

CLIVAR Southern Ocean Region Panel SORP-11: Sept. 17-18, 2016

Comment [II]: Accept all changes, and this should be ready to go forward

National activities report

Country Japan
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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

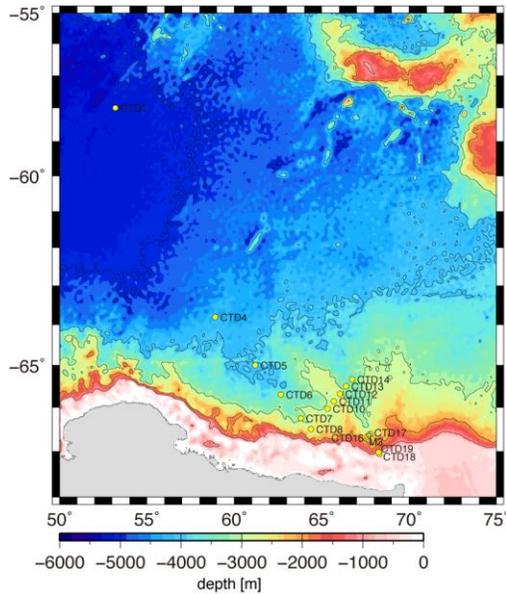
Does your country have a national committee tasked with oversight of Southern Ocean climate science?

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.

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

1. Cape Darnley projects (Hokkaido University, NIPR. PI: K. I. Ohshima)
Mooring observation off the coast of Cape Darnley, a recently discovered dense shelf water source near 70E. As part of a follow-up project, several CTD observations made from *R/V Hakuho KH16-1* cruise.



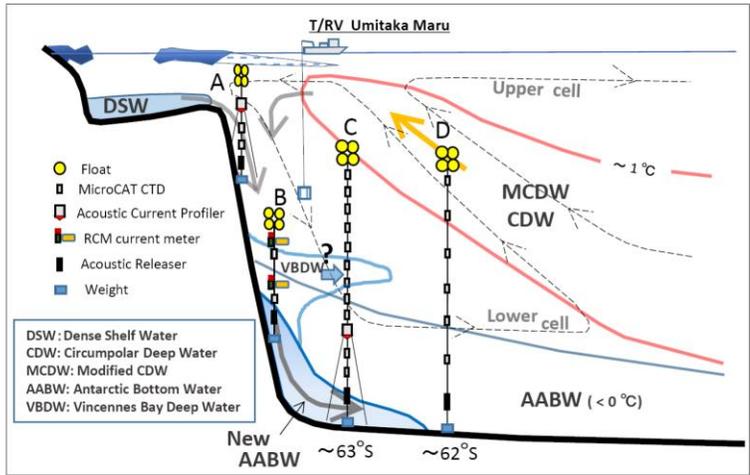
KH16-1 hydrographic observation stations in Feb 2016. CFC-12 and SF6 were taken.

2. Vincennes Polynya project (TUMSAT. PI: Y. Kitade)
Mooring observation and ship hydrography including turbulence measurements.
3. WOCE/CLIVAR repeat hydrography (JAMSTEC, PI: K. Katsumata)
Reoccupation of WOCE P17E (125° W, South Pacific) hydrography sections. (PI: H.Uchida) Feb to Mar. 2017 on *R/V Mirai*.

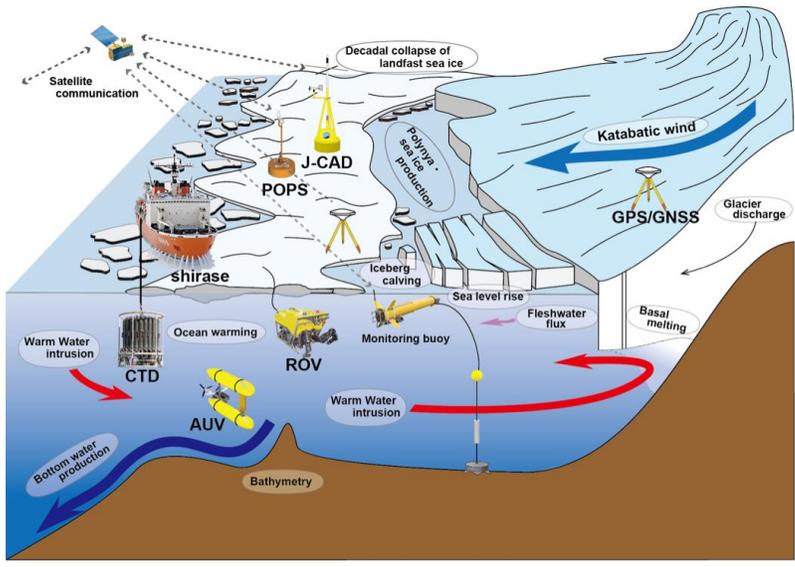
B. Planned activities

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

1. Cape Darnley projects (Hokkaido University, NIPR. PI: K. I. Ohshima)
More moorings are planned in the region. Plans include collaboration with biogeochemists (sediment traps, remote access sampler, etc.). Several revisits by *R/V Hakuho* are planned (2018/19 (funded), 2019/20 (to apply)).
2. Vincennes Polynya project (TUMSAT. PI: Y. Kitade)
Moorings are planned off the coast of the Polynya (about 62°S and 63°S) with closely-spaced CT sensors. Targets include near-bottom turbulence, intrusion of DSW, and upwelling of CDW. Annual revisit by *R/V Umitaka* are planned and funded until 2018/19.



3. WOCE/CLIVAR repeat hydrography (JAMSTEC. PI: K. Katsumata)
New GO-SHIP line I7S (57° E, south of 30° S, Southwest Indian Ocean) is funded in 2019/20.
4. ROBOTICA — Research of Ocean-Ice Boundary Interaction and Changes around Antarctica (Hokkaido University, NIPR. PI: S. Aoki)



Field observations focusing on interactions and long-term variabilities of climate subsystems of East Antarctica coast including Lutzow-holm Bay/Cosmonauts Sea, off

Cape Darnley, and off Wilkes Land. The project includes use and development of unmanned/automated vehicles as part of Prioritized Studies of the 9th six-year plan of Japanese Antarctic Research Expedition (2016 - 2023).

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.