

The Japanese Arctic program

Kazuyuki Shiraishi

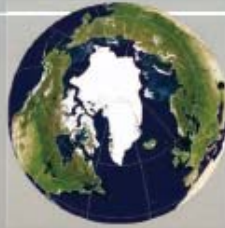
NIPR



**"GREEN Network of Excellence"
Program (GRENE Program)
Project are--**

In June 2010, the Japanese Cabinet decided upon a new strategy for growth: the "Strategy for becoming an environment and energy power through green innovation." In response to this strategy, the Council for Science and Technology Policy brought out their report "The Science and Technology Basic Plan" in December 2010 in which they also positioned green innovation as one of the three pillars, as a response to the issues of energy and climate change.

Following on, the Ministry of Education, Culture and Sports, Science and Technology (MEXT) initiated the GREEN Network of Excellence (GRENE) in FY2011. Through a strategic collaboration between universities and research institutions, GRENE aims to promote both the highest level of research in the world and the training and development of human resources. In addition to its work in the Arctic Climate Research Project, GRENE is also involved in research in the environmental formation, environmental science, and advanced environment.



Ministry of Education, Culture and Sports, Science & Technology in Japan (MEXT)
"GREEN Network of Excellence" Program (GRENE) Program

**Arctic Climate Research Project
Rapid Change of the Arctic Climate System and
its Global Influences
2011 -2016**

**GREEN Network of Excellence Program
Arctic Climate Change Research Project
2011-2016**

***Rapid Change of the Arctic Climate System
and its Global Influences"***

To the Arctic
where you can see the future of the Earth

Inter-University Research Institute
Corporation
Research Organization of Information
and Systems
**National Institute of
Polar Research
Arctic Environment Research
Centre**

Ministry of Education, Culture, Sports, Science and Technology (MEXT),
NIPR: the core Institute, JAMSTEC: supporting institute,
with 300 researchers from 35 universities and institutions.

GRENE - Arctic Climate Change Research Project

“Rapid Change of the Arctic Climate System and its Global Influences”

