

## **CLIVAR/CliC/SCAR Southern Ocean Region Panel SORP-11: Sept. 17-18, 2016**

### **National activities report**

Country: China

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*Receipt of material prior to Sept. 5, 2016 will ensure inclusion in meeting discussion. Receipt of material prior to Oct. 10, 2016 will ensure inclusion in meeting report and contribute to future SORP discussions, as well as input to the SOOS and other CLIVAR/CliC/SCAR activities.*

Purpose of material gathered for the SORP: To build an overview of  
- observational, modeling, state estimation initiatives relevant to the SORP

(This can include a list of activities, maps showing where work has been done, major international project involvement, etc.)

#### **A. Recent and ongoing activities**

Does your country have a national committee tasked with oversight of Southern Ocean climate science?

No.

What major activities have been carried out in the last several years or are in progress now? Contact information for the projects would be useful.

##### **1. Observational**

In recent years, most Chinese observations in the polar region were supported by the Chinese Polar Environment Comprehensive Investigation and Assessment Programme (2011-2015). Every year, a scientific cruise to the Southern Ocean was accomplished by the Chinese National Antarctic Research Expedition (CHINARE) aboard R/V *Xuelong*. Cruises CHINARE28 (2011/2012)~CHINARE31 (2014/2015) have been introduced in the China Report 2015. Main observational activities in CHINARE32 (2015/2016) are summarized as following:

##### **•Hydrographic section observation**

CTD/LADCP and water samplings were conducted at sections in the region around South Shetland Islands in January of 2016 by CHINARE32 (Fig. 1). Micro-structure profiler (VMP200) were deployed at most stations.

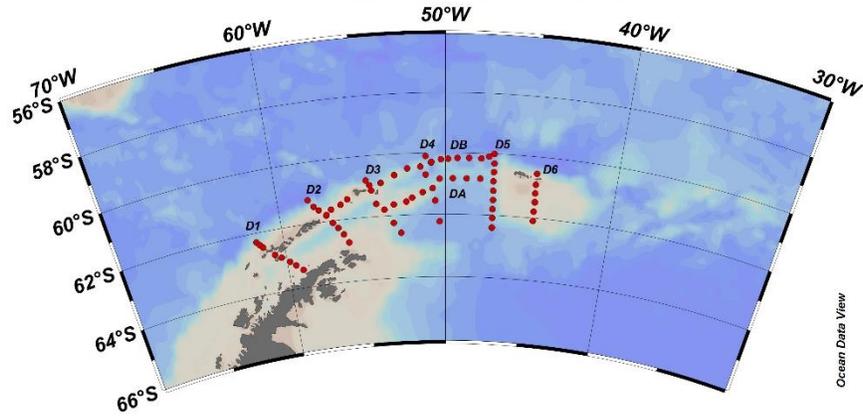


Fig. 1 CTD stations in the region of South Shetland Islands

•Mooring

Moorings with CTD, ADCP/current meters were deployed and recovered at several locations in Prydz Bay (Fig. 2). Year-long records have been collected at locations M9 (February 2015~February 2016) and M10 (February ~December 2015). New moorings were deployed at locations M10, M11B and M14 in December 2015, and locations M9 and M13 in February of 2016. Due to the heavy sea ice and bad weather, there was no chance to recover the mooring at location M11 deployed in last cruise.

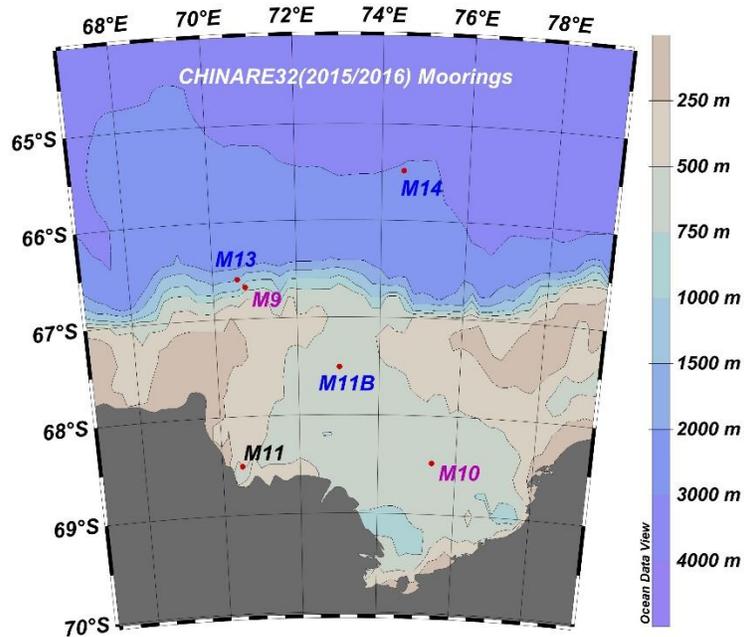


Fig. 2 Mooring locations in the region of Prydz Bay  
(Purple: recovered and deployed, Blue: deployed, Black: not recovered.)

•Expendable probes and floats observation

Expendable probes (XBT/XCTD, radiosonde) were launched at transects between Fremantle and Prydz Bay.

Totally 6 Argo floats were deployed in the ACC region (120.5°E, 50°S) and 7 surface floats were deployed in Prydz Bay.

- Underway observation

Temperature/salinity (measured by SBE 21) and chemistry (CO<sub>2</sub>, etc) of sea surface water, currents in upper ocean (by 38kHz/300kHz ADCP) meteorology, sea ice ( following ASPeCt sea-ice protocol ) were measured along cruise track (Fig. 3).

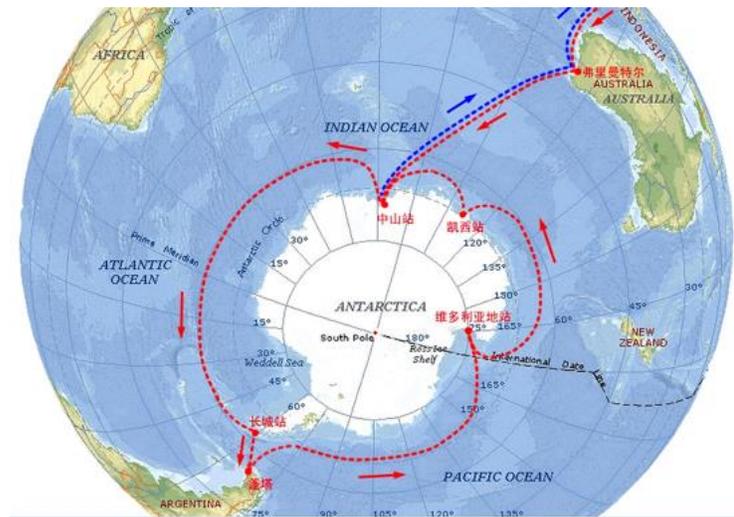


Fig. 3 Cruise track of CHINARE32

2. Modeling

No.

3. State estimation

No.

**B. Planned activities**

What major activities are planned or likely to occur during the next several years?  
Contact information for the projects would be useful.

Please see China Report 2015.