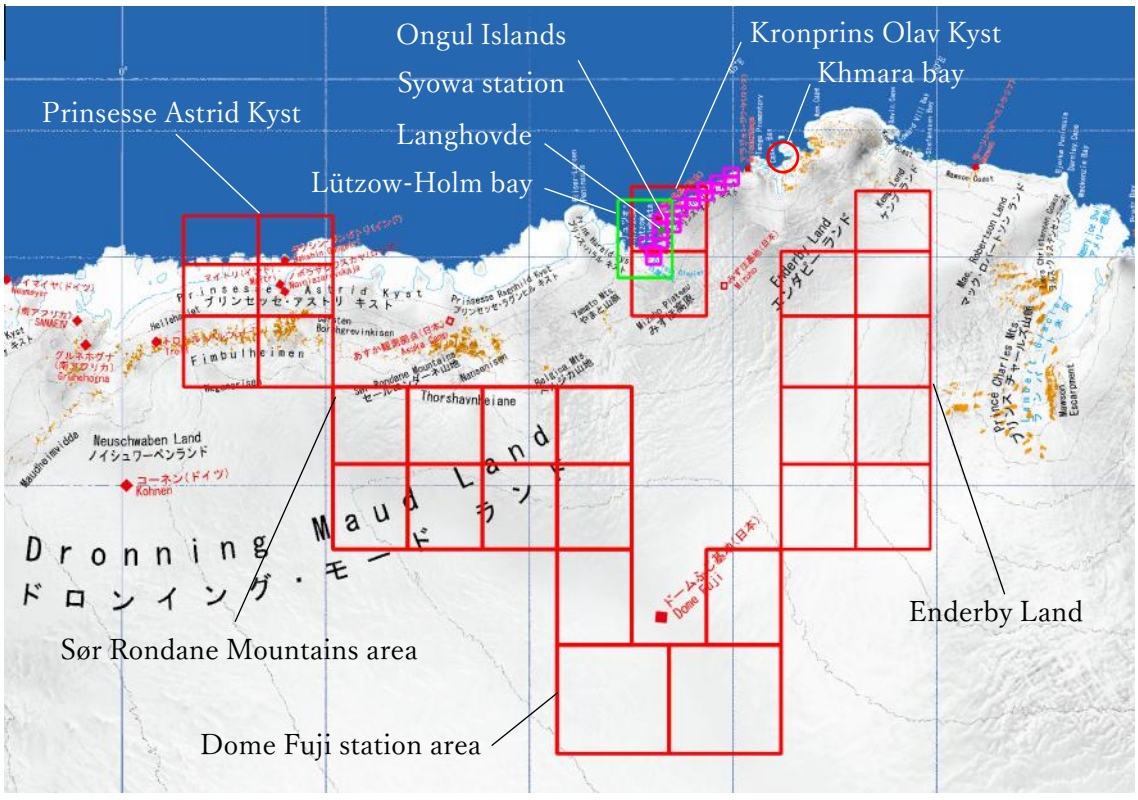
National Report of Japan

Recent activity on geographical information of Japanese Antarctic Research Expedition (JARE)
by
Geospatial Information Authority of Japan (GSI)
and National Institute of Polar Research (NIPR)

I. Geodetic Survey, Topographic Mapping 2020-2022 (GSI)

- Precise geodetic survey : Syowa station, Lützow-Holm bay area, Kronprins Olav Kyst, Coastal area of Khmara bay, 8 points.
- GPS remote base station : Langhovde(LANG), Syowa station(SYOG:IGS), 2 points.
- Absolute Gravity Measurement：Syowa station(IAGBN(A), BM2316), Langhovde(AGS01), 3 points.
- Mapping revision : Lützow-Holm bay 1:250000 maps. Sør Rondane Mountains area, Dome Fuji station area, Enderby Land, Lützow-Holm bay, Prinsesse Astrid Kyst 1:250000 Satellite Image maps. Lützow-Holm bay, Kronprins Olav Kyst 1:50000 maps and to ITRF2000, GRS80 by ALOS satellite images and GCP data.
- Angela Islands 1:2500 maps.
- Preparation of digital elevation model(DEM) : Ongul Islands, Langhovde, Lützow-Holm bay, Kronprins Olav Kyst.

