

Active/potential uses of OOI data for Northeast Pacific Modeling

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- In collaboration with many colleagues, including:
 - JSCOPE (JISAO's Seasonal Coastal Ocean Prediction of the Ecosystem)
 - ACLIM (Alaska Climate Integrated Modeling)
 - EcoFOCI (Ecosystems and Fisheries Oceanography Coordinated Investigations)

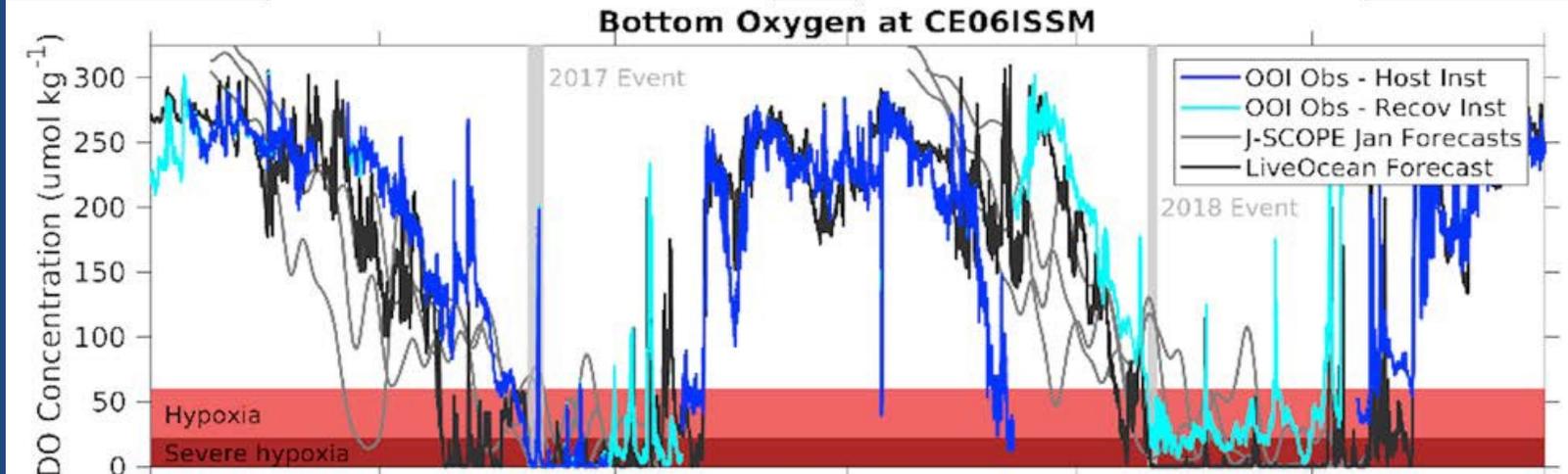
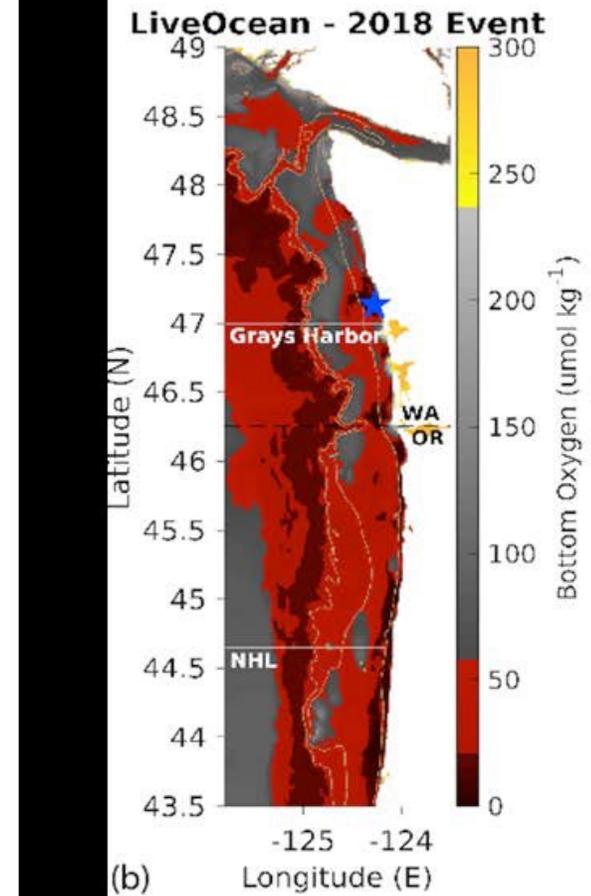
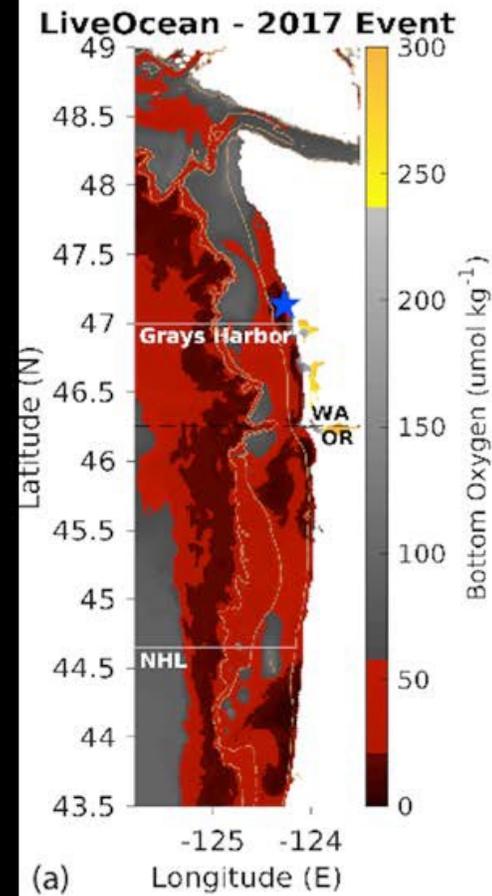


