

# **United States Antarctic Activities 2000-2001**

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*This site fulfills the annual obligation of the United States of America as an Antarctic Treaty signatory to report its activities taking place in Antarctica. This portion details planned activities for July 2000 through June 2001. Modifications to these plans will be published elsewhere on this site upon conclusion of the 2000-2001 season.*



**National Science Foundation  
Arlington, Virginia 22230  
November 30, 2000**

## **Introduction**

Organization and content of this site respond to articles III(1) and VII(5) of the Antarctic Treaty. Format is as prescribed in the Annex to Antarctic Treaty Recommendation VIII-6, as amended by Recommendation XIII-3.

The National Science Foundation, an agency of the U.S. Government, manages and funds the United States Antarctic Program. This program comprises almost the totality of publicly supported U.S. antarctic activities—performed mainly by scientists (often in collaboration with scientists from other Antarctic Treaty nations) based at U.S. universities and other Federal agencies; operations performed by firms under contract to the Foundation; and military logistics by units of the Department of Defense.

Activities such as tourism sponsored by private U.S. groups or individuals are included. In the past, some private U.S. groups have arranged their activities with groups in another Treaty nation; to the extent that these activities are known to NSF, they are included. Visits to U.S. Antarctic stations by non-governmental groups are described in Section XVI.

This document is intended primarily for use as a Web-based file, but can be printed using the PDF option. Its internal cross links and links to other sites present more information than in the print publications of past years. These links also are intended to facilitate easy use of the site.

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*Information Exchange Under  
Articles III and VII(5) of the  
ANTARCTIC TREATY*

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*United States Antarctic Activities*

# I. Ships and Aircraft

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*Section I of the 2000-2001 season plans lists the names, types, numbers, descriptions, and armament of ships, aircraft, and other vehicles introduced to the Antarctic Treaty area and information on military equipment, if any, and its location in the area.*

## Ships

- **Icebreakers**

Ship:	<u>USCGC POLAR SEA (WAGB-11)</u>
Aircraft:	2 each HH-65A helicopters
Armament:	Small arms only

- **Supply/Tankers**

Ship:	<u>M/V GREEN WAVE</u> - dry cargo
Armament:	None

Ship:	TBA - Champion Class T-5 Tanker
Armament:	None

- **Research Vessels**

Ship:	<u>R/V LAURANCE M. GOULD</u>
Armament:	None

Ship:	<u>R/V NATHANIEL B. PALMER</u>
Armament:	None

## **Aircraft**

Five LC-130 transport aircraft operated by the 109<sup>th</sup> Air Wing.

One Bell 212 helicopter based at McMurdo Station.

Three Aerospatiale AS-350B-2 helicopters based at McMurdo Station

**Note:** No armament

## **Air Mobility Command**

Between October and November 2000, C-141B and C-17 aircraft of the U.S. Air Force Air Mobility Command (AMC) will transport cargo and personnel to and from Christchurch, New Zealand, and McMurdo Station, Antarctica. Additionally, during January and February 2001, C-141 aircraft of the U.S. Air Force Air Mobility Command (AMC) will transport cargo and personnel to and from Christchurch, New Zealand and McMurdo Station, Antarctica.

**Note:** No armament

## **Other Aircraft**

Royal New Zealand Air Force C-130 aircraft will transport cargo and personnel on intercontinental flights between Christchurch, New Zealand, and McMurdo Station, Antarctica, during November and December 2000 and January 2001 in support of the U.S. and New Zealand Antarctic Programs.

**Note:** Two DeHavilland DHC-6/300 Twin Otters will be used; both aircraft will arrive at McMurdo in early November 2000, and depart early February 2001.

**Note:** No armament



## **II. Expedition Dates**

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*Section II of the 2000-2001 season plan includes information concerning vessel and aircraft operations along with estimated dates of expeditions and other significant events.*

### **Winfly Activities**

Annual augmentation of the U.S. Antarctic Program (USAP) begins with austral winter flights (WINFLY), departing Christchurch, New Zealand, and arriving McMurdo Station, Antarctica, about 21 August 2000. The aircraft will carry scientists and support personnel to start early pre-summer projects, to augment maintenance personnel, and to prepare skiways and ice runways at McMurdo Station. This will involve 4 U.S. Air Force C-141B flights and will increase station population from the winter-over level of about 154 to a transition level of about 371.

### **Mainbody Activities**

Austral summer activities will be initiated in late September 2000 with wheeled aircraft operations between Christchurch, New Zealand and the sea-ice runways at McMurdo Station, Antarctica. This will involve approximately 18 C-141B flights and 4 C-17 flights of transport aircraft of the U.S. Air Force Air Mobility Command (AMC), and 12 flights by C-130 transport aircraft of the Royal New Zealand Air Force. The sea-ice runway and wheeled aircraft operations will cease about early December 2000, and then resume about mid-January to the end of the season with 10 C-141B and 3 C-130 flights. Between these two periods of wheeled aircraft operations, flights will be conducted by LC-130 ski-equipped aircraft flown by the New York Air National Guard 109th Air Wing. The aircraft will operate from Williams' Field, a prepared skiway.

The 109th Air Wing of the Air National Guard in Schenectady, New York will provide four LC-130 aircraft and four crews for intra-continental flights from late October 2000 through early December, and add a fifth aircraft and sixth crew from early December 2000 through February 2001 when McMurdo Station closes.

## **Significant Dates**

Other significant dates for the summer season include:

1. 03 October 2000 - McMurdo Station-Summer Operations Commence
2. 19 September 2000 - Palmer Station – Summer Operations Commence
3. 09 October 2000 - Marble Point opens
4. 23 October 2000 - South Pole Station – Summer Operations Commence
5. 01 November 2000 - Siple Dome Camp opens
6. 06 November 2000 - Ice Stream “C” Camp opens
7. 10 November 2000 - Byrd Surface Camp opens
8. 07 October 2000 - Pieter J. Lenie Field Station ("Copacabana")opens
9. 16 November 2000 - Cape Shirreff Field Station opens

## **Ship Movements**

### **M/V GREEN WAVE**

The cargo ship, M/V GREEN WAVE, is scheduled to complete one trip to McMurdo this season. The ship will depart Port Hueneme, California, in early January 2001 after unloading cargo and transit directly to Port Lyttelton, New Zealand. The GREEN WAVE will again on-load additional cargo and depart New Zealand for McMurdo Station, Antarctica. Cargo will be off-loaded between 03-10 February, after which the

ship will depart McMurdo and proceed to Lyttelton, New Zealand to offload cargo destined for the States. It will depart on approximately 18 February for Washington State to off-load waste and recyclable materials from McMurdo Station. From there it will transit to Port Hueneme, California, arriving there on 12 March 2001.

### **R/V NATHANIEL B. PALMER**

The R/V NATHANIEL B. PALMER will conduct 8 scientific research cruises, totaling an estimated 252 days at sea, during the 2000-2001 season. The vessel will provide support throughout the season for biological, chemical, physical oceanographic, and marine geophysics investigations in the Weddell, Bellingshausen, and the Ross Seas. Ports of call include: Punta Arenas, Chile; San Juan, Puerto Rico; Ushuaia, Argentina; Hobart, Tasmania; Panama City, Panama; Palmer Station, Antarctica; Fourchon, Louisiana; New Orleans, Louisiana; and, Capetown, South Africa.

### **R/V LAURENCE M. GOULD**

The R/V LAURENCE M. GOULD will conduct 7 scientific research cruises, totaling an estimated 143 days at sea, during the 2000-2001 season. The research supported will include at sea research, station work at Elephant, King George, Livingston, Deception, Low, Smith, and Greenwich Islands, and station support at Palmer Station. Ports of call include Talchauano and Punta Arenas, Chile.

## III. Stations

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*Section III of the 2000-2001 season plans lists the names, locations, and opening dates of the Party's bases and subsidiary stations established in the Antarctic Treaty Area, and whether they are for summer and/or winter operations.*

### Year Round Stations

#### **McMurdo Station**

Location: Hut Point Peninsula on Ross Island in McMurdo Sound  
77° 55'S Latitude  
166° 39'E Longitude  
Annual Relief: 3 October 2000

#### **Amundsen-Scott South Pole Station**

Location: 90° 00'S Latitude  
Annual Relief: 1 November 2000

#### **Palmer Station**

Location: Anvers Island near Bonaparte Point  
64° 46'S Latitude  
64° 05'W Longitude  
Annual Relief: 19 September 2000

## **Austral Summer Camps**

### **Siple Dome Camp**

Location: 81° 39'S Latitude  
149° 04'W Longitude

Open: 25 October 2000

Close: 25 January 2001

### **Byrd Camp**

Location: 80° 05'S Latitude  
119° 32'W Longitude

Open: 01 November 2000

Close: 10 January 2001

### **Icestream C Camp**

Location: 82° 22' S Latitude  
136° 24' W Longitude

Open: 26 October 2000

Close: 25 January 2001

### **Darwin Glacier Camp**

Location: 79° 45 'S Latitude  
156° 30' E Longitude

Open: 05 November 2000

Close: 17 January 2001

**East Camp (Co-located with Russian Vostok Camp)**

Location: 78° 28' S Latitude  
106° 48' E Longitude  
Open: 22 November 2000  
Close: 25 January 2001

**Pieter J. Lenie Field Station  
("Copacabana"), King George Island**

Location: 62° 10'S Latitude  
58° 28'W Longitude  
Open: 07 October 2000  
Close: 8 March 2001

**Cape Shirreff Field Station, Livingston Island**

Location: 62° 28'S Latitude  
60° 47'W Longitude  
Open: 16 November 2000  
Close: 07 March 2001

## **IV. Personnel**

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*Section IV gives the names of the officers in charge of each of these bases, subsidiary stations, ships and aircraft; the number, occupation and specialization of personnel (including any designated by other Governments), who are or will be stationed at each of these bases and subsidiary stations and onboard these ships and aircraft, including the number of personnel who are members of the military services, together with the rank of any officers and the names and professional affiliations of personnel engaged in scientific activities:*

### **Oversight**

The United States Antarctic Program is managed by the National Science Foundation (NSF). The NSF designates a Senior U.S. Representative in Antarctica, and designates an NSF Representative, Antarctica, to coordinate all field activities. Unless otherwise specified, the Senior U.S. Representative in Antarctica is the Director, Office of Polar Programs (OPP), located at the National Science Foundation.

NSF Representatives in Antarctica (TBA) will be stationed at McMurdo, Palmer, and South Pole Stations during the austral summer operating season. Additionally, Raytheon Polar Services Company (RPSC), under contract to the National Science Foundation, will provide station management year round.

