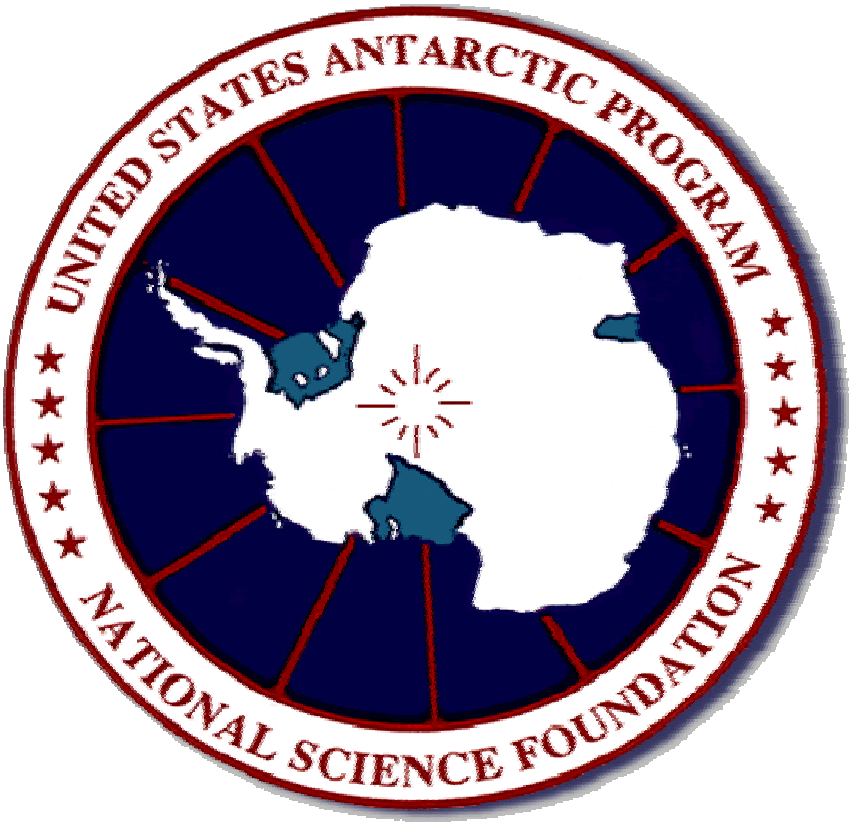
Advance Exchange of Operational Information on Antarctic Activities for the 2003–2004 season



United States Antarctic Program

Office of Polar Programs
National Science Foundation

Advance Exchange of Operational Information on Antarctic Activities for 2003/2004 Season

Country: **UNITED STATES**

Date Submitted: October 2003

SECTION 1	**SHIP OPERATIONS**

U.S. Coast Guard Breaker *POLAR STAR*

Nov. 1, 2003 Depart Seattle, Washington USA
Dec. 7-11, 2003 Port Call Hobart, Tasmania, Australia
Dec. 25, 2003 - Feb. 19, 2004 Break channel to McMurdo. Escort supply vessel to/from McMurdo. Provide science support in Ross Sea.
Feb. 19, 2004 Depart McMurdo. Provide support for NZ mooring recovery Cape Hallet.
April 15, 2004 Arrive Seattle

U.S. Coast Guard Breaker *POLAR SEA*

Nov. 15, 2003 Depart Seattle, Washington USA
Dec. 5-10, 2003 Port Call Sydney, Australia
Dec. 25, 2003 - Feb. 15, 2004 Break channel to McMurdo.
Feb. 15, 2004 Depart McMurdo.
April 10, 2004 Arrive Seattle

M/V AMERICAN TERN

Jan. 23-26, 2004 Port Call Port Lyttleton, NZ
Feb 2, 2004 Arrive Ice edge, McMurdo Sound
Feb 2-9, At ice pier, McMurdo Sound
Feb 9, 2004 Depart McMurdo

T-5 Tanker, (One of five possible vessels. Specific name of vessel to be determined)

Jan. 15, 2004 Arrive Ice Edge, McMurdo Sound
Jan. 15-20 At Ice Pier, McMurdo. Re-fuel Station
Jan. 21, 2004 Depart McMurdo

