



Proposal for a Coastal Theme IGOS-P-10 Meeting

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Background:

- Interest in coastal regions, along with resources dedicated to their observation, is rapidly expanding.
- This is due to an increased awareness of their ecological and socio-economic importance, also their acute vulnerability, particularly vis-à-vis global change.
- In this regard, both the natural and human elements of coastal zones are vulnerable to disturbances associated with natural climate variability in conjunction with anthropogenic forcing.
- However, coastal zones are difficult to observe as they exhibit considerable physical, ecological, and geochemical heterogeneity often manifested by strong gradients.



- The interfacial nature of coastal zones, i.e., scientifically, temporally, geospatially, and politically means that making & coordinating observations at appropriate spatial and temporal scales is not an easy task.
- Further exacerbating this situation is that a *strategy* has yet to be formulated and implemented to coordinate and integrate observing activities in the coastal zone, particularly across the land-sea interface.
- We thereby propose development of a *Coastal Theme* according to the guidelines of the Integrated Global Observing Strategy (IGOS) Partnership.
- The *Coastal Theme* will coordinate and strengthen present and future coastal observational capabilities (*in situ* measurements and remote sensing) and the attendant decision-making process by promoting development of an integrated, sustainable global observing strategy for the coastal zone that encompasses the margins of both land and sea.



Overall Goal:

Develop a strategy for integrated global observations that will provide improved understanding of earth system variability and change in the coastal zone, with a particular emphasis on propagation of change and variability across the land-sea interface.



Specific Objectives:

- 1) Specify user driven requirements for *in situ* and remote observations (e.g., variables to be measured, appropriate time-space scales of observations, platforms/sensors to be used) of the linked terrestrial-marine-atmospheric environments of the coastal zone and associated requirements for data management and models;
- 2) Evaluate current and projected observation capabilities in terms of the extent to which they meet these requirements, identifying gaps, redundancies, and activities that need to be strengthened;
- 3) Establish a framework to integrate observations (*in situ* and remote), particularly across boundaries, as time-space scales of variability differ dramatically between the terrestrial & the marine side of the coastal zone;
- 4) Incorporate the Coral Reef Sub-Theme.



Expected Benefits of IGOS Coastal Theme

- Identify gaps in observations and reduce unnecessary duplication
- Strengthen the linkage between *in situ* and space-based observations for coastal research and management applications
- Assist in the design and implementation of Global Observing Systems with coastal components, particularly GOOS and GTOS
- Help establish priorities for research and development projects that are likely to improve the operational elements of observing systems and other programmes
- Stimulate building of long-term coastal data sets by identifying continuity needs
- Enable improved products and services by facilitating the integration of coastal data across the land-ocean margins



Contributors

- Given the interdisciplinary nature of the coastal zone, and based on interests and needs expressed in recent workshops/meetings, a broad base of IGOS Partners will contribute to and benefit from the development and successful implementation of the Coastal Theme.
- Among others, participating partners include both observation users and suppliers, e.g., CEOS members (including NASA, NOAA, DLR), IGBP (including LOICZ), UNEP (including ICRAN, GPA, GIWA), and GOOS and GTOS.
- These partners have recognized the immediate need to communicate, coordinate and integrate their respective activities, and are committed to addressing these needs through the strategic framework that the *Coastal Theme* would provide.



Proposed Coastal Theme Co-Chairs and Working Group:

Co-Chair (for providers): Paul DiGiacomo (CEOS/NOAA-NASA)
Co-Chair (for users): TBD following IGOS Partners Meeting

Martin Adriaanse (UNEP/GPA)
Eric Bayler (CEOS/NOAA)
Paula Bontempi (CEOS/NASA)
Robert Christian (GTOS)
Arthur Dahl (UNEP/ICRAN), Co-leader, Coral Reef Sub-theme
Julie Hall (SCOR)
Thomas Malone (GOOS)
Liana Talaue-McManus (IGBP/LOICZ)
Andreas Neumann (CEOS/DLR)
Alan Strong (CEOS/NOAA), Co-leader, Coral Reef Sub-theme



Schedule and Milestones

- October 2002: Initial CEOS, GOOS and GTOS Meeting on developing *Coastal Theme*
- January 2003: *Coastal Theme* Workshop #1; workshop summary report
- January 2003: Status report on *Coastal Theme* to IGBP Science Committee
- February 2003: Status report on *Coastal Theme* Development at CEOS SIT Meeting.
- March 2003: Discussion on *Coastal Theme* at Coastal GTOS meeting
- April 2003: Draft proposal for *Coastal Theme* submitted to IGOS Partners
- June 2003: Formal presentation of *Coastal Theme* proposal at IGOS-P-10 meeting



Schedule and Milestones (continued)

- July 2003: Confirmation of *Coastal Theme* Team Members
- September 2003: *Coastal Theme* Workshop #2; progress report to IGOS Partners
- October 2003: Distribution of Prospectus for *Coastal Theme*
- January 2004: *Coastal Theme* Workshop #3; progress report to IGOS Partners
- February 2004: Distribution of *Coastal Theme* Report Draft
- May 2004: Submission of Final *Coastal Theme* Report to IGOS Partners
- July 2004-: Publication of *Coastal Theme* Report; initiation of implementation phase



Reports/Products

- A dedicated *Coastal Theme* Website and FTP server to distribute information about this developing effort (this will be linked to the sites of partners and users);
- PowerPoint, poster, and PDF presentations for use in publicizing this effort at international coastal workshops and meetings; e.g., GOOS and GTOS panels and committees.
- An *Coastal Theme* Report Prospectus (~ 10 pages) to attract interest, solicit feedback, and gain momentum within the IGOS and broader coastal observation user/provider communities;
- A draft *Coastal Theme* Report distributed for comment in the IGOS and coastal communities;
- A final *Coastal Theme* Report and Implementation Plan.



Evaluation of Coastal Theme development:

- Successfully meet the milestones of this proposal;
- Work with and bring together all interested IGOS Partners (providers and users) and be responsive to their individual and common interests and needs;
- Solicit internal (i.e., IGOS) and external feedback on the *Coastal Theme* prospectus and report;
- Ability to attract broad community support of the *Coastal Theme* report and its recommendations.



Evaluation of Coastal Theme Report

- Implementation of recommendations identified in the *Coastal Theme* report;
- Updated Coastal Theme reports provided every three years and satisfactorily reviewed by a panel of coastal observation providers and users;
- Successful progress and integration of the global observing system coastal modules;
- Measurable policy response to the *Coastal Theme* report and its implementation.



Short-term action items

- Nomination and confirmation of Coastal Theme Team members by working group and IGOS Partners
- Determination of exact dates and location for next Coastal Theme workshop