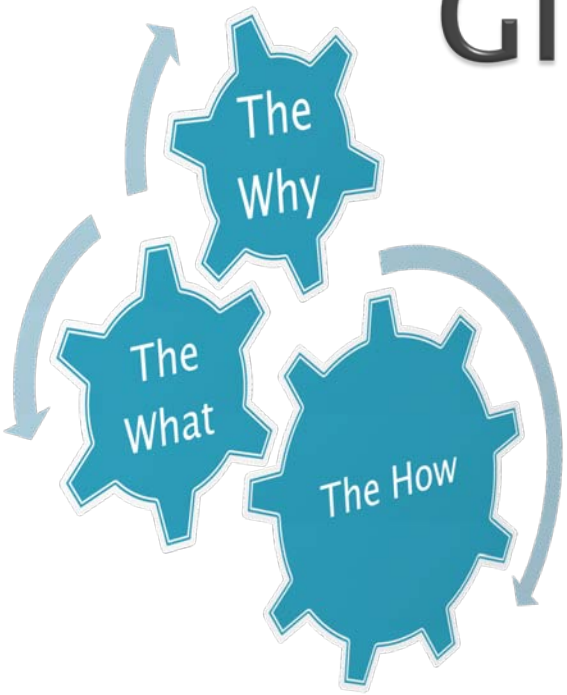

Global Coastal Carbon Data Archive

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with inputs from members of the SWG

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Motivation

- The International Blue Carbon Scientific Working Group (IBC SWG) have identified management of coastal carbon **data** as a priority activity needed to support conservation, effective management and creation of incentives for blue carbon coastal systems

- In particular, the IBC SWG should establish a Global Costal Carbon Data Archive (GCCDA) to support better data management practices, standardization of data, and to bring together, in a common format, all the available carbon data for the coastal ecosystems.

Objectives

- Neutral in institutional and national sense; the IBC SWG provides guidance, coordination and technical support but the GCCDA is envisaged as a long term global community effort.
- Community quality controlled
  - flag system based on methodologies used – to be developed
  - spatial extent verified by citizen science games
- Publicly available for visual browsing, basic stat analysis and tailored download
- With IP rights protected by an IP agreement and DOI numbers for each data object

Action Item 1 – Identify Data Holders

- Published literature will be used for populating of the data set initially...
- There is a substantial amount of data being collected at local, national, regional, and international levels in a form of eg. reports, dissertations which never make it to peer reviewed publications.
- Existing data repositories are being identified and/or contacted. Including data from existing repositories would increase time-efficiency of our effort.
- Groups and individuals sharing their data will be given the opportunity to voice their opinions during the data and metadata standards development process, shaping the data archive at its initial stages.

Action Item 2 – Identify Core Parameters and Reporting Procedures

- The community needs to decide on a **set of core parameters** that they deem essential for every data point measured. The list can be relatively short initially, but the parameters need to be measurable in various field conditions,
- To aid those analyses a set of ancillary parameters should be decided upon. These would be measured in-situ or added (collocated) to each (most) data points after submission to the data archive if coming from satellite-borne measurements or other remote sensing instruments. They would be used as proxies in interpolation/extrapolation efforts and/or as input to model based analyses.
- Additionally, uniform metadata structure with regards to its content and format, needs to be decided upon. Metadata supplements the data archive with crucial information about the data origin and data originators.

Action Item 3 – Data storage and dataset structure

- UNEP-WCMC agreed to become the physical host of the data archive, at least initially. UNEP-WCMC maintains foundational datasets for blue carbon mapping and planning, including mangroves, seagrasses, and saltmarshes.
- Expanding and upgrading the functionality of the existing depository seems more efficient than creating a new one. Several community requirements need to be considered such as:
  - the size of the archive
  - upload/download functinality
  - data ownership issues
  - data host's capability to sustain storage services over many years
  - on-line visualization and analysis capabilities including trends and correlations between the carbon-related measurements and more generic climate, ocean and local variables .
- Careful assembling and basic quality control of submitted metadata is also needed.

Action Item 4 – Data ownership issues

- The data collection together with links to metadata will be permanently stored at the data archive and will be made **freely available to the public.** The ability to download the entire collection as well as pre-determined sub-collections of the full dataset for research and education should be provided. The community needs to agree on a generic IP Agreement.

- A digital object identifier (DOI) number will be assigned to each data set (or data point) upon submission. This makes an individual data set citable and resolves some of the data ownership issues.

Action Item 5 – Data presentation and visualization possibilities

- There are number of ways of web-based data visualizing. They usually enable the end-user to visualize the whole data set (or any part of it) using a web-based software eliminating the need for data downloading and software installation. Visual capabilities usually include but are not limited to: correlation analysis, distribution analysis, trend analysis, a selection of plots, histograms and other visual aid. The user has an option to pre-define the region, period, variable(s) of interest and easily produce visual representation of the analysis. All that is usually also downloadable and ready to use offline

- UNEP-WCMC's Ocean Data Viewer already has some of these capabilities and we plan to expand those to accommodate the community needs.

Tasks for today

- Help us define the end-user of the archive
- Decide on essential core parameters for each ecosystem
- Initiate discussions on a metadata form
- Create a Task Team to move the work forward