### **Officers in Charge of Bases**

Each U.S. station has a station manager for operations/logistics support and a station science leader. Station managers for the 1999-2000 season will be:

### McMurdo Station

Terry Melton, Station Manager (Oct 2000 – Oct 2001)  
Larry Cook (Feb 2001 – Oct 2001)

### Amundsen-Scott South Pole Station

Katherine Jensen (Oct 2000 - Feb 2001)  
Gerald Macala (Feb 2001 - Nov 2001)

### Palmer Station

Ronald E. Nugent, Jr. (Sep 2000 - Mar 2001)  
Robert Ferril (Mar 2001 - Sep 2001)

## Officers in Charge of Ships

USCGC POLAR SEA (WAGB-11)	Captain Johnson, USCG
Champion Class T-5 Tanker (fuel tanker)	TBA
M/V GREEN WAVE (cargo ship)	Captain Peter Stalkus
R/V NATHANIEL B. PALMER	Captain Joe Bokowski
R/V LAURENCE M. GOULD	Captain Warren Sanamo

## Numbers, Occupations and Specialization of Personnel

### McMurdo

	Summer		Winter	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Headquarters	0	33	0	6



	Summer		Winter	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Science Support	0	69	0	7
Operations	0	286	0	66
Logistics	0	105	0	33
SPSE	0	29	0	2
Engineering /Construction	0	112	0	92
Information Systems	0	80	0	16
Aviation	0	0	0	0
Scientists	0	240	0	0
Working Visitors	0	144	0	0

### South Pole

	Summer		Winter	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Headquarters	0	6	0	3
Science Support	0	8	0	5
Operations	0	27	0	5
Logistics	0	11	0	3
SPSE	0	80	0	23
Engineering/Construction	0	12	0	3
Information Systems	0	10	0	4
Aviation	0	0	0	0
Scientists	0	50	0	11
Working Visitors	0	16	0	0

### Palmer Station

	Summer		Winter	
	<u>Military</u>	<u>Civilian</u>	<u>Military</u>	<u>Civilian</u>
Headquarters	0	1	0	1
Science Support	0	4	0	1
Operations	0	6	0	4
Logistics	0	2	0	3
Engineering/Construction	0	7	0	9

Information Systems	0	3	0	2
Scientist	0	13	0	6
Working Visitors	0	13	0	7

### Siple Dome Field Camp

	Summer Only	
	<u>Military</u>	<u>Civilian</u>
Camp Manager	0	1
Mechanic	0	1
Cook	0	1
Equipment Operator	0	1
Scientists	0	20
Carpenters	0	7

### Byrd Camp

	Summer Only	
	<u>Military</u>	<u>Civilian</u>
Camp Manager	0	1
Mountaineer		1
Scientists	0	20

### Icestream C Camp

	Summer Only	
	<u>Military</u>	<u>Civilian</u>
Camp Manager	0	1
Cook	0	1
Mechanic	0	1
Equipment Operator	0	1
Scientists	0	11
Meteorologist	0	1

### **Darwin Glacier Camp**

	<b>Summer Only</b>	
	<u>Military</u>	<u>Civilian</u>
Camp Manager	0	1
Mountaineer	0	1
Scientists	0	14

### **East Camp (Co-located with Russian Vostok Camp)**

	<b>Summer Only</b>	
	<u>Military</u>	<u>Civilian</u>
Camp Manager	0	1
Cook	0	1
Mechanic	0	1
Equipment Operator	0	1
Meteorologist	0	1
Paramedic	0	1
Scientists	0	11

### **SHIPS**

#### **USCGC POLAR STAR**

	<i>Number of Personnel</i>
Crew	160

#### **Champion Class T-5 Tanker**

	<i>Number of Personnel</i>
Crew	24

#### **M/V GREEN WAVE**

	<i>Number of Personnel</i>
Crew	21

**R/V NATHANIAL B. PALMER**

	<i>Number of Personnel</i>
Crew	21
Scientists	37

**R/V LAURENCE M. GOULD**

	<i>Number of Personnel</i>
Crew	21
Scientists	37

## Names and Professional Affiliation of Personnel Engaged in Scientific Activities

Further details are found in Section VI (Appendix II), and are cross-referenced here according to the project identification code (AO-XXX-X, BM-XXX-X, etc.). The numbers in parentheses besides the principal investigator's name represent the anticipated number of field party members. Projects are listed by scientific discipline under each major field location or platform.

### **MCMURDO STATION - ONLY** (333 Scientists)

#### ***Aeronomy & Astrophysics*** (62 Scientists)

	<i>I.D. No.</i>	<i>Institution</i>
Peterzen (+16)	AB-145-O	National Scientific Balloon Facility (NSBF)
Meyer (+16)	AB-147-O	University of Chicago
Wefel (+19)	AB-149-O	Louisiana State University
Adriani (+1)	AO-107-O	Instituto De Fisica Dell'Atmosfera
Rosenberg (+0)	AO-112-O	University of Maryland
Deshler (+4)	AO-131-O	University of Wyoming

**Biology & Medical Research** (130 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Doran (+3)	BM-042-D	University of Chicago
Fountain (+2)	BM-042-F	Portland State University
Lyons (+5)	BM-042-L	Ohio State University
McKnight (+4)	BM-042-M	University of Colorado, Boulder
Priscu (+4)	BM-042-P	Montana State University, Bozeman
Virginia (+3)	BM-042-V	Dartmouth College
Wall (+3)	BM-042-W	Colorado State University
DeVries (+6)	BO-005-M	University of Illinois, Urbana
Siniff (+9)	BO-009-O	University of Minnesota
Lisle (+2)	BO-024-O	Montana State University, Bozeman
Priscu (+5)	BO-025-O	Montana State University, Bozeman
Dudley (+4)	BO-030-O	University of Texas, Austin
Emslie (+2)	BO-034-O	University of North Carolina
Blanchette (+2)	BO-038-O	University of Minnesota
Green (+6)	BO-041-O	Miami University
Ponganis (+9)	BO-197-O	University of California, San Diego
Manahan (+39)	BO-301-O	University of Southern California
Ward (+4)	BO-310-O	Princeton University

**Environmental Research** (9 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Kennicutt, II (+8)	EO-318-O	Texas A & M University

**Geology & Geophysics** (68 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Luyendyk (+3)	GF-121-O	University of California ,Santa Barbara
Mullins (+9)	GO-052-M	United States Geological Survey
Hallet (+2)	GO-053-O	University of Washington
Marchant (+4)	GO-054-O	Boston University
Harvey (+7)	GO-058-O	Case Western Reserve University
Fitzgerald (+3)	GO-059-O	University of Arizona, Tucson
House (+2)	GO-066-O	California Institute of Technology

	<u>I.D. No.</u>	<u>Institution</u>
Mulcahy (+3)	GO-078-O	GSP Company
Raymond (+3)	GO-082-O	California Institute of Technology
Wiens (+4)	GO-089-O	Washington University
Isbell (+4)	GO-094-O	University of Wisconsin, Milwaukee
Wilson (+3)	GO-099-O	Ohio State University
Stump (+3)	GO-116-O	Arizona State University, Tempe
Anandkrishnan (+2)	GO-180-O	University of Alabama, Tuscaloosa
Johns (+1)	GO-295-O	UNAVCO/UCAR

**Glaciology** (46 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Raymond (+4)	II-163-O	University of Washington
Alley (+1)	II-168-O	Pennsylvania State University
Waddington (+2)	II-171-O	University of Washington
Kamb (+10)	IO-157-O	California Institute of Technology
Bindschadler (+2)	IO-173-O	National Aeronautics and Space Administration
Stone (+3)	IO-175-O	University of Washington
Hall (+3)	IO-196-M	University of Maine, Orono
Mayewski (+13)	IU-153-A	University of New Hampshire

**Ocean & Climate Systems** (9 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Wendler (+2)	OO-263-O	University of Alaska, Fairbanks
Hansen (+0)	OO-314-O	Magee Scientific Company
Dempsey (+4)	OO-316-O	Clarkson University

**Technical Projects** (3 Personnel)

	<u>I.D. No.</u>	<u>Institution</u>
Osborne (+2)	TO-396-O	University of Alaska, Fairbanks

**Writers and Artists Program** (6 Personnel)

	<u>I.D. No.</u>	<u>Institution</u>
Wu (+5)	WO-317-O	Norbert Wu Productions

**MCMURDO AND SOUTH POLE STATIONS** (15 Scientists)

***Aeronomy and Astrophysics*** (4 Scientists)

	<u><i>I.D. No.</i></u>	<u><i>Institution</i></u>
Lanzerotti (+0)*	AO-101-O	Lucent Technologies
Engebretson (+0)*	AO-102-O	Augsburg College
Rosenberg (+1)	AO-111-O	University of Maryland
Rall (+1)	AO-126-O	National Aeronautics and Space Administration

\* Non-deploying; experiments are supported on-site by contract personnel.

***Geology and Geophysics*** (7 Scientists)

	<u><i>I.D. No.</i></u>	<u><i>Institution</i></u>
Kyle (+6)	GO-081-O	New Mexico Institute of Mining and Technology

***Ocean and Climate Systems*** (4 Scientists)

	<u><i>I.D. No.</i></u>	<u><i>Institution</i></u>
Stearns (+3)	OO-283-M	University of Wisconsin, Madison

**MCMURDO STATION AND USCGC POLAR STAR**  
(12 Scientists)

***Aeronomy & Astrophysics*** (2 Scientists)

Bieber (+1)	AO-120-O	University of Delaware
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***Biology & Medicine Program*** (10 Scientists)

	<u><i>I.D. No.</i></u>	<u><i>Institution</i></u>
Ainley (+9)	BO-031-O	H.T. Harvey & Associates

## **MCMURDO STATION AND VOSTOK STATIONS**

### **Aeronomy & Astrophysics** (21 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Blankenship (+20)	GS-098-O	University of Texas, Austin

## **OTHER ANTARCTIC PROGRAM STATIONS**

(11 Scientists)

### **Biology and Medicine** (5 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Trivelpiece (+2)	BO-040-O	University of California, San Diego
Costa (+1)	BO-267-O	University of California, Santa Cruz

### **Geology and Geophysics** (6 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Feldmann (+1)	GO-093-O	Kent State University
Wiens (+3)	GO-097-O	Washington University

## **PALMER STATION - ONLY** (8 Scientist)

### **Aeronomy and Astrophysics** (1 Scientist)

	<u>I.D. No.</u>	<u>Institution</u>
Inan (+0)	AO-106-P	Stanford University

### **Biology and Medicine** (7 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Fraser (+6)	BP-013-O	Montana State University, Bozeman



**Geology and Geophysics** (0 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Mullins (+0)*	GO-052-P	US Geological Survey
Butler (+0)*	GO-090-P	Incorporated Research Institutions for Seismology

\* Non-deploying; experiments are supported on-site by contract personnel.

**Polar Climate and Ocean Systems** (0 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Keeling (+0)*	OO-204-O	University of California, San Diego
Rasmussen (+0)*	OO-254-O	Oregon Graduate Institute of Science & Technology
Hofmann (+0)*	OO-264-O	National Oceanic and Atmospheric Administration
Sanderson (+0)*	OO-275-O	United States Department of Energy
Stearns (+0)*	OO-283-P	University of Wisconsin, Madison

\* Non-deploying; experiments are supported on-site by contract personnel.

