

Frontier of Polar Science - Study on Global Environmental Change through Development of the Antarctic and Arctic Observations -

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This plan proposes installation of a platform in the polar region in order to contribute to the understanding the global environmental change by providing invaluable information from the Antarctic and the Arctic region. Recently the global environmental change is of great interest for the governments and general public, as well as scientists on the earth and planets. The Arctic and the Antarctic regions significantly affect global environment and also provide invaluable information on its 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 to the global warming, and hence a possible change in Antarctica on a global scale and its prediction are of greatest interest. Variations in the polar 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.

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