

5.24 Argo-type float

(1) Personnel

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(2) Objective

The objective is to measure the vertical profiles of sea-water temperature and salinity for investigating oceanic mixed layer structure and tropical air-sea interaction.

(3) Method

One NEMO-type Argo float (serial number of 203, WMO code of 2901671) was deployed at (5.1S, 78.1E) in the beginning of Leg-1 (see Table 5.24-1 and Fig. 5.24-1). This float measures the vertical profiles of sea-water temperature and salinity above 500db every 24 hours. It uses the Iridium transmitter to send observational data via satellite.

(4) Results

The vertical profiles of sea-water temperature and salinity, measured by NEMO-203 float are shown in Fig.5.24-2. These profiles are marked by a variation of temperature and salinity in the mixing layer (with depth of ~ 50 dbar) in a monthly timescale. Although the parking depth was not settled in a proper position (500 mbar) until 14 October, it was fixed by sending commands about modifying piston counting via the Iridium telecommunication system.

(5) Data archive

The real-time data are provided officially via the Web site of Global Data Assembly Center (GDAC: <http://www.usgodae.org/argo/argo.html>, <http://www.coriolis.eu.org/>) in netCDF format The Argo group in JAMTEC (<http://www.jamstec.go.jp/ARGO/J-ARGO/>) also provide the real-time quality controlled data in ASCII format.

Table 5.24-1 Deployments of the floats

Type	Serial Number	Date (YYY/MM/DD)	Time (UTC)	Latitude	Longitude	Type
NEMO	203	2011/09/29	08:59	05-06.69S	78-06.70E	Iridium

