

南極条約第7条5に基づく事前通告のための電子情報交換システム（EIES）について（案）

外務省地球環境課

1. 背景

- (1) 南極条約第7条5は、各締約国に以下の活動についての通報を求めている。
「各締約国は、この条約がその国について効力を生じた時に、他の締約国に対し、次のことについて通報し、その後は、事前に通告を行う。
(a) 自国の船舶又は国民が参加する南極地域向けの又は同地域にあるすべての探検隊及び自国の領域内で組織され、又は同領域から出発するすべての探検隊
(b) 自国の国民が占拠する南極地域におけるすべての基地
(c) 第1条2に定める条件に従って南極地域に送り込むための軍の要員又は備品」
(参考：第1条2＝この条約は、科学的研究のため又はその他の平和的目的のために、軍の要員又は備品の使用を妨げるものではない。)
- (2) これに基づき、南極条約協議国会議（ATCM）は2001年に「決議6」を採択し、事前に通報・通告すべき事項をとりまとめた。
- (3) その後、通報のための共通フォーマットが「電子情報交換システム(Electronic Information Exchange System: EIES)としてATCMで2008年に合意された。各締約国がフォーマットに必要事項を入力、承認することで通報内容が公開される。

2 今回提出する資料

事前報告（Pre-season Information＝2018年～2019年に行う活動の事前の通告。）

ア 活動関連事項（1.1, 1.2）

使用予定基地、観測船（しらせ）、観測用航空機、観測用ロケット、保護地域への立入りにつき報告

イ 科学関連事項（2.1）

実施予定の研究及び観測活動

なお、年次報告(Annual Report＝2017年4月～2018年3月に行った活動の事後報告)、常設報告(Permanent Information＝恒久的に設置されている設備などの報告)については、6月の第152回本部総会で承認済み。

(了)

2018/2019 Pre-season Information

1.1 Operational information

1.1.1 National Expeditions

A. Stations

Name: Syowa

Type: winter

Location: Higashi-Ongul To, Lützow-Holmbukta

Latitude: 69°00'25" S

Longitude: 39°35'01" E

Max. Population: 130

Medical Facilities: Minimum required surgical operation facilities and dental emergency

Remarks / Description:

Elevation: 28.9 m

Established: January 29, 1957

Major Field Activities: Biological and geophysical observations in Lützow-Holmbukta area

Name: Dome Fuji

Type: Seasonal

Location: On the top of Dronning Maud Land

Latitude: 77°19'01"S

Longitude: 39°42'12"E

Max. Population: 14

Medical Facilities: None

Remarks / Description:

Elevation: 3,810m

Established in January 29, 1995

There are 9 buildings below snow surface. 9 people can be accommodated.

Operating Period: from November to February

Major Field Activities: Glaciological survey

B. Vessels

Name : R/V Shirase

Country of registry: Japan

Maximum Crew: 179

Maximum Passengers: 80

Remarks: The Indian sector of the Southern Ocean (SO) and SO south of Australia will be visited.

Voyage Departure Date: 30, November, 2018

Voyage Departure Port: Fremantle, Australia

Voyage Arrival Date: 18 March, 2019

Voyage Arrival Port: Sydney, Australia

Voyage Purpose: Transportation of cargo and personnel / Support of oceanographic and field observations

Site Name: Lützow-Holmbukta, Kronprins Olav Kyst

C. Aircraft

Type: CH-101

Quantity: 2

Category: Local helicopter flights

Period From: December, 2018

Period To: March, 2019

Remarks: transportation of cargo and personnel / support of field observations

Flight Departure Date: December, 2018

Flight Purpose: Logistics

Type: AS350B2

Quantity: 1

Category: Local helicopter flights

Period From: December, 2018

Period To: March, 2019

Remarks: transportation of cargo and personnel / support of field observations

Flight Departure Date: December, 2018

Flight Purpose: Logistics

D. Research Rockets

(Please see Table 1)

E. Military

None

1.1.2 Non-governmental Expeditions

A. Vessel-based Operations

None

B. Land-based Operations

None

C. Aircraft Activities

None

D. Denial of Authorizations

None

1.2 Visits to Protected Areas

Area Type: ASPA

Area Number: 141 ('Yukidori Valley', Langhovde, Lützow-Holmbukta)

Period From: 1 November, 2018

Period To: 21 March, 2019

People Permitted: 21

Purpose: Research and management

Summary of Activities: Research and management

Event Project Name/Number: 60th Japanese Antarctic Research Expedition

2.1 Scientific Information

2.1.1 Forward Plans

(Please see Table 2)

(END)

