

The Japanese Arctic program and ASSW 2015

Hiroyuki Enomoto, Director, Arctic
Environment Research Center, NIPR, Japan

for

Kazuyuki Shiraishi, Director-General, 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, with responses to the issues of energy and climate change.

Following on, the Ministry of Education, Culture and Sports, Science & 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*

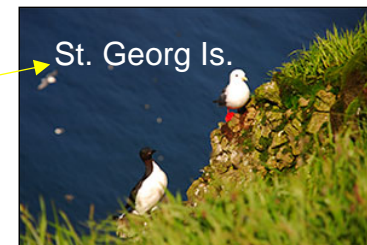
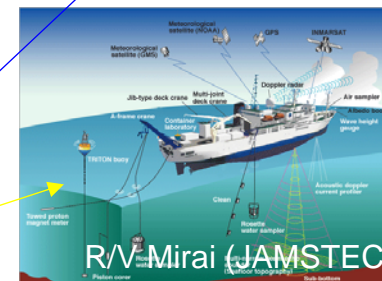
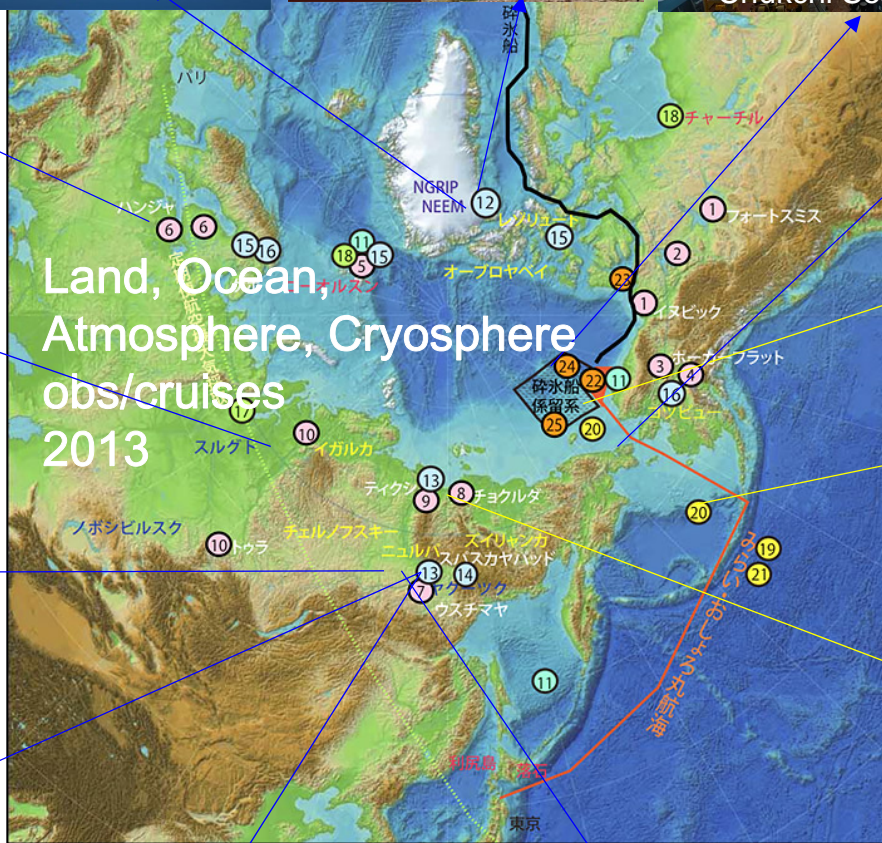
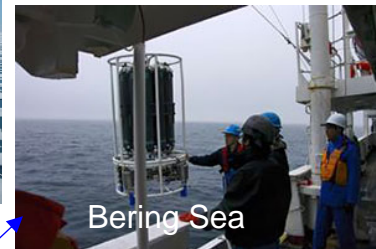


- *Evaluation of the effects of Arctic change on weather in Japan, marine ecosystems and fisheries*