R/V LAURENCE M. GOULD

For detailed and updated schedule, log on to the Raytheon Polar Services Company Web page at:
http://www.polar.org/science/marine/pdf/lmg/lmgsched.pdf

R/V NATHANIEL B. PALMER

For detailed and updated schedule, log on to the Raytheon Polar Services Company Web page at:
http://www.polar.org/science/marine/pdf/nbp/nbpsched.pdf

SECTION 2 — **AIR OPERATIONS**

Information on planned air operations (see attached sheets)

SECTION 3 — **STATIONS**

a) New stations or refuges not previously notified: NONE

b) Stations closed or refuges abandoned and not previously notified: NONE

SECTION 4 — **LOGISTICS ACTIVITIES AFFECTING OTHER NATIONS**

a) McMurdo airstrip will be used by Italian and New Zealand C-130's and Italian Twin Otters

b) McMurdo Heliport will be used by New Zealand and Italian helicopters

c) Extensive air, sea and land logistic cooperative support with New Zealand

d) Twin Otters to pass through Rothera (UK) upon arrival and departure from Antarctica

e) Australian twin otters to pass through Byrd or South Pole and McMurdo (tentative).

SECTION 5 — **MAJOR FIELD ACTIVITIES**

- **Field camps:**
  Byrd Surface Camp (80° 05' S, 119° 32' W)
  Dry Valleys (Multiple Locations)
  Sea Ice (Multiple Locations)
  Ross Island (Multiple locations)
  Beardmore Glacier (84.00º S, 164.50º W)
  Moody Nunatak (83° 07' S, 159° 30' E)
  Megadunes (80° 30' S, 125° 00' E)
  O'Dell Glacier (76.63º S, 160.05ºE)
- **Traverses**
  Light Ground Traverse (Traverse from South Pole to Taylor Dome—77.8°S, 158.73°E)

SECTION 6 — **OTHER ANTARCTIC ACTIVITIES**

(a) Governmental: (grantees, ICDS, RPSC) Persons will work with other contracting parties as follows:

Edmund Stump (+1)	Italian Program at Terra Nova Bay
Von Walden (+3)	French and Italian program at Dome C and TNB
Stephen Warren (+3)	French and Italian program at Dome C and TNB
Steven Emslie (+3)	Italian Program at Terra Nova Bay
Charlie Stearns (+4)	French IPEV, British BAS Multiple AWS sites
Edward Grew (+1)	Australian Antarctic Division at Davis
Tom Frazer	Spanish Antarctic Program, R/V Hesperides, Juan Carlos I
Robert Blanchette (+2)	Antarctic New Zealand
George Hunt (+1)	French Antarctic Program
Justin McCabe	French and Italian program at Dome C
Rikk Kvitek (+3)	Italian R/V Italica
Gabrielle Nevitt (+1)	French Antarctic Program

(b) Non-governmental:

o *MV Amsterdam* Holland America Line	3 cruises with approx. 1,000 passengers each December 2003 to February 2004 Total number: max. 3,000 passengers

		(Cruising only, no landings) http://www.hollandamerica.com
	o *MV Andrea* Elegant Cruises	5 cruises with approx. 80 passengers each December 2003 to February 2004 Total number: max. 400 passengers http://www.elegantcruises.com
	o *MV Clipper Adventurer* Clipper Cruise Line	8 cruises with approx.110 passengers each November 2003 to February 2004 Total number: max. 880 passengers http://www.clippercruise.com
	o *MV Endeavour* Lindblad Expeditions	7 cruises with approx. 100 passengers each November 2003 to March 2003 Total number: max. 700 passengers http://www.expeditions.com
	o *MV Explore II* Abercrombie & Kent	9 cruises with approx. 175 passengers each November 2003 to March 2004 Total number: max. 1,575 passengers http://www.abercrombiekent.com
	o *MV Kapitan Khlebnikov* Quark Expeditions	4 cruises with approx. 90 passengers each November 2003 to February 2004 Total number: max. 360 passengers
	o *MV Professor Molchanov* Quark Expeditions	12 cruises with approx. 40 passengers each November 2003 to March 2004 Total number: max. 480 passengers
	o *MV Professor Multanovskiy* Quark Expeditions	10 cruises with approx. 45 passengers each November 2003 to March 2004 Total number: max. 450 passengers
	o *MV Lyubov Orlova* Quark Expeditions	11 cruises with approx. 80 passengers each November 2003 to March 2004 Total number: max. 880 passengers http://www.Quarkexpeditions.com
	o *MV Marco Polo* Orient Lines	5 cruises with approx. 550 passengers each December 2003 to February 2004 Total number: max. 2,750 passengers http://www.orientlines.com
	o *MV Orion* Travel Dynamics	7 cruises with approx. 100 passengers each December 2003 to March 2004 Total number: max. 700 passengers http://www.TravelDynamicsInternational.com
	o *MV Polar Star* Cheesemans' Ecology Safaris	1 cruise with approx. 100 passengers December 2003 to January 2004 Total number: max 100 passengers http://www.cheesemans.com
	o *MV The World* Residensea	1 cruise with approx. 400 passengers December 2003 to January 2004

