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

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＝2019年～2020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＝2018年4月～2019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154回本部総会で承認済み。

（了）

2019/2020 Pre-season Information

1. 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: 2 December, 2019
Voyage Departure Port: Fremantle, Australia
Voyage Arrival Date: 19 March, 2020
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
Latitude:
Longitude:
Area Operation Date:

C. Aircraft

Type: CH-101
Quantity: 2
Category: Local helicopter flights
Period From: December, 2019
Period To: March, 2020
Remarks: transportation of cargo and personnel / support of field observations
Flight Departure Date: December, 2019
Flight Route:
Flight Purpose: Logistics

Type: AS350FX2
Quantity: 1
Category: Local helicopter flights
Period From: December, 2019
Period To: March, 2020
Remarks: transportation of cargo and personnel / support of field observations
Flight Departure Date: December, 2019
Flight Route:
Flight Purpose: Logistics

D. Research Rockets

(Please see Table 1)

E. Military

None

1.1.2 Non-governmental Expeditions[1]

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: 7 Dec, 2019

Period To: 14 March, 2020

People Permitted: 25

Purpose: Research and management

Summary of Activities: Research and management

Event Project Name/Number: 61th Japanese Antarctic Research Expedition

2.1 Scientific Information

2.1.1 Forward Plans

(Please see Table 2)

(END)

[1] provision of information on Non-governmental expeditions will be allowed for it to be provided as soon as possible after completion of national processes, with the relevant timing description being: 'as soon as possible following completion of national processes, preferably by the pre-season target date of 1 October, and no later than the start of the activity'.

Information - Research Rocket **Table 1**

ional information
ational Expeditions
esearch Rockets

Location Launch	Date/Period/Frequency	Direction	Max. Altitude	Impact Area	Type	Specifications	Purpose	Project Title/Number
Syowa	Twice daily, throughout the year	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
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	5 times, throughout the year	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	Advanced baloonborne observations of the Antarctic upper troposphere and lower stratosphere (UTLS)
Syowa	20 times, throughout the year (mainly in winter)	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	Advanced baloonborne observations of the Antarctic upper troposphere and lower stratosphere (UTLS)
R/V Shirase	Twice daily, up to 30 days in the summer (from February to March 2020)	All directions, depending on wind	30,000 m	Within a radius of 100 km from the site	Rubber balloon	Radiosonde	Aerological observation	Detection of influences of global warming in East Antarctic atmosphere and ice-sheet surface, and clarigying the mechanisms
travers route from S16 to Mizuho	30 times in the winter (from September to November 2020)	All directions, depending on wind	30,000 m	Within a radius of 100 km from the site	Rubber balloon	Radiosonde	Aerological observation	Detection of influences of global warming in East Antarctic atmosphere and ice-sheet surface, and clarigying the mechanisms
Syowa	Once in the summer	All directions, the vicinity of the site	500m	The vicinity of the site	UAV	Multicopter	Aerial photography	Topographic survey
Kronprins Olav bay	Up to 10 times in the summer	All directions, the vicinity of the site	500m	The vicinity of the site	UAV	Multicopter	Aerial photography	Topographic survey
Sør Rondane Mountains	up to 20 times in the summer (from November 2019 to January 2020)	All directions, the vicinity of the site	500m	The vicinity of the site	UAV	Multicopter	Aerial photography	Interdisciplinary Study of Geofluids in the Evolution of Continental Crust in East Antarctica
Sør Rondane Mountains	4 times in the summer	All directions, the vicinity of the site	100m	The vicinity of the site	UAV	Multicopter	Aerial photography	The origin and geohistory of biodiversity on the terrestrial ecosystem in Antarctica
Syowa	Up to 10 times, throughout the winter	All directions, the vicinity of the site	100m	The vicinity of the site	UAV	Multicopter	Aerial photography	Surface synoptic observation
Sôya Kaigan area	Berore and after blizzards, throughout the winter	All directions, the vicinity of the site	100m	The vicinity of the site	UAV	Multicopter	Aerial photography	Integrated Geodetic monitoring observation
Syowa	Once a month, throughout the winter	All directions, the vicinity of the site	100m	The vicinity of the site	UAV	Multicopter	Aerial photography	A study on the global atmosphere system based on high-resolution observations of the Antarctic atmosphere
Syowa	Up to 10 times, throughout the winter	All directions, the vicinity of the site	50m	The vicinity of the site	UAV	Multicopter	Aerial photography	Study on polar upper atmosphere in possible grand minimum period and inner magnetosphere dynamics with SuperDARN radars
Syowa	After blizzards, throughout the winter	All directions, the vicinity of the site	20m	The vicinity of the site	UAV	Multicopter	Aerial photography	Multi purpose receiving antenna radome maintenance
Syowa	Up to 30 times, throughout the winter	All directions, the vicinity of the site	80m	The vicinity of the site	UAV	Multicopter	Aerial photography	Photovoltaic panels/Wind turbine generators maintenance
Syowa/ S16/ R/V shirase	5 to 10 times in the summer	All directions, the vicinity of the site	100m	The vicinity of the site	UAV	Multicopter	Aerial photography	Public relations
Syowa/ Sôya Kaigan area	1 to 3 times a month, throughout the year	All directions, the vicinity of the site	100m	The vicinity of the site	UAV	Multicopter	Aerial photography	Press

