World Ocean Database 2013

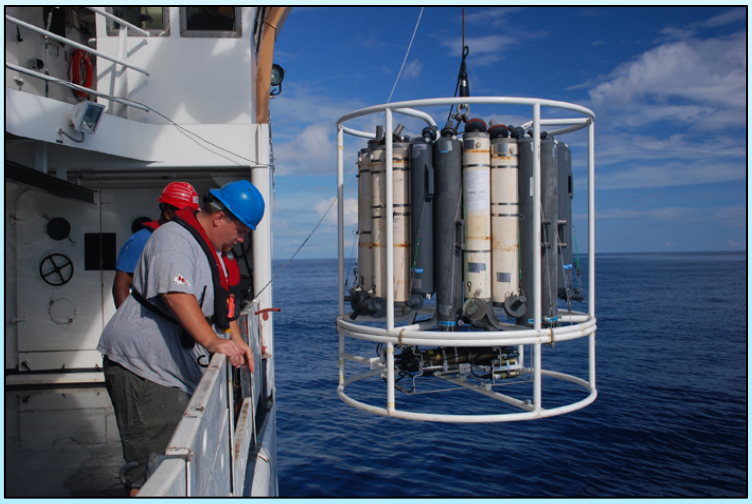
The Largest, Most Comprehensive Collection of Scientific Information About Our World's Oceans

What's New in 2013?

The World Ocean Database 2013 (WOD13) is a powerful tool for studying climate and the ocean environment, providing uniform, easy, and quality-assured access to nearly 19,000 datasets consisting of more than 200,000 oceanographic cruises from the National Oceanographic Data Center archive. The World Ocean Database 2013 contains nearly 13 million temperature profiles, compared to 9.1 million in the previous 2009 database, and almost 6 million salinity measurements, compared to 3.5 million in the previous database. With records dating as far back as 1772, the World Ocean Database integrates ocean profile data from approximately 90 countries around the world, collected from buoys, ships, gliders, and other instruments used to measure the "pulse" of the ocean.

Why is WOD important?

The World Ocean Database is being used by scientists around the globe to study how changes in the ocean impact weather and climate. Scientists' access to millions of quality-controlled data sets is critical to the continuous monitoring of the changing ocean & climate.

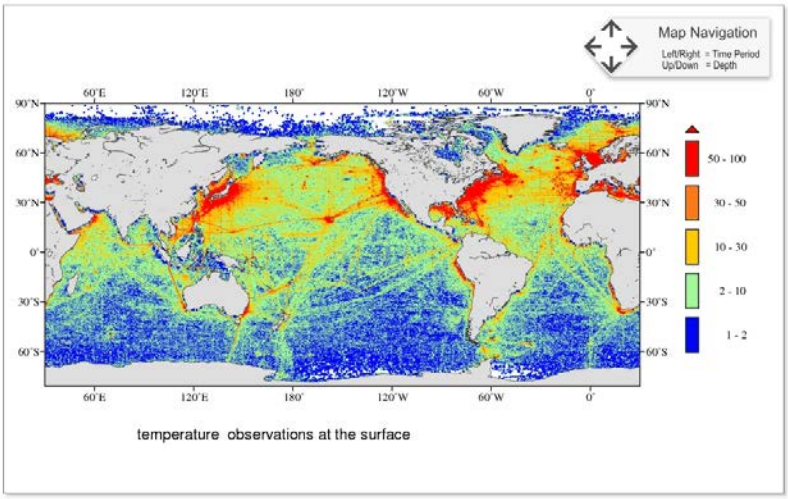


CTD rosette being deployed. CTD stands for Conductivity, Temperature, Depth measurement instrument. *NOAA Photo Library*

A profile can provide a snapshot of oceanographic conditions at one location at one time. Combined with other available profiles over discrete time intervals, a view of regional and global changes in the ocean can emerge. Measurements of different oceanographic variables are often taken at the same time, so a larger picture of the oceanographic environment can be pieced together.

Facts About World Ocean Database 2013

- World Ocean Database 2013 continues a twenty-year effort of compiling all available subsurface ocean profile data, both recent and historic, to further oceanographic, climate, and environmental research.
- There are now almost 13 million temperature profiles and nearly 6 million salinity measurements, enhanced by large collections of oxygen, nutrient, and biological measurements.
- Oceanographers at the National Oceanographic Data Center quality control all data which are part of World Ocean Database.
- The database is an important part of the larger Global Ocean Observing System, which is the ocean component of the Global Earth Observation System of Systems – key efforts designed to increase and maintain reliable oceanographic, climatic, and Earth system information.
- Over 90 countries all over the world have supplied oceanographic profile data with the goal of quantifying as much of the global ocean as possible and providing high quality data, in many cases in near-real time. The 2013 update included historic data from Russia, India, China, and many other countries.
- The World Ocean Database 2013 provides a uniform format and an efficient delivery system for all data from Captain Cook's second voyage in 1772 through the highly-tuned collection programs of recent years, up through 2012.
- The World Ocean Database is instrumental in investigating ocean heat and salt content changes back to 1900, providing historical perspective on climate change, both regionally and globally.
- The World Ocean Database 2013 augments previous releases with additional historical data, and recent, ongoing ocean monitoring programs, allowing for the continuation and expansion of critical Earth system studies.



temperature observations at the surface

Support for NODC's World Ocean Database comes from the Ocean Climate Observations Program of NOAA's Climate Program Office.