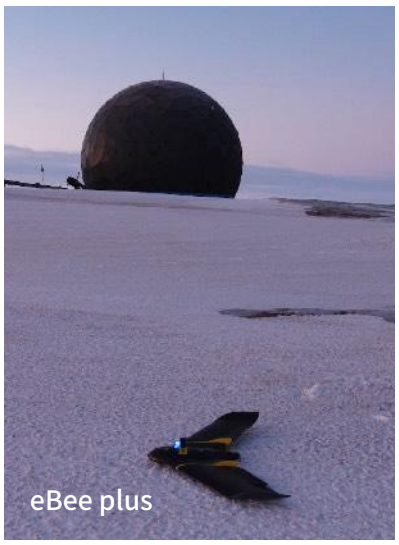


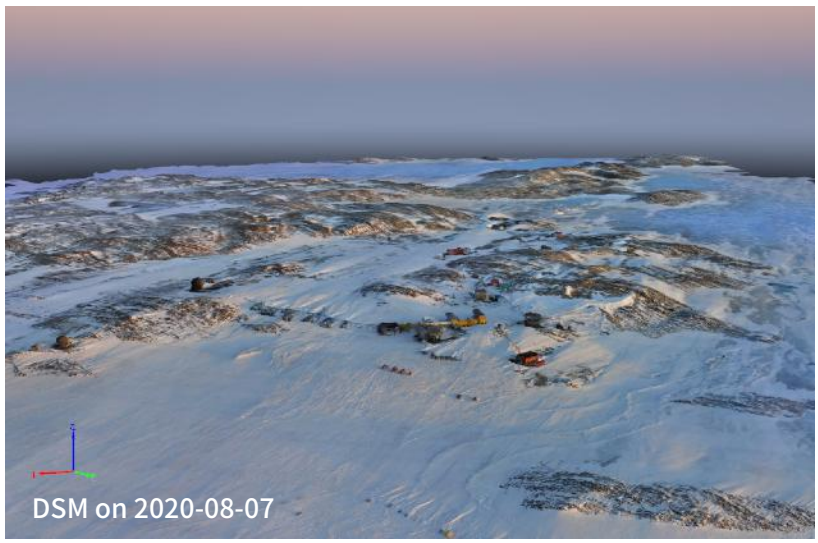
II. Mapping Activities (GSI)