**PALMER STATION and R/V LAURENCE M. GOULD**

**Biology and Medicine** (29 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Sidell (+4)	BO-036-O	University of Maine, Orono
Detrich, III (+5)	BO-037-O	Northeastern University
Vernet (+4)	BP-016-O	Scripps Institution of Oceanography
Quetin/Ross (+9)	BP-028-O	University of California, San Diego
Smith (+3)	BP-032-O	University of California, Santa Barbara

**R/V LAURENCE M. GOULD - ONLY** (59 Scientists)

**Biology and Medicine Program** (48 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Fraser (+3)	BG-234-O	Montana State University
Fritsen (+1)	BG-235-O	Desert Research Institute
Harvey (+1)	BG-237-O	Chesapeake Biological Laboratory
Ross (+7)	BG-244-O	UC Santa Barbara
Smith (+13)	BO-050-O	University of California, San Diego
Dietzman (+1)	BO-282-O	White Point Systems, Inc.
Smith (+8)	BO-303-O	University of Hawaii, Manoa
Martinson (+0)	BP-021-O	Columbia University
Karl (+5)	BP-046-O	University of Hawaii, Manoa

**Geology and Geophysics** (4 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Aronson (+3)	GO-065-O	Dauphin Island Sea Lab

**Glaciology** (2 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Hall (+1)	IO-196-L	University of Maine, Orono

**Ocean and Climate Systems** (5 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Martinson (+3)	OG-241-O	Lamont-Doherty Earth Observatory
Peterson (+0)	OO-260-O	University of California, San Diego

**R/V NATHANIEL B. PALMER - ONLY** (90 Scientists)

**Biology and Medicine Program** (26 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Ribic (+1)	BG-243-O	University of Wisconsin

Vernet (+3)	BG-246-O	SCRIPPS Institute of Oceanography
Wiebe (+17)	BG-247-O	Woods Hole
Zhou (+2)	BG-248-O	University of Minnesota

**Geology and Geophysics** (39 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Arrigo (+0)	GO-073-A	Stanford University
Leventer (+28)	GO-073-O	Colgate University
Austin (+8)	GO-306-O	University of Texas Institute for Geophysics

**Ocean and Climate Systems** (25 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Fanning (+3)	OG-233-O	University of South Florida
Hallam (+7)	OG-236-O	University of Tennessee
Padman (+0)	OG-238-O	Oregon State University
Powell (+3)	OG-242-O	University of California, Berkeley
Fairbanks (+5)	OO-225-O	Columbia University
Pilskaln (+1)	OO-278-O	University of Maine, Orono

**R/V NATHANIEL B. PALMER and R/V LAURENCE M. GOULD** (40 Scientists)

**Biology and Medicine Program** (21 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Hildebrand (+3)	BG-239-O	Scripps Institute of Oceanography
Torres (+8)	BG-245-O	University of South Florida
Costa (+7)	BO-267-O	University of California, Santa Cruz

**Ocean & Climate Systems** (19 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Beardsley (+11)	OG-231-O	Woods Hole
Hofmann (+4)	OG-240-O	Old Dominion University
Chereskin (+1)	OO-315-O	University of California, San Diego

**SOUTH POLE STATION - ONLY** (175 Scientists)

**Aeronomy & Astrophysics** (120 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Morse (+41)	AA-130-O	University of Wisconsin, Madison
Pernic (+11)	AC-370-O	University of Chicago
Stark (+13)	AC-371-O	Smithsonian Institution
Storey (+5)	AC-372-O	University of New South Wales
Carlstrom (+5)	AC-373-O	University of Chicago
Loewenstein (+0)	AC-374-O	University of Chicago
Peterson (+5)	AC-375-O	Carnegie-Mellon University
Novak (+1)	AC-376-O	Northwestern University
Ruhl (+8)	AC-378-O	University of California, Santa Barbara
Mende (+0)	AO-104-O	University of California, Berkeley
Gaisser (+3)	AO-109-O	University of Delaware
Hernandez (+2)	AO-110-O	University of Washington
Ejiri (+1)	AO-117-O	National Institute of Polar Research
Papen (+6)	AO-127-O	University of Illinois, Urbana
LaBelle (+0)*	AO-128-O	Dartmouth College
Sivjee (+2)	AO-129-O	Embry Riddle Aeronautical University
deZafra (+1)	AO-138-O	State University of New York

\* Non-deploying; experiments are supported on-site by contract personnel.

**Geology & Geophysics** (4 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Mullins (+1)	GO-052-S	U.S. Geological Survey
Butler (+1)	GO-090-O	Incorporated Research Institutions for Seismology

**Glaciology** (9 Scientists)

	<u>I.D. No.</u>	<u>Institution</u>
Bender (+5)	IO-162-O	Princeton University
Taylor (+2)	IO-192-O	US Army Cold Regions Research & Engineering Lab

**Ocean & Climate Systems** (42 Scientists)

	<u><i>I.D. No.</i></u>	<u><i>Institution</i></u>
Dibb (+0)*	OO-179-O	University of New Hampshire
Warren (+7)	OO-201-O	University of Washington
Lawson (+2)	OO-226-O	SPEC, Inc.
Hofmann (+10)	OO-257-O	National Oceanic and Atmospheric Administration
Davis (+11)	OO-270-O	Georgia Institute of Technology
Stearns (+1)	OO-283-S	University of Wisconsin, Madison
Avery (+2)	OO-284-O	University of Colorado, Boulder
McConnell (+1)	OO-324-O	Desert Research Institute

\* Non-deploying; experiments are supported on-site by contract personnel.

## **V. Armaments**

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*Section V details the number and type of armaments possessed by personnel at the main Antarctic stations and on research vessels. Signaling devices such as flare pistols are not included.*

### **McMurdo Station**

No armaments are currently stored or in use at McMurdo Station.

### **Palmer Station**

- 2 pistols, 38-caliber, Smith and Wesson [SN: 2D09672; SN: 2D06268]
- 1 shotgun, 12-gauge, Magnum, pump action, Remington [SN: S346543M]
- 1 shotgun, 12-gauge, double barrel, Centrure Liege [SN: 6633]
- 1 shotgun, 12-gauge, over and under, Fabrica Haliana [SN: 77978]
- 1 mini ranch rifle, 223-calibre, Ruger [SN: 188-32652]

**Note:** SN = Serial Number

### **South Pole Station**

No armaments are currently stored or in use at South Pole Station.

### **R/V NATHANIEL B. PALMER**

No armaments are currently onboard the R/V NATHANIEL B. PALMER.

## **R/V LAURENCE M. GOULD**

No armaments are currently onboard the R/V LAURENCE M. GOULD.

## **VI. Project Descriptions**

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*Section VI details the planned field research projects for the  
2000-2001 season and is available in Appendix II  
of this document.*



## VII. Scientific Equipment

Section VII lists the principal scientific equipment available at McMurdo, South Pole, and Palmer stations and onboard USAP research vessels.

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
<b>Astrophysics Aeronomy</b>						
Analyzer, Logic		X				
Antenna, VLF Loop		X	X			
Camera, All-Sky		X				
Camera, Video, Towed Benthic, SCUDIVA				X	X	
Centrifuge, Refrigerated 12K RPM Micro				X	X	
Chart Recorder, Eight Channel		X				
Chart Recorder, Three Channel				X	X	
Chromatography, High Performance Liquid System (HPLC)				X		
Cryogen, Transfer Equipment	X	X	X	X	X	
Cryogen Transfer Lines	X	X				
Data Acquisition Unit (DAU)						X
Data Control Unit (DCU)						X
Dewar, Liquid Helium	X	X				
Dewar, Liquid Helium Storage	X	X				
Dewar, Liquid Nitrogen Storage	X	X				
Filtration Apparatus, Membrane				X	X	
Heating Unit, Air		X				
Hi-Vacuum System				X	X	
Ice Maker					X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Incubator, Percival					X	
Interferometer		X				
Ionosonde, Digital		X				
Laboratory, Portable (Radiation)				X	X	
Leak Detection and Vacuum Pump Equipment		X				
Lidar	X	X				
Line Connector, 1.2 KVA		X				
Liquid Nitrogen Plant	X	X				
Magnetometer, Three Component Air Core Induction		X				
Magnetometer, Three Axis Fluxgate	X					
Neutron Monitor, Super Multisection	X	X				
Nitrogen Liquifier	X	X				
Oscilloscope	X	X	X	X	X	
Oxygen-Analyzing System				X	X	
Photometer, Auroral		X				
Pipette Puller	X					
Power Conditioner		X		X	X	
Pump, Turbomolecular	X	X				
Radiotelescope, Microwave		X				
Receiving System, VLF			X			
Riometers, 30 & 50 MHz	X	X				
Scintillator Array, 16-element		X				
Sky Monitor, Mid Infrared		X				
Sky Monitor, Near Infrared		X				
Signal Generator		X				
Spectral Analyzer		X				
Spectrometer, X-ray (high altitude, long- duration)		X				