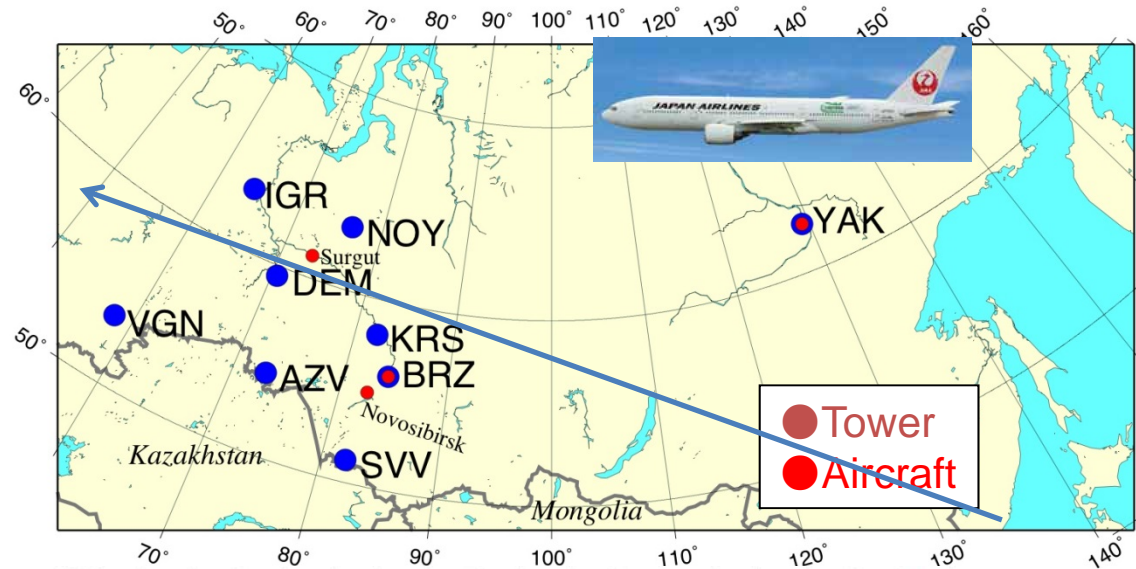
- *Prediction of sea Ice distribution and Arctic sea routes*

Observation / GRENE Arctic Climate Change Research Project



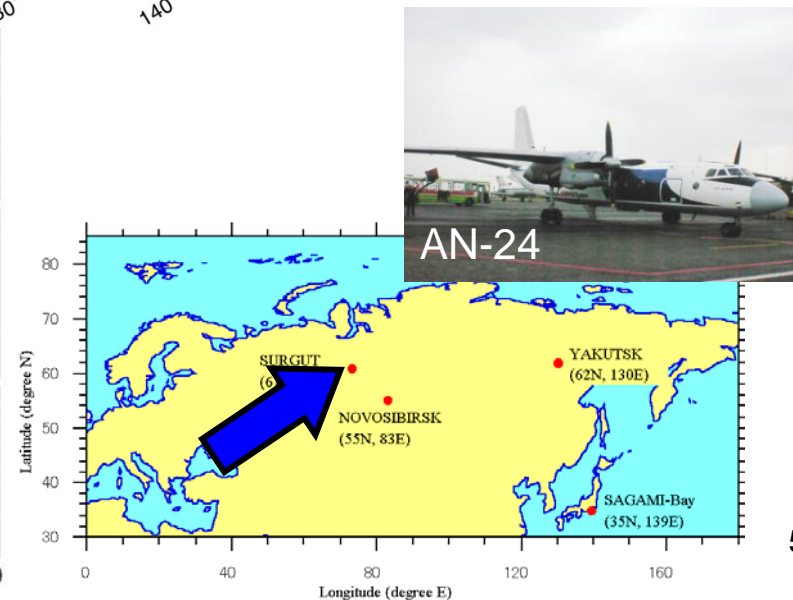
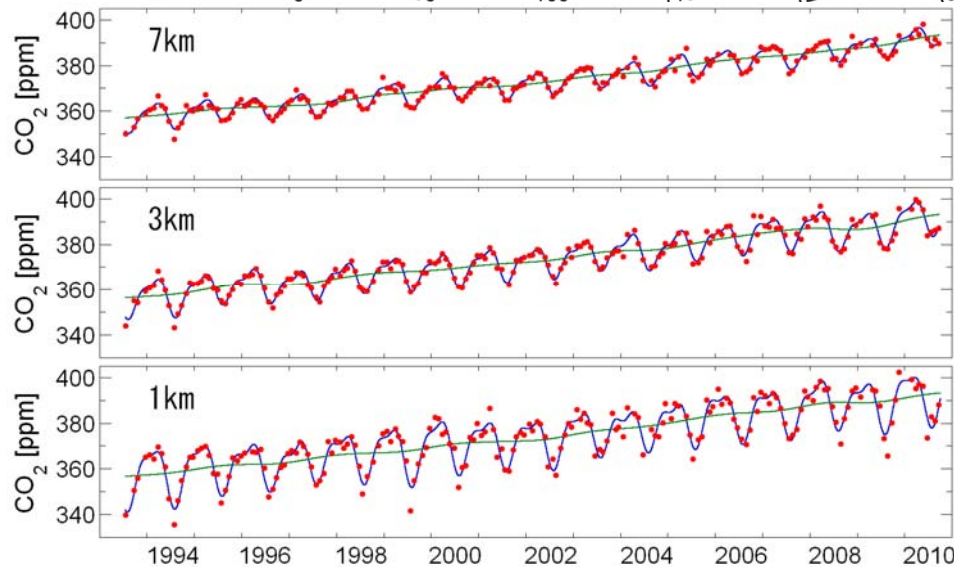
Observation of Greenhouse Gases using Aircraft and Tower Network in Siberia