2018/2019 Pre-season Information - Research Rocket

Table 1

1.1 Operational information

1.1.1 National Expeditions

D. Research Rockets

Location Launch	Date/Period/Frequency	Direction	Max. Altitude	Impact Area	Type	Specifications	Purpose	Project Title/Number
Syowa	Twice daily, throughout the year and up to 4 times during the summer	All directions, depending on wind	30,000 m	Within a radius of 200-300 km from the site	Rubber balloon	Radiosonde	Aerological observation	Meteorological observations/ Mechanism of variation in surface condition of the ice sheet and heat and moisture budget in east Antarctica
Syowa	1 to 2 times a week, throughout the year	All directions, depending on wind	30,000 m	Within a radius of 200-300 km from the site	Rubber balloon	ECC (Electrochemical Concentration Cell) Type Ozone sonde	Ozone vertical profile measurement	Meteorological observations
Syowa	10 times, throughout the year (mainly in January)	All directions, depending on wind	30,000 m	Within a radius of 200-300 km from the site	Rubber balloon	Water vapor sonde	Water vapor measurement	A study on the global atmosphere system based on high-resolution observations of the Antarctic atmosphere
Syowa	100 times, throughout the year (mainly in March and August)	All directions, depending on wind	30,000 m	Within a radius of 200-300 km from the site	Rubber balloon	Radiosonde and Temperature reference sonde	High-resolution temperature measurement	A study on the global atmosphere system based on high-resolution observations of the Antarctic atmosphere
S17	30 times in the summer (from December 2018 to January 2019)	All directions, depending on wind	30,000 m	Within a radius of 100 km from the site	Rubber balloon	Radiosonde	Aerological observation	Mechanism of variation in surface condition of the ice sheet and heat and moisture budget in east Antarctica
travers route from S16 to Dome Fuji	50 times in the summer (from November 2018 to January 2019)	All directions, depending on wind	30,000 m	Within a radius of 100 km from the site	Rubber balloon	Radiosonde	Aerological observation	Mechanism of variation in surface condition of the ice sheet and heat and moisture budget in east Antarctica
R/V Shirase	Twice daily, up to ten days in the summer (from February to March 2019)	All directions, depending on wind	30,000 m	Within a radius of 100 km from the site	Rubber balloon	Radiosonde	Aerological observation	Mechanism of variation in surface condition of the ice sheet and heat and moisture budget in east Antarctica
travers route from S16 to Mizuho	50 times in the winter (from September to November 2019)	All directions, depending on wind	30,000 m	Within a radius of 100 km from the site	Rubber balloon	Radiosonde	Aerological observation	Mechanism of variation in surface condition of the ice sheet and heat and moisture budget in east Antarctica

Forward Plans (JARE60)

ID	PI	Project Name/Number:	Discipline: (ドロップダウンリストから選択)	Location of Activities:	Contact Point	Details/Description:	Link (URL):	Additional information: (添付ファイルの有無を記載。添付はpdfファイルで提出)
Research Project (研究観測)								
Prioritized Research Project: Investigation of changes in the Earth system from Antarctica (重点研究観測: 南極から迫る地球システム変動)								
AJ0901	佐藤薫	A study on the global atmosphere system based on high-resolution observations of the Antarctic atmosphere 南極大気精密観測から探る全球大気システム	Earth and atmospheric sciences - other	Syowa	Name: Yoshihiro Surname: Tomikawa Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0660 Email: tomikawa@nipr.ac.jp	Studies of various processes on the global atmospheric environmental change using Antarctic observations with (1) PANSY (Program of the Antarctic SYowa MST/IS) radar, a large atmospheric radar and (2) a resonance-scattering lidar, which are to be developed in this research period, as well as (3) various instruments such as MF radar, OH spectrometer, Rayleigh lidar, millimeter wave spectrometer etc. operated/developed already during the VIIIth term.		N
AJ0902	青木茂	Research of Ocean-ice Boundary Interaction and Change around Antarctica 氷床・海水縁辺域の総合観測から迫る大気・氷床・海洋の相互作用	Climate studies	Lützow-Holmbukta Shirase Glacier Cape Darnley Totten Glacier	Name: Takeshi Surname: Tamura Job Title or Position: Assistant Professor, NIPR Phone: +81-42-512-0682 Email: tamura.takeshi@nipr.ac.jp	Unmanned observations such as under-ice oceanographic, sea-floor and cryospheric observations using ROV/EM bird, geodetic network observations of ice/ocean motion and deformation using GPS/ GNSS, and oceanographic observations using tethered and moored profiling observation systems. These remote observation techniques will be applied to the new horizons such as Lützow-holm Bay and Cape Darnley regions for the understandings of the mechanisms of different ice-ocean interaction regimes.		N
AJ0903	川村賢二	Antarctic paleoenvironmental reconstructions for unraveling the Earth system variations 地球システム変動の解明を目指す南極古環境復元	Environmental sciences	Syowa station, Dome Fuji, Droning Maud Land	Name: Kenji Surname: Kawamura Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0684 Email: kawamura@nipr.ac.jp	Inland traverse from S16 to Dome Fuji. Snow observations and sampling along the route and in the vicinity of Dome Fuji station. Around Dome Fuji, ice radar and other glaciological/meteorological observations.		N
Ordinary Research Project (一般研究観測)								
AP0901	加藤千尋	Space weather study using cosmic ray observations at Syowa Station in Antarctica 南極昭和基地での宇宙線観測による宇宙天気研究の新展開	Astrophysics	Syowa Station	Name: Chihiro Surname: Kato Job Title or Position: Associate Professor, Shinshu University Phone: +81-263-37-2514 Email: ckato@shinshu-u.ac.jp	Continue cosmic ray observations with newly installed a pair of neutron monitor and muon detector at Syowa base. These observations will be used for better understanding the space weather, utilizing a unique location in Antarctica for cross-calibrating the different responses of two types of detectors to the variations of primary cosmic rays and the atmosphere.		N
AP0902	門倉昭	Large area network observation of auroral phenomena using unmanned system 無人システムを利用したオーロラ現象の広域ネットワーク観測	Earth and atmospheric sciences - other	Syowa Station Amundsen Bay Skallen, Inthovde, H68 Mizuho, MD364, Dome Fuji	Name: Akira Surname: Kadokura Job Title or Position: Professor, ROIS Phone: +81-42-512-9105 Email: kadokura@nipr.ac.jp	Low-power autonomous auroral observation system at Amundsen Bay works continuously all through the year. Unmanned magnetometer network around Amundsen Bay and Lützow-Holmbukta area and along the route from Mizuho to Dome Fuji is maintained.		N
AP0903	海老原祐輔	Dynamics of magnetosphere and ionosphere by using multi-wavelength, simultaneous observations of auroras at South Pole and McMurdo stations 南極点・マクマード基地オーロラ多波長同時観測による磁気圏電離圏構造の研究	Earth and atmospheric sciences - other	South Pole Station	Name: Yusuke Surname: Ebihara Job Title or Position: Associate Professor, Kyoto University Phone: +81-774-38-3346 Email: ebihara@rish.kyoto-u.ac.jp	We have operated all-sky imagers at South Pole Station to observe dynamics of high-latitude auroras. The purpose of this trip is to repair one of the imagers, and collect data from the imagers. In addition, we will make an inspection of related equipments in the station.		N
AP0904	行松彰	Study on polar upper atmosphere in possible grand minimum period and inner magnetosphere dynamics with SuperDARN radars SuperDARNレーダーを中心としたグランドミニマム期における極域超高層大気と内部磁気圏のダイナミクスの研究	Earth and atmospheric sciences - other	Syowa station Dome Fuji, Zhongshan South Pole stations	Name: Akira Sessai Surname: Yukimatu Job Title or Position: Associate Professor, NIPR Phone: Email:	With SENSU SuperDARN HF radars at Syowa station and auroral all-sky imager network at Dome Fuji, Zhongshan and South Pole stations under FOVs of the SENSU radars, simultaneous observation will be conducted to try to reveal the influence of low solar activity period on upper atmosphere and the dynamics of inner magnetosphere.	URL: http://polaris.nipr.ac.jp/~SD/	N

