

A New Look at the Ocean Biogeochemistry ECVs

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Abstract for Session III: Relevance of the current ECVs to improved understanding of the global cycles of water, energy and carbon.

The Framework for Sustained Ocean Observing (FOO, 2012) defines an implementation strategy for an enhanced global sustained ocean observing system that integrates physical, biogeochemical and biological observations and takes advantage of existing structures. The FOO has reformed the governance of the Global Ocean Observing System (GOOS). It is based on a systems approach of an observing system needed to fulfil societal requirements that is driven by processes (observations) which output actionable data and products. The FOO structure is supported by the Physics, Biogeochemistry (BGC) and Biology/Ecology Ocean Observing System Panels. These panels work together on the ocean observing strategy using the concept of Essential Ocean Variables (EOVs). The FOO implementation is driven by societal and scientific requirements, taking account of feasibility and readiness of observing elements (sensors, platforms, networks) for those EOVs. The sustainability, expansion, and integration of GOOS is based on expanding a set of societal issues, originally solely focussed on climate observations, to include interconnected fields like ocean pollution, food security and ecosystem stability.

The set of Biogeochemistry EOVs determined by the ocean science community show substantial overlap with the Essential Climate Variables (ECVs) defined by GCOS in 2010 but include additions in particular those addressing ecosystem health. This presentation focuses on harmonizing these two sets of Essential Variables, drawing on the updated set of requirements and the updated feasibility and readiness of the ocean observing system. We will layout the need for necessary modifications to the current set of ocean biogeochemistry ECVs and discuss the possible approach for the benefit of the GCOS Implementation Plan 2016.