

# 極域データの国際連携 と学術データベース

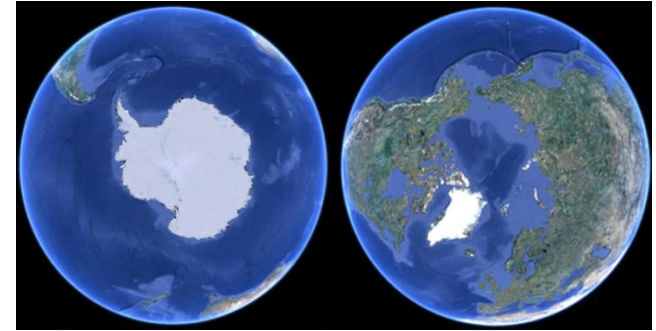


金尾 政紀

極域環境データサイエンスセンター



# Polar Environmental Data Science Center (PEDSC) DS/NIPR-ROIS

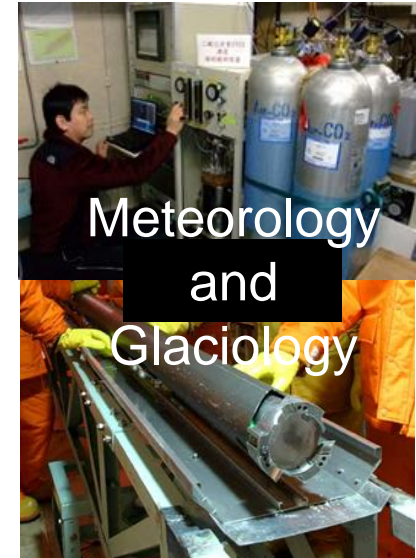


*Collaboration*  
*Open Data*

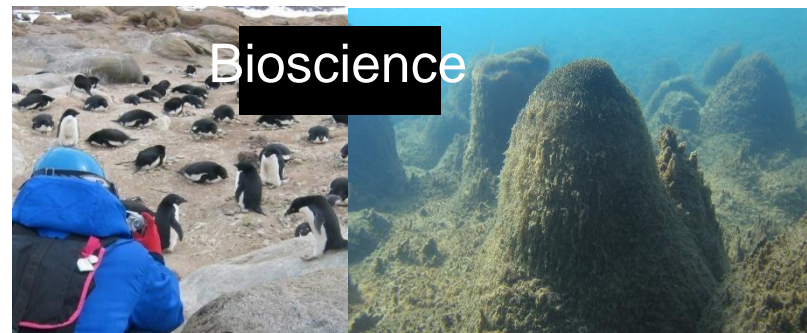
*Data Science*

*Network*

*Database*



**Geoscience**



**Bioscience**

# Polar Environment Data Science Center / DS / ROIS

NIPR

DS/ROIS

External  
Community

Polar Environment Data Science Center

Observation and Research activity  
in Arctic and Antarctic regions

## Digital data

- Space and Upper Atmospheric Sciences Group  
PANSY, EISCAT, aurora, magne, ULF, VLF, CNA
- Meteorology and Glaciology Group  
CO<sub>2</sub>, CH<sub>4</sub>, aerosole, meteorological satellite
- Geoscience Group: seismology, gravity, VLBI
- Bioscience Group: marine biology, genome data

## Sample data

- Ice core
- Meteorite
- Rock
- Greenhouse effect gas
- Biodiversity

## Data Base System

- Science Data Base
- ADS (Arctic Data archive System)
- IUGONET (Inter-university Upper atmosphere Global Observation NETwork)
- Antarctic GIS system

Collaboration with national and international communities

Data Science, Collaborative research

Data Publication (Polar Data Journal)

