Dr Eric Lindstrom

- Former Chief
 Scientist at
 Saildrone
 (Uncrewed Surface
 Vehicle USV)
- Former Physical Oceanography Program Scientist at NASA HQ (1997-2019)
- Former Co-chair of Global Ocean Observing System



Global Ocean Observing System themes

Climate, operational ocean services, ocean health





Framework for Ocean Observing **A simple system**





International Partnership for SSC



Support for Key Stakeholders & Global Agendas Sargasso Sea Commission GEF Project Partnership

Sargasso Sea Commission (SSC)

- Established by the 2014 *Hamilton Declaration* for conservation of the Sargasso Sea area of collaboration by 10 signatory nations
- Promote stewardship of the Sargasso ecosystem via work program and action plan development for this high seas area
- Multiple institutional partners, including NASA via COVERAGE since 2016

SSC multi-year, Global Environmental Facility (GEF) funded project

"Strengthening the Stewardship of an Economically and Biologically High Seas Area – The Sargasso Sea"

- Part of an overall global GEF Programmatic Approach entitled Common Oceans Sustainable utilization and conservation of biodiversity in areas beyond national jurisdiction (ABNJ) involving 4 child projects under UN agency oversight (FAO, UNEP, UNDP) and linked to UN BBNJ treaty
- UNDP and IOC-UNESCO oversight roles (implementing and executing UN agencies)
- Future instrument supporting UN BBNJ Treaty (under negotiation) and High Seas Governance
- Complex, multi-faceted project involving:
 - Ecosystem Diagnostic Analysis (EDA), identifying trends and impacts from available environmental, biological and socio-economic data
 - Development and adoption ecosystem-based stewardship approach for the Sargasso Sea
- COVERAGE collaboration on SSC GEF project
 - Regional spin-off application focusing on the Sargasso during Phase-C
 - Integrative data system enabling access to core satellite and in-situ datasets, plus guidance on data aspects
 - Enable production and communication of ecosystem indicators for scientific and policy assessments
 - Participation in SSC project Kick-off workshop and IUCN meetings



<u>Signatories</u>: Azores, Bermuda, Monaco, United Kingdom, United States, British Virgin Islands, Bahamas, Canada, Cayman Islands, Dominican Republic







Some Key Observations

- SSC defines a suite of societal needs for the Sargasso Sea and has deep multi-national support so as to have high credibility in GOOS.
- SSC's strong attraction to Big Data/AI resources for precise information on ocean conditions and change has enormously advanced.
- COVERAGE is preparing to deliver a big data package; however that partnership needs advocacy and help beta-testing in its Phase C/D (2022-23).
- In situ observing operational infrastructure is based on 50yr-old architecture – Drifter, Moorings, Ships.
- Uncertainty in ocean information products will be limited by ocean "truth" data.



Some personal recommendations

- The SSC could decide to be more proactive and involved in support of observing system evolution, capabilities, and use. Make it fit for your purpose!
- SSC need to recognize that in situ observing systems are evolving very slowly compared to Big Data/AI information generation capabilities. Danger lurks!
- The current situation calls for immediate attention by SSC to advance development and support for innovative ocean observing technologies/capabilities that support your Big Data/AI objectives.

