

# Dallmann

 Alfred Wegener Institute

62°14'25.7"S 58°40'00.3"W

Type: Laboratory

Operational period:  
October–March

## Location

The Dallmann Laboratory is located at the Argentinean station Carlini at the Potter Cove on Potter Peninsula, the southernmost extreme of King George Island. The Potter Cove is surrounded by ice fields, glaciers and the prominent Three Brothers Hill. Potter Peninsula is an Antarctic Specially Protected Area (132).

## Biodiversity and natural environment

The marine environment is a combination zone of glacier fronts, rocky shores and soft bottom areas. The coastal areas host bird colonies, marine mammal breeding areas and several vegetal species.

## History and facilities

The Dallmann Laboratory was opened in 1994 by the Alfred Wegener Institute and the Instituto Antártico Argentino. The laboratory is personned with German and Argentinian personnel, and European guests, from October to March; during the winter months, one person provided by the Instituto Antártico Argentino (IAA) / Dirección Nacional del Antártico (DNA) conducts measurements and maintains the laboratory.

## General research and databases

The main research fields are marine and terrestrial biological studies, solar UV, ecophysical investigations, geological field works.

CLIMATE	
Climate zone	Coastal Antarctica
Permafrost	Continuous
Mean annual wind speed (km/h)	36
Max wind speed (km/h)	
Dominant wind direction	
Sea Ice Break Up	
Snow free period	January, February, December
Total annual precipitation (mm)	
Precipitation type	
Mean annual temperature (°C)	-2.4
Mean temperature in February (°C)	2
Mean temperature in July (°C)	-6
ENVIRONMENT	
Region	Antarctic Peninsula
Antarctic Environmental Domain: A – Antarctic Peninsula northern geologic	
Antarctic Conservation Biogeographic Region: 1 North-east Antarctic Peninsula	
Altitude of facility (m)	10
Type of surface facility built on	Ice-free ground
Long term monitoring	No
Waste management	Yes
Hazard(ous) management	Yes
Fuel spill response capability	Yes



## Features in the facility area

Coast, Fauna, Ice cap or glacier, Nunatak, Other Biological, Sea, Sea ice.

### FACILITIES INFRASTRUCTURE

Area under roof (m <sup>2</sup> )	133
Area scientific laboratories (m <sup>2</sup> )	118
Type of scientific laboratories: Biology, Chemistry, Scientific diving	
Conference room (capacity)	
Logistic area (m <sup>2</sup> )	
Number of beds	16
Showers	Yes
Laundry facilities	Yes
Power supply type	Fossil fuel
Power supply (V)	220
Power supply (hours per day)	24
Hydroponics facilities	
Number of staff on station (peak/summer season)	2
Number of scientists on station (peak/summer season)	14
Number of staff on station (off peak/winter season)	2
Number of scientists on station (off peak/winter season)	
Max number of personnel at a time (staff, scientists and others)	16
Specific device/Scientific equipment: Laboratory fully equipped	
Scientific services possible: Providing Liquid Nitrogen, Running Decompression Chamber	
Long-term monitoring/observations: Yes, by Argentina at Carlini Station	
<b>MEDICAL FACILITIES</b>	Yes
Area of medical facility (m <sup>2</sup> )	
Staff with basic medical training or doctor (Summer)	
Staff with basic medical training or doctor (Winter)	
Capability:	

## Main science disciplines

Climate change, Ecology, Environmental sciences, Fishery, Glaciology, Marine biology, Microbiology, Sedimentology, Terrestrial biology.

Equipment:	
Distance to hospital (km)	0.2
Closest emergency facility in Antarctica (km)	
Closest emergency facility external (km)	
Medical research capabilities	No
Medical screening requirements	No
<b>VEHICLES AT FACILITY</b>	
Sea transportation: Five Zodiac boats with outboard motors, two Zodiac semi-rigid boats, model Hurricane 733 OB (as per Carlini station data)	
Land transportation: One truck, one tractor Terry, Three 4wd quad all-terrain bikes, one 6wd all-terrain, four snowmobile (as per Carlini station data)	
<b>WORKSHOP FACILITIES</b>	
Mechanical	
<b>COMMUNICATIONS</b>	
Computer, E-mail, Internet, Printer, Satellite phone, VHF	
<b>TRANSPORT AND FREIGHT</b>	
Access	Air, Sea
Transport to facility: Airplane, Helicopter, Ship	
Number of airstrips	
Length (m) of longest runway	
Width (m) of longest runway	
Number of flight visits per year	6
Period of flight visits per year: January, February, March, November, December	
Helipad	
Number of ship visits per year	2
Period of ship visits per year: March, November	
Ship landing facilities:	



Photos: Alfred Wegener Institute

# Kohnen

 Alfred Wegener Institute

75°00'06"S 00°04'04"E

Type: Station

Operational period:  
October–March

## Location

Kohnen station is located on the Antarctic plateau at an altitude of 2892 m. The bedrock is covered by 2782 m ice and snow.

## Biodiversity and natural environment

Kohnen station is located in the interior of the Antarctic continent, about 600 km away from the coast.