ID	PI	Project Name/Number:	Discipline: (ドロップダウンリストから選択)	Location of Activities:	Contact Point	Details/Description:	Link (URL):	Additional information: (添付ファイルの有無を記載。添付はpdfファイルで提出)
AP0929	佐藤光輝	Global lightning activities and atmospheric disturbances derived from electromagnetic wave and electric field measurements 電磁波・大気電場観測が明らかにする全球雷活動と大気変動	Earth and atmospheric sciences – other	Nishi-Ongul To (Island) Higashi-Ongul To (Island)	Name: Mitsuru Surname: Sato Job Title or Position: Lecturer, Faculty of Science, Hokkaido University Phone: +81-11-706-2763 Email: msato@ep.sci.hokudai.ac.jp	Continuous measurements of ELF electromagnetic waves in the frequency range of 1-100Hz and atmospheric DC electric field will be carried out. At Nishi-Ongul To (Island), two horizontal induction magnetometers were installed for the ELF measurement, while the field mill sensors were installed at Higashi-Ongul To (Island) for the atmospheric electric field measurement. From these data, it is possible to monitor global activities of lightning discharges and the global electric circuit.		N
AP0910	林政彦	Changing of East Antarctic aerosols in global biogeochemical environment 全球生物地球化学的環境における東南極域エアロゾルの変動	Atmospheric sciences	Along cruise track of R/V Shirase Syowa S17 site	Name: Masahiko Surname: Hayashi Job Title or Position: Professor, Faculty of Science, Fukuoka University Phone: +81-871-6631 ex.6168 Email: mhayashi@fukuoka-u.ac.jp	Observation of optical property and aerosol concentration along cruise track of R/V Shirase by ship borne instruments, skyradiometer, condensation particle counter, optical particle counter, nephelometer, aethalometer, ceilometer Sampling of Bio-aerosol along cruise track of R/V Shirase and at S17 site, Syowa Station, and Fukuro-ura. Sampling of aerosol and size distribution of aerosol will be observed at S17 site, using multi-type UAVs.		N
AP0911	平沢尚彦	Mechanism of variation in surface condition of the ice sheet and heat and moisture budget in east Antarctica 東南極における氷床表面状態の変化と熱・水循環変動の機構	Climate studies	Syowa Droning Maud Land	Name: Naohiko Surname: Hirasawa Job Title or Position: Assistant Professor, NIPR Phone: +81-42-512-0685 Email: hira.n@nipr.ac.jp	1) radiosonde, tethered balloon, UAV (unmanned aerial vehicle) and ground-based remote sensing at key stations for obtaining atmospheric circulation and the property such as water vapor, aerosols and clouds and 2) traverse around Droning Maud Land and installing AWS (Automatic Weather Station) for obtaining accumulation, snow samples, snow property data (grain size, impurity), surface-air property data (aerosols, water vapor and its stable isotopes) etc.		N
AP0913	金尾政紀	A study on physical interaction between the atmosphere, ocean, cryosphere and solid earth by using seismic and infrasonic waves 地震波・インフラサウンド計測による 大気-海洋-雪氷-固体地球の物理相互作用解明	Geophysics and seismology	Syowa Langhovde Skarvnes Skallen Rundvågshetta Akarui-Misaki	Name: Masaki Surname: Kanao Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0713 Email: kanao@nipr.ac.jp	Multiple-sites arrayed observation of infrasound has been studied to reveal the energy transportation among the ionosphere, atmosphere, ocean, cryosphere, and geosphere in Antarctica. The target is to identify the infrasound generated by icequake, motion of icesheets and ice fields, blizzard, aurora, etc. by the arrayed observation. The infrasound, long-period barometric waves, might be a good proxy for studying climate changes.		N
AP0914	山口亮	Search for extraterrestrial materials in Antarctica 南極における地球外物質探査	Planetary science	Dome Fuji	Name: Akira Surname: Yamaguchi Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0707 Email: yamaguchi@nipr.ac.jp	The purpose of this project is to collect surface snow near the Dome Fuji station which contains micrometeorites with very low degrees of terrestrial weathering.		N
AP0936	外田智千	Crustal evolution in Polar region 極域の地殻進化の研究	Geology	Lützow-Holm Bay area Prince Olav Coast Enderby Land	Name: Tomokazu Surname: Hokada Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0714 Email: hokada@nipr.ac.jp	Geological survey of outcrops and nunataks in Dronning Maud Land and Enderby Land will be carried out in order to understand the crustal structure and history of East Antarctica, and its geologic correlation with the surrounding continents.		N
AP0922	高橋晃周	Responses of marine predators to environmental change: year-round tracking approach 一年を通じた生態計測で探る高次捕食動物の環境応答	Biological sciences – other	Langhovde	Name: Akinori Surname: Takahashi Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0741 Email: atak@nipr.ac.jp	The year-round tracking of foraging behaviour of Adelie penguins by using biologging devices such as GPS and geolocators.		N