	Total number: max. 400 http://www.residensea.com o *MV World Discoverer* Society Expeditions 7 cruises with approx. 145 passengers each November 2003 to March 2004 Total number: max. 1,015 http://www.societyexpeditions.com o *MV Royal Princess* Princess Cruises 1 cruise with approx. 1,200 passengers December 2003 to January 2004 Total number: max. 1,200 http://www.princess.com o *MV Discovery* Discovery World Cruises, Ltd. 3 cruises with approx. 550 passengers December 2003 to January 2004 Total number: max. 1,650
SECTION 7	**EMERGENCY CONTACTS** **National Operator:** National Science Foundation United States Antarctic Program (USAP) 4201 Wilson Boulevard Arlington, Virginia 22230 USA Telephone +01-703-292-8030 Facsimile +01-703-292-9081
	Emergency Contacts *Karl Erb* Office Telephone +01-703-292-8030 E-mail Address kerb@nsf.gov *Erick Chiang* Office Telephone +01-703-292-8032 E-mail Address echiang@nsf.gov ***Operations duty officer (24 hr)*** **Telephone** **+01-703-819-0283**
	STATIONS Name / Commercial Telephone / Facsimile / E-mail **McMurdo** (summer) +01-509-689-6200 +01-509-689-6292 nsfrep@mcmurdo.gov (winter) +01-509-689-6212 +01-509-689-6292 nsfstmgr@mcmurdo.gov (24hr/365) +01-509-689-6280 **Palmer** +01-720-568-2775/6 +01-720-568-7868 pal.manager@usap.gov **Amundson-Scott** **South Pole** +881 676 312 608 (Iridium) statnmgr@spole.gov

	SHIPS Name — Inmarsat Telephone — Facsimile — E-mail *Nathaniel B. Palmer* xxx-336-661-012 xxx-336-661-014 mpc@nbp.usap.gov *Laurence M. Gould* xxx-336-862-421 xxx-336-862-424 mpc@lmg.usap.gov *Polar Star* 870-763-709851/3 postmasterpolarstar@polarstar.uscg.mil *Polar Star(Cont'd)* 808-659-3801/3802 (Iridium) *Polar Sea* xxx-336-787-820 postmasterpolarsea@polarsea.uscg.mil *Polar Sea(Cont'd.)* 808-659-9427 (Iridium)

NOTES:

1. INMARSAT Area Codes xxx: Atlantic Ocean - 871 (East)/874 (West)
Pacific Ocean – 872;Indian Ocean – 873
Single Number Access Code (SNAC) - 800

Information on Air Operations (Section 2)

INFORMATION ON PLANNED AIR OPERATIONS IN ANTARCTICA FOR 2003/04 SEASON

CONTACT INFORMATION - AIR OPERATIONS

Part A

Country	Operations/Logistics Contact Officers	Position	Office Telephone/Fax E-mail
Address for correspondence National Science Foundation Office of Polar Programs Room 755 4201 Wilson Boulevard Arlington, Virginia 22230 USA	**Karl Erb** **Erick Chiang**	Director, Office of Polar Programs Head, Polar Research Support Section	**Tel:** +01-703-292-8030 **Fax:** +01-703-292-9081 **Tel:** +01-703-292-8032 **Fax:** +01-703-292-9080

Part B

- Please tick [ ] appropriate box

☐ No, it Island not intended to conduct air operations in Antarctica during the forthcoming summer season.