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG</u> <sup>1</sup>	<u>NBP</u> <sup>2</sup>	<u>AGO</u> <sup>3</sup>
Spectrometer, Infrared		X				
Spectroradiometer, Ultraviolet	X	X	X			
Tape Transport, Dual Density		X				
Tape Drive, Giga Tape 5 Mb		X				
Telescope, 12" (Optical)		X				
Telescope, Gamma Ray		X				
Telescope, Microwave		X				
Telescope, Mid-Infrared		X				
Telescope, NCAR Infrared		X				
Telescope, Optical		X				
Telescope, Submillimeter		X				
Telescopes, Astronomical		X				
Thermal Electric Generator (TEG)					X	
Time Domain Reflectometer (TDR)		X				
Transport, Liquid Helium (leased)		X				
Transport, Liquid Nitrogen	X	X				
Uninterrupted Power Supply (UPS)	X	X	X			
Water Chiller		X				
<b>Biology</b>						
Aquaria	X		X	X	X	
Analyzer, Carbon/Nitrogen/Sulfur	X					
Analyzer, Infrared, Carbon Dioxide	X					
Analyzer, Infrared, Hydrocarbon	X					
Analyzer, Lactate	X					
Analyzer, Total Organic Carbon	X					
Autoanalyzer			X	X	X	
Autoclave	X	X	X	X	X	
Balance, Electronic	X	X	X	X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Bath, Hybridization	X					
Bath, Water	X	X	X	X	X	
Bath, Water, Circulating	X		X	X	X	
Bath, Water, Shaking	X		X		X	
Calorimeter			X		X	
Camera, Digital Still	X	X	X	X	X	
Camera, Solid State, for Microscopic Image Analysis	X		X	X	X	
Camera, Still, Underwater	X					X
Camera, Video, for Microscopy	X				X	
Camera, Video, Underwater, w/time lapse capability and remote viewing	X		X			
Cell Disrupter	X		X			
Cell Injector, Micro	X					
Centrifuge, Clinical	X		X	X	X	
Centrifuge, 20K RPM	X		X			
Centrifuge, Refrigerated Speed Vac	X		X		X	
Chart Recorder, Single Channel	X		X			
Chart Recorder, Dual Channel	X		X			
Chart Recorder, Three Channel	X		X			
Chiller, Aquarium	X		X			
Chromatography Equipment	X		X			
Chromatography, High Performance Liquid System (HPLC)	X		X			
Chromatography, Gas, System	X					
Chromatography, Ion, System	X					
Collector, Fraction	X		X			
Colorimeter	X		X			
Compressor, Air, Scuba Tank	X		X	X	X	
Cooler, Immersion	X		X	X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Counter, Gamma	X					
Counter, Geiger Muller	X		X	X	X	
Counter, Particle	X		X			
Counter, Scintillation, DPM Output	X		X	X	X	
Counter, Liquid Scintillation			X	X	X	
Cryostat	X					
Data Acquisition System	X		X	X	X	
Datalogger	X		X	X	X	
Deck Unit/Transducer	X			X	X	
Detector, Column Absorbance	X					
Dewar, Liquid Nitrogen Storage	X		X	X	X	
Dive Propulsion Systems	X					
Dry Ice Maker	X		X	X		
Dry Shippers, Liquid Nitrogen	X		X	X	X	
Electrocardiograph	X	X	X			
Electrophoresis Equipment	X		X			
Electroporator	X					
Environmental Room, Temp. Controlled	X		X	X	X	
Evaporator, Rotary	X		X			
Filtration Apparatus, Water	X		X	X	X	
Filtration Apparatus, Membrane	X		X			
Fluorometer	X		X	X	X	
Fluorometer, DNA	X					
Freeze Dryer	X		X			
Freezer, to -20°C	X	X	X	X	X	
Freezer, to -70°C	X		X	X	X	
Freezer, Walk-in	X				X	
Furnace, Graphite	X					
Furnace, Muffle	X		X	X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Gas Partitioner	X					
Hematology Equipment	X	X	X			
Hi-Vacuum System	X					
Homogenizer	X		X	X		
Hood, Fume	X		X	X	X	
Hood, Portable Fume Absorber			X		X	
Ice Maker			X	X		
Incubator,Hybridization	X					
Incubator, Low Temperature	X		X	X	X	
Incubator, Percival				X		
Laboratory, Portable (for sea ice)	X			X		
Laminar Flow Bench	X		X		X	
Light Pipette	X					
Lipid Analysis System	X					
Luminometer			X			
Melter, Ice Hole	X				X	
Meter, Microoxygen	X					
Meter, Oxygen	X		X			
Meter, pH	X	X	X	X	X	
Microbalance	X		X			
Microcentrifuge	X		X	X	X	
Microscope, Compound, Epifluorescence	X		X	X	X	
Microscope, Compound (for light/dark field microscopy)	X	X	X	X	X	
Evap Microscope, Cold Stage	X					
Microscope, Differential Interference Contrast (DIC)	X		X		X	
Microscope, Dissecting (for light/dark field microscopy)	X	X	X	X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Microscope, Compound (for phase contrast microscopy)	X		X			
Microscope, Image Analysis System	X		X			
Microscope, Inverted, Epifluorescence	X		X			
Microplate Reader	X					
Microtome	X					
Microtome, Cryostat	X					
Oscillograph, Recording, Thermal, 8 Channel	X					
Oscilloscope	X	X	X	X	X	
Osmometer, Vapor Pressure	X		X			
Oven	X	X	X	X	X	
Oxygen-Analyzing System	X		X		X	
Photometer, Integrating (for ATP)	X					
Photometer, Flame	X					
Photosynthesis System	X					
Phototransilluminator	X		X			
Processor, Tissue	X		X			
Projector, Digital	X		X			
Pump, Suction		X	X	X	X	
Pump, Vacuum	X		X	X	X	
Receiver, ATS	X		X			
Receiver, VHF Radio	X		X	X	X	
Recorders, EPC Analog				X	X	
Refrigerator, Explosion Proof	X		X	X	X	
Respirometer, Gilson	X		X			
Scale, Platform, Sled Mountable	X					
Sensor, Irradiance (for dry use)	X		X	X	X	
Sensor, Irradiance (for submersible use)	X		X	X	X	
Sequencing System	X					

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Spectrophotometer, Atomic Absorption	X					
Spectrophotofluorometer	X		X	X	X	
Spectrophotometer	X		X	X	X	
Spectrophotometer, Diode Array	X					
Spectroradiometer	X		X	X	X	
Stage, Cooling, Microscope	X		X			
Thermocycler	X		X			
Thermocycler, PCR	X		X			
Thermometer, Digital	X		X	X	X	
Transponder Reader	X					
Ultracentrifuge	X		X		X	
Ultrafiltration Unit	X		X	X		
UV Sensor, Portable	X					
VCR, High Resolution	X					
Vibration-free table	X		X	X	X	
Video System, Underwater	X		X	X	X	
Voltage Clamp	X					
Water Purification System	X	X	X	X	X	
Workstation, PICO Tag	X					
<b>Computers</b>						
<u>MacIntosh:</u>						
Computer, G3	X					
Computer, iMac	X					
Computer, Desktop, LC		X				
Computer, Desktop, HICI	X		X		X	
Computer, Desktop, Pentium		X				
Computer, Portable, Powerbook 170	X		X			
Computer, Power 604 Clone	X			X	X	



	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Computer, Powerbook 5300c	X		X	X		
Computer, Quadra, 700	X					
Computer, Quadra 950	X	X				
Computer, Classic		X				
Macintosh Power PC 63					X	
Macintosh, Duo Power PC, Portable				X		
Macintosh Power PC 7100	X	X			X	
Macintosh Power PC 7200	X		X			
Macintosh Power PC 7300				X		
Macintosh Power PC 8150						
Macintosh Power PC 8600				X		
Macintosh Power PC 9500					X	
<u>Mini:</u>						
DEC Microvax	X	X	X			
DEC PDP-II	X	X				
DEC PDP II-73		X				
<u>PC:</u>						
Computer, Desktop, XT	X	X	X			
Computer, Desktop, 286	X	X	X	X		
Computer, Desktop, 386	X	X	X	X	X	
Computer, Desktop, 486	X	X	X	X	X	
Computer, Desktop, Pentium	X		X	X	X	
Computer, Portable, 286	X					
Computer, Portable, 386	X		X		X	
Computer, Portable, 486	X		X	X	X	
Computer, Portable, 586	X					
Computer, Server, 486	X	X	X			
Computer, Server, 586	X			X	X	
<u>Workstation:</u>						

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
HP 9000			X			
SGI 02					X	
SGI Challenge L (Multibeam computers)					X	
SGI Indigo R3000						
SGI Iris	X				X	
SPARC IPX	X	X				
Sun SPARC 10	X					
Sun U450	X					
Sun Ultra1	X					
Sun Ultra2	X					
Sun SPARC 2	X	X	X		X	
SGI Indy				X	X	
<u>Printers</u>						
Dot Matrix	X	X	X	X	X	
Dye Sublimation, Color	X				X	
Ink Jet, Color	X		X	X	X	
Laser	X	X	X	X	X	
<b>Miscellaneous</b>						
CDRom - R	X		X	X	X	
CD Writer	X		X			
Computer Interface						
Magneto-optical Drive	X				X	
Digitizer	X					
Plotter, Ink Jet, Monochrome	X			X	X	
Plotter, Pen, Color	X	X	X		X	
Zip Drive	X	X	X	X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
<b>Environmental Monitoring</b>						
Acoustic Release	X			X	X	
Aethelometer		X				
Analyzer, CO	X				X	
Analyzer, NOx	X					
Analyzer, Pesticide/PUF	X					
Analyzer, SO <sub>2</sub>	X					
Calibration System, Multigas	X				X	
Concentrator, Turbo-Vap II	X					
Current Meter	X			X	X	
Deck unit/Transducer	X			X	X	
Sampler, Air, Hi-Vol.	X					
Toxicity Analyzer	X					
Water Quality Logging System	X					
Water Quality System	X		X			
<b>Geology/Geophysics</b>						
Ball Mill	X					
Chronology Clock				X	X	
Data Translation D/A Converters				X	X	
Diamond Drill and Associated Equipment	X					
Echo Sounder, Bathy 2000 "chirp" sub-bottom profiler					X	
Echo Sounder, Knudsen, Sub-bottom Profiler				X		
Echo Sounder, Bathy 2000 "chirp" sub-bottom profiler					X	
Echo Sounder, Simrad EK500					X	
Gravimeter, Portable					X	
Gravimeter, Sea Fixed					X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Heliocoder	X					
Jack Hammer	X					
Jumbo Piston Corer					X	
Kasten Corer				X	X	
Microscope, Electronic Stage w/point counter	X					
Microscope, Polarizing with Camera	X					
Microscopes, Petrographic	X	X	X	X	X	
Petrographic Scope					X	
Recorders, EPC Analog				X	X	
Rock Saws	X					
Rock Polisher, Automatic	X			X		
Seismic, Benthos, Single Channel					X	
Seismic Bolt, Long-Life Array, 6 guns, 3000 cubic inches total					X	
Seismic, G/I air-guns (210 cu in)					X	
Seismic, G/I water-gun (25 cu in)					X	
Seismic, ITI multi-channel streamer (48 channel, 25m group interval)					X	
Seismic, ITI single channel streamer					X	
Survey System, GPS	X	X	X	X	X	
Swath bathymetric mapping system					X	
Thin-Section Machine	X			X		
Time Standard		X	X		X	
X-ray Instrument, Diffraction	X					
<b>Geomagnetism</b>						
Antennas, Dipole		X				
Gradiometer, Magnetic--towed						
Magnetometer, Portable	X	X				

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Magnetometer, Quartz, Horizontal		X				
Magnetometer, Standard Induction		X				
Magnetometer, Towed					X	
Magnetograph, Three-component, Standard, Low Sensitivity		X				
Magnetograph, Three-component, Rapid Run, Low Sensitivity		X				
Magnetometer, Visible Recording		X	X			
Time Standard		X			X	
<b>Glaciology</b>						
Drill, Jiffy w/ Power Head	X		X	X	X	
Drill, Shallow (100 meters)	X					
Drill, Ice Coring, Intermediate (500-1000m)	X					
Generator, Shear Wave	X					
Geoceivers	X	X				
Ice Auger, SIPRE	X	X	X			
Rigsby Stage	X					
<b>Meteorology</b>						
Barometers	X	X	X	X	X	
Data Loggers	X	X	X	X	X	
Detectors, Aerosol and CN (balloon-borne)		X				
Laser Ceilometer		X				
Precipitation Gauges	X		X			
Pressure Indicators		X	X			
Pyrgeometers	X			X	X	
Pyranometer	X		X	X	X	
Radiotheodolite System, Automatic		X				

