

## **Korean National Report on Argo-2009**

### **Deployment in 2009 and Future Prospect**

National Institute of Meteorological Research of Korea Meteorological Administration (METRI/KMA) and Korea Ocean Research and Development Institute (KORDI) are involved in the International Argo Program since 2001. In 2009, METRI/KMA deployed 6 floats in tropical northwest Pacific Ocean and 6 floats in the East/Japan Sea, and KORDI deployed 5 floats in the East/Japan Sea. Since 2001, Korea Argo has kept its steady course, deploying 235 floats until 2009. At present, 97 floats (48 of KMA and 49 of KORDI) are active.

In 2010 total of 12 floats are planned for the deployment; 4 floats in the Pacific Ocean and 8 floats in the East/Japan Sea. In addition, METRI/KMA has a plan to deploy 14 floats in 2011. It is expected that METRI is able to secure funding to maintain the current level of float launch for the next several years. KORDI's strategy regarding the Argo program is under revised in terms of contribution toward the global ocean observation.

### **Status of Argo data management**

METRI's RTQC Argo data with TESAC and NetCDF format are transmitted into GTS network and GDAC respectively. In addition, METRI/KMA has tried to generate Bufr message. However, it is needed to change edition in the encode software.

Korea Oceanographic Data Center (KODC) is in charge of delayed mode QC (DMQC) and has worked on the DMQC for Korean Argo data in the North Pacific, the East/Japan Sea and the Antarctic Ocean. As of December 2007, KODC sent 2040 delayed mode profiles, 53.8% of total 4393 profiles in the North Pacific and 1578 delayed mode profiles, 52.4% of total 3352 profiles in the East/Japan Sea, to

the GDACs. KODC also made a reference database for the East/Japan Sea, which was named as EJS HB (East/Japan Sea Hydrobase), and added 278 CTD profile data to EJS HB in 2008. Delayed mode file in the East/Japan Sea is going to be submitted to GDACs. In relation to DMQC in the Antarctic Ocean, KODC asked ADMT group for assistance.

### **Research and operational uses of Argo data**

METRI/KMA has a long-term plan to develop the operational ocean forecasting system for Pacific Asian Marginal Seas. For the purpose, METRI/KMA has been developing the data assimilation for the system. In 2009, ARGO data were assimilated to the Regional Ocean Model (ROMS) using Ensemble Kalman Filter. In addition, we start developing modeling system for the construction of reanalysis fields in the East/Japan Sea.

Also, KORDI uses Argo data for scientific research and a data assimilating-model to understand circulation in East/Japan Sea. In addition, researches on the variability of heat content in the mixed layer, data assimilation and other application for ocean modeling are actively carried out by several universities in Korea.