KOREA Argo National Data Management Report
ADMT-20
Nice, France, Oct 14 – Oct 18, 2019

1. Status

1.1. Data acquired from floats

    In 2019, the National Institute of Meteorological Sciences of Korea Meteorological Administration (NIMS/KMA) will deploy 6 floats around Korea: 4 for the East Sea, 2 for the Yellow Sea (Fig. 1). The NIMS/KMA has deployed 241 Argo floats in the North Pacific Ocean and East Sea since 2001, and 31 floats are in active as of October 1, 2019. As one of regional DACs, the NIMS/KMA is acquiring ARGOS messages and Iridium messages via web service from CLS in real-time, and all profiles obtained from the floats are transmitted to GDAC in the NetCDF format using BUFR data after the real-time quality-control process on operational system.
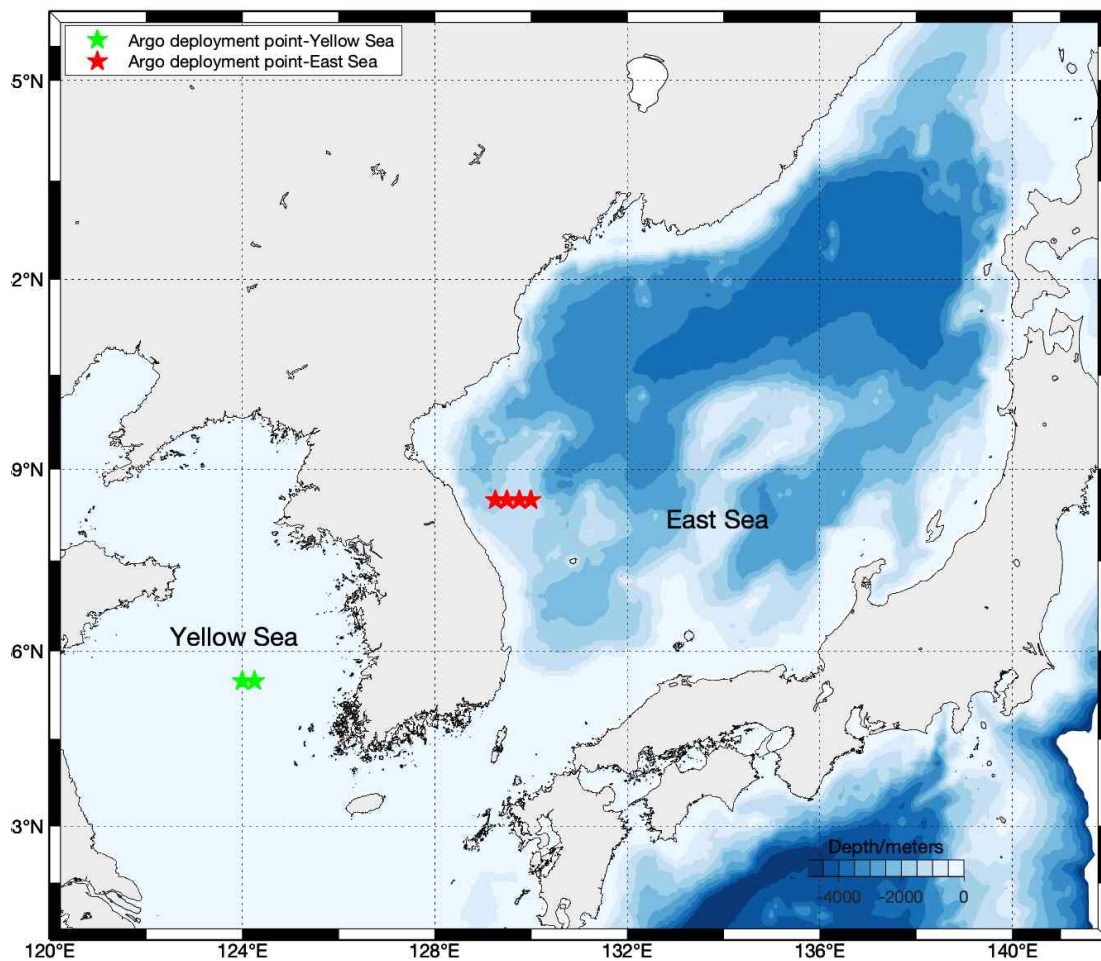

Fig. 1. Deployment point of Argo floats around Korea in 2019

1.2. Data issued to GDAC

Total **1,470 profiles** were acquired during January through September in 2019 and sent to the GDAC by real-time after the QC.

・Data reproduction and resubmission to GDAC by applying Warning Objective Analysis report.

・Implementing the Argo data format check program(New version).

The RTQC procedure has been updated for KMA floats in the East Sea by applying the new regional range test, spike test, gradient test, and density inversion test. The East Sea has much stronger stratification than the open ocean, so that the Argo samples in the thermocline were often flagged as bad data(QC flag = 4). In addition, data collected at parking depths for ARVOR and PROVOR floats will be separated from the data collected during descent/ascent for the convenience of data processing. The new regional RTQC will be introduced by the end of /November after a few test runs.

