



Third session of the Joint WMO-IOC Technical Commission  
for Oceanography and Marine Meteorology (JCOMM-III)

Marrakech, Morocco, 4-11 November 2009

---

# The Evolution of Operational Oceanography

Geoff Holland

---



# IOC Assembly 1965

---

***“...even if one day the Commission succeeded in covering the whole ocean with a network of systematic observations it would still have tasks to fulfil....”***

Professor Matveyev  
Assistant DG for Science, UNESCO

---



# IOC Assembly 1967

***“...the influence of the oceans upon the atmospheric processes is so significant as to make a study of certain aspects of oceanography essential to a full study of meteorology.”***

*D.A.Davies WMO Secretary General*

---



# IOC Assembly 1967

---

***“...it is in fact difficult to draw a line of demarcation between the two sciences. The two sciences not only have much scientific ground in common but they are basically the same kind of science, and the problems to be solved are, in many respects, of a similar character.”***

*D.A.Davies WMO Secretary General*

---



# IPLAN Meeting 1970



JCOMM-III (Marrakech, Morocco, 4-11 November 2009)



## Extract from “The Purpose and Values of IGOSS”

- **The purpose of an Integrated Global Ocean Station System (IGOSS) is to provide more extensive and timely information on, and prediction of, the state of the ocean and its interaction with the atmosphere, and to support research on the processes of the ocean, so that nations can provide improved oceanographic services to increase the safety and efficiency of their marine activities.**



# Future requirements

---

The four prime considerations to be followed for ocean monitoring are: -

- data accuracy;
- data coverage;
- data timeliness and
- the economy of data retrieval.

**Roger Revelle**

**Chairman of the Committee on Climate Changes and the Ocean**

---





# The development of GOOS

***“The creation of GOOS in this form and at that time reflected the desire of many nations to establish systems of ocean observations dealing with environmental, biological and pollution aspects of the ocean and coastal seas, to raise the capacity of less well developed nations to acquire and use ocean data effectively and to integrate existing systems of observation and data management within a coherent framework.”***





# Precautionary Approach

---

**“The fact that the biosphere responds unpredictably to our actions is not an argument for inaction. It is however a powerful argument for caution, and for adopting a tentative attitude toward all we believe and all we do.”**

Michael Chrichton  
“PREY”

---