Integrated  
Database

- University, College
- Research Institution
- Company
- Public

- ArCS
- GRENE
- JCAR
- IASC
- SIOS

- SCAR/ICSU
- WDS/ICSU
- CODATA/ICSU
- GCMD/NASA

**Participants in the SCAR 2016 SCADM meeting 20-21 August 2016  
in the Renaissance Hotel, Kuala Lumpur.**



**Scientific Committee on Antarctic Research  
(SCAR / ICSU->ISC)**

**Standing Committee on Antarctic Data Management  
(SCADM/ SCAR)**

# SCADM (南極データマネジメント委員会)

- Standing Committee on Antarctic Data Management -



Scientific Committee  
on Antarctic Research

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## PRODUCTS MENU

SCAR Library +

Data & Databases -

SCADM (SCAR's Data Management Committee) \_

About

News

Members

Resources

## STANDING COMMITTEE ON ANTARCTIC DATA MANAGEMENT (SCADM)



ABOUT

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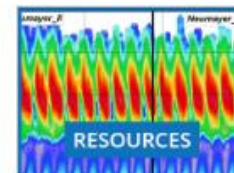
NEWS

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MEMBERS

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RESOURCES

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Data and information are valuable and irreplaceable resources. Proper management of data and information is

# JCADM

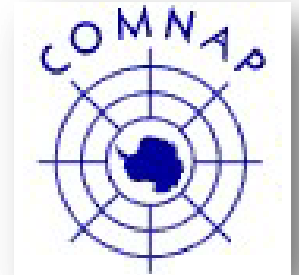
## Joint Committee on Antarctic Data Management

(南極データ管理合同委員会)

*"Scientific observations and results from Antarctica shall be exchanged and made freely available."* (Antarctic Treaty , section III.1.c)



SCAR/COMNAPが1997年に設置



- 各国のデータマネージメント推進への協力(データポリシー、メタデータ提出)
- (主に)メタデータの管理
- データの所在についての情報提供
- SCAR/COMNAPへの報告、SCAR関連のSSG,WGとの連絡調整
- IPYにおけるデータマネージメント



# 南極科学委員会 (SCAR) に関する データのインフラストラクチャー

Antarctic Master Directory (AMD) / GCMD / NASA  
南極マスターディレクトリー



registering metadata



A user can search a metadata catalogue. Data might be linked ??

**Antarctic Data Management System (ADMS)**  
= AMD + NADCs


National Antarctic Data Centers (NADC)  
各国のデータセンター

# GCMD; SCAR related portals


A Global Change Master Directory Portal

## Customized NADC/SCAR Portals


AMD\_JP+Arctic\_JP; N=300



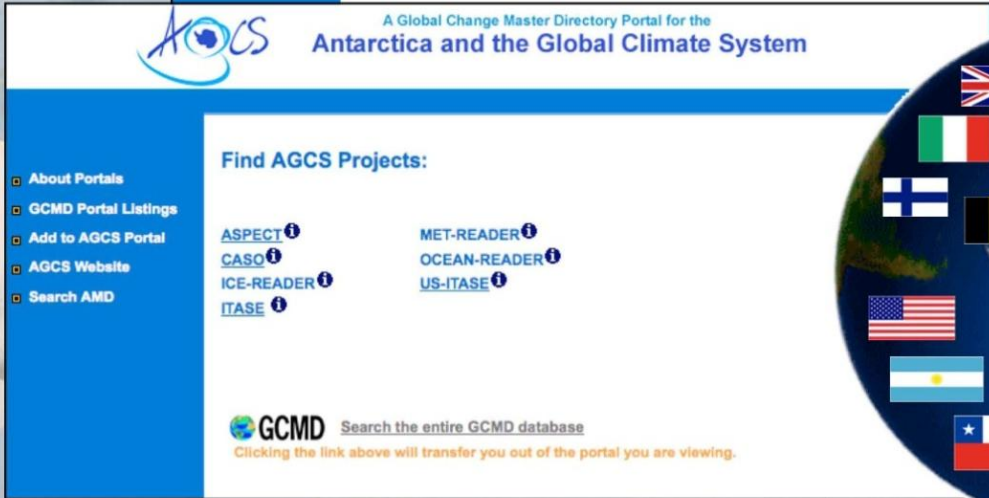
A Global Change Master Directory portal for the  
Antarctica New Zealand Data Center



A Global Change Master Directory portal for the  
Malaysian Antarctic Data Center



NIPR  
Arctic Data  
A Global Change Master Directory Portal for  
The National Institute of Polar Research, Japan




AGCS  
A Global Change Master Directory Portal for the  
Antarctica and the Global Climate System

Find AGCS Projects:

<a href="#">ASPECT</a>	<a href="#">MET-READER</a>
<a href="#">CASO</a>	<a href="#">OCEAN-READER</a>
<a href="#">ICE-READER</a>	<a href="#">US-ITASE</a>
<a href="#">ITASE</a>	

GCMD Search the entire GCMD database  
Clicking the link above will transfer you out of the portal you are viewing.