Regional model validation
(Fig 2.11 in OOI Science Plan):

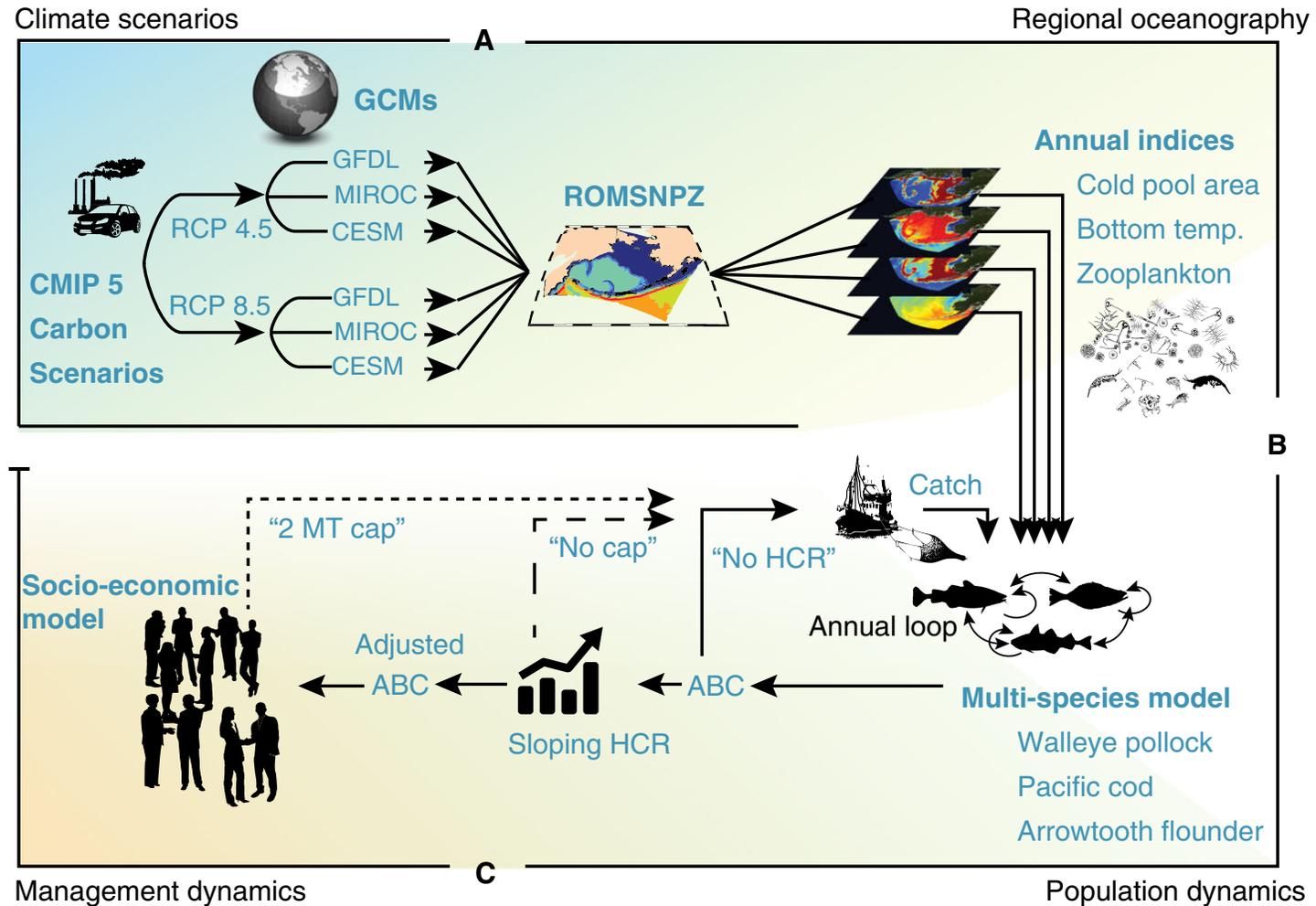
Forecasted and observed hypoxia along the Washington and Oregon coasts in 2017 and 2018

2017-2018 bottom dissolved oxygen
from “host” and “recovered” data
streams at the Washington Inshore
Surface Mooring of the OOI’s
Regional Endurance Array
(CE06ISSM) (blue line, blue star on
maps)

Forecasts over the same time period
from Live-Ocean (black) and J-SCOPE
(grey, three ensemble members,
January-initialized).

