International Geosphere-Biosphere Programme

GLOBAL CHANGE

IGBP

IGBP Statement for Ocean Obs '09

For 20 years, the International Geosphere-Biosphere Programme has delivered a strategic international framework for coordinating global environmental-change research. It is a world-class provider of expertise, coordination and communication in Earth System research. The focus of IGBP is on the interactions between biological, chemical and physical processes, and human systems.

Ocean observations are essential for a complete knowledge of how the Earth System functions. Physical, chemical and biological observations of the global ocean are critical to climate models and Earth System models of increasing complexity. They are critical for decision-making needs such as predicting marine and climate variability, critical for sustainable management of living marine resources and critical for assessing longer-term trends.

IGBP's ocean research projects – the Integrated Marine Biogeochemical and Ecosystem Research, Surface Ocean – Lower Atmosphere and Land Ocean Interactions in the Coastal Zone projects - require long-term sustained ocean observations to capture long-term trends, and unpredictable, extreme and episodic events. They also help provide observations focused on addressing specific research questions. Observations increase knowledge of processes and interactions among system components, and improve predictions.

IGBP strongly supports the development of ocean observations that go beyond the physical measurements and include biogeochemical and biological observations as outlined in the Ocean Obs09 conference statement. The data from an integrated system need to be made available in a timely and open way to the scientific and wider communities. Time-series observations gathered by the research community from specific ocean sites need to be integrated into the system. The broader IGBP community needs an observation system that is designed to address defined research questions and is integrated with the terrestrial and atmospheric observation systems.

A challenge and priority is to encompass coastal measurements. Coordination and coastal data availability are often seen as the purview of nations, making integration and data access difficult. The IGBP-IHDP Land-Ocean Interactions in the Coastal Zone project (LOICZ) needs to establish stronger ties with coastal GOOS and the broader observing community to help meet these challenges.

IGBP and its projects work at the international level to coordinate research which depends on data from observations. IGBP thus provides the framework for international research implemented largely through national funding. This framework helps aid co-operation and avoid duplication between national activities.

Examples of IGBP's role can be seen in the joint IMBER/GODAE working group initiative to design and optimise an observation network for ecosystem modelling. SOLAS and IMBER's Carbon Working Group cooperate closely with the International Ocean Carbon Coordination Project to ensure the collection of marine carbon observations that are needed to answer the research questions.

IGBP supports the formation of a Working Group to take forward the outcomes of the OceanObs'09 Conference.