

Presentations by Eric Lindstrom @ US CLIVAR Summit on:

- **The Framework for Ocean Observing and the Global Ocean Observing System**
- **The US Integrated Ocean Observing System Summit (13-16 Nov 2012, Dulles, VA)**
- **A Deep Ocean Observing Strategy**

An outcome of the OceanObs'09 Conference in Venice in September 2009 was the establishment of a Task Team to develop a "Integrated Framework for Sustained Ocean Observing." That team has now published on the web the "Framework for Ocean Observing (FOO)." It is available at <http://www.oceanobs09.net/foo/>. The framework is basically an articulation of best practices in the establishment and further expansion of sustained global ocean observing systems. It uses a systems approach and describes ways of developing ocean observing systems so has to entrain the research community, the discipline of operations, and language of "essential ocean variables." The Framework has been widely accepted and endorsed by the numerous organizations that co-sponsored OceanObs'09. In fact, it has served as one instrument for the reform and reorganization of the Global Ocean Observing System <http://www.ioc-goos.org/>. GOOS now uses the FOO as its guide to its work plan in the coming years. It is endeavoring to organize around "essential ocean variables," to establish oversight panels for physical, biological, and biogeochemical variables, and to entrain more resources by direct engagement of IOC member states in the organization and implementation of GOOS.

The US Integrated Ocean Observing System (IOOS) has its origins in Ocean.US and USA contribution to GOOS. Ten years ago a landmark meeting to establish and describe an IOOS was held at the Air Force Research Laboratory in Virginia. Now, a follow-on meeting is planned to describe the achievements, status, and future directions of the IOOS. It is being called the US IOOS Summit <http://www.iooc.us/summit/ioos-summit/> and will produce a "proceedings" incorporating community white papers on US contributions to GOOS and synthesis chapters on the accomplishments, requirements, observations, integration, and vision for IOOS.

The Ocean Observation Panel for Climate (OOPC) <http://ioc-goos-oopc.org/> has organized an activity to exercise the new Framework for Ocean Observing in aid of deep-ocean observing. The deep ocean (>2km depth) has few observations in any of the ocean observing disciplines but is becoming an area of renewed interest in the face of global climate change. The "Deep Ocean Observing Strategy" hopes to assist the many ongoing efforts to establish deep ocean observations by articulating the requirements, coordination needs, and products in the framework now established for nations and international bodies to make contributions.