally relevant forecasting.



Workshop Goals

- Explore the connection between large-scale physical, biogeochemical and ecological processes and coastal processes, and identify sources of predictability across temporal scale, from daily to decadal and beyond in different regions along US coastlines (US West Coast, Arctic, East Coast, and Gulf of Mexico).
- Assess the suitability and need for observations that characterize key processes, their interactions across scales, and their response to climate change.
- Assess the major gaps (conceptual, computational, methodological, observational) that limit our ability to produce forecasts at the scales needed by management along the US coastlines, and identify avenues for accelerating progress.



Workshop Aims

Provide ample opportunity for discussion, sharing of research ideas and methodological approaches, in order to **collectively develop a vision** for how to fill gaps, motivate new research, and strategically develop forecasting applications across a range of time and space scales around the US coastline.

To advance this aim, we have brought together experts across regions from the Arctic to the Gulf of Mexico and across disciplines from climate modelers to ecologists.



Workshop Topics

Sources of regional predictability across timescales (Tuesday morning)

Application of ecological forecasting over different timescales (Tuesday afternoon)

Modeling capability and challenges (Wednesday morning)

Reanalysis and Observations (Wednesday afternoon)

Synthesis and future directions (Thursday morning)



Workshop Structure

Tuesday and Wednesday mornings:

- Keynote presentations on the specific topic, with some time for questions after each talk
- Break
- Poster talks (5 minutes each)
- Discussion
- Breakout sessions
- Lunch and poster viewing

Tuesday and Wednesday afternoons: Same structure as mornings but ending with unstructured time for networking and informal discussions, poster viewing.

Thursday morning: Breakout session, breakout reports, and discussion on future steps needing more community support.



THANKS!

Scientific Organizing Committee:

Victoria Coles (co-chair), Sophie Clayton, Marjy Friedrichs, Michelle Gierach, Art Miller, and Charlie Stock

Sponsors:

OCB, US CLIVAR, NOAA, NSF, DOE, NASA

Program Organizing Committee:

Heather Benway, Cyndie Graddy, Mai Maheigan, Mike Patterson, Mary Zawoysky, and Jennie Zhu