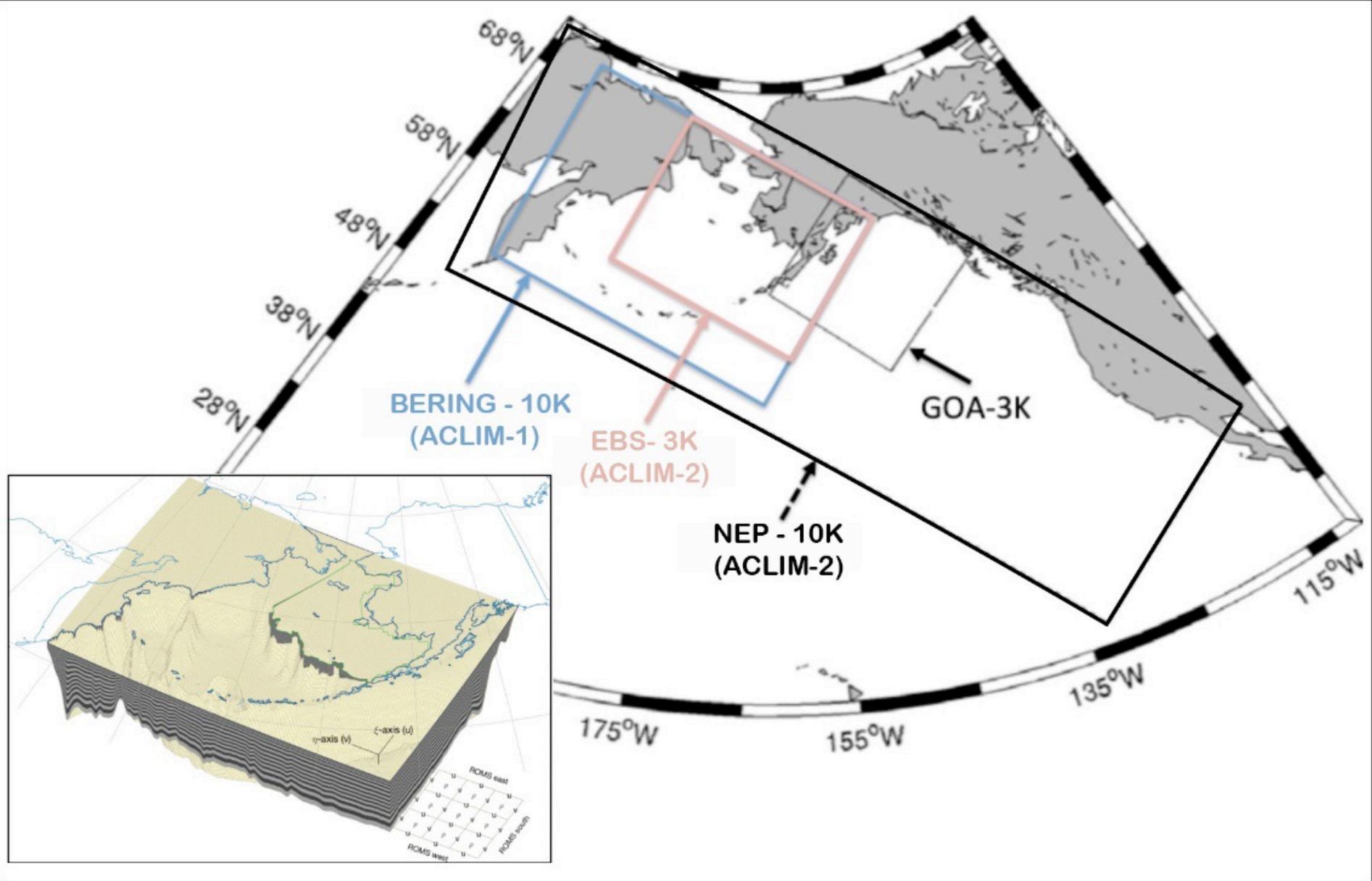


Alaska Climate Integrated Modeling (ACLIM) projects: Downscaled climate projections used in fisheries management strategy evaluation