1.3 Shallow Argo

Experimental observations for the shallow Argo were conducted on July and November 2018 in Yellow Sea, Korea. In November 13, 2018, two floats were successfully deployed and have been working since the starting day, showing that trajectory of Argo float and daily variation of temperature and salinity (see Fig. 2). In particular, 2901786 float achieved more than 300 cycles observation from November 13, 2018 to September 9, 2019. It is surprising result from a daily cycle of shallow observation. NIMS/KMA will try to keep this kind of shallow Argo observation network in around Korean peninsular area.
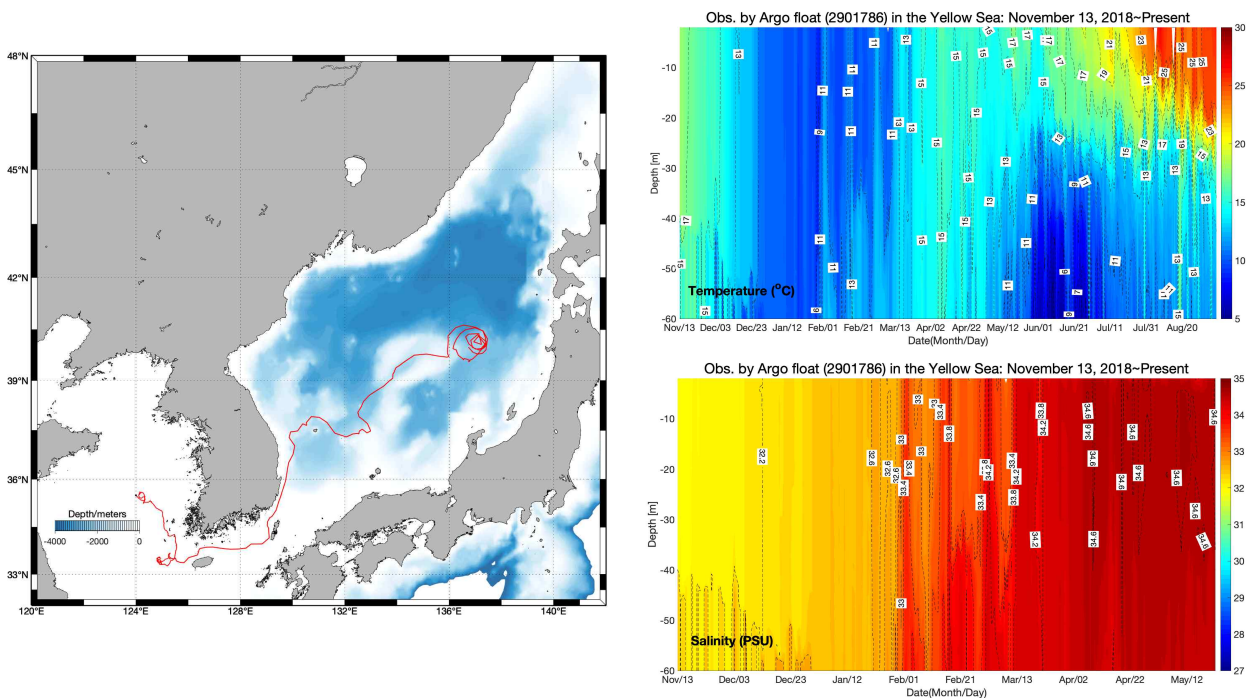

Fig 2. Trajectory and time-series of Shallow Argo float (2901786/300 cycles)

1.4. Web pages

NIMS/KMA operates the Korea Argo web page (http://argo.nims.go.kr), and provides profile data and status of Argo floats to the public and has shown **39,903 hits** by visitors in monthly average. also, It provides figures of vertical profile, spatial distribution and T-S diagram.

Fig. 3. Argo homepage of NIMS/KMA (http://argo.nims.go.kr)

1.5. Deployment plan for 2020

NIMS/KMA will continue to deploy the 6 Argo floats around Korea such as Yellow Sea and East Sea (see Fig. 4). The red square shows a possible area for the floats to be deploy in 2020 aiming at covering the regional seas of Korea.
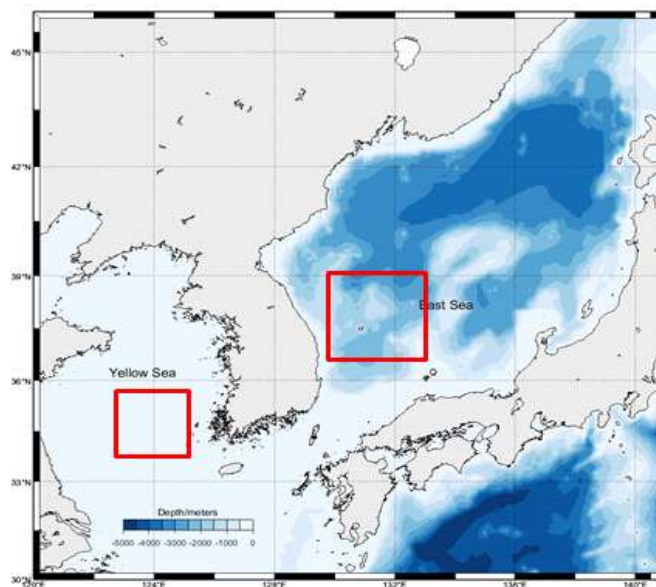

Fig. 4. NIMS/KMA's deployment area in 2020

2. Delayed Mode QC

We are currently processing new R-files that have been collected since 2013 in the East Sea and Western North Pacific. Those **10,125 files**(8,816 files from the East Sea and 1,309 files from the Western North Pacific) will be revised to D-files with NetCDF format(ver. 3.1) and will be sent to the GDACs by the end of this October, or at the earliest when the surface pressure issue is resolved. It has been identified that the surface pressure values in tech.nc files are missing, and we are trouble shooting the cause of these missing values for accurate DMQC process.