## **Observations for climate: Evaluating the Global Ocean Observing System**

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Every year, NOAA publishes an Annual Report on the State of the Climate in the Bulletin of the American Meteorological Society. This Annual Report includes a chapter on the state of the oceans for the previous year and provides an overview of the ocean, its role in climate, and the connections between ocean observations and economic and societal impact, based on the observations collected and analysis performed as part of the NOAA Ocean Observing System. NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) contributes to the State of the Climate report through its varied data collection efforts. Starting in 2005, NOAA's Office of Climate Observations (OCO) has funded Quarterly Reports on three key ocean state variables: Global Surface Currents, Global Heat Storage, and the Atlantic Meridional Heat Transport. These quarterly evaluations can be accessed from NOAA/AOML's State of the Ocean Observing System web page, linked directly from Physical Oceanography and available the Division's page at http://www.aoml.noaa.gov/phod/soto/index.php. Data underpinning these reports includes: (1) quality controlled, interpolated drifter data from AOML, (2) current meter data from various sites in the Tropical Moored Array (PIRATA, RAMA and TAO), quality controlled by the TAO project office at PMEL, (3) high-density expendable bathythermograph (XBT) data from five lines in the Atlantic Ocean, providing temperature profiles to depths of 850m, with horizontal spacing of 10--50 km, and (4) US Argo profiles from a global array of floats distributed over the global oceans, measuring the temperature and salinity in the upper 1,000--2,000 m.