

**OCEAN INNOVATION 2008**  
**WORLD SUMMIT – OCEAN OBSERVING SYSTEMS**  
**WORKSHOP OUTLINE**



**Title:** “From Sensors to Applications: Advancing the Interoperability of Ocean Sensors”

**Date:** Wednesday October 22, 2008

**Venue:** Marine Institute, Memorial University

**Overview:**

The “system of systems” concept has become widely recognized as the system design for observing the entire planet, including the oceans. To go from concept to reality, the operative term is interoperability. This workshop will explore what many now believe to be the linchpin in the emerging ocean observing systems market - interoperable ocean sensors. Early work on ocean observing systems has largely focused on the interoperability of data and information systems (i.e., the legacy data silos) to support a variety of applications, such as sea state forecasting or inundation modeling. More recent initiatives, such as OGC’s Sensor Web Enablement, are focusing attention on the interoperability of sensors, thereby enabling observing systems to move closer to the vision of ‘network as platform’. This workshop will begin with case studies to illustrate how standards are developed and why standards are important to interoperability. Live demonstrations will be used to show how standards are already being implemented in the real world of ocean observing systems. Participants will then be engaged in a detailed discussion of the requirements for future sensor standards in the context of the vision of global interoperability. The need for ‘smart’ sensors and the role of middleware will be considered in detail. The workshop will conclude with a discussion of a new international initiative to benchmark and implement ocean sensor standards.

**Results:**

Participants will take away from the workshop:

- A better understanding of OOS standards, best practices and interoperability.
- Best Practices Guide (OGC ocean science interoperability experiment - OCEANS IE)
- Sample use case on how to implement standards (OOSTethys)
- Reference implementations of open standards in oceans science, including OGC Web Services standards, OGC Sensor Web Enablement standards, IEEE 1451 “smart sensor” standards, and OASIS Standards.
- A draft outline of an international experiment to advance the interoperability of OOS sensors in support of a global application (e.g. inundation modeling).

**Who should attend?**

This workshop will be of interest to sensor manufacturers, standards bodies, OOS program managers, ocean scientists and others with an interest in how standards are developed and implemented to improve interoperability within and between cooperating organizations in the ocean observation community of interest.

**This workshop is being co-sponsored by**  
***The Open Geospatial Consortium and the Alliance for Coastal Technologies.***