Strategic Research Targets



- *Understanding the mechanism of warming amplification in the Arctic*



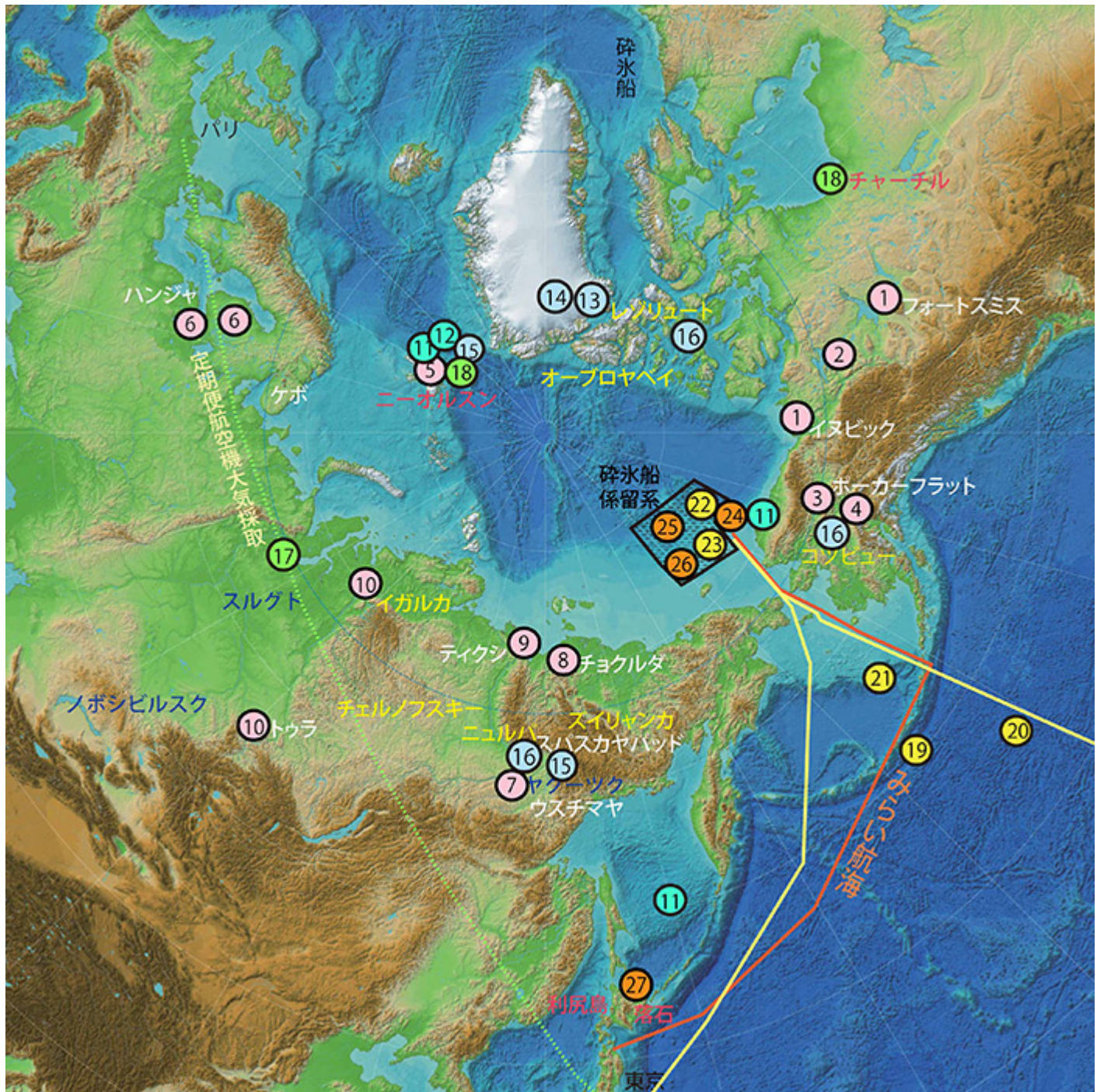
- *Understanding the Arctic system for global climate and future change*



- *Evaluation of the effects of Arctic change on weather in Japan, marine ecosystems and fisheries*



- *Prediction of sea Ice distribution and Arctic sea routes*



Maintenance Information

12:00-17:00 (JST) every
Tuesday. (JST:UTC+9)



Arctic Data archive System

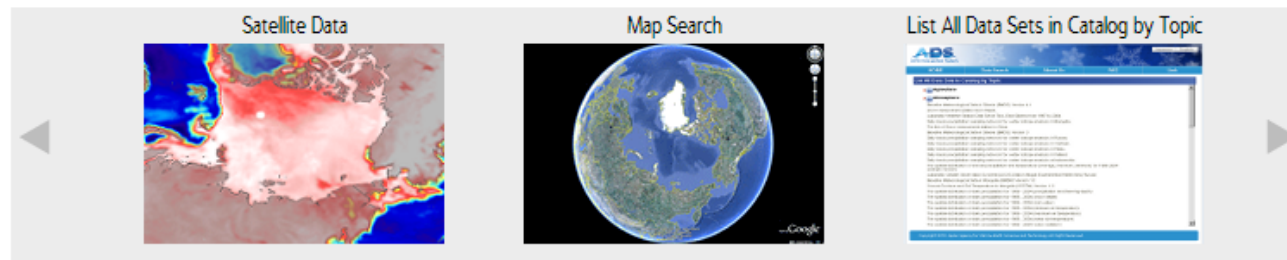
Of all the regions on the planet, the Arctic currently shows the biggest rise in average temperature due to global warming, and is one of the regions expected to become most affected by climate change on the Earth in the future. The change in the Arctic area brings a profound impact to the global climate system through changes in interactions between the atmosphere, ocean circulation, and the cryosphere. These climate changes not only impact upon human activities, but also the Arctic flora and fauna ecosystem.

