Ocean Observation and Services

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Abstract

Ocean observations often require significant resources to develop, operate and maintain. Solid user requirements and societal benefits must be identified in order to support a long-term sustainable observation system. This paper, using the U.S. National Oceanic and Atmospheric Administration (NOAA) as an example, discusses various aspects of ocean observation and services. The status and linkage between these activities and the U.S. Integrated Ocean Observation System (IOOS), and how these programs are supporting the Global Ocean Observation System (GOOS) and the Global Earth Observation System of Systems (GEOSS) will be briefly described. Focus will be place on NOAA's operational observation systems consist of physical, chemical and biochemical measurements and operational forecast model including hydrodynamic and harmful algal bloom models. NOAA's ocean research process and examples of emerging issues of study, and trends in technology will be briefly described. Finally, some general design considerations for adding oceanographic sensors to the Central Weather Bureau's proposed deep ocean seismic observation system will be presented.

Key word: ocean, observation, NOAA, IOOS, GOOS, GEOSS, model, forecast