Enabling long-term oceanographic research: Changing data practices, information management strategies and informatics

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Abstract

Interdisciplinary global ocean science requires new ways of thinking about data and data management. With new data policies and growing technological capabilities, datasets of increasing variety and complexity are being made available digitally and data management is coming to be recognized as an integral part of scientific research. To meet the changing expectations of scientists collecting data and of data reuse by others, collaborative strategies involving diverse teams of information professionals are developing. These changes are stimulating the growth of information infrastructures that support multi-scale sampling, data repositories, and data integration. Two examples of oceanographic projects incorporating data management in partnership with science programs are discussed: the Palmer Station Long-Term Ecological Research program (Palmer LTER) and the United States Joint Global Ocean Flux Study (US JGOFS). Lessons
(Palmer LTER) and the United States Joint Global Ocean Flux Study (US JGOFS). Lessons learned from a decade of data management within these communities provide an experience base from which to develop information management strategies—short-term and long-term. Ocean Informatics provides one example of a conceptual framework for managing the complexities inherent to sharing oceanographic data. Elements are introduced that address the economies-of-scale and the complexities-of-scale pertinent to a broader vision of information management and scientific research.

Keywords
Data collections; Data management; Informatics; Information centers; Information systems; Oceanographic data

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