Providing DIFs to GCMD by using WAF (web accessible folder) inside NIPR metadata portal

南極マスターディレクトリー(AMD)  
/ 汎地球変動マスターディレクトリー  
(GCMD)/アメリカ航空宇宙(NASA)





About NIPR

NIPR Research

Data Base

Contact

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# NIPR関連データへのGateway

## Data Base

Space and Upper Atmospheric Sciences

Meteorology and Glaciology

Geoscience

Bioscience

Governmental Institutions



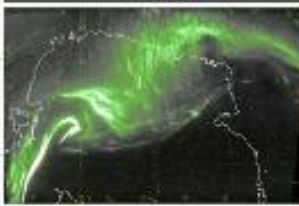
Project

Monitoring

IPY

Arctic

Umitakamaru



Martian Meteorite

Eucrite from Vests

Carboneaceous Chondrite

Lunar Meteorite

Data Base

- ▶ Polar Data Center
- ▶ Ice Core Research Center
- ▶ Science Data Base
- ▶ Data Center for Aurora in NIPR
- ▶ EISCAT database in NIPR
- ▶ Dome Fuji Ice Core
- ▶ Collection of rocks and minerals
- ▶ Antarctic Meteorite Research Center
- ▶ Biological Specimen Archive

# 極域の学術(メタ)データベース

- ◆ 南極観測事業(JARE)をはじめ、(北極を含む)両極域での調査・研究活動により取得された科学的データのメタ情報を収集・公開
  - IGY(1957-58)以後の長期間に渡るモニタリング観測
  - 短期間に集中的に行うプロジェクト研究
  - 極地研(研究分野別) + 定常官庁
- ◆ 文字情報・数値形式の所在情報(メタデータ)として、一括して集積
- ◆ 専用のポータルサーバで公開 <http://scidbase.nipr.ac.jp/>
- ◆ NASAの南極マスターディレクトリー(Antarctic Master Directory)等とも連携



# NIPR Metadata Portal

学術メタデータベース

Top Page;

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

NIPR\_MetaDB; N=380

Both the English &  
Japanese pages

107,000 access from  
2011. December

The screenshot shows the NIPR Metadata Portal website. The browser address bar displays [http://scidbase.nipr.ac.jp/?ml\\_lang=en](http://scidbase.nipr.ac.jp/?ml_lang=en). The page title is "National Institute of Polar Research Science Database". The language is set to English. The main content area is titled "meta data list" and is divided into categories: Space and Upper Atmospheric Sciences, Meteorology and Glaciology, Geoscience, Bioscience, and Governmental Institutions. Below this, there is a "New Meta Data" section with a list of entries:

Thumbnail	Date	Time	Title
	2012/6/1	11:27	<a href="#">Ocean color remote sensing data</a>
	2012/6/1	11:23	<a href="#">Polar plant biodiversity database</a>
	2012/6/1	10:54	<a href="#">Database of animal specimens from polar regions</a>
No image	2012/6/1	10:51	<a href="#">Plankton Samplings on Board the "Fui" in 1980 -1983</a>
No image	2012/6/1	10:41	<a href="#">Pigment Content and Salinity of Sea Ice Cores collected near Showa Station, Antarctica in 1983/84</a>
No image	2012/6/1	10:38	<a href="#">Chlorophyll concentrations and environmental parameters recorded with a moored buoy system</a>
No image	2012/5/30	16:02	<a href="#">Chlorophyll concentrations and environmental parameters recorded with a moored buoy system</a>
No image	2012/5/30	15:57	<a href="#">Oceanographic and Marine Biological data near Showa Station</a>
No image	2012/5/30	15:51	<a href="#">Whale sighting efficiency of the crew on board ocean research vessels in BIOMASS/FIBEX</a>
No image	2012/5/30	15:10	<a href="#">Zooplankton Data at Showa Station</a>