NIES (National Institute of Environmental Sciences):



Cooperation with:

- Institute of Atmospheric Optics, Tomsk, Russia
- Permafrost Institute, Yakutsk, Russia
- Central Aerological Observatory, Moscow, Russia
- Institute of Microbiology, Moscow, Russia

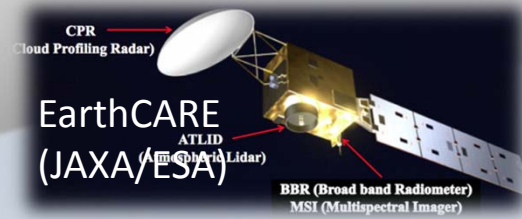




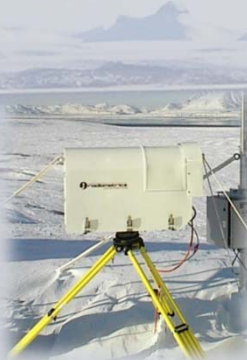
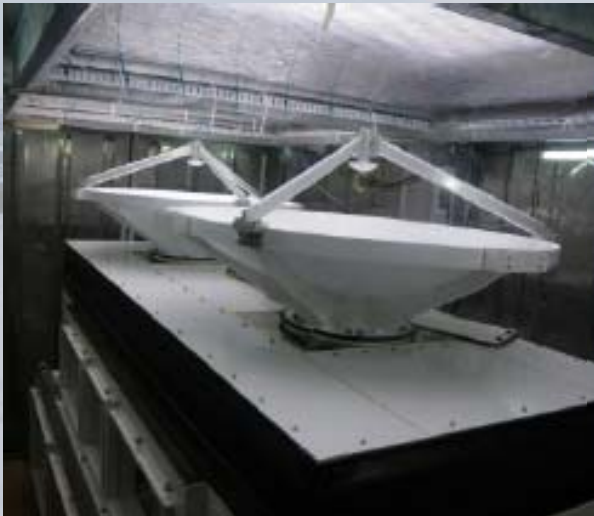
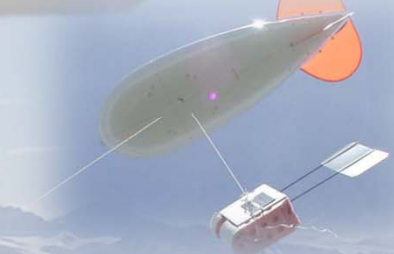
National Institute of Polar Research

Research infrastructures in Svalbard, enhanced by the Arctic Climate Research Project