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:
		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	Atmospheric sciences	Syowa	Name: Kaoru Surname: Sato Job Title or Position: Professor, Graduate School of Science, The University of Tokyo Phone: +81-3-5841-4668 Email: kaoru@eps.s.u-tokyo.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.
AJ0902	青木茂	Research of Ocean-ice Boundary Interaction and Change around Antarctica 氷床・海氷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: Shigeru Surname: Aoki Job Title or Position: Associate Professor, ILTS, Hokkaido University Phone: Email: shigeru@lowtem.hokudai.ac.jp	Unmanned observations such as under-ice oceanographic, seafloor 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. Together with in situ hydrographical and glaciological measurements, these remote observation techniques are applied to the new horizons such as Lutzow-holm Bay, Cape Darnley, and Totten Glacier regions for the understandings of the mechanisms of different ice-ocean interaction regimes.
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, Langhovde Ongul Islands	Name: Kenji Surname: Kawamura Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0684 Email: kawamura@nipr.ac.jp	Collecting the bathymetry data of lake and ocean around Langhovde and taking marine and lake sediments in Langhovde and Ongul Islands for further understanding of the past Antarctic Ice Sheet change.
		Ordinary Research Project （一般研究観測）				
AP0925	加藤千尋	Space weather study during the cycle 24/25 sloalr activity minimum using cosmic ray observations at Syowa base 昭和基地での宇宙線観測による24/25周期の太陽活動極小期の宇宙天気研究	Astrophysics	Syowa Station	Name: Chihiro Surname: Kato Job Title or Position: 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.
AP0926	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, Inhhovde, H68 Mizuho, MD364, Dome Fuji Princess Elisabeth Station Maitri Station	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.A new auroral observation system will be installed at Princess Elisabeth Station and Maitri Station, respectively.
AP0928	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	Name: Akira Sessai Surname: Yukimatu Job Title or Position: Associate Professor, NIPR Phone: Email:	With SENSU SuperDARN HF radars at Syowa station, continuous observation according to the international SuperDARN schedule including special campains with satellites such as ERG/Arase will be conducted to try to reveal the influence of low solar activity period on upper atmosphere and the dynamics of inner magnetosphere as well as to contribute to space weather research.
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: Mitsuteru 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.
AP0930	北出裕二郎	Observation of circulation flow field in the junction area of the Southern Ocean and Antarctica continental slope 南大洋・南極大陸斜面接合海域における循環流場の観測	Oceanography	110°E line, off Vincenness Bay	Name: Yujiro Surname: Kitade Job Title or Position: Professor, Tokyo University of Marine Science and Technology Email: ykitade@kaiyodai.ac.jp	Mooring observations with MicroCat (CT-meter) and current meters, and Hydrographic survey in the continental slope region.
AP0931	冨川喜弘	Advanced baloonborne observations of the Antarctic upper troposphere and lower stratosphere (UTLS) 南極上部対流圏・下部成層圏における先進的気球観測	Atmospheric sciences	Syowa	Name: Yoshihiro Surname: Tomikawa Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0660 Email: tomikawa@nipr.ac.jp	Balloon-borne observations of water vapor in the stratosphere will be performed at Syowa Station in 2020. An instrument onboard a super-pressure balloon will be developed in Japan.
AP0932	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 cruse track of R/V Shirase Syowa Station	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, concentration and sampling of aerosol along cruise track of R/V Shirase by ship borne instruments, skyradiometer, condensation particle counter, optical particle counter, nephelometer, aethalometer, ceilometer, aeroso samplers. Observation of optical property and aerosol concentration at Syowa station by ground based instruments.
AP0933	平沢尚彦	Detection of influences of global warming in East Antarctic atmosphere and ice-sheet surface, and clarigying the mechanisms 東南極の大気・氷床表面に現れる温暖化の影響の検出とメカニズムの解明	Climate studies	Syowa Droning Maud Land (along traverse route from S17 through Relay Point to Dome Fuji)	Name: Naohiko Surname: Hirasawa Job Title or Position: Assistant Professor, NIPR Phone: +81-42-512-0685 Email: hira.n@nipr.ac.jp	Radiosonde, tethered balloon, UAV (unmanned aerial vehicle), ground-based remote sensing, snow sampling, and installing AWS (Automatic Weather Station) at key stations around Droning Maud Land to record climatic change and to understand its mechanism.
AP0916	土屋範芳	Interdisciplinary Study of Geofluids in the Evolution of Continental Crust in East Antarctica 東南極の大陸地殻の発達過程と地殻流体に関する総合的研究	Geology	Sør Rondane Mountains	Name: Noriyoshi Surname: Tsuchiya Job Title or Position: Professor, Tohoku University Phone: +81-22-795-6335 Email: noriyoshi.tsuchiya.e6@tohoku.ac.jp	Geological research team in Japanese Antarctic Research Expefition (JARE) has been stuidied tectonics of Sør Rondane Mountains. Aims of research are Water-Rock Interaction such as hydration and dehydration reactions of high grade metamorphic rocks and plutonic rocks during tectonic evolution of Sør Rondane Mountains.
AP0935	金尾政紀	Study on surface environmental variation in polar region by using seismic and infrasound 地震波・インフラサウンド計測による 極域表層の環境変動の解明	Geophysics and seismology	Syowa Langhovde Skarvsnes 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.
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	Sør Rondane Mountains	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 Dronning Maud Land, detail information of terrestrial lichen, and bacterial flora will be surveyed in Sør Rondane Mountains..