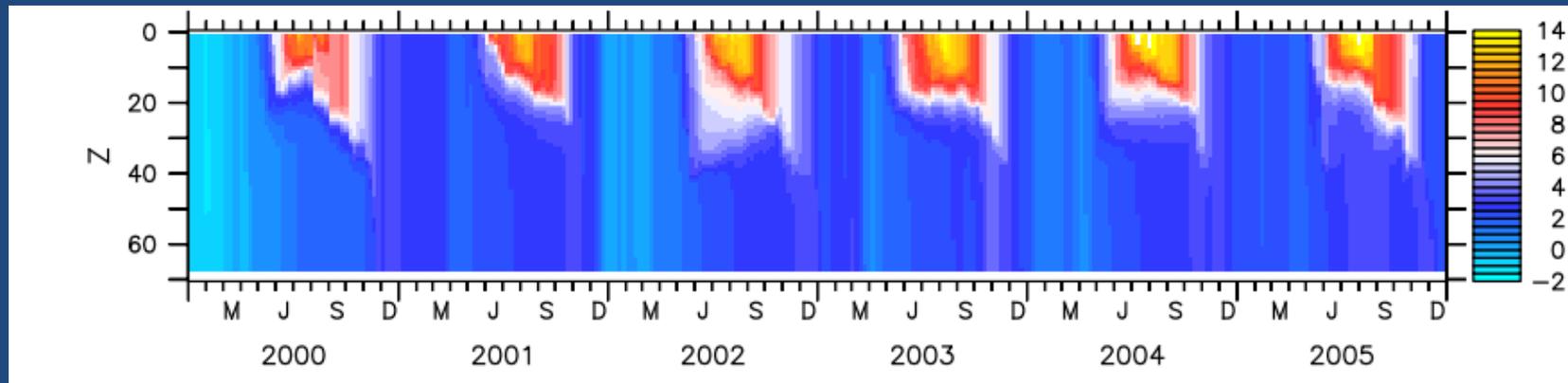
(Holsman et al 2020)

Grids used in ACLIM/GOACLIM and Eco-FOCI

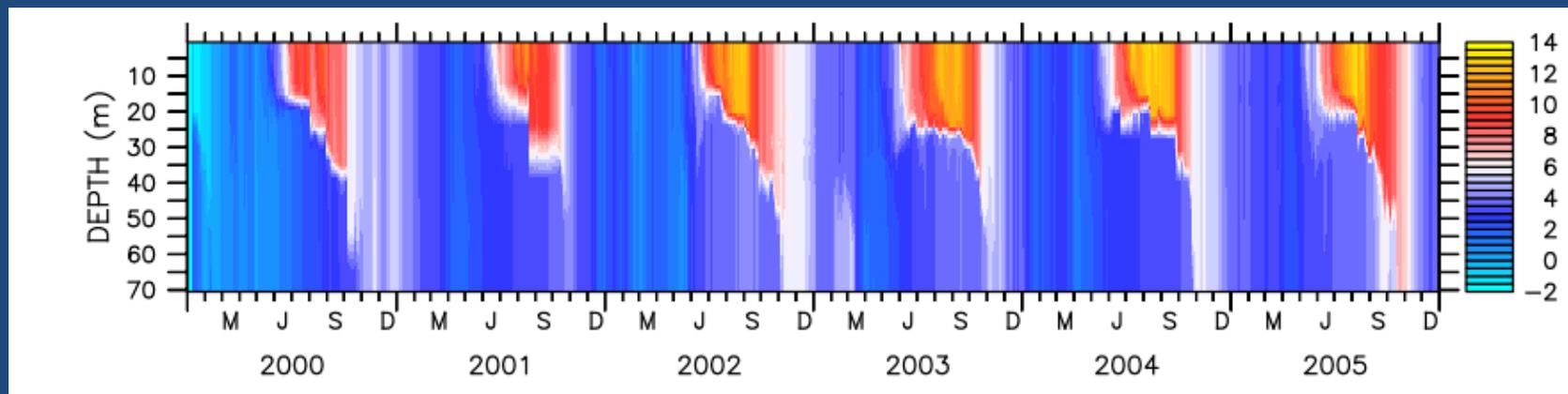


Bering Sea model calibrated with depth-time temperature series from Eco-FOCI station M2