- Cloud, Aerosol, Precipitation, Black carbon, GHG



Cloud Particle Probe



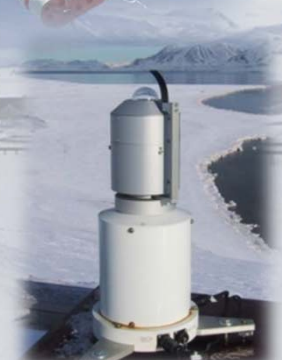
Microwave Radiometer



Lidar/MPL



i-Skyradiometer



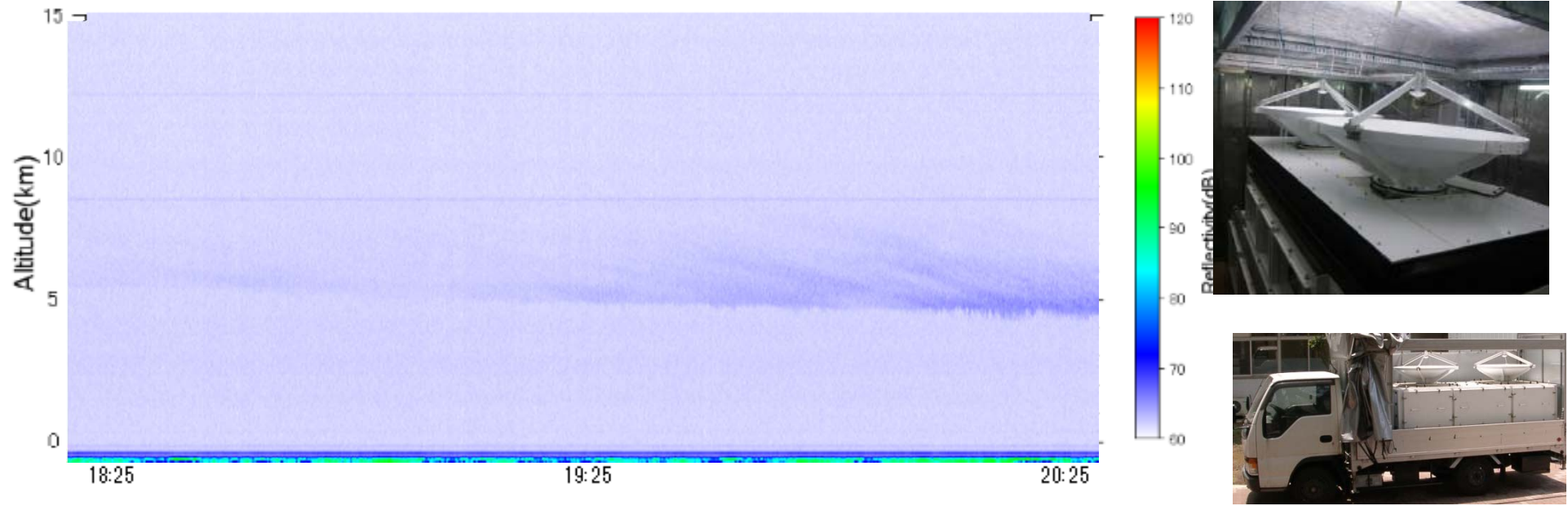
All-Sky Camera

UPDATING SENSOR AND RESEARCH ACTIVITY

NEW 95GHz Cloud Radar

New instrument at Ny-Ålesund,
cooperation with satellite observation

95GHz FM-CW Cloud Radar **FALCON-A** Realtime View 2014/03/27



[\[archives\]](#) [\[Daily data\]](#)

Last update: 2014/03/27 20:25:14 (UTC)



This website is the real-time viewer of the cloud intensity observed by the 95GHz cloud radar, **FALCON-A**, at Ny-Alesund site.

NOTICE

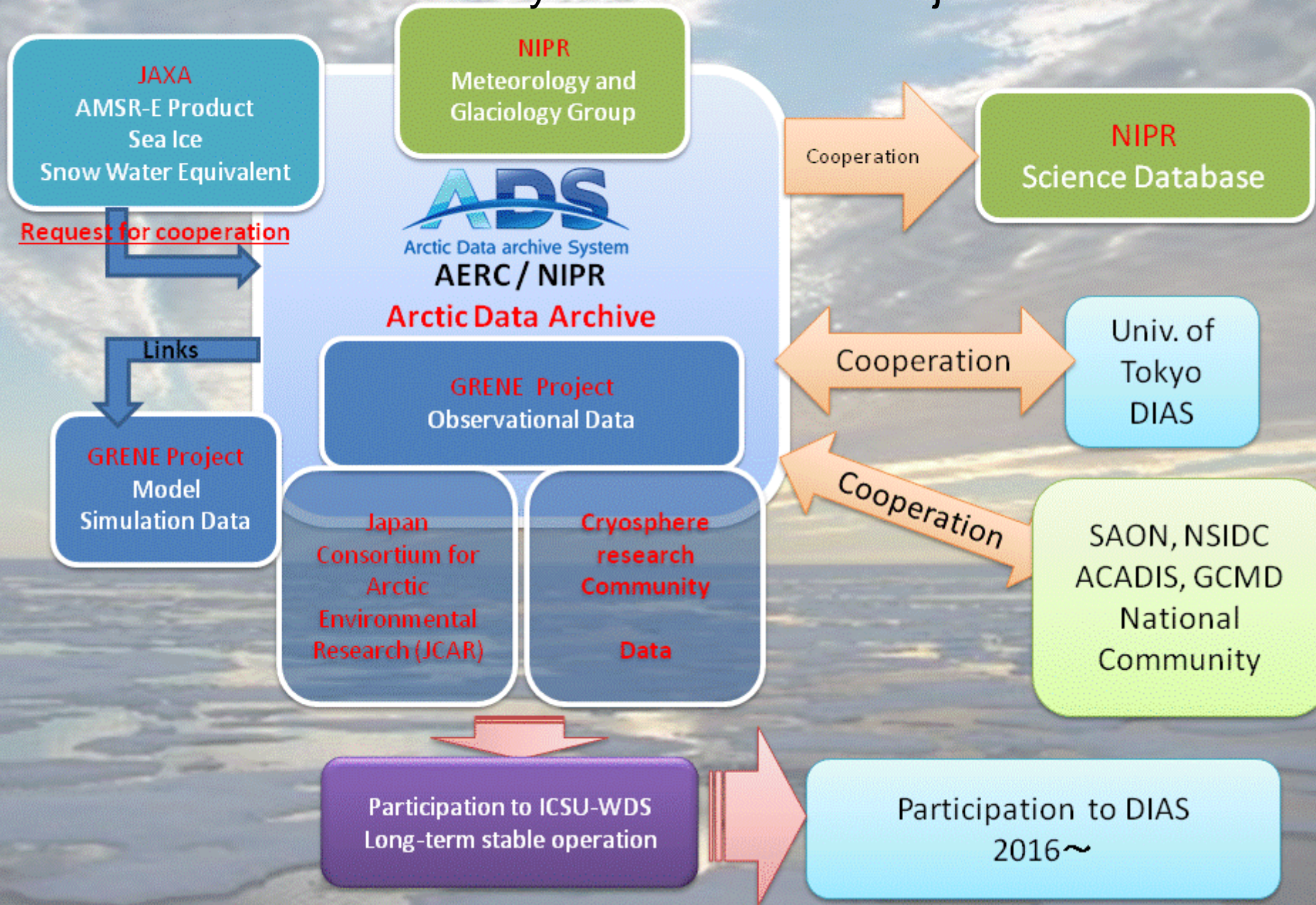
The time is displayed in Coordinated Universal Time (UTC).
Check the data is not old. Reload page manually for the latest data. The data will be updated every 5 minutes.
The accuracy of the data is NOT guaranteed.
This website may be suspended, closed or modified without notice.
If you want to share the link with someone concerned, please inform the person in charge of the radar in advance.