## History and facilities

The station was opened in 2001 as a logistics base for a deep ice core drilling program. The central building consists of a 32 m long and 8 m wide steel platform on 16 pillars with 11 20-foot container modules on top of it. The functions of these modules are radio room, mess room, kitchen, sanitary facilities, two sleeping rooms, snowmelter, store, workshop and power plant. Food store containers on sledges and additional sleeping modules can be parked beside the platform. Because of snow accumulation the platform has to be lifted up every second year; four technicians are needed to open the station.

## General research and databases

As Kohnen was the logistics base for ice core drilling for several years. Additional to the deep ice core drilling, different science programs took place at or near Kohnen station, including the measurement of the local topography and ice velocity, ground-based radio-echo sounding, meteorological measurements using an automatic weather station and aerosol sampling with high- and low-volume devices. Since 2012/13, the Coldest Firn (CoFi) project uses Kohnen as its logistic base. The primary objective of this project is to understand the densification and the air enclosure process of the coldest firn.

CLIMATE	
Climate zone	Inland Antarctica
Permafrost	None
Mean annual wind speed (km/h)	16.2
Max wind speed (km/h)	
Dominant wind direction	
Sea Ice Break Up	
Snow free period	None
Total annual precipitation (mm)	
Precipitation type	
Mean annual temperature (°C)	-42.2
Mean temperature in February (°C)	-32.2
Mean temperature in July (°C)	-52.3
ENVIRONMENT	
Region	Continental Antarctica
Antarctic Environmental Domain: N – East Antarctic inland ice sheet	
Antarctic Conservation Biogeographic Region:	
Altitude of facility (m)	2892
Type of surface facility built on	Ice sheet
Long term monitoring	Yes
Waste management	Yes
Hazard(ous) management	No data
Fuel spill response capability	Yes



## Features in the facility area

High elevation, Ice cap or glacier, Plateau.

FACILITIES INFRASTRUCTURE	
Area under roof (m <sup>2</sup> )	160
Area scientific laboratories (m <sup>2</sup> )	0
Type of scientific laboratories: None	
Conference room (capacity)	
Logistic area (m <sup>2</sup> )	160
Number of beds	8
Showers	Yes
Laundry facilities	Yes
Power supply type	Fossil fuel
Power supply (V)	220
Power supply (hours per day)	24
Hydroponics facilities	
Number of staff on station (peak/summer season)	4
Number of scientists on station (peak/summer season)	2
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)	28
Specific device/Scientific equipment:	
Scientific services possible:	
Long-term monitoring/observations:	
<b>MEDICAL FACILITIES</b>	No
Area of medical facility (m <sup>2</sup> )	
Staff with basic medical training or doctor (Summer)	0
Staff with basic medical training or doctor (Winter)	

## Main science disciplines

Atmospheric chemistry and physics, Climate change, Climatology, Geodesy, Geophysics, Glaciology.

Capability:	
Equipment:	
Distance to hospital (km)	750
Closest emergency facility in Antarctica (km)	
Closest emergency facility external (km)	
Medical research capabilities	No
Medical screening requirements	No
<b>VEHICLES AT FACILITY</b>	
Sea transportation:	
Land transportation: Skidoos, snow groomer	
<b>WORKSHOP FACILITIES</b>	
Metal workshop	
<b>COMMUNICATIONS</b>	
E-mail, Satellite phone, VHF	
<b>TRANSPORT AND FREIGHT</b>	
Access	Air, Land
Transport to facility: Airplane, Skidoo	
Number of airstrips	1
Length (m) of longest runway	2000
Width (m) of longest runway	20
Number of flight visits per year	
Period of flight visits per year:	
Helipad	No
Number of ship visits per year	
Period of ship visits per year:	
Ship landing facilities:	



Photos: Alfred Wegener Institute

Photos: Alfred Wegener Institute



# Neumayer III

Alfred Wegener Institute

70°41'0"S 08°16'0"W

Type: Station

Operational period: Year-round

## Location

Neumayer Station III is located about 20 km inland of the ice edge on the Ekström Ice Shelf. The Ekström Ice Shelf is a part of Dronning Maud Land in the Atlantic Sector of Antarctica. In contrast to the previous stations, Neumayer Station III was built about 7 m above the snow surface.