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:
AP0939	茂木正人	Integrating Study Programme of the Marine Ecosystem of the Indian Ocean Sector of the Southern Ocean, Dynamics of the lower trophic process in the seasonal ice zone 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−海氷を起点とする食物網・低次生産システム−	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 mycotophid-based food webs. Water collections at specific depths and plankton collections as well as acoustic sonding 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.
AP0924	伊村智	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	Study on dental health of expedition personnel / Relationship between stress, mood, sleep and metabolism
		Exploratory Research Project（萌芽研究観測）				
AH0908	村越真	Development of safety education program for field sciences based on practical knowledge of risk treatment リスク対応の実践知の把握に基づくフィールド安全教育プログラムの開発	Psychology	Syowa, S17, and coastal area of Lützow-Holm bay.	Name: Shin Surname: Murakoshi Job Title or Position: Professor, Shizuoka University Phone: +81-54-238-4665 Email: murakoshi.shin@shizuoka.ac.jp	This study invesigates practical knowledge of treating risk in extreme natural environment, which might be obtained in experience of Antarctic research expedition. Interview based on observation of research activities in the field as well as a Risk Prediction Training and questionnaire survey will be conducted.
		Fundamental Observation（基本観測）				
		Monitoring Observation（モニタリング観測）				
AMS0901	平沢尚彦	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: Naohiko Surname: Hirasawa Job Title or Position: Assistant Professor, NIPR Phone: +81-42-512-0685 Email: hira.n@nipr.ac.jp	Data acquisition of NOAA, DMSP, AQUA and TERRA satellites with L/S/X-band receiving system at Syowa Station.
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.
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.
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.
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, N2O and O2 concentrations is carried out all year-round at Syowa Station. Whole air samples are collected periodically for subsequent analyses in Japan.
AMP0902	平沢尚彦	Monitoring of aerosol and clouds エアロゾル・雲の観測	Atmospheric sciences	Syowa	Name: Naohiko Surname: Hirasawa Job Title or Position: Assistant Professor, NIPR Phone: +81-42-512-0685 Email: hira.n@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.
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 anod surface snow sampling are conducted during inland traverse, when implemented.
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・ホルム湾の海氷・海洋物理観測	Oceanography	Along cruise track of R/V Shirase, Near Syowa	Name: Shuki Surname: Ushio Job Title or Position: 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.
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. (ground temperature) Langhovde (ground temperature) 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 mult-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.
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.
AMG0903	野木義史	Marine geophysical observations 船上地圏地球物理観測	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	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.
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.

