FROM MICROBES TO WHALES

Sustainable Arctic MBON

Meet the team

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Objectives

• Add EOV components to complement other, ongoing field projects

• Make use of existing platforms to enhance biodiversity observations, using advanced technologies

• Link results from organismal observations to remotely sensed seascapes

• Broad linkage of data streams through AOOS/MBON Data Portal with NCEI, Data One, OBIS, ERDDAP

• Effectively reach stakeholders

• Collaborate among MBON
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Coverage of other field efforts

Adaptive approach

Beaufort Sea extension?
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Complementing EOVs

<table>
<thead>
<tr>
<th>PHYSICS</th>
<th>BIOGEOCHEMISTRY</th>
<th>BIOLOGY AND ECOSYSTEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea state</td>
<td>Oxygen</td>
<td>Phytoplankton biomass and diversity</td>
</tr>
<tr>
<td>Ocean surface stress</td>
<td>Nutrients</td>
<td>Zooplankton biomass and diversity</td>
</tr>
<tr>
<td>Sea ice</td>
<td>Inorganic carbon</td>
<td>Fish abundance and distribution</td>
</tr>
<tr>
<td>Sea surface height</td>
<td>Transient tracers</td>
<td>Marine turtles, birds, mammals abundance and distribution</td>
</tr>
<tr>
<td>Sea surface temperature</td>
<td>Particulate matter</td>
<td>n/a Hard coral cover and composition</td>
</tr>
<tr>
<td>Subsurface temperature</td>
<td>Nitrous oxide</td>
<td>n/a Seagrass cover and composition</td>
</tr>
<tr>
<td>Surface currents</td>
<td>Stable carbon isotopes</td>
<td>n/a Macroalgal canopy cover and composition</td>
</tr>
<tr>
<td>Subsurface currents</td>
<td>Dissolved organic carbon</td>
<td>n/a Mangrove cover and composition</td>
</tr>
<tr>
<td>Sea surface salinity</td>
<td>Ocean colour</td>
<td>Ocean Sound</td>
</tr>
<tr>
<td>Subsurface salinity</td>
<td></td>
<td>Microbe biomass and diversity (*emerging)</td>
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<tr>
<td>Ocean surface heat flux</td>
<td></td>
<td>Benthic invertebrate abundance and distribution (*emerging)</td>
</tr>
</tbody>
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Mooring additions (year-round):
- phytoplankton
- eDNA
- ocean sound (marine mammals)

Field effort additions:
- eDNA
- seabirds
- Fish
- epibenthos

Remote sensing:
- Arctic seascapes
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Data management

- Produce archived, interoperable data
- Link to other field effort data streams through AOOS
- Visualizations
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Partnerships and Stakeholders

NOAA United States Arctic Observing Network (US AON)
- AON is the interface of research, observation, and human interests
- e.g., Native communities, industries, management agencies, scientific community
- feed high quality and sustained EOV data into AON’s “value tree mapping”
- linking observations to products to societal benefits

NOAA Chukchi Sea Integrated Ecosystem Assessment (IEA)
- ecosystem-based management (EBM) approach in federally managed waters
- feeding EOV information into the IEA process
- Participation in upcoming IEA planning meeting

Circumpolar Biodiversity Monitoring Program (CBMP)

Bureau of Ocean Energy Management (BOEM) – Environmental Studies Plan

Fisheries Management Council

MBON Network