MODEL

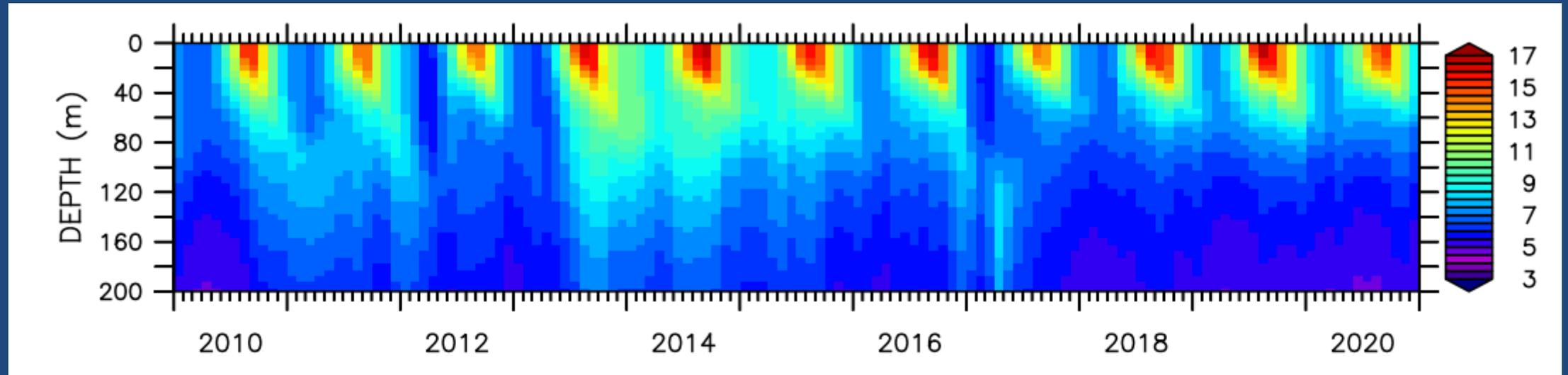


DATA

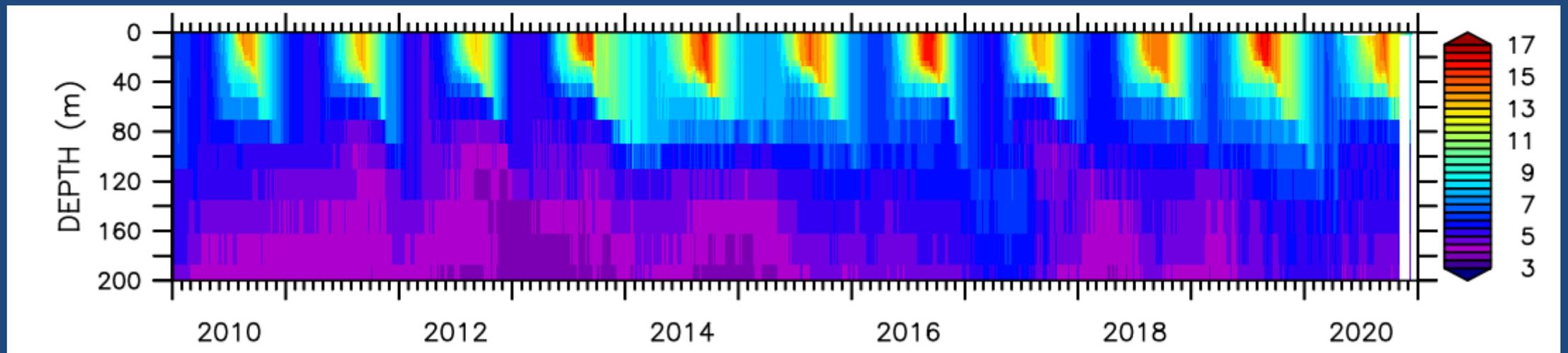


Northeast Pacific model calibrated with depth-time temperature series from OWS-PAPA (near OOI Global Station PAPA)