ID	PI	Project Name/Number:	Discipline: (ドロップダウンリストから選択)	Location of Activities:	Contact Point	Details/Description:	Link (URL):	Additional information: (添付ファイルの有無を記載。添付はpdfファイルで提出)
AP0923	茂木正人	Marine Ecosystem of the Indian Ocean Sector of the Southern Ocean 南大洋インド洋セクターにおける海洋生態系の統合的研究プログラム	Biological sciences – other	the Indian Ocean Sector of the Southern Ocean	Name: Masato Surname: Moteki Job Title or Position: Associate Professor, Tokyo University of Marine Science and Technology Email: masato@kaiyodai.ac.jp	Understanding of the ecosystem beneath sea ice is essential for ecological studies of both krill- and myctophid-based food webs. The black box beneath the ice should be opened. Water collections at some depths and plankton collections as well as acoustic sounding are carried out at stations, including those in ice covered areas. The community compositions at various depths as well as the vertical distributions of temperature, salinity and nutrients are observed for elucidating the environmental changes of the Southern Ocean.		N
AP0924	大谷真二	Medical researches on Antarctic expeditioners under extreme environment 極限環境下における南極観測隊員の医学的研究	Biological sciences – other	Syowa	Name: Satoshi Surname: Imura Job Title or Position: Professor, NIPR Phone: +81-42-512-0602 Email: imura@nipr.ac.jp	Survey for Legionella in Antarctic environment / Study on dental health of expedition personnel.		N
AP0937	伊村智	The origin and geohistory of biodiversity on the terrestrial ecosystem in Antarctica 南極陸上生態系における生物多様性の起源と変遷	Biology	Syowa Langhovde Skarvsnes Skallen Enderby land	Name: Satoshi Surname: Imura Job Title or Position: Professor, NIPR Phone: +81-42-512-0602 Email: imura@nipr.ac.jp	To understand the origin of biodiversity in Syowa Station area, detail information of terrestrial flora, meiofauna, and bacterial flora will be surveyed in the vicinity of Syowa Station.		N
Exploratory Research Project (萌芽研究観測)								
AH0902	林政彦	Spreading of polar science by imaging from UAV 無人飛行機による空撮が拓く極域観測	Other	Syowa Station S17 site	Name: Masahiko Surname: Hayashi Job Title or Position: Professor, Faculty of Science, Fukuoka University Phone: +81-871-6631 ex.6168 Email: mhayashi@fukuoka-u.ac.jp	Unmanned aerial vehicle (UAV) is rapidly getting to be an important platform of the polar activity. UAV provides a great variety of use in various fields. To satisfy the purposes, multiple types of UAV are needed. Aerial photography is one of common sensing for various fields in science and logistics. This study develops the techniques of aerial photography by UAV for the polar region. Movie of daytime aurora will be taken from 30 km in altitude using UAV borne infrared camera over S17 site.		N
AH0905	宮本佳則	Elucidation of behavioral ecology of fish under the sea ice 海水下における魚類の行動・生態の解明	Biological sciences – other	Syowa Station	Name: Yoshinori Surname: Miyamoto Job Title or Position: Professor, Tokyo University of Marine Science and Technology Email: miyamoto@kaiyodai.ac.jp	We conduct behavioral and ecological observation of fish in coastal area of Syowa Station by ultrasonic biotelemetry technique which technological innovation is advanced recently. At the same time, we aim to clarify the relationship between the behavior of the polar fish and the environment by comparing the ocean observation data such as CTD etc.		N
AH0907	牛尾収輝	Full-layer drilling to reveal a mechanism for growth and preservation of ultra multi-year landfast ice 超多年氷の成長・維持機構の解明に向けた海水全層掘削	Oceanography	Syowa Station Lützow-Holmbukta	Name: Shuki Surname: Ushio Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0676 Email: ushio@nipr.ac.jp	Sea-ice cores are sampled with the mechanical drill system to reveal a mechanism for growth and preservation of multi-year landfast ice. Using core samples, physical and chemical characteristics of sea ice are analysed.		N
Permanent Observation (基中観測)								
Monitoring Observation (モニタリング観測)								
AMS0901	宮岡宏	Data acquisition of Earth observing satellites 地球観測衛星モニタリング(極域衛星データ受信)	Other	Syowa	Name: Hiroshi Surname: Miyaoka Job Title or Position: Professor, NIPR Phone: +81-42-512-0662 Email: miyaoka@nipr.ac.jp	Data acquisition of NOAA, DMSP, AQUA and TERRA satellites with L/S/X-band receiving system at Syowa Station.		N
AMU0901	門倉昭	Auroral optical observation オーロラ光学観測	Earth and atmospheric sciences - other	Syowa	Name: Akira Surname: Kadokura Job Title or Position: Professor, ROIS Phone: +81-42-512-9105 Email: kadokura@nipr.ac.jp	Auroras are monitored with all-sky electron and proton auroral imagers (EAI and PAI), an all-sky color digital camera (CDC), all-sky black and white TV cameras (ATV), and Scanning photometer (SPM) from late February to early October at Syowa.		N

