

CLIVAR/CliC/SCAR Southern Ocean Region Panel SORP-12: 29-30 June 2017

National activities report

Country Japan
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Date 9 June 2017

Receipt of material prior to 15 June 2017 will ensure inclusion in meeting discussion. Receipt of material prior to 15 July 2017 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. All reports will be posted on the SORP website.

Purpose of material gathered for the SORP: To build an overview of
- observational, modeling, ocean reanalysis and 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.)

Please refer to SORP's terms of reference (also given at the end of this template) for guidance on scope: <http://www.clivar.org/clivar-panels/southern>

Note: Biological topics such as marine ecology and marine ecology research, for example, are not within the scope of SORP's terms of reference and are therefore not required in these reports. However, SOOS has an interest in such research, so National Representatives are welcome to include summaries of such research as separate sections.

Note: The Southern Ocean is not explicitly defined in SORP's terms of reference, so please note what the limit used for your national report is (e.g., research on regions only beyond an oceanographic boundary like "south of the Polar Front", or research contained within latitudinal limits like "south of 50°S").

A. Recent and ongoing activities

Does your country have a national committee tasked with oversight of Southern Ocean climate science (e.g., like US CLIVAR)? If yes, please give the name of the committee.

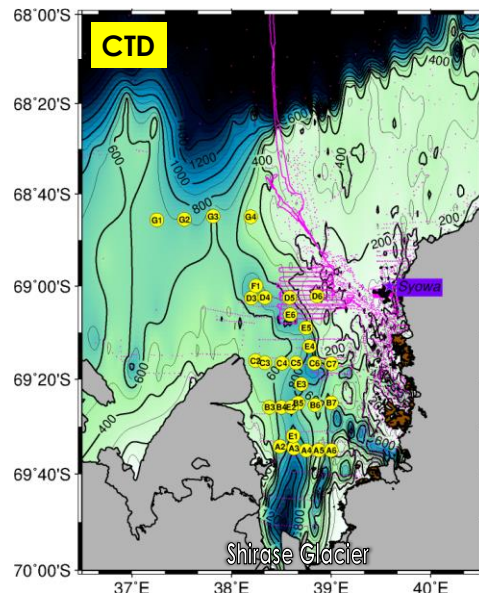
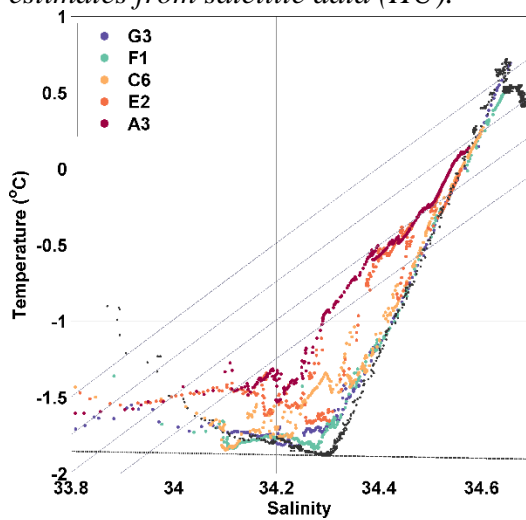
No

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 (e.g., Principal Investigators and Associate Investigators).

Japanese physical oceanographers with main research interest in the Southern Ocean observation are found in four groups; Hokkaido University (HU, K. I. Ohshima, Y. Fukamachi, S. Aoki), National Institute of Polar Research (NIPR, T. Tamura, S. Ushio),

Tokyo University of Marine Science and Technology (TUMSAT, Y. Kitade) and JAMSTEC (K. Katsumata). For modelling, two groups exist; one in paleo-simulation (A. Abe-Ouchi), another in climate modelling (H. Hasumi).

Since the previous report (September 2016), three Southern Ocean research cruises were completed; R/V Umitaka made an annual visit to the 110°E CTD section and Vincennes Polynya to install 2 moorings (TUMSAT), R/V Mirai completed a revisit to P17E WOCE section (nominally 125°W, JAMSTEC), Ice Breaker Shirase performed coastal CTD observations during its annual visit to Lutzow-Holm Bay (figure attached). Data analysis efforts are ongoing including previous Cape Darnley moorings (HU), Antarctic Bottom Water in the Australia-Antarctic Basin (TUMSAT), Ice/bottom water production estimates from satellite data (HU).