MODEL

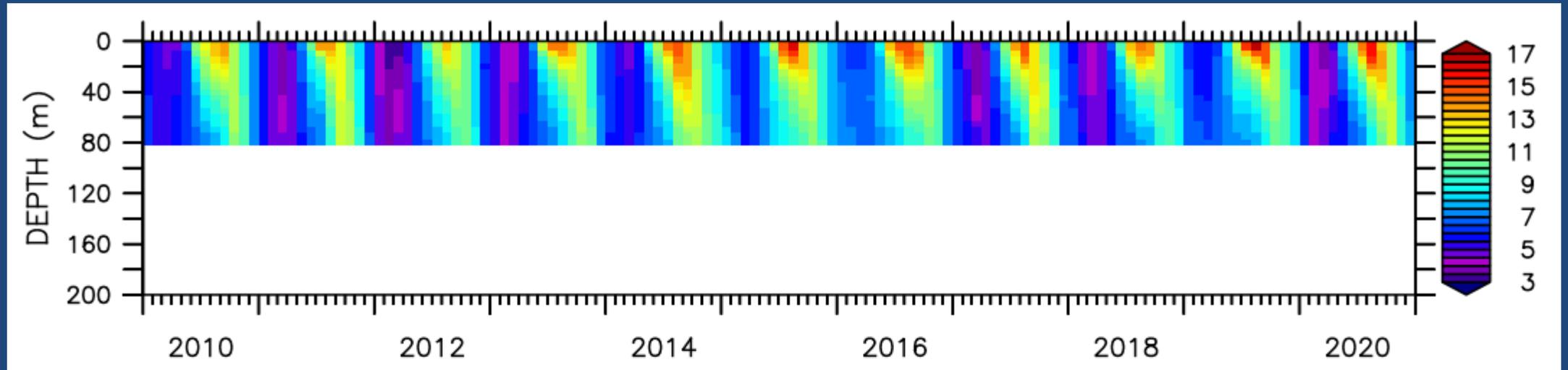


DATA

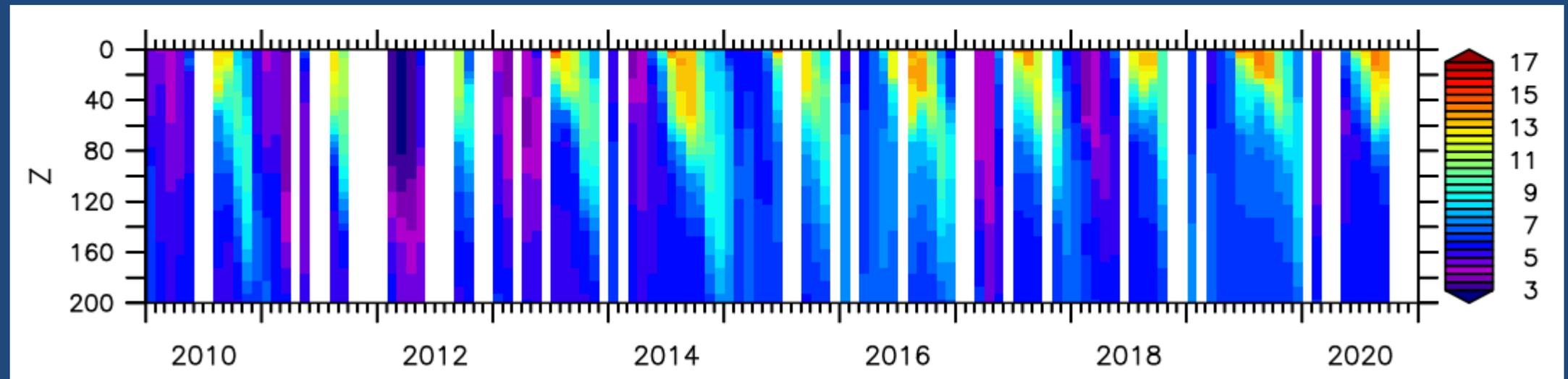


Northeast Pacific model calibrated with depth-time temperature series from UAF station GAK1 (near Seward AK)

MODEL



DATA



Long, *continuous* depth-time series are fundamental

- Compare model hindcasts with real data
- Confirm seasonal/interannual variability
- Establish correct vertical structures (e.g. Mixed Layer Depth)
- Establish correct spectra and coherence of biophysical properties across multiple space/time scales