☐ Yes, it Island intended to conduct air operations in Antarctica during the forthcoming summer season for which the following information sheets are attached:

		(*delete as appropriate)
Sheet 1	Intercontinental Operations	Yes
Sheet 2	Continental Operations	Yes
Sheet 3	Ship Based Operations	Yes
Sheet 4	Other Airborne Operations (Balloons)	Yes
Sheet 5	Aircraft Description	Yes

Part C

	Station	Lat/Long	INMARSAT Nos
Primary Air Information Stations 2003/04 SEASON	McMurdo Station	77-52S 166-11E	872-150-3105 +01-509-689-6200 (commercial–primary)
	Odell Glacier	76-66S 159-95E	Accessed via McMurdo Station telephone patch
	Beardmore Glacier	84-00S 164-50W	Accessed via McMurdo Station telephone patch
	Moody Nunatak	83-07S 159-30E	Accessed via McMurdo Station telephone patch
	South Pole Station	90-00 S	Accessed via McMurdo Station telephone patch
Secondary Air Information Stations	Siple Dome	81-30S 146W	Accessed via McMurdo Station telephone patch
	Byrd Station	80-00S 120-00W	Accessed via McMurdo Station telephone patch

2003/04 SEASON

PART 1 INTER-CONTINENTAL FLIGHTS

Route	No. of Flights	Flight Level or Altitude (ft/m)	Approximate Date or Period of Flight(s)	No. and Type of Aircraft per Flight
Christchurch-McMurdo-Christchurch	21	Up to 41,000ft	30 Sep – 14 Nov 03	One C-141
Christchurch-McMurdo-Christchurch	19	Up to 41,000ft	2 Jan – 21 Feb 04	One C-141
Christchurch-McMurdo-Christchurch	12	Up to 45,000ft	1-27 Oct 03	One C-17
Christchurch-McMurdo-Christchurch	60*	Up to 29,000ft	22 Oct – 19 Feb 04**	Five LC-130
Christchurch-McMurdo-Christchurch	15	Up to 29,000ft	17 Nov – 20 Dec 03	C-130H (wheeled) RNZAF

*Approximately 3 flights per week
**Exclusive of 20 Dec – 6 Jan'03
Note: Intercontinental flights are shared with the Italian and New Zealand Antarctic programs. See their submissions for flight data pertaining to their aircraft.

PART 2 INTRA-CONTINENTAL FLIGHTS 2003/2004 Season

Route	No. of Flights	Flight Level or Altitude (ft/m)	Approximate Date or Period of Flight(s)	No. and Type of Aircraft per Flight
McMurdo Station TO **Beardmore Glacier** LOCATION: 84S/164-30E Elevation 6,000ft Fm. McM: 371mi	13	20,000-25,000ft	02 Nov – 31 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo Station TO **Moody Nunatak** LOCATION: 84S/164-30E Elevation 6,000ft Fm. McM: 323mi	9	20,000-25,000ft	13 Dec – 31 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo station TO **AGO sites** (6 sites in/around polar plateau) Elevation: 6,100 – 11,700ft Fm. McM: 500-1,100mi	3	Up to 15,000ft	02 Nov – 20 Dec	any of 7 LC-130 aircraft
McMurdo station TO **Mount Moulton** LOCATION: 75-55S/134-35WW Elevation: 3,900ft Fm. McM: 773mi	4	20,000 – 25,000ft	29 Nov to 31 Jan	any of 7 LC-130 aircraft
McMurdo station TO **Siple Dome** LOCATION: 81-40S/149-03W Elevation: 2,415FT Fm. McM: 540mi	6	20,000 – 25,000ft	08 Nov – 31 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft

