

Observing Systems Research Studies: Climate Phenomena and Impacts

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Project Summary

NOAA's ongoing investment in sustained observations of the global ocean is justified by its importance in documenting the characteristics of climate variability and change, improving scientific knowledge about climate variability and change, and improving awareness of the weather and climate anomalies associated with patterns of climate variability and change. The Observing System Research Studies group performs data and modeling studies to identify climatically significant ocean-atmosphere interaction patterns and indices that usefully characterize their amplitudes and their linkages to US and global weather and climate anomalies, with the goals of improving our awareness and understanding of present climate conditions, improving the effectiveness of the global observing system for climate, and helping to improve forecasts and projections of seasonal and longer term weather and climate anomalies. We also provide guidance about the specific activities required of the global climate observing system to meet its goals as well as work to help understand developing user needs. Often this involves estimating the uncertainty in our present ability to make statements of scientific and societal relevance with the historical ocean and climate data sets. We also maintain the State of the Ocean Climate web site, which makes near-real time information available the time series of a wide range of ocean climate indices of relevance to society.

We also work with NOAA, US, international and intergovernmental ocean and climate organizations, (with particular focus on the Global Climate Observing System program, the Joint Commission on Oceanography and Marine Meteorology and the CLIVAR program), to develop and advance agreed international plans for the climate observing system, standards for making the observations and for sharing data among all interested parties, and for internationally coordinated activities to exploit the data collected, for the good of all nations.