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Receiver, High Resolution Picture	X		X			
Transmission (HRPT)						
Recorder, Four-Channel		X				
Satellite Receiving Data Manipulation System	X		X		X	
Set of Pyranometers, Tyrhelometers and Net Radiometers		X		X	X	
Temperature Probe Aspirators, Qualimetrics/Weather Measure		X				
Temperature Probes, RTD-Platinum	X	X	X			
Temperature Thermometers	X	X	X	X	X	
Transmitters, PTT	X					
Weather Station	X		X			
Weather Stations, Automatic	X	X	X			
Weather System				X	X	
Wind System and Recorder with Transmitter	X		X	X	X	
Wind Anemometers	X	X	X	X	X	
Wind Indicators	X	X	X	X	X	
Wind Translators		X		X	X	
<b>Oceanography/Limnology</b>						
A-Frame				X	X	
Acoustic Doppler Current Profiler				X	X	
Acoustic Release with Surface Command Unit	X		X	X	X	
Nutrient Analyzer	X		X	X	X	
Bottom Imaging System, Multibeam					X	
Conductivity Temperature Depth Instrument (CTD)	X		X	X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Current Meter, Electromagnetic	X					
Data Acquisition System	X			X	X	
Deep Sea Coring System				X	X	
Depth Finder	X		X	X	X	
Echo Sounder, Biosonics Acoustic Profiler			X			
Fluorometer, Fast Repetition-Rate			X			
Fluorometer, Flow-through				X	X	
Go-Flo Bottles	X		X	X	X	
Gradiometer, Magnetic						
Hood Laminar Flow, Portable			X		X	
Hydraulic Boom				X	X	
Hydrodavit				X	X	
Inflatable Boat, Zodiac			X	X	X	
Isotope Van				X	X	
Laboratory Van				X	X	
Launcher, XBT				X	X	
Liquid Helium Vapor Recovery System		X				
Magnetometers	X				X	
Messenger	X		X	X	X	
Metering Sheave	X		X	X	X	
Niskin Bottle	X		X	X	X	
PDR System, 3.5 and 12 KHz				X	X	
Plankton Net	X		X	X	X	
Pressure Transducer	X			X	X	
Radar				X	X	
Rosette				X	X	
Salinometer	X		X	X	X	
SAT P-Code GPS				X	X	
SAT VAV/GPS				X	X	

	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG<sup>1</sup></u>	<u>NBP<sup>2</sup></u>	<u>AGO<sup>3</sup></u>
Satellite Navigation				X	X	
Sediment Trap	X					
Seismic Systems, Single and Multi-channel					X	
Sonar, Side Scan				X	X	
Thermosalinograph				X	X	
Transmissometer				X		
Trawl Gear				X	X	
Winch, Deep Sea Trawl				X	X	
Winch, Hydrographic				X	X	
Winch, Portable, Electric	X		X	X	X	
Winch, Portable, Gasoline	X		X			
Winch, Portable Hand			X			
<b>Seismology</b>						
Gravimeters, Earth Tide						
Gravimeter		X				
Gravimeter, Lacoste & Romberg (Marine)					X	
IRIS System		X	X			X
Receiver, GPS	X	X	X	X	X	
Seismograph	X	X	X		X	
<b>Other</b>						
Cryogen Vaporizer	X					
Data Link, Satellite	X	X	X	X	X	
Drill Press	X	X	X	X	X	
Frequency Counter	X			X	X	
Global Positioning System	X	X	X	X	X	
Handheld Global Positioning System	X	X	X	X		
Lathe	X	X	X	X	X	



	<u>McMurdo</u>	<u>SPole</u>	<u>Palmer</u>	<u>LMG</u> <sup>1</sup>	<u>NBP</u> <sup>2</sup>	<u>AGO</u> <sup>3</sup>
LOX Transport	X					
Maritime Fixed Station (INMARSAT)	X		X	X	X	
Meter, Multi	X	X	X	X	X	
Meter, RCL	X				X	
Mill		X				
Milling Machine, Vertical		X				
Nitrogen Generator	X					
Projector, Video	X			X	X	
Resistors and Capacitors, Decade	X			X	X	
Scanner	X	X		X	X	
Tracking System, Satellite	X	X	X			
Transceivers, Satellite, ATS-3	X	X	X			
Un-interruptable power supply (UPS)	X	X	X	X	X	
Video Camcorder	X	X	X	X	X	

1 = R/V LAURENCE M. GOULD

2 = R/V NATHANIEL B. PALMER

3 = AUTOMATED GEOPHYSICAL OBSERVATORY

## **VIII. Transportation & Comms**

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*Section VIII details the number and type transportation facilities and communications equipment for use within the Antarctic treaty area.*

### **Surface, Marine, and Air Transportation Vehicles**

#### **McMurdo Station**

Truck, (light and heavy)	227
Carrier, Personnel and Cargo (tracked and wheeled)	52
Trailer, (tracked and wheeled)	39
Front-end loader, bucket and forklift	45
Forklift, warehouse	20
Motor toboggans	90
Crane	2
Road grader	4
Roller	4
Tractor, crawler	26
Tractor, wheeled	2
Sweeper, magnet	1
Snow plane	6
Truck, fire, pumper	8
Trencher	2
Aircraft, LC-130	6
Helicopters, Aerospatiale AS-350B-2	3
Helicopters, Bell 212	1
Scraper	2
Backhoe	2

### **Amundsen-Scott South Pole Station**

Cranes	3
Excavator	1
Front Loader, tracked	7
Motor Toboggans	2
Personnel Carrier	5
Snow Plane	2
Tele-handler	1
Tractor Crawler	3
Trencher	1
Truck, light and heavy	2

### **Palmer Station**

Front-loader (wheeled)	2
Motor toboggans	2
Boats, rubber (Zodiac)	16
Forklift, all terrain	1
Telescopic material handler	1
Vehicle, all terrain, 4-wheel	4

## **Description of Communications Facilities**

**Note:** For information on frequencies, see attached Comms forms (Attachment A). The following projects are contemplated for the FY 2000-2001 season in Antarctica.

### **McMurdo Station**

1. HF modernization at the McMurdo transmitter facility.
2. Assist with the move of the older ASR-8 radome and install a second TDRSS link.

3. Provide support for a data link and equipment to be installed at Crater Hill as part of the Comprehensive Nuclear Test Ban Treaty Project.
4. Install equipment at the Cosray facility to provide network connectivity with the McMurdo LAN.

### **South Pole Station**

1. Install a dedicated HF link to the South Pole to be used for operational requirements.

### **Palmer Station**

No major communications projects are planned for Palmer Station during the reporting period.

## **Description of Airfields**

### **McMurdo Station**

#### ***Air Facilities***

1. Williams Field - 10,000 ft. and 8,000 ft. skiways on ice shelf.
2. 10,000 ft. and 8,000 ft. ice runways (on annual sea ice)
3. 10,000 foot runway on glacial ice (Pegasus)
4. Helicopter landing pad.

#### ***Crash Equipment***

1. Two Canadian Foremost Chieftains, 1200 gallons AFFF (each)
2. Two Nodwell Flex-Trac equipped with 1350 lb. PKP, 200 gallon AFFF

3. One Nodwell Flex-Trac equipped with 3,000 lb. PKP
4. Seven 150 lb. PKP sled-mounted extinguisher on the flight line
5. Two 3,000 lb. PKP sled-mounted extinguishers at the heli-pad
6. One Pumper/Tanker, 3,400 gallons of water.
7. Two Pumps, 750 gallons (H<sub>2</sub>O), 1000 GPM

### **Navigation Aids**

1. Precision (course & glide slope) Approach Radar (PAR) and Approach Surveillance Radar (ASR) on primary landing runways, AN/FPN-36 radar.
2. AN/TRN-26 TACAN.
3. AN/URN-25 TACAN
4. T-1109/GRT-22 UHF radio beacon.
5. Terminal Approach Control Radar (GPN-27)
6. Precision Approach Path Indicator (PAPI)
7. Mobile Microwave Landing System (MMLS).

## **Amundsen-Scott South Pole Station**

### **Air Facilities**

14,000 ft. skiway

### **Crash Equipment**

Three 350 lb. dry chemical units

**Navigation Aids**

1. PAR and ASR radar, AN/FPN-36.
2. AN/URN-25 TACAN.
3. T-1109/GRT-22 UHF beacon.

**Palmer Station**

**Air Facilities**

None. Open field landings on glacier possible.

**Crash Equipment**

None

**Navigation Aids**

T-1109/GRT-22 UHF beacon.

**Marble Point Camp**

**Air Facilities**

One helicopter landing pad.

**Crash Equipment**

1. One 350 lb. dry chemical unit.
2. One 150 lb. dry chemical unit (PKP).

**Navigation Aids**

None.

## **IX. Assistance Facilities**

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*Section IX details the facilities available for rendering assistance in Antarctica, including medical, transport services and emergency shelters.*

### **McMurdo Station**

#### **Medical Facilities**

During the winter-over period there is a four-bed medical and dental facility with 1 doctor and 2 medical assistants. These personnel are augmented with up to 12 emergency medical technicians assigned to the Fire Department. During the summer this facility is staffed with 2 physicians, 1 physicians' assistant or nurse practitioner, 1 dentist, 1 radiographic technician, 1 laboratory technician, 1 physical therapist, and 2 Nurses. These personnel are augmented with up to 40 emergency medical technicians assigned to the Fire Department.

#### **Transport Services**

From October to mid-December, airlift from McMurdo to Christchurch via C-5, C-141, and C-130 aircraft is available. From mid-December to mid-February, airlift by LC-130 aircraft is available. Possibility of transport via surface when available (see Section II for dates available).

#### **Available Shelter**

Over 90 covered structures are available at McMurdo Station.

## **Amundsen-Scott South Pole Station**

### **Medical Facilities**

1 civilian doctor is on-station at South Pole year round. There is limited x-ray and medical lab capability on station.

### **Transport Services**

LC-130 aircraft are available only on-call from McMurdo Station from November to mid-February.

### **Available Shelter**

South Pole Station consists of three buildings under a geodesic dome adjoined and connected to a series of four arches also containing buildings. From November through mid-February additional buildings and tent structures are available.

## **Palmer Station**

### **Medical Facilities**

1 civilian doctor is on-station at Palmer Station year round. There is limited x-ray and medical lab capability on station.

### **Transport Services**

The R/V LAWRENCE M. GOULD is the primary means of transport to and from Palmer Station. In extreme circumstances, Twin Otter landings are possible on the glacier behind the station.



### **Available Shelter**

Two buildings comprise the available shelter at Palmer Station.

## **Marble Point Camp**

### **Medical Facilities**

None

### **Transport Services**

Helicopter support from McMurdo Station is available (weather dependent).

### **Available Shelter**

Three structures comprise Marble Point Camp with two structures for berthing up to six persons, and one that houses a generator and workshop.