ID	PI	Project Name/Number:	Discipline: (ドロップダウンリストから選択)	Location of Activities:	Contact Point	Details/Description:	Link (URL):	Additional information: (添付ファイルの有無を記載。添付はpdfファイルで提出)
AMU0902	門倉昭	Geomagnetism observation 地磁気観測	Earth and atmospheric sciences - other	Syowa	Name: Akira Surname: Kadokura Job Title or Position: Professor, ROIS Phone: +81-42-512-9105 Email: kadokura@nipr.ac.jp	Absolute geomagnetic observation is carried out every month and geomagnetic variation observation with a 3-axis fluxgate magnetometer is carried out continuously all through the year at Syowa.		N
AMU0903	門倉昭	Monitoring observation of Geospace phenomena at West Ongul Island 西オングル島における宙空モニタリング観測	Earth and atmospheric sciences - other	Syowa West Ongul Island	Name: Akira Surname: Kadokura Job Title or Position: Professor, ROIS Phone: +81-42-512-9105 Email: kadokura@nipr.ac.jp	Cosmic Noise Absorption (CNA) is observed with two set of riometers and natural VLF and ULF waves are observed with two set of loop antennas and two set of induction magnetometers at West Ongul Island continuously all through the year.		N
AMP0901	後藤大輔	Monitoring of atmospheric greenhouse gases and related constituents 大気微量成分観測(温室効果気体)	Atmospheric sciences	Syowa	Name: Daisuke Surname: Goto Job Title or Position: Assistant Professor, NIPR Phone: +81-42-512-0673 Email: goto.daisuke@nipr.ac.jp	Monitoring of atmospheric CO2, CH4, CO and O2 concentrations is carried out all year-round at Syowa Station. Whole air samples are collected periodically for subsequent analyses in Japan.		N
AMP0902	塩原匡貴	Monitoring of aerosol and clouds エアロゾル・雲の観測	Atmospheric sciences	Syowa	Name: Masataka Surname: Shiobara Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0678 Email: shio@nipr.ac.jp	All-sky images are recorded every 10 minutes to monitor cloud cover at Syowa Station all year-round. Vertical distribution of cloud aerosols are monitored continuously with a micro-pulse lidar at Syowa Station. A sky radiometer is installed at Syowa Station to monitor solar radiation from mid-August to early May. Size distribution of aerosol is monitored continuously at Syowa Station all year-round as well as aethalometer observation.	http://mplnet.gsfc.nasa.gov/	N
AMP0903	本山秀明	Monitoring of Antarctic ice sheet mass balance 南極氷床の質量収支モニタリング	Glaciology	From Syowa Station to S16 site via Tottuki Misaki Inland sites from S16 to Dome Fuji	Name: Hideaki Surname: Motoyama Job Title or Position: Professor, NIPR Phone: +81-42-512-0680 Email: motoyama@nipr.ac.jp	Sea ice thickness and snow accumulation along a route from Syowa Station to S16 site via Tottuki Misaki is carried out as much as possible all year-round. Snow accumulation measurement and surface snow sampling are conducted during inland traverse, when implemented.		N
AMP0904	牛尾収輝	Sea ice and hydrographic observations onboard icebreaker Shirase and in Lützow-Holm Bay oceanography しらせ航路上及びリュツォ・ホルム湾の海水・海洋物理観測	Oceanography	Along cruise track of R/V Shirase, Near Syowa	Name: Shuki Surname: Ushio Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0676 Email: ushio@nipr.ac.jp	Measurements of sea ice thickness, ice concentration, water temperature/salinity profile, and water current profile. Monitoring of vessel movement during ice navigation.		N
AMG0901	土井浩一郎	Integrated Geodetic monitoring observation 統合測地モニタリング観測	Geophysics and seismology	Syowa Nishi-Ongul Is. Akarui-misaki Tottuki-misaki Mukai-iwa Langhovde Skarvsnes Skallen Rundvagshetta Padda Is.	Name: Koichiro Surname: Doi Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0701 Email: doi@nipr.ac.jp	Monitoring of a fixed point location in Syowa Station is carried out with a DORIS antenna operating all year-round. Ground temperature is monitored all year-round at sites near the Zakuro Ike in Langhovde and near the Ô-ike, in Nishi-Ongul To (Island). VLBI experiments are carried out 6-8 times a year using a multi-purpose 11 meter diameter dish and gravity is monitored with a super-conductivity gravimeter at Syowa Station. Tide is monitored near Syowa Station with a GPS buoy all year-round. GNSS observations are carried out at several outcrops on Soya Coast and Prince Olav Coast.		N
AMG0902	金尾政紀	Seismic monitoring observation 地震モニタリング観測	Geophysics and seismology	Syowa Station and four sites on the Sôya Kaigan	Name: Masaki Surname: Kanao Job Title or Position: Associate Professor, NIPR Phone: Email: kanao@nipr.ac.jp	Seismometers are installed to monitor earthquakes at Syowa Station and four sites on the Sôya Kaigan all year-round.		N

