

USA Report
(Submitted by D. Roemmich)

Organization:

The U.S. Argo Project is supported through the multi-agency National Ocean Partnership Program (NOPP). The project is carried out by a U.S. Float Consortium that includes principal investigators from seven institutions (SIO, WHOI, UW, NOAA/AOML, NOAA/PMEL, LDEO, FNMOC). Float production, deployment, and data system functions are distributed among these institutions on a collaborative basis. Following 2 years of pilot activity supported by ONR and NOAA (FY99, FY00), the NOPP/Argo project is now in the third year of a 5-year implementation phase funded by NOAA and (for FNMOC participation) the Navy.

In addition to U.S. Argo floats, Argo-equivalent floats have been provided from a number of U.S. sources, including PMEL, AOML, NAVOCEANO, and NDBC.

Support level:

The support level for U.S. Argo is increasing in order to build and maintain 1/2 of the global Argo array. The target level is 1500 active floats, based on a deployment rate of 375 floats per year plus 10% extra to offset early instrument failures. There were 315 floats funded in FY02, 344 in FY03, and about 400 anticipated for FY04.

The U.S. Argo effort includes float production and deployment, technology improvement, communications, and data system development and implementation for real-time and delayed-mode data streams.

Status:

There are presently (Feb 2003) 467 active U.S. Argo floats, double the number of a year ago. An interruption in deployments occurred in late 2003, due to the CTD pressure sensor problems. U.S. Argo is presently deploying floats at an accelerated pace. More than 400 floats are planned for deployment in 2004, including deployments in all ocean basins.

A major focus of the U.S. effort in 2004 is to help fill the remaining large gaps in global Argo coverage, including those in the South Pacific, South Atlantic, and central South Indian Ocean. The majority of new U.S. floats are targeted for the southern hemisphere oceans. Priorities for float deployments are established by a U.S. Argo advisory panel, comprised of members of the float consortium and

representatives of Argo data user groups. Specific plans for 2004 float deployments are posted on the AST web site's deployment planning links.

A continuing effort in U.S. Argo is on technology improvement: for increased ruggedness, reliability, and improved performance. Marked improvements in reliability have been seen in the past year.

The U.S. Argo Data Center is based at NOAA/AOML. Real-time data from all U.S. Argo floats are being transmitted via the GTS. GTS transmission uses computers housed at Service ARGOS (U.S.) and operating round-the-clock, running software developed at AOML to implement internationally-agreed quality control tests. The AOML data center serves as the national focus for data management by passing data to PIs and to the delayed-mode QC center at NOAA/PMEL. PMEL has implemented a statistical system for salinity adjustment, which has been shared with the international community. Further development of the delayed-mode QC, including final PI examination, is ongoing.

In addition to the national Data Center, a Global Data Assembly Center (GDAC) is run as part of the GODAE server, located at FNMOC/Monterey. The two GDACS at FNMOC/Monterey and IFREMER/Brest are mirror images in their assemblies of Argo data from all international partners, and are responsible for dissemination of the data.

Applications of Argo Data:

There is a wide variety of applications of Argo data in the U.S. The U.S. Argo advisory panel includes representatives from the research (CLIVAR and GODAE), and operational (operational ocean modeling, fisheries, GOOS) user communities. The U.S. was strongly represented at the First Argo Science Workshop, with 25 U.S. attendees providing many posters and presentations.

Issues for AST-6:

1. Argo is in a phase of rapid growth, with substantial float arrays in all oceans. For a program of Argo's size, there is an increasing need for scientific coordination of all aspects of the Argo Project - to maximize Argo's value, scope, and impact. It is suggested that the AST consider making the position of Argo Director permanent.
2. As the Argo array becomes global and the largest gaps are filled, it will become increasingly difficult to utilize opportunistic deployment strategies for building float density. There is need for the AST to explore new options for dedicated deployment platforms (ships or aircraft).