Data: Takano,
Chiba University

Arctic Data Archiving System :

<http://ads.nipr.ac.jp/>

New data stream started by GRENE Arctic Project



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.

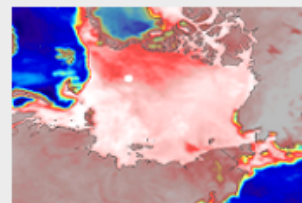
Large parts of the observations and mechanisms of the environmental change, including the climate of the Arctic region, are still not well understood. In order to further our understanding of these complex systems, an integrated study carried out with continuous observations in the Arctic is proposed. 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](#)

Satellite Data



Map Search



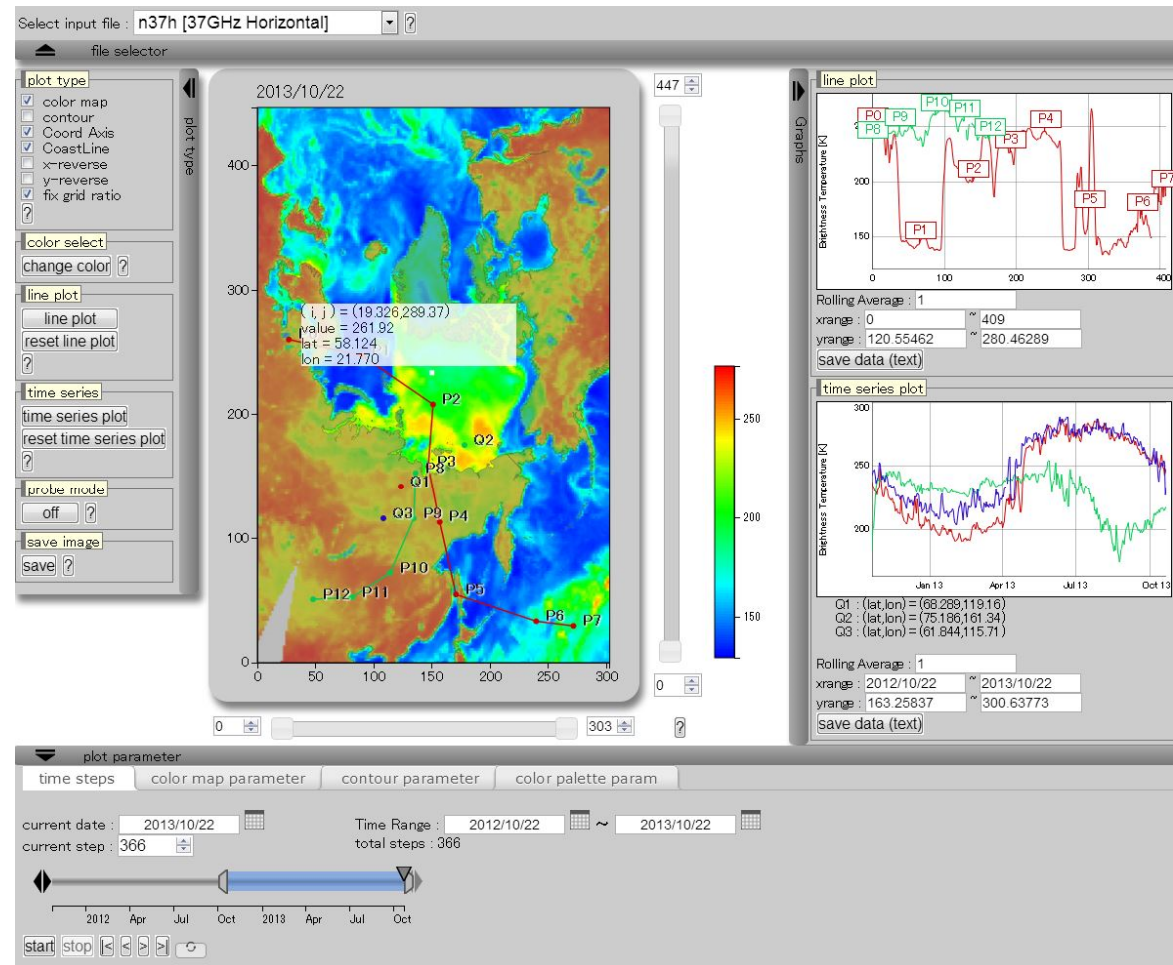
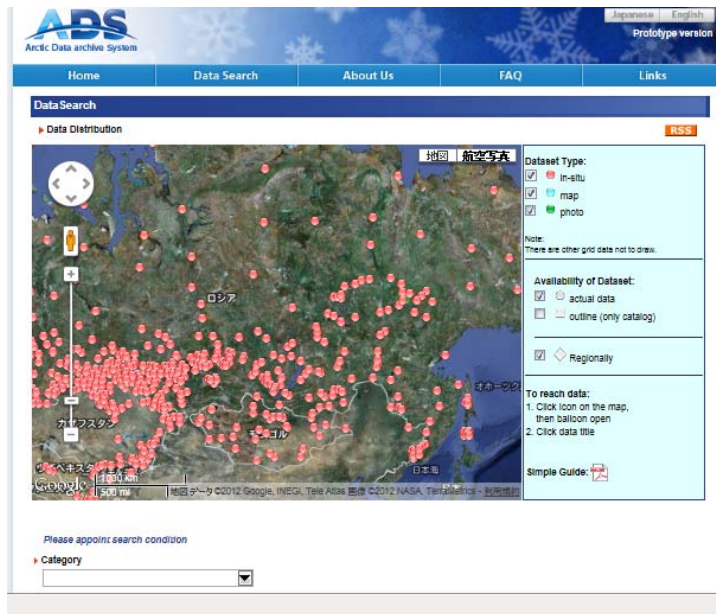
List All Data Sets in Catalog by Topic