Below the list is a "Hot News!" section with several items:

- User Manual was renewed. (2nd version)(2012-04-18 10:30:51)
- Dr. Mustapha Mokrane, Science and Information Technology of ICSU visited NIPR.(2012-02-09 18:12:58)
- 2012 JpGU; Union Session (U-01) "Toward a New Framework of Global Data Activity"(2012-01-27 15:39:01)
- The "Access Counter " began at the metaDB portal. (2011-12-02 16:51:29)
- IPY Data Management page was created(2011-11-21 12:07:17)
- Standing Committee on Antarctic Data Management meeting (SCADM-15)(2011-11-07 17:37:39)
- The first ICSU WDS Conference - Global Data for Global Science - was held(2011-11-07 17:21:01)
- Introduction Lecture for "Metadata Portal Server" was held(2011-07-28 17:48:21)
- about user password(2011-07-01 09:26:28)
- The "Polar Information Commons: PIC" page was opened.(2011-06-29 14:54:09)

The page also features a "Related Databases" section on the right with links to Polar Data Center, Aurora, EISCAT Japan, THE PENGUINNESS BOOK, ANIMAL SPECIMENS DATABASE, Antarctic Meteorite Database, Polar Sets, NIPR, and POLAR YEAR. At the bottom, there is a "PIC Norms" section with a Creative Commons license icon and text: "This work by <http://polaris.nipr.ac.jp/> is licensed under a Creative Commons Attribution 3.0 Unported License. None expects that users will follow the Polar Information Commons Ethics and Norms of Data Sharing."

# Flow Chart of Data Publication on Polar Science

## データ共有(相互利用)の促進

Science Metadata Base (English & Japanese)

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

National Institute of Polar Research  
Science Database

Welcome admin

日本語 English

meta data list

Date	Title
2011/3/7 12:06	EISCAT radar
2011/3/4 18:36	Teleseismic digital waveform records
2011/3/4 14:11	Teleseismic digital waveform records
2011/3/4 7:51	All-sky Imager Observation at South Pole Station
2011/3/4 7:46	Monitoring of marine pollution
2011/3/4 7:45	Antarctic region topographical map
2011/3/4 7:43	Fluctuation survey of exposed rock area
2011/3/4 7:41	Ultraviolet limits solar radiation observation classified by wave length
2011/3/4 7:40	Whale sighting efficiency of the crew on board ocean research vessels in BIOMASS/FIREX
2011/3/4 7:35	Quaternary fossil information near the Syowa Station

HOT NEWS !

- Cherry Blossoms in Mooned (2011-03-04 11:52:40)
- The plain tree bloomed (2011-03-04 11:52:12)
- (2011-03-04 11:52:47)

NIPR\_MetaDB; N=380



Antarctic Master Directory / GCMD

Japanese Antarctic Portal (AMD\_JP)

AMD\_JP+Arctic\_JP; N=300

Japanese Arctic Portal (Arctic\_JP)