## **X. Tourism**

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*Section X presents planned itineraries for U.S. based non-governmental activities in the Treaty area.*

### **Abercrombie & Kent International, Inc.**

Explorer Shipping Corporation and Abercrombie & Kent International, Inc. of Oak Brook, Illinois, are planning nine cruises to the Antarctic Peninsula during the 2000-2001 season using the M/S EXPLORER.

#### **M/S EXPLORER**

Call letters of the vessel are ELJD8; registry is Liberian. The EXPLORER was built in 1969 and is 72.86 meters in length, 14.02 meters in breadth, has a draft of 4.48 meters, and has a Det Norske Veritas +1A1 ICE-A rating. Power is provided by two MAK diesel engines of 1800 hp each, driving a single variable-pitch propeller, type LIANEN - 450 rpm. Navigation equipment includes a Decca radar 10cm, a Raytheon radar 3cm, a JCR radar 3cm, a Satellite Navigation System (SATNAV) and a Trimble global positioning system (GPS). The vessel has two primary transmitters (Main - ST1680A Marine Mobil Bands, 1500 W Pp; Emergency - EB50, 500 W) and 2 VHF Transceivers STR 67 25 W and a VHF Transceiver Shipmate RS 8000 25 W. INMARSAT number is 1241223 SOEX-X (with voice, telex and telefax capability). EXPLORER carries 9 Mark V heavy duty zodiacs, 4 motor life boats for 196 persons, and 4 automatically inflated life rafts for 66 persons. The vessel can accommodate 85-96 passengers, 10 cruise staff, and 60 crew.

Schedules for each of the cruises follows:

**Cruise EX-#1**

November 2000

<b>Ports</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	06 NOV 2000
Falkland Islands	07-09 NOV 2000
At sea	10-11 NOV 2000
South Georgia	12-19 NOV 2000
at sea	20-21 NOV 2000
Port Stanley, FALKLAND ISLANDS	22 NOV 2000

**Cruise EX-#2**

November/December 2000

<b>Ports</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	22 NOV 2000
Steeple Jason	23 NOV 2000
Carcass/Saunders	24 NOV 2000
Sea Lion Island	25 NOV 2000
at sea	26-27 NOV 2000
South Georgia	28 NOV- 5 DEC 2000
at sea	6-7 DEC 2000
Port Stanley, FALKLAND ISLANDS	8 DEC 2000

**Cruise EX-#3**

December 2000

<b>Ports</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	8 DEC 2000
South East Falklands	09 DEC 2000
at sea	10-11 DEC 2000
South Georgia	12-14 DEC 2000
at sea	15-16 DEC 2000
Antarctic Peninsula	17-20 DEC 2000
at sea	21-22 DEC 2000
Port Stanley, FALKLAND ISLANDS	23 DEC 2000

**Cruise EX-#4**  
December 2000/January 2001

<b>Ports</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	23 DEC 2000
Steeple/Jason/Saunders	24 DEC 2000
New/ Carcass Island	25 DEC 2000
Drake	26-27 DEC 2000
Antarctic Peninsula	28 DEC-01 JAN 2001
at sea	02-03 JAN 2001
Ushuaia, ARGENTINA	04 JAN 2001

**Cruise EX-#5**  
January 2001

<b>Ports</b>	<b>Dates</b>
Ushuaia, ARGENTINA	04 JAN 2001
at sea	05-06 JAN 2001
Antarctic Peninsula	07-11 JAN 2001
at sea	12-13 JAN 2001
Ushuaia, ARGENTINA	14 JAN 2001

**Cruise EX-#6**  
January 2001

<b>Ports</b>	<b>Dates</b>
Ushuaia, ARGENTINA	14 JAN 2001
at sea	15-16 JAN 2001
Antarctic Peninsula	17-21 JAN 2001
At sea	22-23 JAN 2001
Ushuaia, Argentina	24 JAN 2001
Beagle Channel/Cook Bay	25 JAN 2001
Cape Horn/Harberton Farm	26 JAN 2001
Ushuaia, ARGENTINA	27 JAN 2001

**Cruise EX-#7**  
January/February 2001

<b>Ports</b>	<b>Dates</b>
Ushuaia, ARGENTINA	27 JAN 2001
At sea	28-29 JAN 2001
Antarctic Peninsula	30 JAN -02 FEB 2001
South Orkneys	03 FEB 2001
at sea	04 FEB 2001
South Georgia	05-07 FEB 2001
At sea	08-09 FEB 2001
Southeast Falklands	10 FEB 2001
Port Stanley, FALKLAND ISLANDS	11 FEB 2001

**Cruise EX-#8**  
February 2001

<b>Ports</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	11 FEB 2001
Carcass/New Island	12 FEB 2001
At sea	13-14 FEB 2001
Antarctic Peninsula	15-21 FEB 2001
at sea	22-23 FEB 2001
Ushuaia, ARGENTINA	24 FEB 2001

**Cruise EX #9**  
February/March 2001

<b>Ports</b>	<b>Dates</b>
Ushuaia, ARGENTINA	24 FEB 2001
at sea	25-26 FEB 2001
Antarctic Peninsula	27 FEB-02 MAR 2001
South Orkneys	03 MAR 2001
At sea	04 MAR 2001
South Georgia	05-07 MAR 2001
At sea	08-09 MAR 2001
Southeast Falklands	10-11 MAR 2001
Port Stanley, FALKLAND ISLANDS	12 MAR 2001

## Quark Expeditions

Quark Expeditions of Darien, Connecticut, is planning approximately 22 cruises to the Antarctic during 2000-2001 season using three chartered vessels. The PROFESSOR MULTANOVSKIY will conduct 10 cruises, the KAPITAN DRANITSYN will conduct 9, and the KAPITAN KHLEBNIKOV will conduct three cruises.

### PROFESSOR MULTANOVSKIY

The vessel is of Russian registry and is 235 feet long, 42 feet wide and has a draft of 15 feet. Its gross registered tonnage is 1754. The hull's ice classification is KM\*UL[1]A2, Canadian Type A. The MULTANOVSKIY is powered by two 2,300 kW diesel engines and has both bow and stern thrusters. The vessel carries 44 passengers and 32 crew.

Schedules for each of the cruises follows:

#### **Cruise MUL #1**

November/December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	20 NOV 2000
at sea	21 NOV 2000
New Island	22 NOV 2000
Carcass/West Point	23 NOV 2000
Steeple Jason	24 NOV 2000
at sea	25-26 NOV 2000
at sea/South Georgia	27 NOV 2000
South Georgia	28 NOV-04 DEC 2000
at sea	05-06 DEC 2000
Antarctic Peninsula	07-11 DEC 2000
at sea	12-13 DEC 2000
Ushuaia, ARGENTINA	14 DEC 2000

**Cruise MUL #2**

December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	14 DEC 2000
at sea	15-16 DEC 2000
Antarctic Peninsula	17-21 DEC 2000
At sea	22-23 DEC 2000
Ushuaia, ARGENTINA	24 DEC 2000

**Cruise MUL #3**

December 2000/January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	24 DEC 2000
At sea	25-26 DEC 2000
Antarctic Peninsula	27 DEC-01 JAN 2001
at sea	02-03 JAN 2001
Ushuaia, ARGENTINA	04 JAN 2001

**Cruise MUL #4**

January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	04 JAN 2001
at sea	05-06 JAN 2001
Antarctic Peninsula	07 –10 JAN 2001
at sea	11-12 JAN 2001
Ushuaia, ARGENTINA	13 JAN 2001

**Cruise MUL #5**

January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	13 JAN 2001
At sea	14 JAN 2001
Westpoint/Carcass	15 JAN 2001
Stanley	16 JAN 2001
At sea	17-18 JAN 2001

South Georgia	19-22 JAN 2001
At sea	23-24 JAN 2001
Elephant Island	25 JAN 2001
Antarctic Peninsula	26-28 JAN 2001
At sea	29-30 JAN 2001
Ushuaia, ARGENTINA	31 JAN 2001

**Cruise MUL #6**  
January/February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	31 JAN 2001
at sea	01-02 FEB 2001
Antarctic Peninsula	03-06 FEB 2001
at sea	07-08 FEB 2001
Ushuaia, ARGENTINA	09 FEB 2001

**Cruise MUL #7**  
February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	09 FEB 2001
at sea	10-11 FEB 2001
Antarctic Peninsula	12-15 FEB 2001
at sea	16-17 FEB 2001
Ushuaia, ARGENTINA	18 FEB 2001

**Cruise MUL #8**  
February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	18 FEB 2001
at sea	19-20 FEB 2001
Antarctic Peninsula	21-24 FEB 2001
at sea	25-26 FEB 2001
Ushuaia, ARGENTINA	27 FEB 2001



**Cruise MUL #9**  
February/March 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	27 FEB 2001
at sea	28- FEB- 01 MAR 2001
Antarctic Peninsula	02-05 MAR 2001
at sea/South Orkneys	06-07 MAR 2001
at sea/South Georgia	08 MAR 2001
South Georgia	09-11 MAR 2001
at sea	12-14 MAR 2001
Port Stanley	15 MAR 2001
New Island/Westpoint	16 MAR 2001
at sea	17 MAR 2001
Ushuaia, ARGENTINA	18 MAR 2001

**Cruise MUL #10**  
March 2001 (Sub-chartered by Oceanwide Expeditions of the Netherlands)

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	19 MAR 2001
at sea	20 MAR 2001
at sea/Penguin Island	21 MAR 2001
Hope Bay/Brown Buff	22 MAR 2001
Dundee/Paulet	23 MAR 2001
at sea	24 MAR 2001
South Orkney	25 MAR 2001
at sea	26 MAR 2001
Grytviken	27 MAR 2001
Salisbury/Albatross/Prion	28 MAR 2001
Elsehul	29 MAR 2001
SAILING TO TRISTAN DE CUNHA	30 MAR 2001

**M/V KAPITAN KHLEBNIKOV**

The vessel was built in 1981 at the Waratsila Shipyard, Helsinki, Finland. The ship is owned by FESCO, Vladivostok. The call letters are UTSU. The KHLEBNIKOV is 132.4 meters in length, 26.5 meters in breadth, has a 8.5 meter draft and displacement of

18,000 tons. The vessel is powered by diesel-electric motors producing 22,000 h.p. driving 3 propellers permitting a maximum speed of 19 knots. The vessel is classified as an icebreaker. The KHLEBNIKOV carries four Mark V heavy-duty zodiacs, in addition to two MI2 helicopters for ice reconnaissance and passenger transport. Approximately 112 passengers and 50 crew members will be onboard for each cruise.