Route	No. of Flights	Flight Level or Altitude (ft/m)	Approximate Date or Period of Flight(s)	No. and Type of Aircraft per Flight
McMurdo Station TO **TAMSEIS** LOCATION: 81-42S/122-24E Elevation: 9,550Ft Fm. McM: 510mi	3	20,000 – 25,000ft	03 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo Station TO **Megadunes** LOCATION: 80-30/125-00E Elevation: 9,380Ft Fm. McM: 483mi	5	20,000 – 25,000ft	03 Jan – 24 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo station TO **South Pole** LOCATION: 90S Elevation: 9,342Ft Fm. McM: 725mi	331	20,000 – 25,000ft	25 Oct – 15 Feb	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo station TO **Byrd Surface Camp** LOCATION: 80S/119-32W Elevation: 5,250FT Fm. McM: 800mi	5	20,000 – 25,000ft	08 Nov – 07 Feb	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo Station TO **Vostok Station** LOCATION: 78-28S/106-48E Elevation: 11,500Ft Fm. McM: 708mi	1	20,000 – 25,000ft	07 Feb	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo station TO **Long Duration Balloon payload drop point** LOCATION: Unknown at this time Elevation: Unknown this time Fm. McM: 300 – 700mi (est.)	2	20,000 – 25,000ft	06 Dec; 17 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
McMurdo Station TO **Reedy Glacier (airdrop)** LOCATION: 86-00S/136-52W Elevation: Unknown at this time Fm. McM: 648mi	1	20,000 – 25,000ft	02 Nov	any of 7 LC-130 aircraft
McMurdo Station TO **LaPaz** LOCATION: 86-20S/70-00W Elevation: Unknown at this time Fm. McM: 868mi	1	20,000 – 25,000ft	02 Nov	any of 7 LC-130 aircraft
McMurdo Station TO **LGT 1 and LGT 2 (airdrop)** LOCATION: 87-18S/96-47E and 84-39S/96-47E, respectively Elevation: Unknown at this time Fm. McM: 689mi and 686mi, respectively	1	20,000 – 25,000ft	15 Nov	any of 7 LC-130 aircraft
McMurdo Station TO **Taylor Dome** LOCATION: 77-44S/158-44E Elevation: 7,420Ft Fm. McM: 100mi	1	20,000 – 25,000ft	31 Jan	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft
South Pole Station TO **Deep Field Science Sites**, Rtn to Pole LOCATION: various in/around So.Pole Elevation: Various	6	20,000 – 25,000ft	08 Nov – 20 Dec	any of 7 LC-130 aircraft; any of 3 Twin Otter aircraft

Route	No. of Flights	Flight Level or Altitude (ft/m)	Approximate Date or Period of Flight(s)	No. and Type of Aircraft per Flight
In/Around McMurdo station (**Local helicopter operations**) Fm. McM: 1 – 150mi radius	350-400	500 – 10,000ft	3 Oct – 10 Feb	two AS-350B Helicopters two Bell 212 Helicopters

HELICOPTER OPERATIONS
Sites in/around McMurdo Station
2003/04 SEASON

Site	Latitude	Longitude
Allan Hills	S 76.66	E 159.66
Barwick Valley	S 77.37	E 161.63
Battleship Promontory	S 76.92	E 160.92
Battleship Promontory	S 76.92	E 161.03
Beacon Valley	S 77.8	E 160.71
Beaufort Island	S 76.93	E 166.94
Black Island	S 78.13	E 166.15
Bratina Island Crack	S 77.99	E 165.6
Brimstone Pk	S 75.8	E 158.47
Brosnahan Island	S 79.47	E 161.02
Bruce Point	S 76.14	E 162.41
Bull Pass	S 77.52	E 161.85
Butcher Ridge	S 79.18	E 156.38
Carapace Nunatak	S 76.89	E 159.44
Catspaw Glacier	S 77.69	E 161.6
Cavendish Rocks	S 77.83	E 161.4
Clark Glacier	S 77.41	E 162.21
Commonwealth Glacier	S 77.58	E 163.01
Cones	S 77.53	E 167.09
Convoy Range	S 76.92	E 161.19
Cape Bird	S 77.22	E 166.43
Cape Chocolate	S 77.9	E 164.5
Cape Crozier	S 77.52	E 169.1
Cape Crozier	S 77.47	E 169.25
Cape Evans	S 77.64	E 166.41
Cape Kerr	S 80.05	E 160.43
Cape Lankester	S 79.25	E 160.35
Cape Philippi	S 75.07	E 162.65
Cape Reynolds	S 75.47	E 162.45
Cape Roberts	S 77.03	E 163.17
Cape Royds	S 77.55	E 166.17
Cape Selborne	S 80.43	E 160.62
Cape Selborne	S 80.45	E 160.13
Cape Teall	S 78.94	E 160.76
Cape Teall	S 78.94	E 160.76
Darwin Glacier	S 79.79	E 157.88
Diamond Hill	S 79.85	E 159.48
Don Juan Pond	S 77.56	E 161.18
Dot Pk	S 79.77	E 159.17
Drygalski Ice Tongue	S 75.4	E 163.5
Dunlop Island	S 77.23	E 163.5
Erebus Bay	S 77.73	E 166.52
Explorers Cove	S 77.58	E 163.52

