

Argo National Data Management Report

China Argo Data Center

The 7th Argo Data Management Team Meeting, NMDIS, CHINA

1. Status

China Argo Data Center has processed data from 30 Argo floats deployed by SIO/SOA, including 12 active floats by the end of September 2006. All profiles are transmitted to GDACs in real-time after RTQC. All profiles are issued via GTS at CLS, and the incomplete profile problem has been resolved with the help of CLS. About 1200 T/S profiles have been transmitted to GDACs by the end of September 2006. The WJO method has been applied to all the floats for salinity calibration, and 388 DMQced profiles have been sent to GDACs.

The China Argo Data Center website (<http://www.cadc.org.cn> and <http://www.argo.org.cn>) are set up in Chinese and English. All the global Argo profiles data, meta data and deployment information are all managed by database and updated everyday automatically. The users are able to access to the data conveniently on the website including netCDF raw data, Near real-time data, meta data, trajectory data, delayed-mode data. These data are also available via FTP.

The data products including the T-S, T-P diagram, waterfall maps are all updated every day. The Pacific temperature and salinity horizontal distribution map and section distribution map are being developed now. Base on the Park J.J. et al method, the Pacific ocean current is also figured out. But the QC system for the Argo trajectory data is urgent to set up.

Argo data has been used to study water masses, mid-depth current, upper ocean response to tropical cyclones *et al.* Institute of Atmospheric Physics (Chinese Academy of Sciences) is improving a 3-D ocean data assimilation system using Argo and TAO data. Dr. Wang Guihua reconstructed the 3-D T/S and current fields with Argo data in Pacific Ocean based on an improved EOF

method. Dr. Xie Jiping deduced the mid-depth currents using Argo trajectories, and developed a method to reduce the estimate errors based on Kalman Filter.

2. Delayed-mode QC

Until now, sensor drift or offset have been found out in 6 out of 30 Argo floats and 388 profiles have been updated into GDACs. WJO method, BS method and WHOI Argo delayed-mode tool are all applied to calibrate the Argo salinity profiles in China Argo Data Center. It's found that the reference dataset is more critical for the calibration results than the mapping scales or the methods by test. So a new historical dataset is being developed by China Argo Data Center based on WOD01 Dataset and the late CTD data.

Thermal mass correction is also applied to the Argo salinity profiles. The thermal lag is not obvious in Chinese Argo salinity profiles. Only 38 profiles of the Chinese total 932 profiles have salinity thermal lag greater than 0.01. All the 38 profiles are located at strong thermocline region. Most of them distribute in the Kuroshio area where the thermocline is about $0.01\sim 0.2^{\circ}\text{C}/\text{m}$ and 100m deep.

Surface pressure correction is implementing now. For surface pressure data are not provided by Provor Argo floats, the final correction of the surface pressure is not release yet.