

China National Report for the AST-10 Meeting

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1. The status of implementation (major achievements and problems in 2008)

➤ floats deployed and their performance

The China Argo Project has been supported or funded by the Ministry of Science and Technology, the State Oceanic Administration, and the National Natural Science Foundation of China. In 2008, 16 Argo floats were deployed in the northwestern Pacific by the China Argo Real-time Data Center. Totally 51 floats have been deployed since 2002, and 22 floats are still active as of January, 2009. All the active floats are Apex profilers.

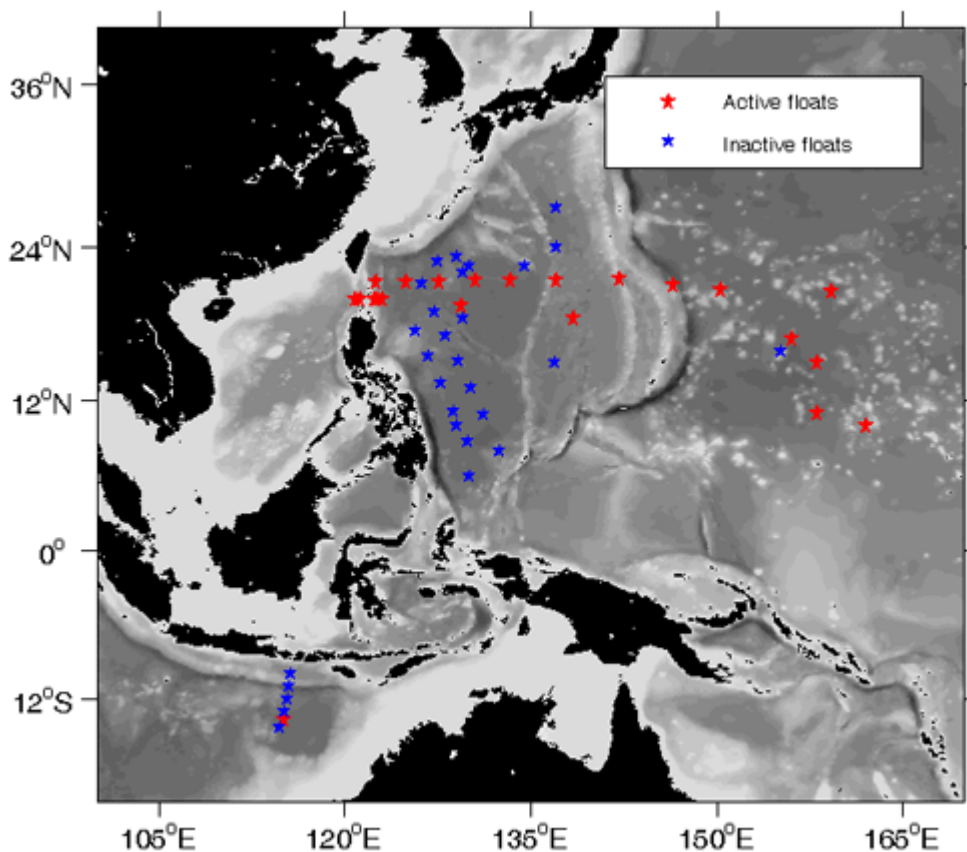


Fig.1 The launch positions of profiling floats during 2002-2008.

➤ technical problems encountered and solved

Almost all the floats deployed during 2006-2008 are active. No technical problems were found.

Regardless of the technical problems, the averaged lifetime of Apex floats with Alkaline battery is

about 840 days, while those floats with Alkaline and Lithium battery packs have an averaged lifetime of 875 days (here all the floats were deployed before 2006). It should be pointed out that 5 out of 6 Apex floats installed with Alkaline and Lithium battery packs are still active. To prolong the lifetime of the Apex profilers, we sent two technicians to learn about lithium battery packs installation at UW. We are going to install lithium battery packs in the China Argo Real-time Data Center.

➤ **status of contributions to Argo data management**

The China Argo Real-time Data Center processed over 600 profiles from the 26 floats this year. All the data were submitted to GDACs within 24 hours through RTQC. CLS is still entitled to insert our data into GTS.

➤ **status of delayed mode quality control process**

China Argo Real-time Data Center implements DMQC using WJO method and thermal mass correction. A total number of 1862 D-files have been submitted to GDACs, which accounts for 80% of all the profiles. OW tool with Coriolis reference dataset will be used early this year.

2. Present level of and future prospects for national funding for Argo

China Argo deployment is now funded by the Ministry of Science and Technology (MOST) and the State Oceanic Administration (SOA). A 10-15 float/year level for 4 years has been funded for 2008-2011. However, the present support to float deployment is from some kind of Argo related research program, which results in limited number of floats deployed in recent years. We are trying to make China Argo project be brought into the operational activities of the ocean monitoring system of the SOA.

In China Argo Real-time Data Center, one person devotes to data processing (both RTQC and DMQC), which occupies 90% time of his work. We need a full time technician for float checkout, lithium battery packs installation and deployment training.

3. Summary of deployment plans

China Argo has 18 Apex profilers ready for deployment. In addition, 20 Apex floats have been ordered from WRC. So there will be 38 floats to be deployed in 2009. We are seeking the right cruise to deploy these floats. We plan to deploy them mainly in the northwestern Pacific Ocean.

4. Summary of national research and operational uses of Argo data as well as contributions to Argo Regional Centers

➤ The Ministry of Science and Technology and the State Oceanic Administration granted 2 research programs in 2007, based on the global Argo real-time observation to study the formation and variation of the upper layer structure in the subtropical Pacific Ocean, the heat and salt exchange between the Pacific Western Boundary Current and the coastal seas.

➤ Argo data are used in an ocean data assimilation system at the National Marine Environmental Forecasting Center

(<http://www.nmefc.gov.cn/NewsShow.aspx?FID=20081113125648859113&CID=20081222114941699974>). These monthly products have a horizontal resolution of $2^{\circ} \times 1^{\circ}$ in the tropical Pacific ocean.

➤ Argo data have been used in the BCC-GODAS System at the Chinese Academy of Meteorological Sciences, and the product is released at the website of IRI/LDEO, Columbia University (<http://iridl.ldeo.columbia.edu/SOURCES/.CMA/.BCC/.GODAS/>).

➤ The China Argo Real-time Data Center monthly collects global Argo profiles from GDACs, and implements quality control before releasing on the ftp server. Argo data are widely used in many institutes and universities in China related to ocean sciences.

5. Issues that your country wishes to be considered and resolved by the Argo Steering Team

It's suggested that AST should conscientiously treat and handle the issue about floats drifting into coastal countries' EEZ. At present, Argo member states should respect the Resolution XX-6. It's a challenging task to maintain over 3000 floats in the global ocean for a long time, and gaps in the polar regions and some open oceans need to be filled. The purpose of the Argo Program is to meet the pressing need for T/S profiles in open ocean waters of the global ocean. For this reason, AST should restate the essence of Argo design in member states, and restrict the program to be extended into marginal seas and EEZs.

6. CTD cruise data added to the reference database

The China Argo Real-time Data Center has submitted 10 CTD casts to CCHDO and Coriolis data center during 2006-2008. These CTD cruise data were observed at Argo deployments. We will continue to collect CTD data at float deployment, and upload to CCHDO and Coriolis.