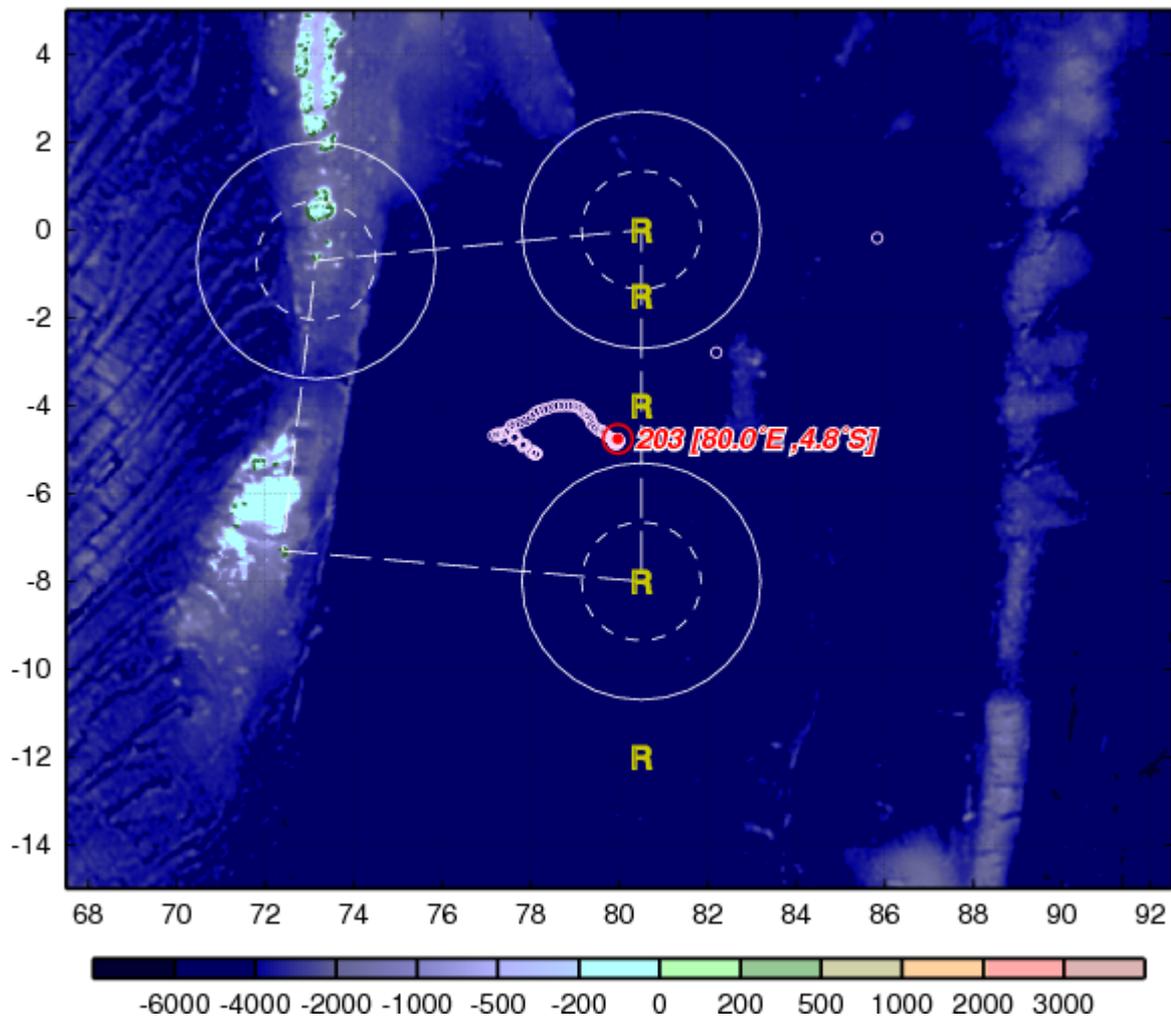


Fig. 5.24-1: The track of a NEMO-type Argo float until 29 November 2011. The latest position is marked by a red open circle with a dot. The labels “R” mean the location of RAMA mooring buoys while white open circles indicate the observational area of Doppler radars at Gan Island and on board R/V Mirai and R/V R. Revelle.

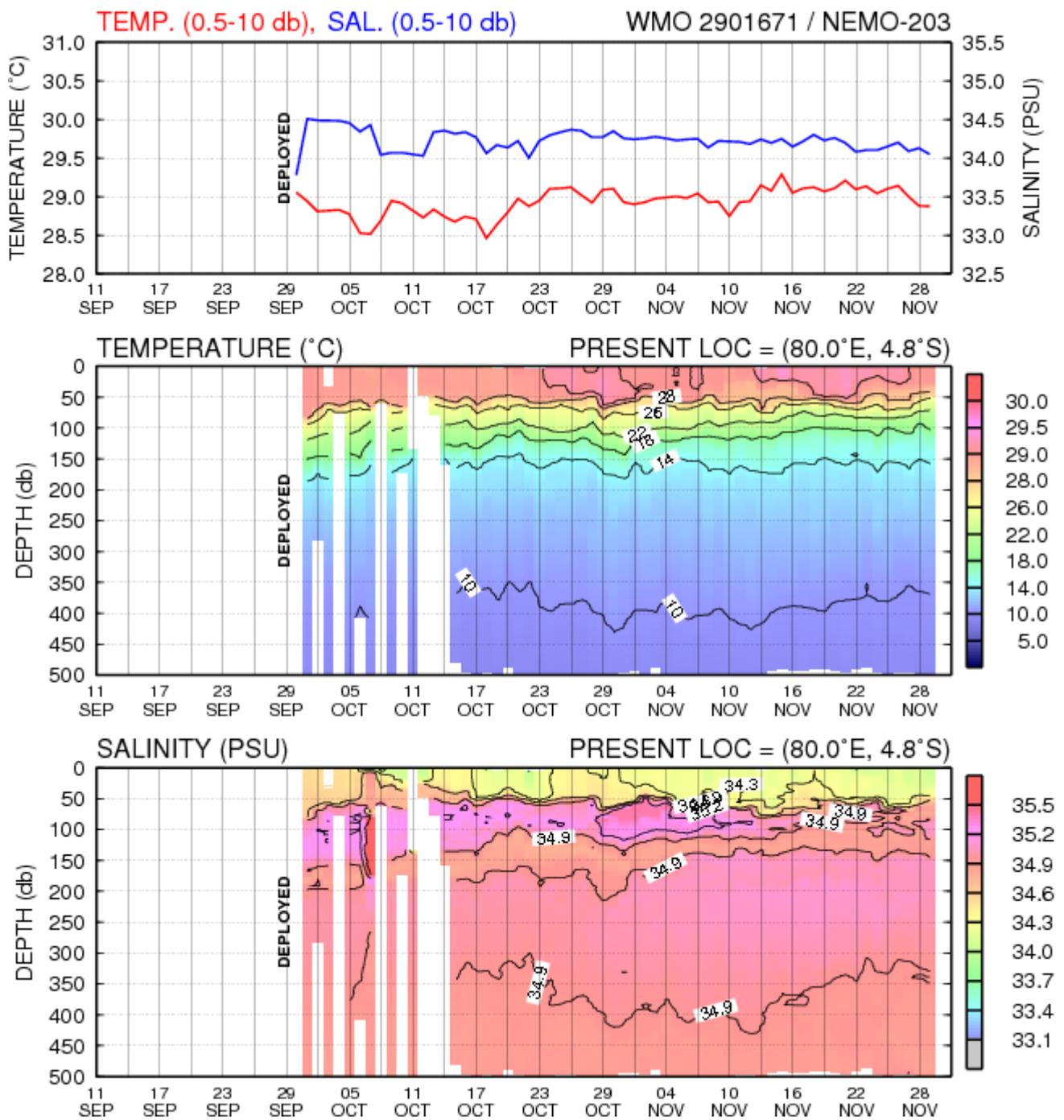


Fig. 5.24-2: (top) Time series of the temperature and salinity at the sea surface. (middle and bottom) Time-depth cross sections of sea-water temperature and salinity, observed by NEMO-203 float deployed on 29 November at 5.1°S, 78.1°E.