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AMG0903	野木義史	Marine geophysical observations 船上地図地球物理観測	Geophysics and seismology	Along cruise track of R/V Shirase	Name: Yoshifumi Surname: Nogi Job Title or Position: Professor, NIPR Phone:+81-42-512-0603 Email: nogi@nipr.ac.jp	Monitoring observations of fixed point coordinates in bare rock areas in the Lützow-Holmbukta and the Riiser-Larsen Mountains areas are carried out with GPS receivers for about 24 hours each every summer. Ocean gravity and geomagnetism are measured on board the R/V Shirase from Fremantle to Sydney. Sea bottom pressure is monitored with a pressure gauge installed and recovered every summer on the sea bottom about 4000 meter deep in the Southern Ocean.		N
AMG0904	金尾政紀	Infrasound observation インフラサウンド観測	Geophysics and seismology	Syowa	Name: Masaki Surname: Kanao Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0713 Email: kanao@nipr.ac.jp	Arrayed observation of infrasound has been carried out at Syowa Station all year-round.		N
AMB0901	高橋晃周	Population census of Adélie penguins アデリーペンギンの個体数観測	Biological sciences – other	Sōya Kaigan area	Name: Akinori Surname: Takahashi Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0741 Email: atak@nipr.ac.jp	Census of Adélie penguins at rookeries in the Sōya Kaigan area is carried out in mid-November and early December. Number of the penguins and the pairs are counted.		N
AMB0902	小達恒夫	Marine ecosystem monitoring 海洋生態系モニタリング	Biological sciences – other	Along cruise track of R/V Shirase	Name: Tsuneo Surname: Odate Job Title or Position: Professor, NIPR Phone: +81-42-512-0738 Email: odate@nipr.ac.jp	Oceanographic observations in the Southern Ocean along the cruise track of R/V Shirase are carried out between Fremantle and Sydney. Surface water is pumped up to measure physical, chemical and biological parameters, including Chlorophyll a and pCO2 concentrations. Water collections at some depths and plankton collections are carried out at stations, including those in ice covered areas.		N
Residue Observation (定常観測)								
TC02	海上保安庁	Tidal observation 潮汐観測	Oceanography	Syowa	Name: Katuhiro Surname: Kusunoki Job Title or Position: Director, Environmental and Oceanographic Research Division Hydrographic and Oceanographic Department, Japan Coast Guard Phone: +81-3-3595-3606 Email: nankyoku@jodc.go.jp	Tidal observation		N
TG01	国土地理院	Geodetic observations 測地観測	Geomorphology	Syowa	Name: Minoru Surname: Fujii Job Title or Position: Deputy Director of International Affairs Div., Planning Dept., Geospatial Information Authority of Japan Phone: +81-29-864-6159 Email: gsi-antarctic@ml.mlit.go.jp	Precise Geodetic Observations (GNSS Observation) Precise Geodetic Observations (Relative Gravity Survey) Leveling	http://antarctic.gsi.go.jp/index-e.html	N
TG02	国土地理院	Geodetic survey 地形測量	Geomorphology	Syowa	Name: Minoru Surname: Fujii Job Title or Position: Deputy Director of International Affairs Div., Planning Dept., Geospatial Information Authority of Japan Phone: +81-29-864-6159 Email: gsi-antarctic@ml.mlit.go.jp	Signal for aerial photography Aerial photography	http://antarctic.gsi.go.jp/index-e.html	N

