

The Dronning Maud Land Air Network (DROMLAN)

A Gateway to Antarctica for Research and Logistics

This new air network facilitates communication and the transportation of scientists and equipment between Cape Town and Dronning Maud Land, and between the scientific stations and field locations within Dronning Maud Land. It is supported by a consortium of the eleven national programmes that have stations or operations in Dronning Maud Land. The network connects the 3000 metre ice runway at Novo Air Base, close to the Russian Novolazarevskaya Station, to Cape Town International Airport by an inter-continental flight. This flight, in an Ilyushin 76TD cargo /passenger aircraft, is operated by the Antarctic Logistics Centre International (ALCI). The Novo runway acts as a hub from which feeder flights by ski-equipped Antonov-2, Dornier 228, Twin Otter or Basler (BT-67) aircraft can connect to other stations and field locations within Dronning Maud Land. A new 3000 metre ice runway has been commissioned by Norway at Troll Station. From mid December to the end of January the Novo runway (~550 masl) suffers from extensive surface melting and has to be closed. An alternative ice runway (~1300 masl) at the Norwegian Troll Station is currently being prepared that will not suffer from surface melting and will be able to operate throughout the summer.

Dronning Maud Land Air Network

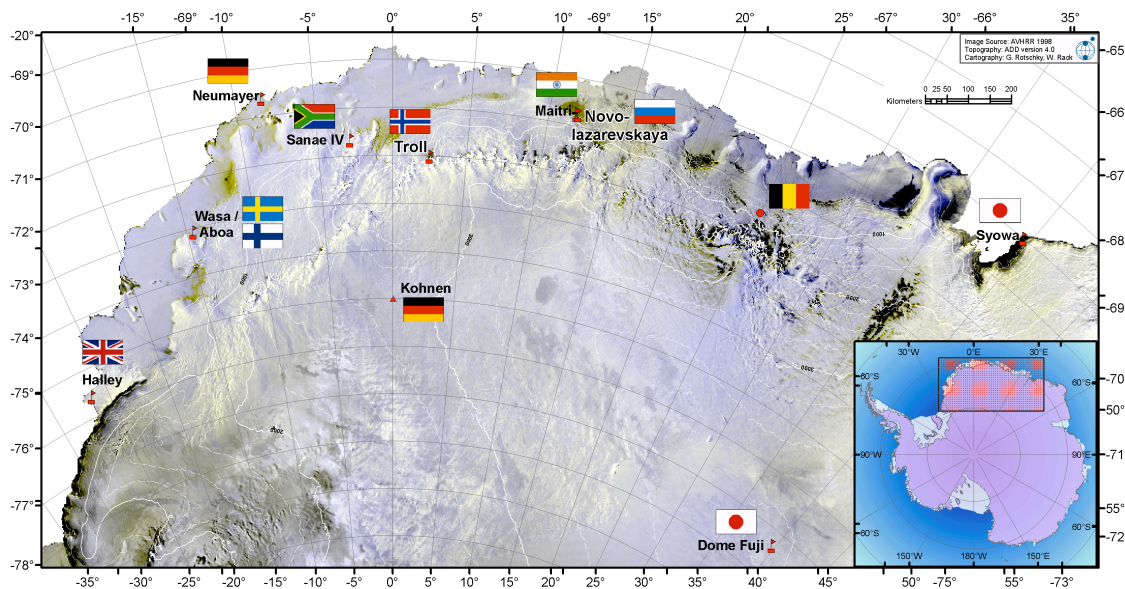


Figure 1. Map showing the locations of stations of the DROMLAN national operators.

The aim of the Dronning Maud Land Air Network (DROMLAN) is to provide an intercontinental air-link from Cape Town to destinations within Dronning Maud Land (DML) available to any member country of COMNAP and SCAR for science-related activities, including logistics. This regular air-link will improve the accessibility and will extend the length of the summer season for all activities of national operators but not for tourist activities.

Through bi- and multi- lateral meetings and discussions, an agreement was reached and the eleven national Antarctic operators active in DML formally established DROMLAN as an international project at the XIV COMNAP Meeting in Shanghai during July 2002.

The DROMLAN cooperation includes the following activities:

- to maintain, improve and operate two airfields in Dronning Maud Land close to the Novolazarevskaya (Russia) and Troll (Norway) stations for intercontinental flights from Cape Town;
- to organize intercontinental flights with appropriate aircraft to transport personnel and cargo between Cape Town and the airfields at Novolazarevskaya and Troll;
- to organize connecting flights with small ski-equipped aircraft to all stations and field destinations in Dronning Maud Land, including further options such as Vostok, South Pole and the stations of the East Antarctic coastal region; and
- to organize the necessary support services, such as weather forecasting, provision of fuel and accommodation at stations in Dronning Maud Land.

The intercontinental flights between Cape Town and Novolazarevskaya, with an alternative destination at Troll, are currently performed with an Ilyushin IL-76TD aircraft. The Antarctic Logistic Centre International (ALCI), as the official aircraft operator of the Russian Antarctic Expedition, organizes and performs the flight missions in cooperation with the DROMLAN members. In addition to ALCI as the operator for IL-76TD and Basler aircraft, the national operators of Germany and the United Kingdom support feeder flights with Dornier and Twin Otter aircraft.