IPY Portal in GCMD

IPY\_JP; N=250

NASA / GCMD / Antarctic Master Directory

SC-ADM

Standing Committee on Antarctic Data Management / SCAR

International Polar Year Data and Information Service

IPY Data and Information Service / IPY-DIS

PIC\_JP; N=20

Polar Information Commons / CODATA

World Data System - CODATA / ICSU

International Data Management Organization / Committee

Science Database in Polar Data Center / NIPR

Exchange of Data & Information

Exchange of Data & Information

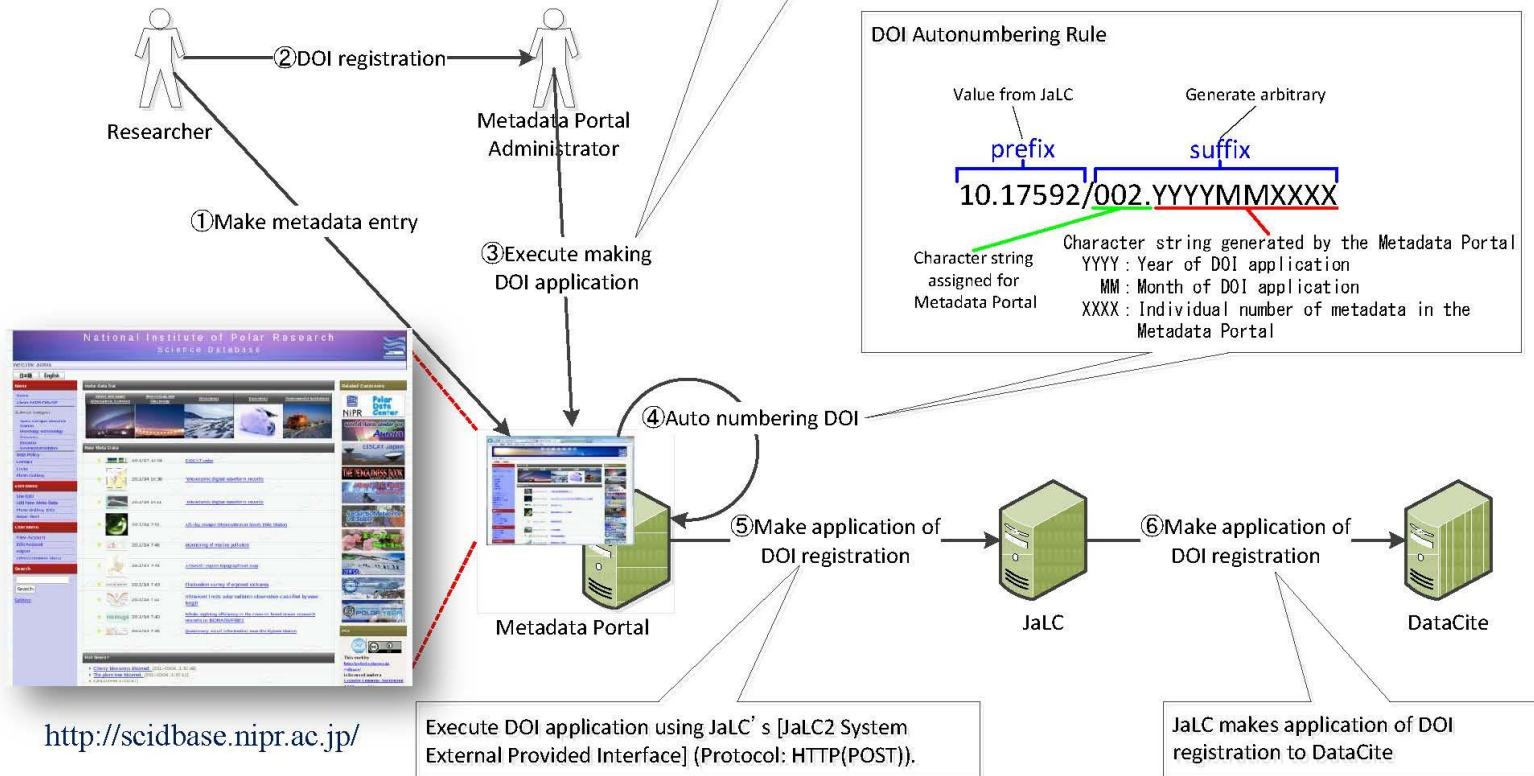
# Data Publication

( DOI assignment to the data inside PEDSC metadata portal)

Provide DOI from DataCite via Japan Link Center (JaLC)

登録データへのDOI付与システムの構築

Only administrator of the Metadata Portal can execute application to DOI registration.



A flow chart to obtain the DOI prefix from DataCite to the PEDSC metadata portal server (<http://scidbase.nipr.ac.jp/>) via the JaLC gateway interface.