ADS : GRENE Arctic Project Tool

GRENE-Arctic project aims connecting of observation and modeling studies in the interdisciplinary area of sciences. ADS is essential for this activity.

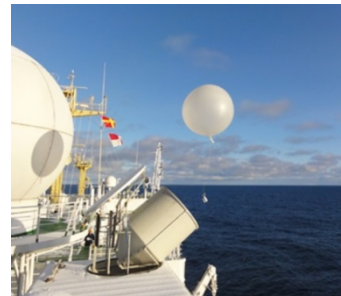
GRENE research data, Climate satellite data, simulation data archive and visualization



- GRENE Field Observation data
- Link to reanalysis data (JMA)
- Model Output (Global, regional, process)
- Satellite data (JAXA) :GCOM,GPM, ALOS, EarthCare...

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

Improving Arctic Weather Forecast by effective radiosonde network and data assimilation ⇒ *ArcticRose*



Optimizing Collaborative
radiosonde
network

*AWI, AARI,
JAMSTEC, NIPR*

Research Project

1. Japanese GRENE Arctic climate research project (2011-2016) has started by integrating Japanese scientific activities.
2. This project is approaching Arctic problems through four strategic targets.
3. This project enhances interdisciplinal study and collaboration between modelling and observation.
4. The Arctic data archiving System (ADS) is an important tool for the project.

National community to International collaborations

- the prospect of project goal 2016 and then: science, infrastructure, driving system
- the newly established community, *JCAR* since 2011 and role: ASSW2015, Future Plan 2014