Large parts of the observations and mechanisms of the environmental change, including the climate of the Arctic region, are still not well understood. In order to further our understanding of these complex systems, an integrated study carried out with continuous observations in the Arctic is proposed. In the Arctic Environmental Observation Center in the National Institute of Polar Research, operations began on the Arctic Data archive System (ADS) in March 2012, in order to promote the mutual use of scientific data.

The purpose of the Arctic Data archive System is to archive and distribute multiple observational (atmosphere, ocean, terrestrial, and ecology) and model simulation datasets, and promote utilization of these datasets. ADS is the central repository of archived data on Arctic research in Japan.

To contribute your data:

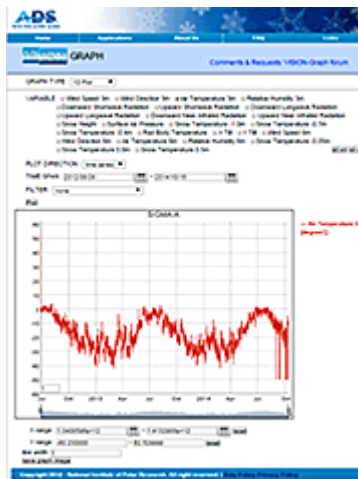
[ADS metadata/data registration system](#)



Progress in 2014

1. Real-time Monitoring Website for Arctic Meteorological studies was open

<https://ads.nipr.ac.jp/RealTimeMonitors/>

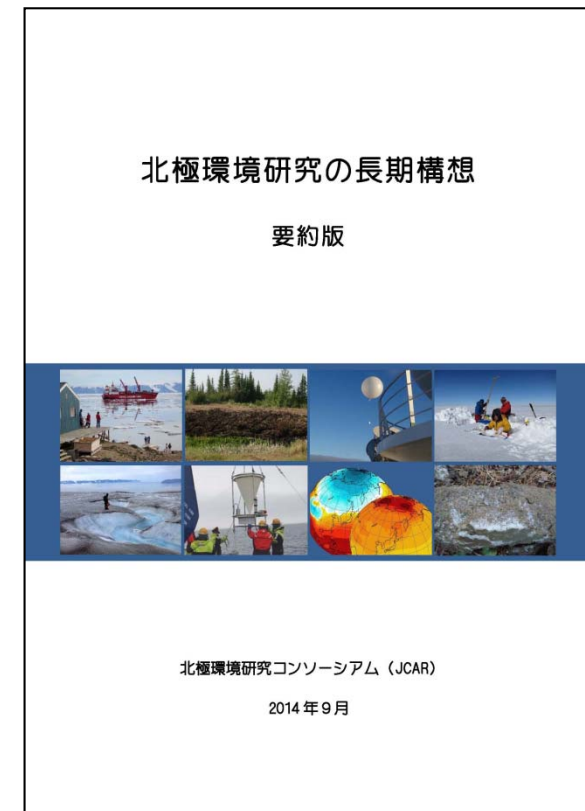


2. Young scientists dispatch program
12 PD/PhD students (USA 8, Canada 4)

Future Plan

as of 2014

- Arctic Policy by MEXT, Government of Japan
- Long-term plan for Arctic Environmental Research
by Japan Consortium for Arctic Environmental Research



New! “National Network of Arctic Research” is planned

- National Institute of Polar Research: Antarctic Environment Research Center (AERC)

† (April 1, 2015)

- Hokkaido University: Arctic Research Center
- JAMSTEC: Institute of Arctic Climate and Environment Research (IACE)

Arctic Challenge for Sustainability Project (ArCS)

- ◆ 5 year project (2015-2019)
 - Contract Start (July, 2015)
- ◆ A Network of Core Institutions
- ◆ 8M US\$ (20% increase)
- ◆ Activities
 - Support for International Joint Research
 - Research center/stations in Arctic States
 - Young researchers dispatch