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TJM01	気象庁	Surface synoptic observation 地上気象観測	Meteorology	Syowa	Name: Hiroyuki Surname: Ogihara Job Title or Position: Head, Office of Antarctic Observation, Observation Department, Japan Meteorological Agency (JMA) Phone: +81-3-3211-8409 Email: antarctic@met.kishou.go.jp	Air Pressure Air Temperature Humidity Wind speed Wind direction Sunshine duration Global solar radiation Snow depth		N
TJM02	気象庁	Upper-air observation 高層気象観測	Meteorology	Syowa	Name: Hiroyuki Surname: Ogihara Job Title or Position: Head, Office of Antarctic Observation, Observation Department, Japan Meteorological Agency (JMA) Phone: +81-3-3211-8409 Email: antarctic@met.kishou.go.jp	Radiosonde/ Atmospheric pressure, Air temperature, Humidity, Wind speed, Wind direction	http://www.jma.go.jp/jma/indexe.html	N
TJM03	気象庁	Ozone observations オゾン観測	Meteorology	Syowa	Name: Hiroyuki Surname: Ogihara Job Title or Position: Head, Office of Antarctic Observation, Observation Department, Japan Meteorological Agency (JMA) Phone: +81-3-3211-8409 Email: antarctic@met.kishou.go.jp	Total ozone Umkehr Surface ozone Ozonesonde/ Ozone amount, Atmospheric pressure, Air temperature, Humidity, Wind speed, Wind direction	http://www.jma.go.jp/jma/indexe.html	N
TJM04	気象庁	Radiation observation 日射・放射観測	Meteorology	Syowa	Name: Hiroyuki Surname: Ogihara Job Title or Position: Head, Office of Antarctic Observation, Observation Department, Japan Meteorological Agency (JMA) Phone: +81-3-3211-8409 Email: antarctic@met.kishou.go.jp	Global solar radiation, Direct solar radiation, Diffuse solar radiation, Composite global solar radiation, Downward longwave radiation, Downward total radiation, UV-B radiation, Reflected solar radiation Upward longwave radiation, Upward total radiation, Atmospheric turbidity Surface spectral ultraviolet radiation	http://www.jma.go.jp/jma/indexe.html	N
TJM05	気象庁	Weather analysis 天気解析	Meteorology	Syowa	Name: Hiroyuki Surname: Ogihara Job Title or Position: Head, Office of Antarctic Observation, Observation Department, Japan Meteorological Agency (JMA) Phone: +81-3-3211-8409 Email: antarctic@met.kishou.go.jp	Weather Conditions	http://www.jma.go.jp/jma/indexe.html	N
TJM06	気象庁	Another observation 気象・その他の観測	Meteorology	Syowa	Name: Hiroyuki Surname: Ogihara Job Title or Position: Head, Office of Antarctic Observation, Observation Department, Japan Meteorological Agency (JMA) Phone: +81-3-3211-8409 Email: antarctic@met.kishou.go.jp	Automatic Weather Station observation	http://www.jma.go.jp/jma/indexe.html	N

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TN01	情報通信 研究機構	Ionospheric observations 電離層の観測	Earth and atmospheric sciences - other	Syowa	Name: Hideo Surname: Maeno Job Title or Position: Senior Research, Space Environment Laboratory, Applied Electromagnetic Research Institute, National Institute of Information and Communications Technology (NICT) Phone: +81-42-327-6096 Email: maeno@nict.go.jp	Ionospheric vertical sounding GPS scintillation monitoring	http://iono-syowa.nict.go.jp/	N
TN02	情報通信 研究機構	Data acquisition for monitoring space weather conditions 宇宙天気予報に必要なデータ収集	Astrophysics	Syowa	Name: Hideo Surname: Maeno Job Title or Position: Senior Research, Space Environment Laboratory, Applied Electromagnetic Research Institute, National Institute of Information and Communications Technology (NICT) Phone: +81-42-327-6096 Email: maeno@nict.go.jp	Data acquisition of ionospheric vertical sounding, GPS scintillation monitoring, magnetic field variations, and cosmic noise absorption	http://iono-syowa.nict.go.jp/	N
Others (その他)								
AAS6001	久慈誠	Cloud fraction with an all-sky camera onboard R/V Shirase しらせ搭載全天カメラ観測による南極航海中の雲の出現特性	Atmospheric sciences	Along cruise track of R/V Shirase	Name: Makoto Surname: Kuji Job Title or Position: Associate Professor, Nara Women's University Phone: +81-742-20-3044 Email: makato@ics.nara-wu.ac.jp	An all-sky camera, mounted on R/V Shirase, is used to detect marine clouds. The cloud amount product is useful to validate that from the satellite remote sensing.		N
AAS6002	塩崎拓平	Unique characteristics of polar nitrogen cycling 極域窒素循環の特殊性とその理解	Oceanography	Along cruise track of R/V Shirase	Name: Takuhei Surname: Shiozaki Job Title or Position: Project Researcher, Japan Agency for Marine-Earth Science and Technology Phone: +81-46-867-9272 Email: takuhei.shiozaki@jamstec.ac.jp	Sampling are carried out on R/V Shirase in the Southern Ocean. Water samples are collected by a bucket from the surface and by Niskin bottles from other depths. Samples for incubation experiments and DNA analyses are collected from five depths. The rates of nitrogen fixation, primary production, nitrate assimilation, and nitrification are determined by 15N and 13C tracer methods.		N
AAS6003	村田昌彦	Monitoring of sea surface pCO2 by drifting buoys in the South Pacific Ocean 漂流ブイによる南太平洋表層CO2分圧のモニタリング	Oceanography	At two points along the cruise track of R/V Shirase	Name: Akihiko Surname: Murata Job Title or Position: Group Leader Phone: +81-46-897-9503 Email: murataa@jamstec.go.jp	Two drifting buoys with CO2 sensor are deployed from R/V Shirase. The final goal of this study is to improve estimation of CO2 uptake by the ocean by resolving CO2 data gap area, which exists largely in the Southern Ocean.		N
AAS6004	森本真司	Continuous measurements of the atmospheric O2/N2 and CO2 on board R/V Shirase しらせ船上での大気中O2/N2及びCO2濃度の連続観測	Atmospheric sciences	Along cruise track of R/V Shirase	Name: Shinji Surname: Morimoto Job Title or Position: Professor, Tohoku University Phone: +81-22-795-5780 Email: mon@m.tohoku.ac.jp	Continuous measurements of the atmospheric O2/N2 ratio and CO2 will be conducted using fuel-cell oxygen analyzer and non-dispersive infrared analyzer onboard R/V Shirase.		N
AAS6005	西村浩一	Studies on the blowing snow contribution on the surface mass balance of Antarctic ice sheet by the direct measurements and the elucidation of spatiotemporal structures 吹雪の広域自動観測と時空間構造の解明による南極氷床の質量収支の定量的評価	Climate studies	S17	Name: Kouichi Surname: Nishimura Job Title or Position: Professor, Nagoya University Phone: Email: knishinagoya-u.jp	This study carries out a field campaign of observation focusing on blowing snow and the relevant surface deformation at S17 on the Antarctic ice-sheet near Syowa station. The major measurements are 1) the particle size distribution of blowing snow by a snow particle counter (SPC), 2) the surface shape by laser scanner for the snow surface, and automatic weather station (AWS).		N