GRENE-Arctic

ADS
Arctic Data archive System



ASSW2015

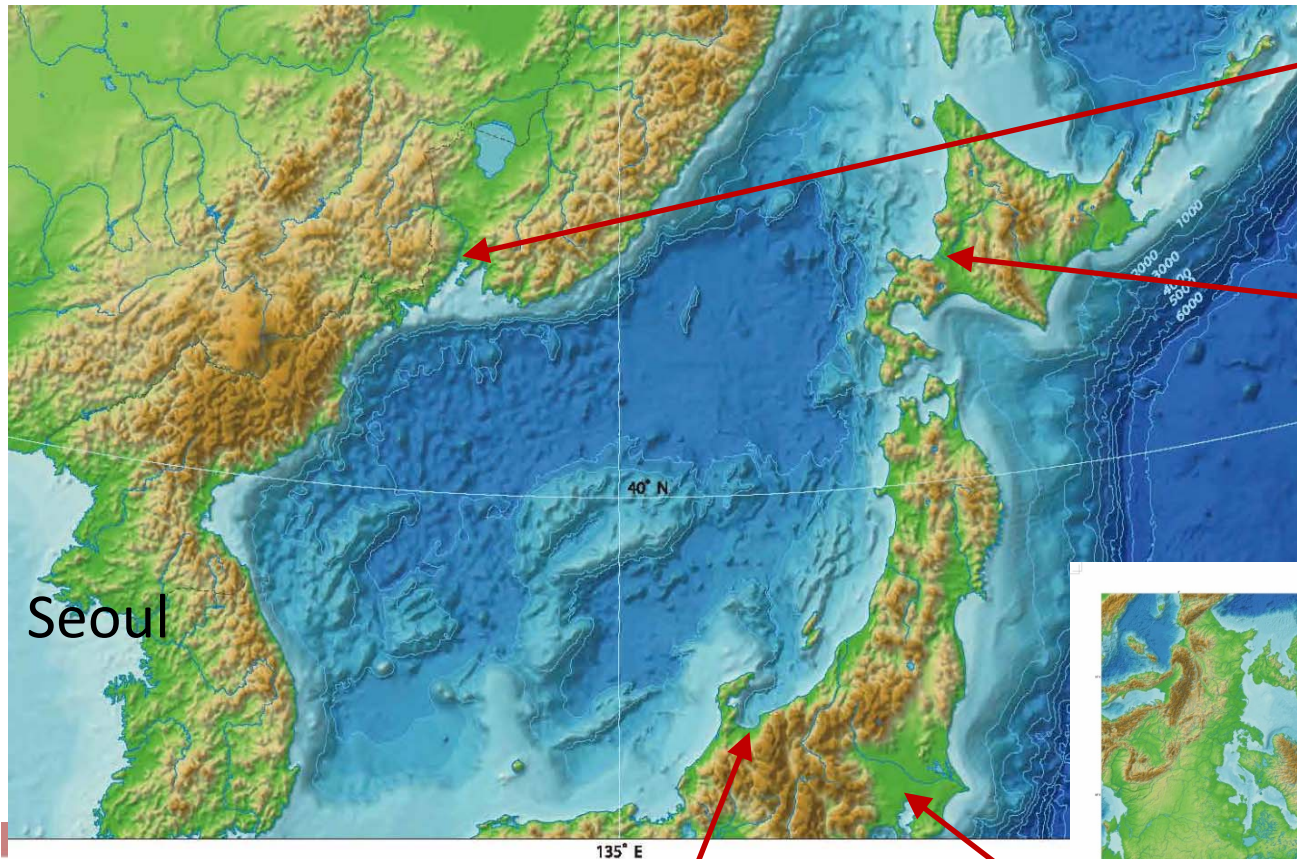
Toyama

Japan

ASSW2015LOC

NIPR, Tokyo, Japan

<http://www.assw2015.org/>



Vladivostok

Sapporo

Seoul

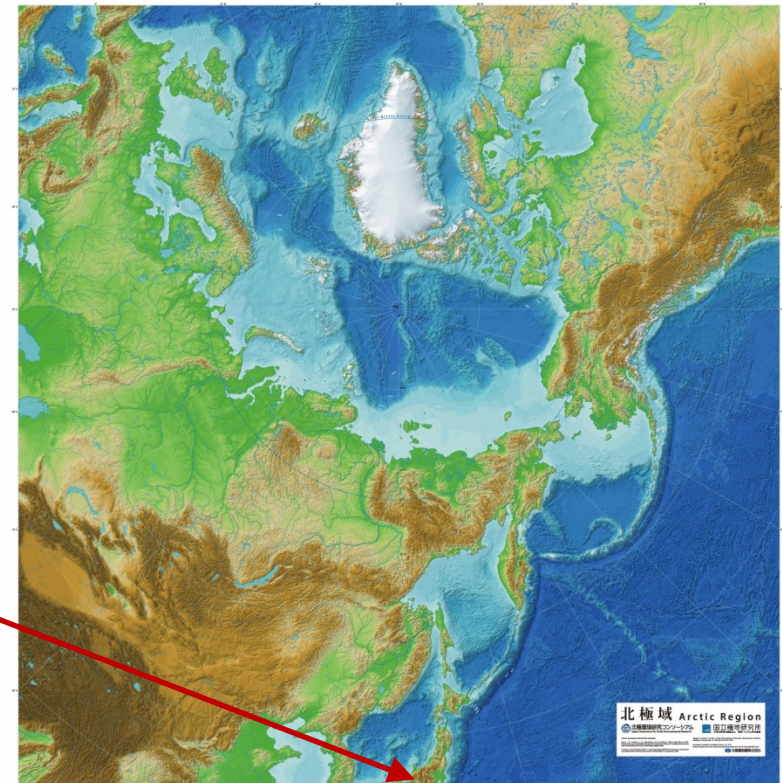
Tokyo

Toyama

高速で走行するための造形と日本の伝統的な色使い、新幹線が走行する沿線の風景を融合させ、スピード感と精神さを表現



Where is Toyama?





Toyama , Located at the center of Honshu island, was a long time famous for a transportation hub of Japan Sea shipping route, and product of Japanese medicine in the Samurai era.

Now Toyama is famous for medicine, biotechnology, IT-related industries, and tourism.

