

Proposal for a CEOS Coastal Observations and Applications Study Team (CEOS-COAST)

Dr. Paul M. DiGiacomo, NOAA SIT Chair Team

Background:

One of the outcomes identified during the Ocean and Water Session of the Virtual Constellation (VC)/Working Group (WG) Day of the 2018 CEOS SIT Technical Workshop was the suggestion for CEOS to consider potential pilot projects in the coastal zone targeting high priority user needs (e.g., flooding, water quality). This traces back to previous extensive CEOS engagement in the Integrated Global Observing System (IGOS) Coastal Theme Report (2006) and Coastal Global Ocean Observing System (GOOS) activities and more recently in the GEO Blue Planet Initiative, and noting that a majority of the world's population lives within close proximity of a coastal zone.

At SIT-34, ongoing CEOS Agency interest in analysis ready satellite data provision for the coastal domain was discussed, as was the potential for a future workshop on coastal observation coordination. An action was given to the CEOS Blue Planet Expert (P. DiGiacomo) to bring forward to the 2019 SIT Technical Workshop ideas for an *ad hoc* coastal observing and applications team.

Description:

Dr. DiGiacomo presented on the coastal strategy topic during the VC/WG/*ad hoc* (AHT) Day and again at the 2019 SIT Technical Workshop. He recommended that the SIT establish a Coastal Study Team that would define the objective, scope, priorities and value chain approach for a CEOS coastal engagement strategy, including identification of potential pilot project(s) and the engagement strategy with internal and external stakeholders. The following action was captured at the meeting pursuant to this recommendation:

SIT-TW-2019-14	Paul DiGiacomo, SIT Chair Team, and SIT Vice Chair Team	Develop a Coastal Study Team proposal for consideration as a cross-cutting CEOS activity, and present the proposal for discussion and decision at the CEOS Plenary.	30 September 2019
<i>Rationale: Follow-up on discussions around coordination on coastal observations between several CEOS VCs, including as a demonstration of how Oceans VCs could work together on a focused topic.</i>			

Recommendation:

Given the demonstrated interest across CEOS in articulating a coastal strategy, we believe formation of a dedicated Study Team represents the next step in the evolution of this discussion to assess the broader interest and feasibility of CEOS Agencies in pursuing a more formal mechanism to address Agency interest in observing the coastal region.

As such, we hereby propose a *CEOS Coastal Observations and Applications Study Team (CEOS-COAST)*, with attendant discussion and decision requested at the 33rd CEOS Plenary.

Should this proposal be adopted, we request Agencies to express their interest in participating on CEOS-COAST and to identify agency participants with appropriate expertise and interest.

CEOS Alignment and Benefit to Stakeholders:

Focusing on the user-driven value chain, CEOS-COAST will facilitate targeted discussions on priority coastal observations and applications within CEOS, addressing the integration and transformation of multi-sensor observations to fit-for-purpose information in support of existing and emerging stakeholder requirements.

A dedicated coastal-focused activity would help bridge land and aquatic observations within CEOS, and given its cross-cutting nature, help integrate across multiple CEOS entities and domains, both thematic (e.g., Disasters, Sustainable Development Goals [SDGs], and Capacity Development) and technical (e.g., VCs: Ocean, Land and Atmosphere, calibration and validation, COVERAGE). Further, it is expected that the Study Team will also formulate a pilot project(s) that leverages the CEOS Analysis Ready Data (ARD) framework already demonstrated for terrestrial applications.

Finally, this proposed Study Team will potentially highlight the broader utilization of Earth observations for greater societal benefits within coastal zones (e.g., Blue Economy; SDG-14), and may demonstrate a specific mechanism for CEOS, potentially through the nexus of the GEO Blue Planet Initiative, to engage with external stakeholders such as IOC/GOOS, UN Environment and high visibility activities such as the UN Decade of Ocean Science for Sustainable Development (2021-2030).

Scope and Priorities

There is a broad spectrum of coastal needs, issues and challenges, with a diverse ecosystem of stakeholders that can be potentially engaged. As such, the initial short-term focus of the Study Team will be to identify and prioritize the user-driven issues, information gaps and observational trade space to be considered by COAST. This will be accomplished by engaging relevant GEO initiatives and representative user organizations (e.g., SDG custodian agencies) and assessing their observing and information requirements, with scoping of key coastal observations types and identification of priority supersites and systems wherein the technical details, data gaps and coordination complexities can be identified and fully addressed prior to subsequent global-scale implementation.

Feasibility and Affordability:

As a Study Team that will initiate low level scoping activities, e.g., objective, scope, priorities and value chain approach for a CEOS coastal engagement strategy; identification of priority sites/systems and potential pilot project(s); and, engagement strategy with internal and external stakeholders, the COAST can be implemented quickly and on a cost-effective basis.

Several CEOS Agencies have expressed strong support for this study team, including dedicated Study Team members identified by NOAA (P. DiGiacomo) and Geoscience Australia (Stephen Sagar), with significant interest also expressed to date by WGDisasters (especially for a coastal flooding pilot project) and the CEOS/ARD Team.

Pending approval, initial face-to-face discussions will take place during the SIT-35 Meeting (Tasmania), with follow-up activities to be identified later, but including the 2020 SIT Technical workshop (Croatia). Should the Team's initial outputs and deliverables be sufficiently

compelling and of broad interest across CEOS, more formal implementation activities (e.g., international community workshop/s linking data providers and users, pilot project/s) and CEOS structure that would require a greater investment of resources can be proposed and evaluated at an appropriate time (34th CEOS Plenary).

Expected Duration:

Pending approval at 33rd CEOS Plenary, we propose the CEOS COAST to have an initial term of 12 months, spanning November 2019 to October 2020. An initial work plan for 2019-2020 will be submitted by December 2019 for SIT endorsement, with an initial progress report provided at SIT-35. The status of COAST would then be revisited during the 34th CEOS Plenary as above.