# Arctic Data Committee (ADC/ IASC / ICSU)

International Arctic Science Committee



IASC ACTIVITIES ASSW OUTREACH CAPACITY BUILDING DATA & OBSERVATIONS

## ARCTIC DATA COMMITTEE



HOME ABOUT US ACTIVITIES MEETINGS PRODUCTS MEMBER AREA

ASA / Kathryn Hansen



### ADC News & Events

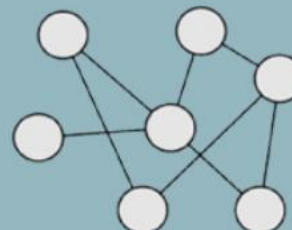
Arctic Observing Summit, 24-26 June 2018, Davos, Switzerland  
3 Nov 2017

Polar 2018, 15-26 June, 2018, Davos, Switzerland  
3 Nov 2017

ISAR-5, 15-18 January 2018, Tokyo, Japan



ARCTIC DATA



INTEROPERABILITY



GET INVOLVED!

15 -16 October 2013



## International Forum on 'Polar Data Activities in Global Data Systems'

International Forum on  
**Polar Data Activities**  
in  
**Global Data Systems**

15-16 October 2013  
National Museum of Nature and Science, TOKYO, JAPAN

Forum Website  
<http://www.polar-data-forum.org/>

Sponsored by:



# SCADM@Davos

## 2018 June



- **第22回南極データマネジメント委員会 (Standing Committee on Antarctic Data Management; SCADM-22) : 2018年6月15 - 16日**
- 初日 18名、二日目 26名参加
- 議長Anton Van de Putte(ベルギー)の進行
- NASA/GCMDの南極マスターディレクトリー(AMD)年次報告
- 南大洋観測システム(SOOS)のデータ管理の現況報告
- 各国の南極データセンター(NADC)でのデータ管理状況(National Reports)
- 12カ国(アメリカ、オーストラリア、カナダ、フィンランド、ドイツ、日本、オランダ、ノルウェー、イギリス、南アフリカ、中国、ベルギー)
- 我が国からは極域環境データサイエンスセンター活動を中心に、データ相互利用・データ出版(DOI付与)・Polar Data Journal等について説明
- 午後: アジア極域科学フォーラム(AFoPS)でのデータ共有促進について、Masaki Kanaoより説明・意見交換。今後AFoPS各国との協同によりGCMDでの専用ポータルサーバ構築、連携データ検索(Federation data search)等によるデータ相互利用と共有を進める
- 2016-2018年のSCADMワークプランに対する活動報告(Frank Nitsche)、オランダの新規データ交換インフラ(POLDER)の紹介、GCMDへの今後の要求項目のリストアップ(DIF形式のバージョンアップに伴う問題点等)、等を議論



PROVIDE A FOUNDATION FOR  
COOPERATIVE RESEARCH ACTIVITIES



## The Asian Forum for Polar Sciences

The Asian Forum for Polar Sciences (AFoPS) is a non-governmental organization established in 2004 to encourage and facilitate cooperation for the advance of polar sciences among countries in the Asian region.

The Forum consists of its 6 Members, national polar research institutions representing **China, Japan, South Korea, India, Malaysia and Thailand**. AFoPS also has 4 observers: **Indonesia, Philippines, Sri Lanka and Vietnam**.

Dr. Yang Huigen, Director General of Polar Research Institute of China (PRIC), serves as the Chair of AFoPS for 2017-2018.

INFORMATION

AFoPS Key Documents

Meeting Papers

News

Photos

**Databases** >

Useful Links

## Databases

Home > Information > Databases



**Promote data inter-operability among AFoPS involved countries  
「アジア極域科学フォーラム 参画各国でのデータ共有の推進」**

## PRIC

Resource-sharing Platform of Polar samples >

Chinese National Arctic and Antarctic Data Center >

Gate to the Poles

## NIPR

Polar Data Center

Science Database

Dome Fuji Ice Core (in Japanese)

## KOPRI

Korea Polar Data Center >

Antarctic Functional Genomics Project >

Polar and Alpine Microbial Collection >

Korea Curations of Antarctic Meteorities >

## NCAOR

National Polar Data Center >

National Marine Geoscientific Datacentre >