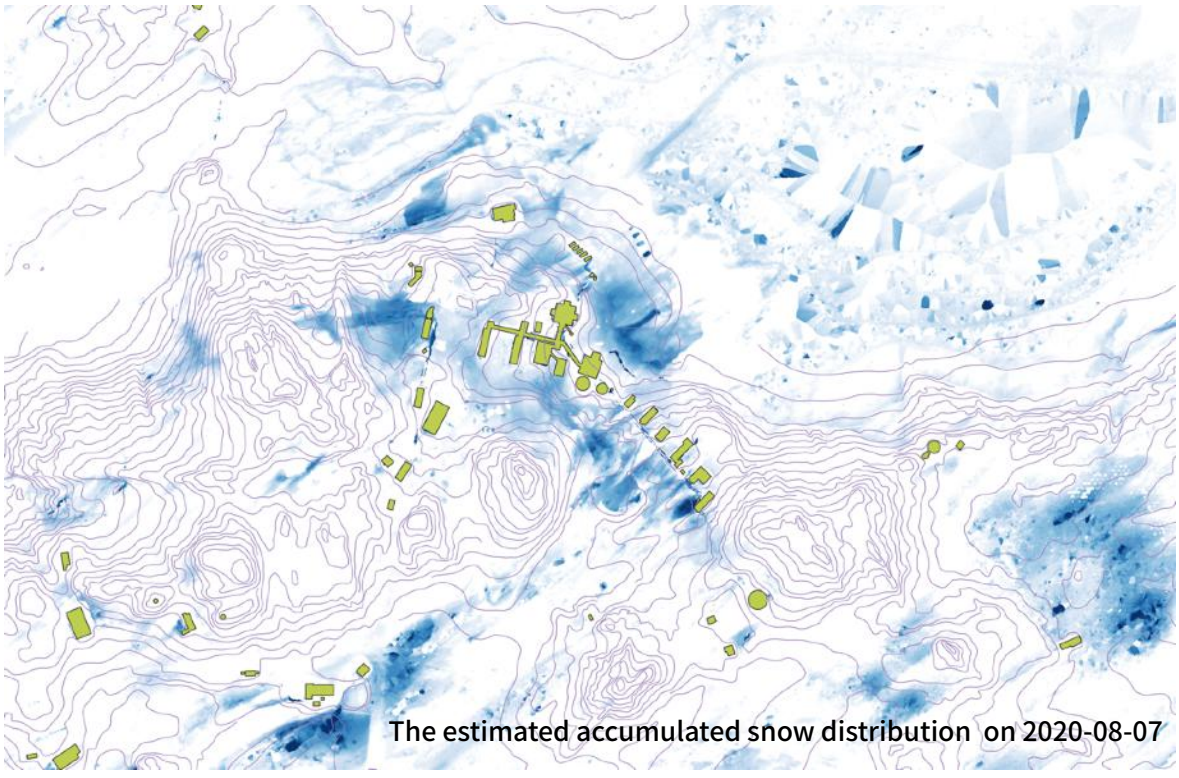
Name	Scale	Year	Map type	File type
SYOWA STATION	1/2500	2019	Topographical map, DEM	PDF, GML, KML, GeoTIFF, SHAPE
MIHARASHI IWA	1/2500	2019	Topographical map	PDF, GML, KML, GeoTIFF, SHAPE
KAINOHAMA	1/2500	2019	Topographical map	PDF, GML, KML, GeoTIFF, SHAPE
POLLHOLMEN	1/2500	2019	Topographical map	PDF, GML, KML, GeoTIFF, SHAPE
MENDORI JIMA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
ZAKUROISHI KYURYO, NORTH	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
ZAKUROISHI KYURYO, CENTRAL	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
O-IKE	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
NISHI-ONGUL TO, EASTERN END	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
ZAKUROISHI KYURYO, NORTHWEST	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
MAME JIMA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
ZAKUROISHI KYURYO, SOUTHWEST	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
ZAKUROISHI KYURYO, SOUTH	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
MINAMINOSETO	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
NESØYA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
IWA JIMA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
TEØYA, NORTHWEST, OFFSHORE	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
KITA-TEØYA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
NISHI-TEØYA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
HIGASHI-TEØYA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
ONGULKALVEN	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
KURUMI JIMA	1/2500	2022	Topographical map, Ortho image, DEM	PDF, GML, KML, GeoTIFF, SHAPE
NORTHERN PART OF YAMATO SANMYAKU	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
CENTRAL PART OF YAMATO SANMYAKU	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
HIGASHI-YAMATO NUNATAK	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
SOUTHERN PART OF YAMATO SANMYAKU	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
KABUTO DAKE	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
INSEKI HYOGEN	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
MOUNT RIISER-LARSEN	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
TULA MOUNTAINS, NORTH	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
BEAVER GLACIER	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
TULA MOUNTAINS, SOUTH	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
TONAGH ISLAND	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
MOUNT SONES	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
SCOTT MOUNTAINS CENTRAL	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
SCOTT MOUNTAINS EAST	1/50,000	2020	Topographical map	PDF, TIFF , AI, EPS, GML, KML, SHAPE, GeoJSON
FLATTUNGA	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
ONGUL ISLANDS	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
MIKAERIDAI, EASTERN	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
LANGHOVDE	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
LANGHOVDE HYOGA, EASTERN	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
SKARVSNES	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
PADDA	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
SKALLEN	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
RUNDVÅGSKOLLANE	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
STRANDNIBBA	1/50,000	2019	Topographical map	PDF, GML, KML, SHAPE