Site	Latitude	Longitude
F6	S 77.61	E 163.25
Fang Glacier	S 77.46	E 167.27
Fishtail Point	S 78.93	E 162.56
Franklin Island	S 76.08	E 168.32
Garwood Valley	S 78.03	E 164.29
Granite Harbor	S 77.01	E 162.86
Iceberg C16	S 77	E 168
Inclusion Hill	S 77.25	E 166.43
Labyrinth	S 77.53	E 160.92
Lake Bonney	S 77.72	E 162.32
Lake Brownworth	S 77.43	E 162.71
Lake Fryxell	S 77.61	E 163.12
Lake Hoare	S 77.62	E 162.91
Lake Joyce	S 77.72	E 161.61
Lake Miers	S 78.1	E 163.79
Lake Vanda	S 77.53	E 161.68
Lake Vida	S 77.38	E 161.79
Low Erebus Hut	S 77.51	E 167.15
Marble Point	S 77.41	E 163.68
McMurdo Station	S 77.85	E 166.67
McSaveney Spur	S 77.28	E 160.56
Meserve Glacier	S 77.51	E 162.3
Miers Valley	S 78.1	E 163.8
Minna Bluff	S 78.55	E 166.88
Mount Aurora	S 78.23	E 166.37
Mount Barnes	S 77.63	E 163.62
Mount Bird	S 77.26	E 166.86
Mount Brooke	S 76.83	E 159.9
Mount Coates	S 77.79	E 161.97
Mount Crean	S 77.87	E 159.53
Mount Fleming	S 77.53	E 160.27
Mount Keltie	S 79.25	E 159.48
Mount Littlepage	S 77.18	E 160.09
Mount Newall	S 77.5	E 162.62
Mount Terror	S 77.51	E 168.57
Mount Theseus	S 77.41	E 162.07
Mount Voslips	S 77.69	E 162.98
New Harbor	S 77.58	E 163.52
Newell Glacier	S 77.58	E 163.01
Odell Glacier	S 76.63	E 160.05
Odell Glacier	S 76.66	E 159.96
Penguin Ranch	S 77.72	E 166.09
Pk 1882	S 77.65	E 162.54
Portal Mountain	S 78.11	E 159.4
Rhone Glacier	S 77.7	E 162.12
Round Mount	S 77.67	E 160.93
Scott Base	S 77.85	E 166.77
Shapeless Mountains	S 77.4	E 160.43
Stocking Glacier	S 77.71	E 161.91
Taylor Glacier	S 77.74	E 162.13
Terra Nova Bay	S 74.69	E 164.11
The Mitten	S 76.01	E 160.38
The Pyramid	S 78.35	E 163.45

Site	Latitude	Longitude
Victoria Valley	S 77.33	E 162.53
Warren Range	S 78.42	E 158.3
Westhaven	S 79.85	E 154.23
White Island	S 78.19	E 167.5
Windless Bight	S 77.74	E 167.59
Wright Valley	S 77.55	E 161.31