Since the 2002–03 season flight operations in the framework of DROMLAN have been established by annual contracts between national operators and ALCI to organize the intercontinental flights. National operators support feeder flights to various stations and provide other necessary services and facilities at their stations. Further progress was made by the establishment of a detailed and customized weather forecasting service at Neumayer Station to improve the safety and reliability of intercontinental and feeder flights.

Internal feeder flights have been provided by Antonov 2, Dornier and Twin Otter aircraft. In addition, it is planned to use a Basler (BT-67) commissioned by ALCI during the 2004–05 season.

The founder members of DROMLAN are the National Antarctic Programmes (COMNAP members) of Belgium, Finland, Germany, India, Japan, the Netherlands, Norway, Russia, South Africa, Sweden and the United Kingdom. DROMLAN is administered by a Steering Committee, comprising an Executive Director and a Support Group with a representative from each member country. The Committee decides by consensus on financial matters, operating guidelines and the annual programme.

Intercontinental flights can be performed during the period from November until February, which significantly extends the operational period during summer season. The number of flights depends on the number of passengers and of amount of cargo required by the national operators. DROMLAN generally aims to perform 6 or 7 intercontinental flights every season with connecting flights to various destinations in the region according to the flight pattern shown in Table 1.

Table 1. Proposed seasonal pattern of DROMLAN flights

01 Nov – 10 Dec	25 – 30 December	25 Jan – 15 Feb
2 – 3 flights	1 – 2 flights	2 – 3 flights
Cape Town	Cape Town	Cape Town
Novo – Airfield		Novo - Airfield
Troll	Troll	Troll
Cape Town	Cape Town	Cape Town

Scientists of the SCAR community are invited to use this intercontinental air link. Requests for flights should be forwarded to the DROMLAN Project Director Jan Erling Haugland (dromlan@npolar.no) before May each year so that the necessary arrangements can be made. However, intending participants should note that DROMLAN is not the body for the arranging visits to the stations. Such visits must be agreed with the relevant national operators within the framework of SCAR and COMNAP policy for international co-operation in the Antarctic.

Further information about the DROMLAN operation can be found in:

1. Information Paper IP-109 submitted to XXVII ATCM in Cape Town, 2004.
<http://www.ats.org.ar/27atcm/e/login/IP/27IP109E.doc>
2. The Antarctic Logistics Centre International website
[http:// www.alci.info/](http://www.alci.info/)

The following tables provide some operational statistics (Tables 2 and 3) and some air distances between, and the locations of the principal flight destinations in Dronning Maud Land (Tables 4 and 5) that may be useful for planning field operations. Estimated flight times are not given because these depend on weather conditions and the aircraft used for feeder flights within Dronning Maud Land.

Table 2. Seasonal Cape Town – Novo Airbase flight statistics

Ilyushin 76TD	2002–03	2003–04	2004–05
Number of flights	4	7	6
Passengers in	110	158	131
Passengers out	131	145	130
Cargo in (tons)	11	89	16
Cargo out (tons)	6	24	6

Table 3. Seasonal flight destinations from Novo Air Base

Destinations	2002–03	2003–04	2004–05
Aboa/Wasa	X	X	
Dome Fuji		(X)	(X)
Halley	X		
Kohnen	X	X	X
Neumayer	X	X	X
SANAE IV	X	X	X
Syowa		(X)	
Troll	X	X	X
Sør Rondane			X

Table 4. Approximate air distances in kilometres and statute miles

Miles Kilometres	Cape Town	Novo	Aboa / Wasa	Dome Fuji	Halley	Kohnen	Neumayer	SANAE IV	Sør Rondane	Syowa	Tor	Troll
	Cape Town	—	2630	—	—	—	—	—	—	—	—	—
Novo	4200	—	550	680	810	370	450	330	250	670	160	220
Aboa / Wasa	—	890	—	950	290	310	220	260	740	1180	390	360
Dome Fuji	—	1090	1520	—	1020	660	990	850	480	580	720	750
Halley	—	1290	460	1680	—	460	500	530	950	1380	650	610
Kohnen	—	600	490	1060	740	—	340	240	490	920	240	210
Neumayer	—	720	350	1584	800	550	—	140	680	1120	310	260
SANAE IV	—	530	420	1360	850	380	230	—	540	980	180	130
Sør Rondane	—	410	1180	770	1520	780	1100	880	—	440	370	430
Syowa	—	1080	1180	930	2210	1470	1790	1570	700	—	810	860
Tor	—	260	630	1150	1040	380	500	280	590	1300	—	60
Troll	4300	350	580	1200	980	340	420	210	690	1380	100	—

Table 5. Geographical coordinates and altitudes of stations in Dronning Maud Land

Location	Latitude	Longitude	Altitude
Cape Town	33°59'00" S	18°36'00" W	
Novo air base	70°49'31" S	11°37'41" E	550 m
Aboa / Wasa	73°03'00" S	13°25'00" W	400 m
Dome Fuji	77°19'01" S	39°42'12" E	3810 m
Halley	75°34'54" S	26°32'28" W	37 m
Kohnen	75°00'06" S	00°00'04" E	2872 m
Neumayer	70°38'42" S	08°15'34" W	15 m
SANAE IV	71°40'15" S	02°49'44" W	841 m
Sør Rondane	71°55'18" S	22°31'43" E	1400 m
Syowa	69°00'22" S	39°35'24" E	29 m
Tor	71°53'20" S	5°09'30" E	1625 m
Troll	72°00'07" S	02°32'02" E	1298 m