Observing System Data Access

Argo Float Array
Prepared by Dean Roemmich
Chairman, Argo Steering Team

Version 24 March 2008

1. Program Definition

The Argo float program is the global array of autonomous profiling floats being implemented by an international partnership of more than 18 nations. Argo floats provide high quality temperature-salinity-depth profiles from 1-2 km depth to the sea surface, plus mid-depth drift trajectories, every 10 days. Argo's objective is to build and maintain a 3000-float array for a broad range of research and operational applications including climate variability and forecasting and ocean state estimation. All Argo data are publicly available via the internet and GTS. Information on the Argo program, the present location of Argo floats, and access to Argo data can be obtained at http://www.argo.net .

2. Data Flow and Quality Control

Argo data are transmitted in real-time via Service ARGOS or alternative communications systems and relayed to national Data Assembly Centers (DACs). The DACS are responsible for applying automated real-time quality control tests to identify and flag grossly bad data. Profile data that pass the automated QC tests are broadcast on the GTS. All profile and trajectory data, with flags, are relayed to Global Data Assembly Centers (GDACs) in Monterey, California and Brest, France. The GDACs maintain complete (mirror) datasets, and make data available through user-friendly interfaces.

Delayed-mode Argo data are also available, having been visually inspected by a principal investigator or comparable expert, following a semi-automated estimate of salinity drift based on historical data near the location of the float. Delayed-mode data files include both the original measurements and the adjusted measurements as determined and flagged by the expert.

Documentation of automated real-time quality control procedures and techniques used for estimating salinity drift is available through the web portal (www.argo.net).

3. Timeliness of Distribution

All Argo profiles that pass the gross real-time QC tests are distributed via the GTS, within 24 hours for about 90% of profiles. Effort is ongoing to improve timeliness. The flagged real-time profile and trajectory data are available from the GDACS within a few hours of the GTS distribution.

The timeliness objective for delayed-mode distribution is for the research-quality data to be available within 12 months of collection. The salinity adjustment estimation requires a 12-month sliding window (6 months before and 6 months after a given profile) and time is needed for the expert inspection of sequences of profiles from a given instrument.