Schedules for each of the cruises follows:

**Cruise KLB #1**

December 2000

<b>Port</b>	<b>Dates</b>
Hobart, AUSTRALIA	04 DEC 2000
at sea	05-06 DEC 2000
Macquarie Island	07-08 DEC 2000
At sea	09-10 DEC 2000
Pack ice edge	11 DEC 2000
Pack ice	12-13 DEC 2000
Cape Washington	14 DEC 2000
Terra Nova Bay	15 DEC 2000
Coulman Island	16 DEC 2000
Cape Hallett/Cape Roget	17 DEC 2000
Possession Island	18 DEC 2000
Cape Adare	19 DEC 2000
Pack Ice	20 DEC 2000
Pack ice edge	21 DEC 2000
At sea	22-23 DEC 2000
Campbell Island	24 DEC 2000
Enderby Island	25 DEC 2000
At sea	26-27 DEC 2000
Hobart, AUSTRALIA	28 DEC 2000

**Cruise KLB #2**

December 2000/January 2001

<b>Port</b>	<b>Dates</b>
Hobart, AUSTRALIA	28 DEC 2000
at sea	29-30 DEC 2000

Macquarie Islands	31 DEC 2000
At sea	01-02 JAN 2001
Balleny Island	03 JAN 2001
Cape Adare	04 JAN 2001
Cape Roget/Cape Hallett	05 JAN 2001
Cape Hallett/Coulman Island	06 JAN 2001
Terra Nova Bay	07 JAN 2001
Dry Valleys	08 JAN 2001
McMurdo/Cape Evans	09 JAN 2001
Cape Royds/Ross Ice Shelf	10 JAN 2001
Ross Ice Shelf/Bay of Whales	11 JAN 2001
Ross sea	12 JAN 2001
Possession Island	13 JAN 2001
At sea	14-16 JAN 2001
Campbell Island	17 JAN 2001
Enderby Island	18 JAN 2001
Snares Island	19 JAN 2001
Bluff, NEW ZEALAND	20 JAN 2001

**Cruise KLB #3**  
January/February 2001

<b>Port</b>	<b>Dates</b>
Bluff, NEW ZEALAND	21 JAN 2001
Port Ross/Carnley Harbour	22 JAN 2001
Campbell Island	23 JAN 2001
At sea	24-25 JAN 2001
Pack Ice	26 JAN 2001
Cape Adare	27 JAN 2001
Terra Nova Bay	28 JAN 2001
Dry Valleys/Cape Evans	29 JAN 2001
McMurdo/Cape Royds	30 JAN 2001
Ross Ice Shelf/Franklin Island	31 JAN 2001
Cape Hallett	01 FEB 2001
Pack Ice	02 FEB 2001
Balleny Islands	03 FEB 2001
Pack Ice	04 FEB 2001

Mertz Glacier/Commonwealth Bay	05 FEB 2001
Port Martin/Astrolabe Glacier/Dumont D'Urville	06 FEB 2001
At sea	07-09 FEB 2001
Macquarie Island	10-11 FEB 2001
Hobart, AUSTRALIA	14 FEB 2001

## **KAPITAN DRANITSYN**

The vessel was built in 1981 at the Waratsila Shipyard, Helsinki, Finland. The ship is owned by FESCO, Vladivostok. The DRANITSYN is 132.4 meters in length, 26.5 meters in breadth, has a 8.5 meter draft and displacement of 18,000 tons. The vessel is powered by diesel-electric motors producing 22,000 h.p. driving 3 propellers permitting a maximum speed of 19 knots. The vessel is classified as an icebreaker. The DRANITSYN carries four Mark V heavy-duty zodiacs, in addition to two MI2 helicopters for ice reconnaissance and passenger transport. Approximately 112 passengers and 50 crew members will be onboard for each cruise.

Schedules for each of the cruises follows:

### **Cruise DSYN #1**

November/December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	23 NOV 2000
At sea	24 NOV 2000
New Island/Westpoint	25 NOV 2000
Port Stanley	26 NOV 2000
At sea	27-28 NOV 2000
Elsehul Bay	29 NOV 2000
South Georgia	30 NOV-02 DEC 2000
At sea	03 DEC 2000
Antarctic Peninsula	04-08 DEC 2000
At sea	09-10 DEC 2000
Ushuaia, ARGENTINA	11 DEC 2000

**Cruise DSYN #2**  
December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	11 DEC 2000
At sea	12-13 DEC 2000
Antarctic Peninsula	14-17 DEC 2000
At sea	18-19 DEC 2000
Ushuaia, ARGENTINA	20 DEC 2000

**Cruise DSYN #3**  
December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	20 DEC 2000
At sea	21-22 DEC 2000
Antarctic Peninsula	23-26 DEC 2000
At sea	27-28 DEC 2000
Ushuaia, ARGENTINA	29 DEC 2000

**Cruise DSYN #4**  
December 2000/January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	29 DEC 2000
At sea	30-31 DEC 2000
Antarctic Peninsula	01-05 JAN 2001
At sea	06-07 JAN 2001
Ushuaia, ARGENTINA	08 JAN 2001

**Cruise DSYN #5**  
January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	08 JAN 2001
At sea	09 JAN 2001
New Island/Westpoint	10 JAN 2001
Port Stanley	11 JAN 2001
At sea	12-13 JAN 2001

Elsehul/Grytviken	14 JAN 2001
South Georgia	15-17 JAN 2001
At sea	18 JAN 2001
Elephant Island	19 JAN 2001
Antarctic Peninsula	20-23 JAN 2001
At sea	24-25 JAN 2001
Ushuaia, ARGENTINA	26 JAN 2001

**Cruise DSYN #6**  
January/February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	26 JAN 2001
At sea	27-28 JAN 2001
Antarctic Peninsula	29 JAN -01 FEB 2001
At sea	02-03 FEB 2001
Ushuaia, ARGENTINA	04 FEB 2001

**Cruise DSYN #7**  
February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	04 FEB 2001
At sea	05-06 FEB 2001
Antarctic Peninsula	07-10 FEB 2001
At sea	11-12 FEB 2001
Ushuaia, ARGENTINA	13 FEB 2001

**Cruise DSYN #8**  
February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	13 FEB 2001
At sea	14-15 FEB 2001
Antarctic Peninsula	16-19 FEB 2001
At sea	20-21 FEB 2001
Ushuaia, ARGENTINA	22 FEB 2001

**Cruise DSYN #9**  
February/March 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	22 FEB 2001
At sea	23-24 FEB 2001
Antarctic Peninsula	25-28 FEB 2001
At sea	01 MAR 2001
At sea/South Orkneys	02 MAR 2001
At sea	03 MAR 2001
South Georgia	04-06 MAR 2001
At sea	07-08 MAR 2001
Port Stanley	09 MAR 2001
Carcass/West Point	10 MAR 2001
At sea	11 MAR 2001
Ushuaia, ARGENTINA	12 MAR 2001

## **Orient Lines, Inc.**

Orient Lines, Inc. of Fort Lauderdale, Florida, plans to conduct 6 cruises to the Antarctic during the 2000-2001 season using the MARCO POLO.

### **MARCO POLO**

The vessel is ice-strengthened and was built by VEB Mathias-Thesan Werft of Wismar, Germany in 1965 and re-built during 1991-93 under the supervision of Knud E. Hansen, naval architects, and A. & M. Katzourakis, ship designers. Call letters of the vessel are C6JZ7 and it is registered in the Bahamas. The MARCO POLO is 176.28 meters (578.4 feet) in length, 23.6 meters (77.4 feet) in breadth, has a draft of 8.2 meters (26.9 feet), and is 20,502 tons GRT. Power is provided by 2 Saulzer 7 RND 76 diesel engines with power output of 10,500 bhp each. The vessel has twin-screw propellers and is fitted with Denny Brown (UK) fin stabilizers. There are 6 SKL diesel generators capable of producing approximately 3,500 kw. The MARCO POLO is equipped with the latest radio and satellite communications systems (INMARSAT 1306215) and state-of-the-art navigation equipment. The vessel was redesigned to comply with all 1992

"Marpol" rules for waste disposal including an onboard biological treatment plant with a liquid waste disposal system, refuse sorting, pulping and a treatment plant, in addition to a modern refuse incinerator. All lifeboats are semi-enclosed, engine propelled and capable of saving 1,200 persons. The vessel is also equipped with two high-speed all-purpose passenger tenders and 10 inflatable zodiac landing craft. The staff and crew capacity is 350, whereas the passenger capacity is 850. However during cruises to the Antarctic Treaty area, Orient Lines only intends to carry 400-450 passengers.

Schedules for each of the cruises follows:

**Cruise MP #1**

December 2000/January 2001

<b>Port</b>	<b>Dates</b>
Buenos Aires, ARGENTINA	29 DEC 2000
at sea	30 DEC –1 JAN 2001
Westpoint Island	02 JAN 2001
Port Stanley	03 JAN 2001
At sea	04 JAN 2001
Deception Island/Pendulum Cove	05 JAN 2001
Lemaire Channel/Port Lockroy	06 JAN 2001
Waterboat Pt./Neumayer Channel	07 JAN 2001
Half Moon Island/at sea	08 JAN 2001
At sea	09 JAN 2001
Ushuaia, ARGENTINA	10 JAN 2001



**Cruise MP #2**  
January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	11 JAN 2001
at sea	12 JAN 2001
Deception Island/Pendulum Cove	13 JAN 2001
Lemaire Channel/Port Lockroy	14 JAN 2001
Waterboat Point/Neumayer Channel	15 JAN 2001
Half Moon Island/at sea	16 JAN 2001
at sea	17 JAN 2001
Ushuaia, ARGENTINA	18 JAN 2001

**Cruise MP #3**  
January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	19 JAN 2001
at sea	20 JAN 2001
Deception Island/Pendulum Cove	21 JAN 2001
Lemaire Channel/Port Lockroy	22 JAN 2001
Waterboat Point/Neumayer Channel	23 JAN 2001
Half Moon Island/at sea	24 JAN 2001
at sea	25 JAN 2001
Ushuaia, ARGENTINA	26 JAN 2001

**Cruise MP#4**  
January/February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	27 JAN 2001
at sea	28 JAN 2001
Deception Island/Pendulum Cove	29 JAN 2001
Lemaire Channel/Port Lockroy	30 JAN 2001
Waterboat Point/Neumayer Channel	31 JAN 2001

Half Moon Island	01 FEB 2001
at sea	02 FEB 2001
Ushuaia, ARGENTINA	03 FEB 2001

**Cruise MP#5**  
February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	04 FEB 2001
at sea	05 FEB 2001
Deception Island/Pendulum Cove	06 FEB 2001
Lemaire Channel/Port Lockroy	07 FEB 2001
Waterboat Point/Neumayer Channel	08 FEB 2001
Half Moon Island	09 FEB 2001
at sea	10 FEB 2001
Ushuaia, ARGENTINA	11 FEB 2001

**Cruise MP#6**  
February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	12 FEB 2001
at sea	13 FEB 2001
Deception Island/Pendulum Cove	14 FEB 2001
Lemaire Channel/Port Lockroy	15 FEB 2001
Waterboat Point/Neumayer Channel	16 FEB 2001
Half Moon Island	17 FEB 2001
at sea	18 FEB 2001
At sea/Beagle Channel	19 FEB 2001
At sea/South Pacific	20 FEB 2001
Seno Eyre Fjord	21 FEB 2001
At Sea/South Pacific	22 FEB 2001
Port Montt	23 FEB 2001
At Sea/South Pacific	24 FEB 2001
Valparaiso, CHILE	25 FEB 2001

## Clipper Cruise Lines

Clipper Cruise Lines, of St. Louis, Missouri, plans to conduct eight cruises to the Antarctic during the 2000-2001 season using the CLIPPER ADVENTURER.

