

Syowa National Institute of Polar Research

69°0'25.1"S 39°35'01.5"E

Type: Station

Operational period: Year-round

Location

Syowa station was established on East Ongul Island, Lützw – Holm Bay, on 29 January 1957.

Biodiversity and natural environment

Syowa station is located on East Ongul Island being separated by the Ongul Strait, which is approximately 4 km wide, the climate is comparatively moderate. The rock surface is exposed in the summer, revealing moss and lichen colonies.

History and facilities

Syowa station was built in 1957 in the International Geophysical Year. Initially, cartographic, astronomical and gravity surveys were undertaken at the station. Now, a range of diverse research is carried out there and in the immediate vicinity of the station. Syowa is a year-round station with capacity for up to 130 people in the summer and a maximum of 42 people in winter.

General research and databases

Research undertaken at Syowa includes space and upper atmospheric, meteorology, glaciology, geosciences, bioscience, polar engineering, and climate change studies. At present, National Institute of Polar Research (NIPR) and Syowa station are constantly networked via an Intelsat satellite link, and the data from Syowa are directly transferred to NIPR through this network via a high-speed LAN in the station. The "Multipurpose Satellite Data Receiving System" at Syowa is operated by the Polar Data Centre (PDC), and data from various earth observation satellites are received and transferred to NIPR. The transferred data from Syowa are stored in the Polar Science Data Library System (POLARIS) in NIPR, and transferred to researchers in collaborating universities and institutes via the Science Information Network (SINET).

CLIMATE	
Climate zone	Coastal Antarctica
Permafrost	Continuous
Mean annual wind speed (km/h)	6.7
Max wind speed (km/h)	
Dominant wind direction	
Sea Ice Break Up	None
Snow free period	None
Total annual precipitation (mm)	
Precipitation type	Snow
Mean annual temperature (°C)	-10.4
Mean temperature in February (°C)	-2.9
Mean temperature in July (°C)	-17.3
ENVIRONMENT	
Region	Continental Antarctica
Antarctic Environmental Domain: D – East Antarctic coastal geologic	
Antarctic Conservation Biogeographic Region: 6 Dronning Maud Land	
Altitude of facility (m)	29
Type of surface facility built on	Ice-free ground
Long term monitoring	Yes
Waste management	Yes
Hazard(ous) management	Yes
Fuel spill response capability	Yes



Photos: National Institute of Polar Research

Features in the facility area

Coast, Lake, Low artificial light pollution, Low humidity, Melt streams, Permanent snowpatches, Sea, Sea ice, Snow.

Main science disciplines

Astrophysics, Atmospheric chemistry and physics, Climate change, Climatology, Ecology, Environmental sciences, Geocryology, Geodesy, Geology, Geomorphology, Geophysics, Glaciology, Human biology, Isotopic chemistry, Limnology, Mapping, Marine biology, Medicine, Microbiology, Oceanography, Paleolimnology, Pollution, Terrestrial biology.

FACILITIES INFRASTRUCTURE	
Area under roof (m ²)	7480
Area scientific laboratories (m ²)	1330
Type of scientific laboratories: Biology, Chemistry, Geology, Geophysics	
Conference room (capacity)	
Logistic area (m ²)	6150
Number of beds	130
Showers	Yes
Laundry facilities	Yes
Power supply type	Fossil fuel, Renewable
Power supply (V)	100
Power supply (hours per day)	
Hydroponics facilities	Yes
Number of staff on station (peak/summer season)	120
Number of scientists on station (peak/summer season)	50
Number of staff on station (off peak/winter season)	30
Number of scientists on station (off peak/winter season)	10
Max number of personnel at a time (staff, scientists and others)	130
Specific device/Scientific equipment:	
Scientific services possible:	
Long-term monitoring/observations:	
MEDICAL FACILITIES	Yes
Area of medical facility (m ²)	100
Staff with basic medical training or doctor (Summer)	4
Staff with basic medical training or doctor (Winter)	2
Capability: Dental, Surgery	
Equipment: Anaesthesia, Biochemistry, Diagnostic ultrasound, Diagnostic X-ray, Laboratory diagnostics, Telemedicine	
Distance to hospital (km)	
Closest emergency facility in Antarctica (km)	
Closest emergency facility external (km)	
Medical research capabilities	Yes
Medical screening requirements	Yes
VEHICLES AT FACILITY	
Sea transportation: Rubber boats	
Land transportation: 4WD cars, snow vehicles, skidoos	
WORKSHOP FACILITIES	
Mechanical, Metal workshop, Wood workshop	
COMMUNICATIONS	
Computer, E-mail, Fax, Internet, Satellite phone, Telephone, VHF	
TRANSPORT AND FREIGHT	
Access	Air, Sea
Transport to facility: Airplane, Ship	
Number of airstrips	2
Length (m) of longest runway	1200
Width (m) of longest runway	50
Number of flight visits per year	5
Period of flight visits per year: January, February, November, December	
Helipad	Yes
Number of ship visits per year	1
Period of ship visits per year: January, February, December	
Ship landing facilities: None	