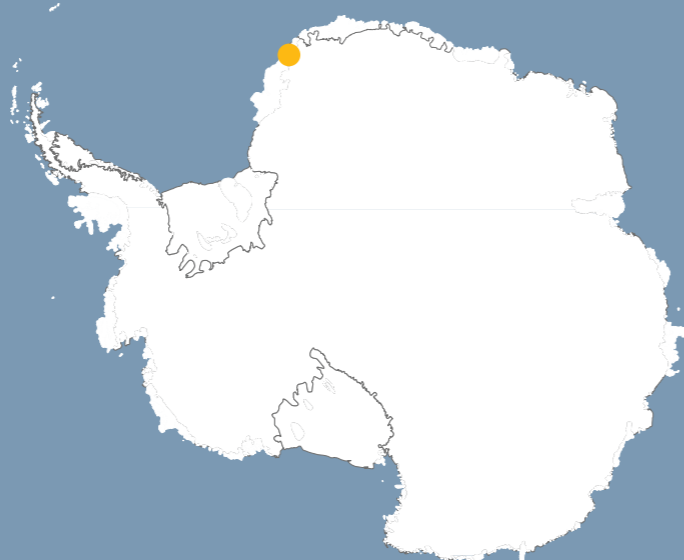
## Biodiversity and natural environment

The coastal environment favours the biodiversity in the vicinity of Neumayer Station III. Emperor penguin colony, Adélie penguins as well as Weddell seals, Skuas and other birds are present. The Ekström Ice Shelf is surrounded by two ice covered ridges and the ice shelf forms a bay (Atka Bay). The ice shelf is about 200 m thick at its front and has a velocity of 250 m/yr.

## History and facilities

Neumayer Station III follows the Georg-von-Neumayer station (1981–1992) and Neumayer II station (1992–2009) on the Ekström Ice Shelf. It is the first of these three stations to be built about 7 m above the surface. Neumayer Station III integrates research, operational and accommodation facilities in one building. On the roof of Neumayer Station III, a balloon launching hall was built to launch radiosondes. A short distance from the station (1.5 km) an air chemistry (trace gases) and a geophysics observatory are located. Together with the meteorology, they comprise the long-term observatories of Neumayer Station III.

CLIMATE	
Climate zone	Coastal Antarctica
Permafrost	None
Mean annual wind speed (km/h)	32.4
Max wind speed (km/h)	133.6
Dominant wind direction	E
Sea Ice Break Up	January
Snow free period	None
Total annual precipitation (mm)	
Precipitation type	
Mean annual temperature (°C)	-16
Mean temperature in February (°C)	-8.1
Mean temperature in July (°C)	-24.9
ENVIRONMENT	
Region	Continental Antarctica
Antarctic Environmental Domain: I – East Antarctic ice shelves	
Antarctic Conservation Biogeographic Region: 6 Dronning Maud Land	
Altitude of facility (m)	43
Type of surface facility built on	
Long term monitoring	Yes
Waste management	Yes
Hazard(ous) management	Yes
Fuel spill response capability	Yes



## General research and databases

Main research fields are meteorology, air chemistry and geophysics. These are long-term observatories and the data are available at [www.pangaea.de](http://www.pangaea.de). The meteorology observatory is part of the Baseline Surface Radiation Network (BSRN). Additionally, ocean acoustics and the observation of the penguin colony take place. The Neumayer Station III is also the location of the infra-sound array I27DE, a measuring field of the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO).

## Features in the facility area

Bird colonies, Coast, Other Biological, Ice shelf, Sea ice.

## Main science disciplines

Atmospheric chemistry and physics, Climate change, Geophysics, Glaciology, Meteorology.



Photos on this page: T Steuer

FACILITIES INFRASTRUCTURE	
Area under roof (m <sup>2</sup> )	4890
Area scientific laboratories (m <sup>2</sup> )	410
Type of scientific laboratories: Chemistry, Geophysics, Meteorology	
Conference room (capacity)	
Logistic area (m <sup>2</sup> )	2511
Number of beds	40
Showers	Yes
Laundry facilities	Yes
Power supply type	Fossil fuel, Renewable
Power supply (V)	220
Power supply (hours per day)	24
Hydroponics facilities	No
Number of staff on station (peak/summer season)	20
Number of scientists on station (peak/summer season)	40
Number of staff on station (off peak/winter season)	5
Number of scientists on station (off peak/winter season)	4
Max number of personnel at a time (staff, scientists and others)	60
Specific device/Scientific equipment: Meteorological equipment, air-chemistry lab, GPS, hydrophones beneath the ice shelf, camera for observing penguin colony	
Scientific services possible:	
Long-term monitoring/observations: Meteorological observations, air-chemistry, geophysics	Yes
MEDICAL FACILITIES	
Area of medical facility (m <sup>2</sup> )	56
Staff with basic medical training or doctor (Summer)	3
Staff with basic medical training or doctor (Winter)	3
Capability: Basic, Dental, Surgery	
Equipment: Anaesthesia, 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:	
Land transportation: Ten skidoos, twenty snow groomers, two 4WD vehicles with balloon tyres	
WORKSHOP FACILITIES	
Mechanical, Metal workshop, Plexiglas workshop, Wood workshop	
COMMUNICATIONS	
Computer, E-mail, Internet, Printer, Satellite phone, Telephone, VHF	
TRANSPORT AND FREIGHT	
Access	Air, Land, Sea
Transport to facility: Airplane, Ship, Ski, Skidoo	
Number of airstrips	1
Length (m) of longest runway	1000
Width (m) of longest runway	60
Number of flight visits per year	
Period of flight visits per year: January, February, December	
Helipad	Yes
Number of ship visits per year	2
Period of ship visits per year: January, February, December	
Ship landing facilities: Ice pier	