TWIN OTTER OPERATIONS
Sites in/around McMurdo Station
2003/04 SEASON

Site	Latitude	Longitude
AFLT	S 84.04	W 169.43
AGO1	S 83.86	E 129.59
AGO2	S 85.67	W 45.62
AGO3	S 82.76	E 28.59
AGO4	S 82	E 96.79
AGO5	S 77.25	E 123.5
AGO6	S 69.51	E 129.99
Beardmore Glacier	S 84	E 164.5
Beaufort Island	S 76.93	E 166.94
BFLT	S 82.94	W 167.86
BFLT010	S 83.59	W 164.39
BFLT090	S 84.15	W 156.85
BFLT140	S 84.19	W 152.1
BFLT190	S 83.93	W 147.98
BFLT320	S 83.45	W 138.13
Boomerang	S 78.41	E 40.48
Brianna	S 83.89	W 134.15
Buckley Island	S 84.95	E 164
Byrd Camp	S 80.01	W 119.57
Caloplaca Hill	S 86.08	W 131
CFTL010	S 82.78	W 154.13
CFTL060	S 82.62	W 147.18
CIR1	S 83.03	W 172.17
Cape Hallett	S 72.32	E 170.22
Cape Washington	S 74.65	E 165.42
Davis Nunataks	S 85.62	E 166.6
Deverall Island	S 81.47	E 161.9
DFLT	S 80.5	W 152
DFLT010	S 80.6	W 148.5
DFLT090	S 80.97	W 144.5
DFLT130	S 81	W 142
Dome C	S 75.1	E 123.4
Dominion Range	S 85.33	E 166.5
Doug	S 82.32	W 113.24
E Pecora	S 85.6	W 67
E012	S 77.05	E 159.33
E014	S 76.99	E 158.63
E018	S 76.82	E 157.22
E020	S 76.72	E 156.55
E022	S 76.62	E 155.88

Site	Latitude	Longitude
E024	S 76.54	E 155.24
E026	S 76.43	E 154.76
E028	S 76.31	E 154.04
E030	S 76.25	E 153.38
EFLT	S 79.75	W 152
EFLT010	S 79.9	W 147.81
Elaine	S 83.13	E 174.17
Far E Pecora	S 85.7	W 63.5
Ford Range	S 77.23	W 142.75
Gill	S 79.99	W 178.61
Harry	S 83	W 121.39
Henry	S 89.01	W 1.03
Inland WAIS B	S 79.27	W 111.67
Inland WAIS E	S 79.53	W 112
LaPaz Icefields	S 86.33	W 70
Lettau	S 82.52	W 174.45
Leverett Glacier	S 85.49	W 149.72
LGT1	S 87.3	E 96.79
LGT2	S 84.65	E 96.79
Lonewolf Nunatak	S 81.33	E 152.83
LVRT	S 85.61	W 146.97
MacAlpine Hills	S 84.22	E 160.5
Main Pecora	S 85.67	W 68.7
Marilyn	S 79.95	E 165.13
Mauger Nunatak	S 85.73	E 176.73
MBL1	S 74.6	W 110.83
MBL2	S 74.75	W 136.83
MBL3	S 78	W 155
MBTY	S 85.2	W 163.75
McMurdo Station	S 77.85	E 166.67
Megadunes	S 80.5	E 125
Midpoint C	S 75.54	E 145.82
Miller Range	S 83.48	E 157.91
Moody Camp/Nimrod Glacier	S 83.12	E 159.5
Mount Block	S 85.77	E 176.22
Mount Cecily	S 85.87	E 174.25
Mount Emily	S 85.83	E 174.33
Mount Moulton	S 75.91	W 134.58
N Pecora	S 85.32	W 70.62
N028	S 78.03	E 153.67
N036	S 78.55	E 151.28
N044	S 79.06	E 148.63
N052	S 79.54	E 145.75
N060	S 80	E 142.6
N068	S 80.42	E 139.17
N076	S 80.81	E 135.44
N084	S 81.15	E 131.4
N092	S 81.45	E 127.06
N100	S 81.65	E 122.61
N108	S 81.88	E 117.58
N116	S 82.01	E 112.52
N124	S 82.07	E 107.34
N132	S 82.08	E 102.12