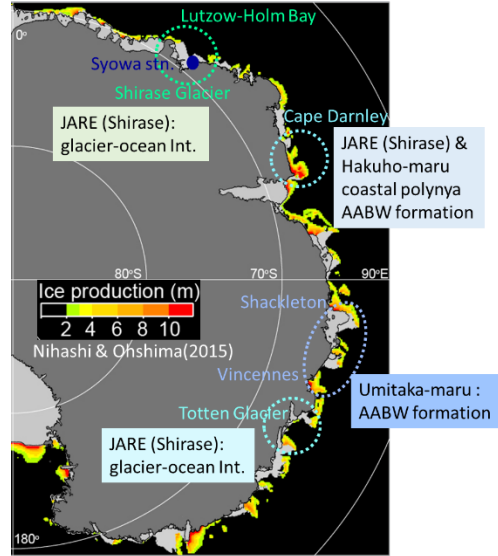
B. Planned activities

What major activities are planned or likely to occur during the next several years? Contact information for the projects would be useful (e.g., Principal Investigators and Associate Investigators).

1. Cape Darnley (HU, NIPR, Contact: K.I.Ohshima)

The mooring observation will be continued. CTD observation including CFCs/SF₆ measurements will be conducted onboard R/V Hakuho (2018/19, funded).

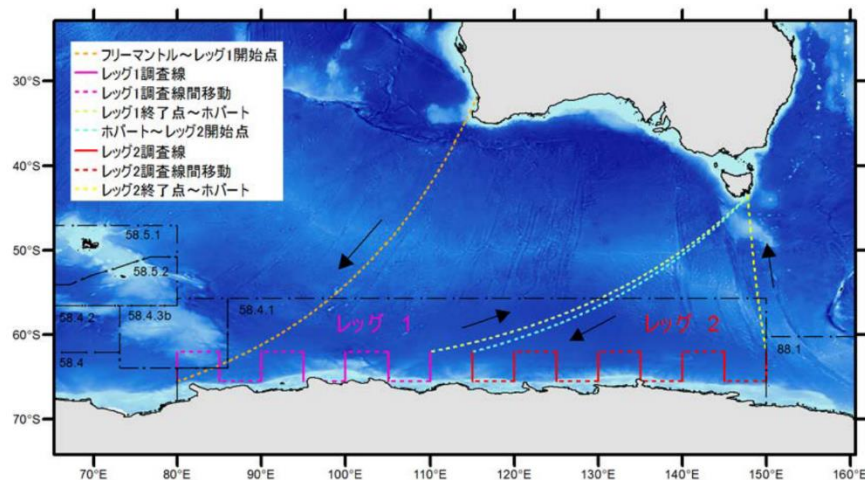
2. Vincennes and Shackleton Polynyas (TUMSAT, Contact: Y.Kitade)
The moorings will be turned over and annual visits by R/V Umitaka will continue on 2016/17 (funded), 2017/18 (planned), and 2018/19 (planned).



3. ROBOTICA (HU, NIPR, Contact: S.Aoki)
Research of Ocean-ice Boundary Interaction and Change around Antarctica will carry out ice-ocean observation including under-ice ROV observation with Shirase as main platform:

1. Lutzow-Holm Bay and Shirase Glacier (Annually)
2. Cape Darnley (2016/17, 2019/20)
3. Vincennes Bay and Totten Glacier (2019/20)

4. BROKE revisit (HU, Research Institute of Far Sea Fisheries, Contact: S.Aoki)
More than 120 CTD/sampling stations initially visited in 1996 as Baseline Research on Oceanography, Krill, and the Environment project will be revisited in 2018/19 season to conduct physical and biological observations onboard R/V Kaiyo-maru.



5. *GO-SHIP I7S section (JAMSTEC, Contact: K.Katsumata)*
A new GO-SHIP section I7S will be occupied as a GO-SHIP project in 2019/20
onboard R/V Mirai
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SORP terms of reference <http://www.clivar.org/clivar-panels/southern>

"To serve as a forum for the discussion and communication of scientific advances in the understanding of climate variability and change in the Southern Ocean. To advise CLIVAR, [CliC](#), and [SCAR](#) on progress, achievements, new opportunities and impediments in internationally-coordinated Southern Ocean research."

Specific Activities:

1. Facilitate progress in the development of tools and methods required to assess climate variability, climate change and climate predictability of the ocean-atmosphere-ice system in the Southern Ocean.
2. Identify opportunities and coordinated strategies to implement these methods, spanning observations, models, experiments, and process studies.
3. Provide scientific and technical input into international research coordination, collaborating as required with other relevant programs, including the [Southern Ocean Observing System \(SOOS\)](#).
4. Monitor and evaluate progress in Southern Ocean research, and identify gaps.
5. Enhance interaction between the meteorology, oceanography, cryosphere, geology, biogeochemistry and paleoclimate communities with an interest in the climate of the Southern Ocean.
6. Work with relevant agencies on the standardization, distribution and archiving of Southern Ocean observations.