SHINNAN IWA, NORTHERN	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
SHINNAN IWA	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
RYUGU MISAKI	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
RYUGU MISAKI, SOUTHERN	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
HINODE MISAKI	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
KASUMI HYOGA	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
TENMONDAI IWA	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
HIGASHI-NAGAIWA HYOGA	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
OMEGA MISAKI	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
OKUIWA	1/50,000	2022	Topographical map	PDF, GML, KML, SHAPE
NANSENISEN, WEST	1/250,000	2019	ALOS AVNIR-2 map	PDF
NANSENISEN, CENTRAL	1/250,000	2019	ALOS AVNIR-2 map	PDF
NANSENISEN, EAST	1/250,000	2019	ALOS AVNIR-2 map	PDF
MIZUHO KOGEN, SOUTHWEST	1/250,000	2019	ALOS AVNIR-2 map	PDF
NANSENISEN, SOUTHWEST	1/250,000	2019	ALOS AVNIR-2 map	PDF
NANSENISEN, SOUTH	1/250,000	2019	ALOS AVNIR-2 map	PDF
NANSENISEN, SOUTHEAST	1/250,000	2019	ALOS AVNIR-2 map	PDF
DOME FUJI STATION, NORTHWEST	1/250,000	2019	ALOS AVNIR-2 map	PDF
DOME FUJI STATION, WEST	1/250,000	2019	ALOS AVNIR-2 map	PDF
DOME FUJI STATION, EAST	1/250,000	2019	ALOS AVNIR-2 map	PDF
DOME FUJI STATION, SOUTHWEST	1/250,000	2019	ALOS AVNIR-2 map	PDF
DOME FUJI STATION, SOUTHEAST	1/250,000	2019	ALOS AVNIR-2 map	PDF
PRINSESSE RAGNHILD KYST, WEST	1/250,000	2020	ALOS AVNIR-2 map	PDF, TIFF, AI, EPS
PRINSESSE RAGNHILD KYST, NORTHWEST	1/250,000	2020	ALOS AVNIR-2 map	PDF, TIFF, AI, EPS
SØR RONDANE MTS, WEST	1/250,000	2020	ALOS AVNIR-2 map	PDF, TIFF, AI, EPS
PRINSESSE RAGNHILD KYST, NORTHEAST	1/250,000	2020	ALOS AVNIR-2 map	PDF, TIFF, AI, EPS
LECKIE RANGE, SOUTH	1/250,000	2022	ALOS AVNIR-2 map	PDF
ZHIGALOVA, PODLĚDNYE GORY, NORTHERN	1/250,000	2022	ALOS AVNIR-2 map	PDF
ZHIGALOVA, PODLĚDNYE GORY, NORTHEASTERN	1/250,000	2022	ALOS AVNIR-2 map	PDF
ZHIGALOVA, PODLĚDNYE GORY	1/250,000	2022	ALOS AVNIR-2 map	PDF
ZHIGALOVA, PODLĚDNYE GORY, EASTERN	1/250,000	2022	ALOS AVNIR-2 map	PDF
SERLAPOVA, PODLĚDNAJA GORA	1/250,000	2022	ALOS AVNIR-2 map	PDF
SERLAPOVA, PODLĚDNAJA GORA, EASTERN	1/250,000	2022	ALOS AVNIR-2 map	PDF
SERLAPOVA, PODLĚDNAJA GORA, SOUTHERN	1/250,000	2022	ALOS AVNIR-2 map	PDF
SERLAPOVA, PODLĚDNAJA GORA, SOUTHEASTERN	1/250,000	2022	ALOS AVNIR-2 map	PDF
LÜTZOW-HOLMBUKTA	1/250,000	2022	ALOS AVNIR-2 map	PDF
SHIRASE HYOGA	1/250,000	2022	ALOS AVNIR-2 map	PDF
PRINSESSE ASTRID KYST	1/250,000	2022	ALOS AVNIR-2 map	PDF
PRINSESSE ASTRID KYST, EAST	1/250,000	2022	ALOS AVNIR-2 map	PDF
PRINSESSE ASTRID KYST, SOUTH	1/250,000	2022	ALOS AVNIR-2 map	PDF
PRINSESSE ASTRID KYST, SOUTHEAST	1/250,000	2022	ALOS AVNIR-2 map	PDF
FIMBULHEIMEN	1/250,000	2022	ALOS AVNIR-2 map	PDF
FIMBULHEIMEN, EAST	1/250,000	2022	ALOS AVNIR-2 map	PDF
LÜTZOW-HOLMBUKTA	1/250,000	2022	Geographic map	PDF

III. High resolution DSM by UAV aerial photography (NIPR)

High resolution digital surface models (DSMs) of Syowa Station were made from aerial photos pictured with a fixed-wing UAV (sensFly eBee plus) during Feb. - Nov. 2020. Due to the GNSS post processing kinematic (PPK) between fiducial GNSS site and the fixed-wing UAV, we can produce accurate DSMs without ground control points (GCPs). The accumulated snow distribution at Syowa Station was obtained from the difference of DSMs between 2020-02-23 and 2020-08-07.


eBee plus


DSM on 2020-08-07


The estimated accumulated snow distribution on 2020-08-07