Site	Latitude	Longitude
Nico	S 89	E 89.67
Noel	S 79.33	W 111.08
Odell Glacier	S 76.66	E 159.95
Oliver Bluff	S 85.08	E 167.1
Onset D	S 80.76	W 125.79
Otway Massif	S 85.45	E 172
Patriot Hills	S 80.27	W 81.27
Quartz Hill	S 85.9	W 132.78
RBC1	S 83.69	W 150.6
RCD1	S 81.8	W 135.8
Reedy Glacier	S 86	W 131.86
Ridge A/B	S 84.15	W 140
Roberts Massif	S 85.53	W 177.08
Schroeder Hill	S 85.38	W 175.2
Schwerdtfeger	S 79.9	E 169.97
Scott Icefalls	S 85.53	E 170.25
SDM1	S 81.62	W 148.87
Shackleton Icefalls	S 85.13	E 164
Siple Dome	S 81.66	W 149.02
South Pole	S 90	E 139.27
SW Pecora Icefields	S 85.85	W 71.4
Swithinbank	S 81.2	W 126.18
TAMSEIS Camp	S 81.65	E 122.59
Taylor Dome	S 77.8	E 158.73
Terra Nova Bay	S 74.69	E 164.12
Theresa	S 84.6	W 115.81
Vostok	S 78.47	E 106.82
Westhaven Nunatak	S 79.85	E 154.23
Zaneveld Glacier	S 85.43	W 176.42

PART 3 SHIP-BASED OPERATIONS (USCG *POLAR SEA*)
2003/04 SEASON

Route	No. of Flights	Flight Level or Altitude (ft/m)	Approximate Date or Period of Flight(s)	No. and Type of Aircraft per Flight
Ship – Automated Weather Stations – Ship	3-5	0 – 7,000ft	20 – 27 Dec 03	two HH-65A Dauphin helicopters with flotation devices
In and around McMurdo Station	~200	0-7,000ft	27 Dec 03 – 20 Feb 04	two HH-65A Dauphin helicopters with flotation devices

PART 4 OTHER AIRBORNE OPERATIONS (e.g. balloons, rockets, etc.)
2003/04 SEASON

Route	No. of Flights	Flight Level or Altitude (ft/m)	Approximate Date or Period of Flight(s)	No. and Type of Aircraft per Flight
Possible balloon circumnavigation of the South Pole	7 flights total [5 pathfinders + 2 Data flights]. Two large Data balloon flights (28 million cubic ft.); 5 small pathfinder balloons (181,000 cubic ft.)	130,000 ft.	December 5 through January 25. Large balloons launched ~ mid-Dec; aloft 10-20 days.	1 balloon each flight, polyethylene, zero-pressure balloons

PART 5 AIRCRAFT DESCRIPTION 2003/04 SEASON

Full Name of Aircraft	Short Name	F/R [a]	W/S [b]	No. of Aircraft	Flight Level or Altitude (ft/m) [c]	Pax Capacity	Radio Equipment	Navigation Equipment	Max Range [d]	Type of Fuel Used	SAR Equipment
LC-130 Hercules	Herc	F	S	7	29,000ft	60	S/U/V/H	INS/GPS	2,500mi	JP-8	Yes
AS350B2	Squirrel	R	skids	2	14,000ft	5	S/U/V/H	GPS	325	JP-8	Yes
Bell 212	Huey	R	skids	2	12,000ft	9	S/U/V/H	GPS	200/350*	JP-8	Yes
DHC-6	Twin Otter	F	S	3	18,000ft	18	S/V/H	INS/GPS	700	JP-8	Yes
C-17	Globemaster III	F	W	1	45,000ft	102	S/U/V/H	INS/GPS	5000	JP-8	Yes
C-141	Starlifter	F	W	1	40,000ft	149/208	S/U/V/H	INS/GPS	5500	JP-8	Yes
HH-65 A	Dauphin	R	Skids	2/ship	7,500ft	3-4	S/U/V/H	GPS	248-471	JP-8	Yes

[a] Fixed (F) or rotary (R)
[b] Wheeled (W) or ski (S) Equipped
[c] Refer to Notes under Section 2
[d] For helicopters, also indicate maximum range over water (in brackets)
S=Satellite; U=UHF; V=VHF; H=HF;
* Aux Fuel Tanks