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:
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.
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 and T/V Umitaka-maru	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 and T/V Umitaka-maru are carried out. 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.
		Routine Observation（定常観測）				
TC01	海上保安庁	Bathymetric survey 海底地形測量	Oceanography	Lützow-Holmbukta	Name: Katsuhiro Surname: Kusunoki Job Title or Position: Director, Hydrographic Surveys Division Hydrographic and Oceanographic Department, Japan Coast Guard Phone: ＋81-3-3595-3606 Email: nankyoku@jodc.go.jp	Bathymetric survey
TC02	海上保安庁	Tidal observation 潮汐観測	Oceanography	Syowa	Name: Katsuhiro Surname: Kusunoki Job Title or Position: Director, Hydrographic Surveys Division Hydrographic and Oceanographic Department, Japan Coast Guard Phone: ＋81-3-3595-3606 Email: nankyoku@jodc.go.jp	Tidal observation
TG01	国土地理院	Geodetic observation 測地観測	Geomorhology	Syowa Coastal area of Lützow-Holm bay Ongul Island P50,S16 and S17 site	Name: Hidekazu Surname: Minami 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@gxb.mlit.go.jp	Precise Geodetic Observation (GNSS Observation) Precise Geodetic Observation (Absolute/Relative Gravity Survey) Leveling
TG02	国土地理院	Topographic survey 地形測量	Geomorhology	Ongul Island	Name: Hidekazu Surname: Minami 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@gxb.mlit.go.jp	Marking Airphoto Signal Aerial photography
TJM01	気象庁	Surface synoptic observation 地上気象観測	Meteorology	Syowa	Name: Yoshinobu Surname: Tanaka 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
TJM02	気象庁	Upper-air observation 高層気象観測	Meteorology	Syowa	Name: Yoshinobu Surname: Tanaka 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
TJM03	気象庁	Ozone observations オゾン観測	Meteorology	Syowa	Name: Yoshinobu Surname: Tanaka 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
TJM04	気象庁	Radiation observation 日射・放射観測	Meteorology	Syowa	Name: Yoshinobu Surname: Tanaka 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
TJM05	気象庁	Weather analysis 天気解析	Meteorology	Syowa	Name: Yoshinobu Surname: Tanaka 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
TJM06	気象庁	Another observation 気象・その他の観測	Meteorology	Syowa	Name:Yoshinobu Surname: Tanaka 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
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 Researcher, 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 scintillarion monitoring

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:
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 Researcher, 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, and magnetic field variations
		Others (その他)				
AAS6101	坂野井健	Demonstration of auroral and airglow observations over the ocean by newly-developed all-sky imagers on Shirase しらせ搭載全天イメージャーによる海洋上からのオーロラ・大気光観測実証	Earth and atmospheric sciences - other	Along cruise track of R/V Shirase	Name: Takeshi Surname: Sakanoi Job Title or Position:Associate Professor, Tohoku University Phone: +81-22-795-6609 Email: tsakanoi@pparc.gp.tohoku.ac.jp	Auora and Airglow observations using a monochromatic all-sky imager on a 3-axis stablized gimbal onboard R/V Shirase.
AAS6102	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.
AAS6103	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.
AAS6104	川崎一義	Demonstration experiment of the residential unit in polar regions. 極地における居住ユニットの実証実験	Other	Syowa Station	Name: Kazuyoshi Surname: Kawasaki Job Title or Position: Deputy Director, Space Exploration Innovation Hub Center, Japan Aerospace Exploration Agency Phone: +81-50-3362-7071 Email: kawasaki.kazuyoshi@jaxa.jp	Demonstration experiment will be carried out at Syowa Station to confirm the habitability of movable residential units prior to inland operation.
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: joel.cabrie@bom.gov.au	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.
AAK0902	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: Mizuei Surname: Hirano Job Title or Position: Research Scientist, JAMSTEC Phone: +81-46-867-9845 Email: hiranom@jamstec.go.jp	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.
AIB0901	山口一	Ship performance tests along ice-covered waters and cold regoins 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 mottion 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.
		Measurement of cargo transportation enviroment along ice-covered waters and cold regions 寒冷・氷海域航行における貨物輸送環境の計測	Other	Along cruise track of R/V Shirase	Name: Akihiro Surname: Mizushima Job Title or Position: Section Chief, Ocean Policy Division, Ministry of Land, Infrastructure, Transport and Tourism Phone:+81-3-5253-8266 Email:mizushima-a82ab@mlit.go.jp	Data loggers for temperature, humidity and acceleration will be installed in the containers and hold of Shirase. Data will be measured along cruse track of R/V Shirase in order to analize cargo transportation environment along ice-coverd waters and cold regions.
外国基地派遣	高橋晃周	Foraging ecology of marine predetors 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.
外国基地派遣	菅沼悠介	Reconstruction of the ice sheet variability at the Schirmacher Oasis to examine East Antarctic Ice Sheet sensitivity and response to glacial-interglacial cycles シューマッハオアシスにおける湖沼掘削および地形調査に基づく氷床変動史の復元	Geology	Maitri Station	Name: Yusuke Surname: Suganuma Job Title or Position: Associate Professor, NIPR Phone: +81-42-512-0702 Email: suganuma.yusuke@nipr.ac.jp"	Glacial geologists and geomorphologists will carry out a field project that includes sediment coring and glacio-geomorphological mapping in the Schirmacher Oasis in collaboration with Indian team based on Maitri station.