

Princess Elisabeth

Belgian Federal Science Policy and Polar Secretariat

71°56'99.1"S 23°20'81.3"E

Type: Station

Operational period:
November–February

Location

Princess Elisabeth station was built on Utsteinen Ridge, at the foot of the Sør Rondane Mountains, Dronning Maud Land. The station is located 200 km inland.

Biodiversity and natural environment

The station's natural environment is that of a high plateau with a continental Antarctic climate. The station sits in the vicinity of a mountain range and a Petrel colony.

History and facilities

In 2007–2008, Belgium constructed a new research station in Antarctica. This station replaces the former Belgian Roi Baudouin base, built in 1958 at Breid Bay in Dronning Maud Land that closed in 1967. The Princess Elisabeth station is built 173 km inland from the former Roi Baudouin base.

General research and databases

Various research, including climatology, biodiversity, glaciology, geology and geophysics are conducted at Princess Elisabeth. In addition, the station is also a test platform for sustainable technologies.

CLIMATE	
Climate zone	Inland Antarctica
Permafrost	Continuous
Mean annual wind speed (km/h)	7
Max wind speed (km/h)	50
Dominant wind direction	E
Sea Ice Break Up	
Snow free period	None
Total annual precipitation (mm)	50
Precipitation type	Snow
Mean annual temperature (°C)	-18
Mean temperature in February (°C)	-12.3
Mean temperature in July (°C)	-24.9
ENVIRONMENT	
Region	Continental Antarctica
Antarctic Environmental Domain: N – East Antarctic inland ice sheet	
Antarctic Conservation Biogeographic Region: 6 Dronning Maud Land	
Altitude of facility (m)	1382
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



Features in the facility area

Bird colonies, Blue ice, Clear air zone, Coast, Crevasse, High elevation, Hill, Ice cap or glacier, Ice shelf, Ice tongue, Lake, Low artificial light pollution, Low humidity, Melt streams, Moraine, Mountain, Nunatak, Other Biological, Permanent snowpatches, Plateau, Rock, Sea, Sea ice, Shoreline, Snow, Sustrugui, Valley.

Main science disciplines

Astrophysics, Atmospheric chemistry and physics, Climate change, Climatology, Ecology, Environmental sciences, Geodesy, Geology, Geomorphology, Geophysics, Glaciology, Hydrology, Medicine, Microbiology, Paleocology, Sustainable and communication technologies, Terrestrial biology.



Photo: Belgian Federal Science Policy and Polar Secretariat

FACILITIES INFRASTRUCTURE	
Area under roof (m ²)	1800
Area scientific laboratories (m ²)	50
Type of scientific laboratories: Atmospheric observatory, Geophysics, Meteorology	
Conference room (capacity)	
Logistic area (m ²)	600
Number of beds	48
Showers	Yes
Laundry facilities	Yes
Power supply type	Renewable
Power supply (V)	220
Power supply (hours per day)	24
Hydroponics facilities	No
Number of staff on station (peak/summer season)	12
Number of scientists on station (peak/summer season)	10
Number of staff on station (off peak/winter season)	
Number of scientists on station (off peak/winter season)	
Max number of personnel at a time (staff, scientists and others)	40
Specific device/Scientific equipment: Aethalometer, Nephelometer, Laser Aerosol Spectrometer, TSI CPC, TEOM-FDMS, CCNc + PSU, BREWER, Radiosondes, Weather Balloons, pyrometer, Ceilometer, MRR, AWS (3), iWS (2), CIMEL, MAX-DOAS, UV-Pyranometer, SIGFOX (Receiver, antenna), RADOME, VLF magnetic	
Scientific services possible: Technical science support (integration, mechanical, energy systems, electronics, ICT), Logistic support field expeditions (vehicles, equipment, mechanics and field guides), Remote monitoring and other communication, Testing and repairs	
Long-term monitoring/observations: Atmospheric and geophysics observatory	
MEDICAL FACILITIES	
Area of medical facility (m ²)	20
Staff with basic medical training or doctor (Summer)	2
Staff with basic medical training or doctor (Winter)	
Capability: Basic	
Equipment: Telemedicine, Limited diagnostic facilities and surgical facilities, Monitoring for anaesthesia, emergency equipment (defibrillators and CPR), Resident physician during summer season	
Distance to hospital (km)	
Closest emergency facility in Antarctica (km)	431
Closest emergency facility external (km)	
Medical research capabilities	No
Medical screening requirements	Yes
VEHICLES AT FACILITY	
Sea transportation:	
Land transportation: Snow tractors, sledges, 4WD tracked, Skidoos	
WORKSHOP FACILITIES	
Electric, ICTS, Mechanical, Metal workshop, Wood workshop	
COMMUNICATIONS	
Computer, E-mail, Internet, Printer, Satellite phone, Scanner, VHF	
TRANSPORT AND FREIGHT	
Access	Air
Transport to facility: Airplane	
Number of airstrips	1
Length (m) of longest runway	1200
Width (m) of longest runway	60
Number of flight visits per year	6
Period of flight visits per year: January, February, November, December	
Helipad	No
Number of ship visits per year	
Period of ship visits per year:	
Ship landing facilities:	