
[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-IS Intersection

[M-IS21]Arctic and Antarctic Science and Future Plan

convener:Takuji Nakamura(National Institute of Polar Research), Atsuko Sugimoto(Arctic Research Center, Hokkaido University), Shin Sugiyama(北海道大学低温科学研究所, 共同), Yoshifumi Nogi(National Institute of Polar Research)

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The global environmental change is of great interest for both governments and general public, as well as scientists studying on the earth and planets. The Arctic and the Antarctic regions significantly affects global environmental variation and also provide invaluable information on its the variation. In the Arctic region, for example, temperature increase due to the global warming is the largest on the globe. The climate change is most significantly emerging which causes change of ecology, human economic activity and life. On the other hand, very little is known on the response of the huge Antarctic ice sheet of the Antarctic to the global warming, and hence a possible change in Antarctica on a global scale. The possibility of a huge global change and its prediction are of greatest interest. Variations in the bipolar regions are not independent but connected through ocean and atmosphere circulations, and therefore it is necessary to consider them to be one unified system. Moreover, the Arctic and Antarctic regions are the best observation and/or investigation field for space/planetary sciences, atmospheric/hydrospheric sciences, and solid earth sciences, indicating that the polar regions are important windows for earth and planetary sciences. This session is devoted to a forum to present Antarctic and Arctic sciences in many different aspects. Scientific discussions for building up a proposal for the master plan 2020 of the Science Council of Japan are expected.

[MIS21-P05]Characteristics, impact and effort against uncertainty of sea ice changes evidenced in the both polar regions

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Keywords:Arctic, Antarctic, Sea ice

Sea ice in the Arctic and Antarctic show different trends. Arctic sea ice shows declining trend. Its changing mechanism, forecasts, and social influences are strong concern. Antarctic sea ice showed increasing trend, however recently turn to show rapid decrease. This presentation summarizes sea ice characteristics, as area, thickness, drift, seasonal cycle, long-term trend of both polar regions, and introduce recent change.