

SANAE IV

South African National Antarctic Programme

71°40'37.2"S 2°50'41.9"W

Type: Station

Operational period: Year-round

Location

Vesleskarvet Nunatak, approximately 160 km from Fimbul ice shelf. Station built on rock, Queen Maud Land area 50 km from base.

Biodiversity and natural environment

Ice sheet, exposed rock. Small lichen outcrop.

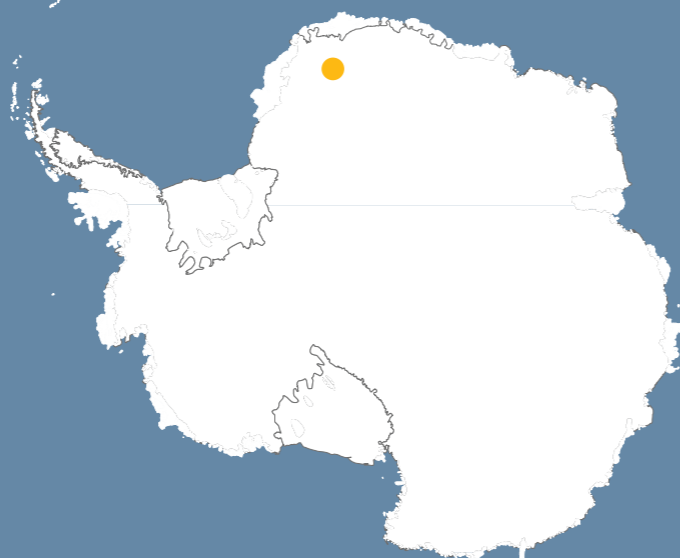
History and facilities

SANAE IV completed and occupied in 1997, site moved from ice sheet 20km from ice shelf to rocky outcrop at Vesleskarvet for longer lifespan. Overwinter station in Antarctica occupied since 1959.

General research and databases

Weather observations, upper air physics, HR radar, geomorphology.

CLIMATE	
Climate zone	Inland Antarctica
Permafrost	Continuous
Mean annual wind speed (km/h)	38.1
Max wind speed (km/h)	223.2
Dominant wind direction	E
Sea Ice Break Up	January, February, November, December
Snow free period	None
Total annual precipitation (mm)	
Precipitation type	Snow
Mean annual temperature (°C)	-16.5
Mean temperature in February (°C)	-10.8
Mean temperature in July (°C)	-23.1
ENVIRONMENT	
Region	Continental Antarctica
Antarctic Environmental Domain: T – Inland continental geologic	
Antarctic Conservation Biogeographic Region: 6 Dronning Maud Land	
Altitude of facility (m)	850
Type of surface facility built on	Rock outcrop
Long term monitoring	Yes
Waste management	Yes
Hazard(ous) management	Yes
Fuel spill response capability	Yes

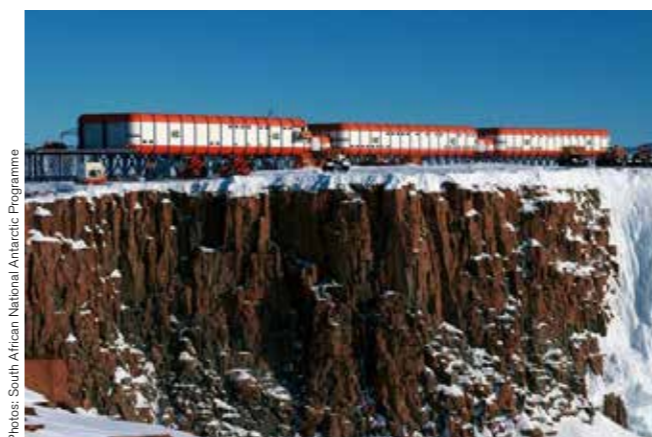


Features in the facility area

Bird colonies, Blue ice, Clear air zone, Crevasse, High elevation, Ice cap or glacier, Nunatak, Other Biological, Permanent snowpatches, Rock, Snow, Sustrugui.

Main science disciplines

Astrophysics, Environmental sciences, Geophysics, Marine biology, Terrestrial biology.



Photos: South African National Antarctic Programme

FACILITIES INFRASTRUCTURE	
Area under roof (m ²)	4000
Area scientific laboratories (m ²)	500
Type of scientific laboratories: Biology, Chemistry, Geology, Geophysics	
Conference room (capacity)	12
Logistic area (m ²)	1000
Number of beds	80
Showers	Yes
Laundry facilities	Yes
Power supply type	Fossil fuel
Power supply (V)	
Power supply (hours per day)	24
Hydroponics facilities	
Number of staff on station (peak/summer season)	80
Number of scientists on station (peak/summer season)	30
Number of staff on station (off peak/winter season)	10
Number of scientists on station (off peak/winter season)	5
Max number of personnel at a time (staff, scientists and others)	80
Specific device/Scientific equipment: Neutron monitor and detector, 64 element imaging antennae, goniometer, omnipal receiver, cld camera, pulsation, magnetometer, saol, liv flux pyrometer, seismograph, meteorological instruments	
Scientific services possible:	
Long-term monitoring/observations: Cosmic ray studies, lighting + vlf, HF radar observations, ionospheric, meteorological and seismologic observations	
MEDICAL FACILITIES	
Area of medical facility (m ²)	30
Staff with basic medical training or doctor (Summer)	2
Staff with basic medical training or doctor (Winter)	1
Capability: Dental, Surgery	
Equipment: Diagnostic X-ray, Surgery table, Defibrillator, Dental machine	
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: None	
Land transportation: Bulldozers, tractor, skidoos	
WORKSHOP FACILITIES	
Mechanical, Metal workshop, Wood workshop	
COMMUNICATIONS	
Computer, E-mail, Fax, Internet, Telephone, VHF	
TRANSPORT AND FREIGHT	
Access	Air, Land, Sea
Transport to facility: Airplane, Helicopter, Ship, Skidoo	
Number of airstrips	1
Length (m) of longest runway	1000
Width (m) of longest runway	50
Number of flight visits per year	4
Period of flight visits per year: January, February, December	
Helipad	Yes
Number of ship visits per year	1
Period of ship visits per year: January, February, December	
Ship landing facilities: Ice shelf	