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AAS6006	小杉真貴子	Elucidation of photosynthetic light response and adaptation processes of photosynthetic organisms under Antarctic habitats 南極環境における光合成生物の光応答と適応プロセスの解明	Botany	Langhovde	Name: Makiko Surname: Kosugi Job Title or Position: Research Associate, Chuo University Phone: +81-3-3817-7174 Email: kosugi@bio.chuo-u.ac.jp	The aim of this study is to clarify the ecological behavior and adaptation strategy of photosynthetic organisms in the terrestrial environment of Antarctica and develop an understanding of an ecosystem under extreme condition. We set up the micrometeorological observation system for monitoring temperature, humidity and light conditions near a habitat of an aerial green alga, <i>Prasiola crispa</i> . This alga is known as one of dominant species in Antarctic terrestrial habitat. We will use ARGOS to transmit the observation data.		N
AAS6007	高橋幸弘	Polarimetric observation to investigate the polar haze on Jupiter 木星の極域ヘイズの偏光観測	Planetary science	Syowa	Name: Yukihiro Surname: Takahashi Job Title or Position: Professor, Hokkaido University Phone: +81-11-706-9244 Email: yukihiro@sci.hokudai.ac.jp	With polarization camera attached to a small telescope (effective aperture: 102 mm) the polarization of the polar haze in Jupiter and its temporal and spatial variation are observed in order to investigate the condition of the haze, such as particle size, material and its dynamics.		N
AAK0901	牛尾収輝	Deployment of drifting buoys requested from Australian Bureau of Meteorology オーストラリア気象局のブイ投入	Meteorology	Along cruise track of R/V Shirase	Name: Joel Surname: Cabrie Job Title or Position: Team Leader, Marine Networks, Bureau of Meteorology, Australia Phone: +61 3 9669 4651 Email:	Surface drifting buoys will be deployed from R/V Shirase in response to the request of the Australian Bureau of Meteorology. Location and sea surface data are transmitted to the satellite.		N
AAK0901	牛尾収輝	Deployment of Argo floats requested from JAMSTEC Argoフロートの投入	Oceanography	Along cruise track of R/V Shirase	Name: Shigeki Surname: Hosoda Job Title or Position: Senior Research Scientist, JAMSTEC Phone: Email:	Profiling floats will be deployed from the icebreaker Shirase in the Southern Ocean. Temperature and salinity profiles measured by floats are to be transmitted via satellite systems.		N
AIB0901	山口一	Ship performance tests along ice-covered waters and cold regions 氷海航行試験	Other	Along cruise track of R/V Shirase	Name: Hajime Surname: Yamaguchi Job Title or Position: Professor, The University of Tokyo Phone: +81-4-7136-4114 Email: h-yama@edu.k.u-tokyo.ac.jp	Icebreaking performance of the R/V Shirase will be measured together with recording ice conditions and ship motion parameters. Also, on-board measurements of ship icing and sea spray due to collision between ship bow and waves will be performed along the Shirase cruise route.		N
外国基地派遣	高橋晃周	Foraging ecology of marine predators in the Ross Sea ロス海における海洋高次捕食動物の採餌生態の研究 (ニュージーランド:スコット基地)	Animal tracking	NZ Scott Base	Name: Akinori Surname: Takahashi Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0741 Email: atak@nipr.ac.jp	The foraging behavior of Weddell Seals will be tracked using biologging devices such as GPS, accelerometers, and video recorders. Collaboration with NIWA, NZ.		N