

Draft Talking Points
for Use by Designated CEOS Representative(s)
in Interactions with IOC, UN Ocean Decade, and GOOS Leadership
(includes updates from the COAST-VC Side Event on September 17, 2024 and reformatted)

Purpose: To encourage these organizations to specifically bring attention to satellite observations as much as possible in UN Ocean Decade (UNOD) activities, programming, press, and outreach materials.

Recommendation 1: That both the importance of satellite observations and in situ observations be communicated together. Emphasizing the importance of each and the power of their complementarity is essential for a unified GOOS/CEOS approach toward shared goals.

Recommendation 2: The current assessment is that in situ observations are emphasized far more than satellite data. To address this imbalance in communications, space agencies are asked to work with their respective IOC representatives to advocate for more intentional communication of satellite Earth observations with the UN Ocean Decade on behalf of their member state. The following talking points are suggested for discussions on the broader national agency engagement.

Objective: To increase CEOS engagement with IOC on the ten UNOD Observation Goals (especially Priority 7, which is to expand the global ocean observing system) and invited participation within applicable UNOD Working Groups.

IOC Audience: Primarily focus on the IOC, but within that context engage UNOD strategic leaders, applicable UNOD Working Group leaders, UNOD Outreach and Engagement communicators.

Invited CEOS Contributors:

- Coastal Observations, Applications, Services, and Tools Virtual Constellation (COAST-VC)
- Sea Surface Temperature Virtual Constellation (SST-VC)
- Ocean Surface Vector Wind Virtual Constellation (OSVW-VC)
- Ocean Colour Radiometry Virtual Constellation (OCR-VC)
- Ocean Surface Topography Virtual Constellation (OST-VC)
- Precipitation Virtual Constellation (P-VC)
- Land Surface Imaging Virtual Constellation (LSI-VC)
- Atmospheric Composition Virtual Constellation (AC-VC)
- Biodiversity, ARD Oversight, SDG

Talking Points:

1. Complementary satellite and in situ data sets are essential for successful outcomes (modeling and validation exercises) to accomplishing the goals of the UN Decade of Ocean Science for Sustainable Development.
2. The availability of open source satellite data, as well as free online training on its relevance and utilization, should be emphasized in UN Ocean Data communications, reports, and on the website.
3. Parameter-level Satellite Data Observations from space agencies of the Committee on Earth Observation Satellites (CEOS) Space Agencies are important for ocean and coastal monitoring, detecting change, and assessing short and long term climate change impacts.[Cite specific use cases from AW Australia here.].
4. Satellite data products are an essential component of climate models as well as storm-tracking and forecasting models allowing for viewing the ocean as part of a whole system (SST-VC, OSVW-VC, AC-VC,...)
 - a. Underscore economic and cultural benefits of satellite observations in terms of fisheries, aquaculture, energy and infrastructure, recreations, adaptation, resilience, and recovery (COST-VC).
 - b. Detect and report illegal, unreported, unregulated fishing activities in support of biodiversity and regulatory measures (COAST-VC).
5. Systematic observation of Earth's climate is the fundamental basis upon which the UNFCCC was founded and the Paris Agreement adopted. The Global Climate Observing System (GCOS) currently specifies 55 ECVs (Essential Climate Variables), of which about 60 per cent (including Ocean variables such as sea surface temperature; ocean color; sea level, sea state, sea ice, etc.) can be measured, monitored, and studied with satellite data.
6. CEOS Agencies currently provide 1+ products listed below or have identified needs to advance Priority 7, "to upgrade and expand ocean observing capacity in poorly observed areas such as polar regions, island nations, coastal areas of developing nations, priority coastal systems, and the deep ocean." CEOS Missions, Instruments, and Measurements database: [The CEOS MIM Database | CEOS | Committee on Earth Observation Satellites](#)
 - SST (within 1km of the coast, and in the future subkilometer resolution closer to the coast.) (SST-VC)
 - Winds (Surface winds >25 km by Scatterometers and some high resolution by SAR, but Coastal winds are still needed for hurricane/cyclone forecasting. (OSVW-VC)
 - Sea Ice
 - Atmospheric Composition (AC-VC)
 - Precipitation (Precip-VC)
 - Ocean surface topography/SLR/deep-sea bathymetry (GEBCO)/ocean heat content (OST-VC)
 - Coastal derived sea level from new satellites SWOT. (OST-VC, COAST-VC)

- River discharge flowing into ocean via SWOT (COAST-VC)
 - Ocean color radiometry (chlorophyll, sediment/turbidity/clarity, CDOM, sargassum/kelp/surface macroalgae, plastics/pollution) (OCR-VC)
 - Land Surface Imaging (LSI-VC)
 - Salinity (beyond 1km from coastline)
 - Shorelines (COAST-VC, TMSG)
 - Coastal satellite derived bathymetry via ICESat-2 (COAST-VC)
 - Coastal Flooding inundation (WG Disasters, COAST-VC)
 - Benthic: Seagrass beds, corals, kelps,... (COAST-VC, SST-VC)
 - Surface-water vegetation (AFOLU, COAST-VC)
 - Mangrove status and trends
 - Salt marshes
 - Invasive species
7. Satellite data are equally important inputs for modeling the implementation of climate actions, alongside in-situ data.
8. Satellite data and derived product development by CEOS VCs and activities, including CEOS COAST (UNOD #121 Contribution - endorsed June 8, 2021), which is directly advancing UN Ocean Decade outcomes.