Population 422,000

Toyama Bay to North- delicious sea foods , rich in fishery products,
Tateyama mtns. to East- many places to visit

Access

From Tokyo

1 hr from Haneda by airplane
2 hrs by Shinkansen (Bullet train)

From Seoul

2 hrs by airplane (Tue, Fri, Sun)

From Shanghai

2.5 hrs by airplane (Tue, Sat)

From Taipei

3.5 hrs by airplane (Mon, Thu, Fri, Sun)

Venue

Toyama International Conference Center,
Toyama-city

All rooms were reserved
for the period of ASSW
2015.





Main hall that accommodates 825 persons

- Main hall with 825 seats
- 5 multi-purpose halls, with more than 100 seats
- 2 other small meeting rooms available for meeting with 10-20 persons.



2 Conference rooms

Touristic spots



World Heritage - Ainokura
"Gassho" (thatched gable roof)-
style House Community



Snow-wall along the
Tateyama/Kurobe Alpine Route

And many others.

ASSW2015

- Main Organizers
IASC and related partners
- Co-Organizers
Science Council of Japan
- Local Organizing Group
NIPR, JCAR, MEXT, IARC, JAMSTEC, JAXA
- Supported by
Toyama prefecture, Toyama city, and
- LOC

Chair: K. Shiraishi, Director-General of NIPR

vice-chairs: A. Sugimoto(HU), T.Ohata(JAMSTEC), H.Enomoto(NIPR)

members: H. Tanaka(U. Tsukuba), M. Ishikawa(Hokaido U.),
M.Uchida (NIPR), Y.Kodama(NIPR), T. Sueyoshi
(JAMSTEC), H. Takakura (Tohoku U.), M Hori(JAXA)

ASSW2015 Whole Program(tentative)

date	am/pm	Main Hall	Room201	Room202	Room203	Room204		
Apr. 23(Thu.)	am	SHWG	TWG	MWG	FARO		Council	IASC Council
	pm						ISIRA	AWG
Apr. 24(Fri.)	am	AWG	CWG	APECS	PAG	EPB	CWG	IASC Cryosphere WG
	pm						MWG	IASC Marine WG
Apr. 25(Sat.)	am	Council		APECS		NySMAC	SHWG	IASC Social & Human WG
	pm						TWG	IASC Terrestrial WG
Apr. 26(Sun.)	am	Public lecture					APECS	Association of Polar Early Career Scientists
	pm						FARO	Forum of Arctic Research Operators
Apr. 27(Mon.)	am	ICARP III					EPB	European Polar Board
	pm						PAG	Pacific Arctic Group
Apr. 28(Tue.)	am	ICARP III					IPA	International Permafrost Association
	pm						ISAR-4	
Apr. 29(Wed.)	am	ICARP III						
	pm						ISAR-4	
Apr. 30(Thu.)	am	ISAR-4						
	pm						ISAR	International Symposium on the Arctic Research

Scientific Symposium: ISAR-4

- A part of ASSW2015 science symposium
- ISAR-4 SSC was formed with 24 members.

Chairs: Atsuko Sugimoto, Volker Rachold

- Now discussing on:
 - Direction and subtitle of ISAR-4
 - Programming sub-committee: Chair: Rikie Suzuki, Vice-chair: Seung-II Nam

Members: Session conveners

-Sessions: General and Special (Draft)

General sessions

- >Atmospheric science
- >Ocean and sea ice
- >Hydrology, permafrost and snow cover
- >Ice sheets, glaciers and ice cores
- >Terrestrial ecosystem
- >Marine ecosystem
- >Geomorphology and geology*
- >Geospace*
- >Integrated modeling studies
- >Social and human*

Special sessions will be solicited.

ICARPIII

IASC's 25th anniversary celebration

Schedule (Draft) as of April.2, 2014

	ASSW2015LOC	ISAR-4	ICARPIII / IASC
Feb. 2014	Feb. 14 , 2nd LOC meeting	Feb. 14 1 st ISAR-4 LWG meeting	
Mar. 2014			
Apr. 2014	Apr. 6 Meeting w/IASC sec.	ASSW2014(Apr. 5-11) Helsinki Apr. 6 ISAR-4SSC meeting	Apr. 8 Common day-ICARPIII
		1st circular open Call for Session starts	
May 2014			
Jun. 2014		Jun. 30 Call for Session closes	
Jul. 2014	Website		
Aug. 2014			
Sep. 2014	Beginning : 2nd circular open ASSW2015 registration starts	Middle : 2nd circular open Abstract collection starts	
Oct. 2014			
Nov. 2014		Middle: Abstract collection ends	
Dec. 2014		Middle. Abstract acceptance notice	
Jan. 2015			
Feb. 2015	Middle: Early Bird ends	Middle: Program open	
Mar. 2015	Middle: Registration closes		
Apr. 2015	ASSW2015 (Apr. 23-30)Toyama, Japan		