### CLIPPER ADVENTURER

The vessel was built in 1975 and rebuilt in 2000. The call letters are C6PG6. The CLIPPER ADVENTURER is 100 meters in length, 16.24 meters in breadth, has a 4.65 meter draft and displacement of 4,364 tons. The vessel has an average cruising speed of 14.5 knots. The vessel is classified by the Lloyd's Register as a 100 A1 Ice Class 1A Passenger Ship LMC. The CLIPPER ADVENTURER carries four 50-person life boats and three 25-person life rafts, in addition to ten 15-person Mark V heavy-duty zodiacs. Approximately 122 passengers and 79 crew members will be onboard for each cruise.

Schedules for each of the cruises follows:

#### **Cruise CA #1**

December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	01 DEC 2000
At sea	02-03 DEC 2000
Antarctic Peninsula	04-08 DEC 2000
At sea	09-10 DEC 2000
Ushuaia, ARGENTINA	11 DEC 2000

#### **Cruise CA #2**

December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	11 DEC 2000
at sea	12-13 DEC 2000
Antarctic Peninsula	14-18 DEC 2000
at sea	19-20 DEC 2000
Ushuaia, ARGENTINA	21 DEC 2000

**Cruise CA #3**

December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	21 DEC 2000
at sea	22-23 DEC 2000
Antarctic Peninsula	24-28 DEC 2000
at sea	29-30 DEC 2000
Ushuaia, ARGENTINA	31 DEC 2000

**Cruise CA #4**

December 2000/January 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	31 DEC 2000
at sea	01-02 JAN 2001
Antarctic Peninsula	03-07 JAN 2001
at sea	08-09 JAN 2001
Westpoint/Carcass Island, Falkland Islands	10 JAN 2001
Port Stanley, FALKLAND ISLANDS	11 JAN 2001

**Cruise CA #5**

January 2001

<b>Port</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	11 JAN 2001
Carcass/Westpoint/New Island	12 JAN 2001
New Island/Sea Lion Island	13 JAN 2001
at sea	14 JAN 2001
South Georgia	15-18 JAN 2001
At sea	19 JAN 2001
South Orkney	20 JAN 2001
Antarctic Peninsula	21-25 JAN 2001
At sea	26-27 JAN 2001
Ushuaia, ARGENTINA	28 JAN 2001

**Cruise CA #6**  
January/February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	28 JAN 2001
at sea	29-30 JAN 2001
Antarctic Peninsula	31- JAN-04 FEB 2001
at sea	05-06 FEB 2001
Westpoint/Carcass	07 FEB 2001
Port Stanley, FALKLAND ISLANDS	08 FEB 2001

**Cruise CA #7**  
February 2001

<b>Port</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	08 FEB 2001
Carcass/Westpoint Island	09 FEB 2001
at sea	10-11 FEB 2001
Antarctic Peninsula	12-16 FEB 2001
At sea	17-18 FEB 2001
Ushuaia, ARGENTINA	19 FEB 2001

**Cruise CA #8**  
February/March 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	19 FEB 2001
at sea	20-21 FEB 2001
Antarctic Peninsula	22-26 FEB 2001
at sea	27-28 FEB 2001
Westpoint/Carcass	01 MAR 2001
Port Stanley, FALKLAND ISLANDS	02 MAR 2001

## **Special Expeditions, Inc.**

Special Expeditions, Inc. of New York City, New York, plans to conduct six cruises to the Antarctic during the 2000-2001 season, using the M/V CALEDONIAN STAR.

## M/V CALEDONIAN STAR

The M/V CALEDONIAN STAR was built in Germany in 1966, and is registered in the Bahamas. The vessel is 295 feet long, 46 feet wide, and has a draft of 21 feet. The ship can accommodate up to 108 passengers.

### **Cruise CS#1**

December 2000

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	08 DEC 2000
At sea	09-10 DEC 2000
Antarctic Peninsula	11-15 DEC 2000
At sea	16 DEC 2000
Cape Horn	17 DEC 2000
Beagle Channel	18 DEC 2000
Punta Arenas, CHILE	19 DEC 2000

### **Cruise CS#2**

December 2000/January 2001

<b>Port</b>	<b>Dates</b>
Punta Arenas, CHILE	20 DEC 2000
Beagle Channel	21 DEC 2000
Cape Horn	22 DEC 2000
At sea	23 DEC 2000
Antarctic Peninsula	24-30 DEC 2000
Elephant Island	31 DEC 2000
At sea	1 JAN 2001
New Island/Westpoint	2 JAN 2001
Carcass/Saunders	3 JAN 2001
Port Stanley, FALKLAND ISLANDS	04 JAN 2001

### **Cruise CS#3**

January 2001

<b>Port</b>	<b>Dates</b>
Port Stanley, FALKLAND ISLANDS	04 JAN 2001
Saunders /Carcass	05 JAN 2001

Westpoint/New Island	06 JAN 2001
At sea	07 JAN 2001
Elephant Island	08 JAN 2001
Antarctic Peninsula	09-15 JAN 2001
At sea	16 JAN 2001
Cape Horn	17 JAN 2001
Beagle Channel	18 JAN 2001
Punta Arenas, CHILE	19 JAN 2001

**Cruise CS#4**

January 2001

<b>Port</b>	<b>Dates</b>
Punta Arenas, CHILE	19 JAN 2001
Beagle Channel	20 JAN 2001
At sea	21 JAN 2001
Antarctic Peninsula	22-27 JAN 2001
At sea	28 JAN 2001
Cape Horn	29 JAN 2001
Ushuaia, ARGENTINA	30 JAN 2001

**Cruise CS#5**

January/February 2001

<b>Port</b>	<b>Dates</b>
Ushuaia, ARGENTINA	30 JAN 2001
At sea	31 JAN 2001
At sea/King George Island	01 FEB 2001
Antarctic Peninsula	02-06 FEB 2001
At sea	07 FEB 2001
Cape Horn	08 FEB 2001
Beagle Channel	09 FEB 2001
Punta Arenas, CHILE	10 FEB 2001

**Cruise CS#6**

February 2001

<b>Port</b>	<b>Dates</b>
Punta Arenas, CHILE	10 FEB 2001

Beagle Channel	11 FEB 2001
Cape Horn	12 FEB 2001
At sea	13 FEB 2001
Antarctic Peninsula	14-18 FEB 2001
At sea	19 FEB 2001
South Orkneys	20 FEB 2001
At sea	21 FEB 2001
South Georgia	22-24 FEB 2001
Elsehul	25 FEB 2001
At sea	26-27 FEB 2001
Port Stanley, Falkland Islands	28 FEB 2001
Saunders/Carcass Island	01 MAR 2001
At sea	02 MAR 2001
Ushuaia, ARGENTINA	03 MAR 2001

## **Other**

In addition, several other organizations plan to arrange/conduct or support tourism activities in the Antarctic during the 2000-2001 season. Although some of these organizations are not U.S. based, American citizens are most likely involved in their planned activities and for this reason are reported here.

### **SHIPBORNE**

- a) Hapag-Lloyd Cruises of Hamburg, Germany, will operate two vessels in the Antarctic Peninsula. The HANSEATIC will conduct 8 cruises, whereas the BREMEN will conduct only 2 cruises.
  
- b) Marine Expeditions of Toronto, Canada, intends to conduct approximately 18 cruises to the Antarctic Peninsula using the MARIYA YERMALOVA and the LYUBOV ORLOVA.



## **LANDBASED**

Adventure Network International (ANI), a Canadian company with an office in Beaconsfield, England, plans several 11-17-day excursions to the interior of the Antarctic continent. Travel from Punta Arenas, Chile, to Adventure Network's Patriot Hills base camp (80°20'S, 81°20'W) is via a South African chartered C-130 cargo/passenger aircraft. These various inland excursions will occur during November 2000 - mid-January 2001 using two chartered Twin Otters and their own Cessna C-A185F aircraft.

## XI. Refuges

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*Section XI provides information on existing refuges and survival caches in the McMurdo area, as well as, deactivated camps and stations elsewhere on the continent.*

### McMurdo Area Antarctic Refuges and Survival Caches

Following are the existing refuges consisting of huts or caches that may be used in emergency survival situations. These survival huts and survival caches are located within a 65 nautical mile radius of McMurdo Station and are inspected annually. Information provided includes position and description of location and accommodation, food, fuel, and supplies of other kinds. "Full provisions" indicates sleeping, eating, and cooking utensils.

#### **Mt. Erebus Hut and Cache**

**Position:** 77°30'S; 167°10'E

**Hut:** Partial provisions for 3 (no sleeping bags), oxygen, radio during summer.

**Cache:** Full provisions for 6. Located 50 meters from hut.

#### **Cape Crozier Hut and Cache**

**Position:** 77°30'S, 169°40'E

**Hut:** Wood structure with some provisions. No radio.

**Cache:** Full provisions for 6 located north of the hut.

### **Lake Bonney Hut and Cache**

**Position:** 77°42'S, 162°27'E  
**Hut:** Jamesway structure with provisions. No radio  
**Cache:** Located on southeastern shore of Lake Bonney, approximately 30m from lake.

### **Lake Vida Cache**

**Position:** 77°20'S, 162°00'E  
**Hut:** Full provisions for 6, 30 man/days food. No radio.  
**Cache:** Located approximately 183m from lake on southwestern shore.

### **Lake Hoare Hut**

**Position:** 76°38'S, 162°57'E  
**Hut:** Wood structure with provisions. No radio.

### **Lake Fryxell Hut**

**Position:** 77°36'S, 163°07'E  
**Hut:** Jamesway structure with provisions. No radio.

### **New Harbor Hut**

**Position:** 77°34'S, 163°31'E  
**Hut:** Jamesway structure with provisions. No radio.

## **McMurdo Supported Remote Locations**

### **Siple Dome Camp**

**Position:** 81°39'S, 149°04'E

Camp winterized for the season. Four (4) Jamesway structures remain standing. Food, fuel, survival cache, and heavy equipment were staged on site for use during the 1997-98 field season.

### **Byrd Surface Camp**

**Position:** 80°01'S, 119°32'E

Survival cache and Jamesway, minimal food and fuel winterized for the season. All wooden structures, heavy equipment and materials removed from the camp.

## **Deactivated USAP Stations and Camps**

Data on unoccupied United States facilities in Antarctica is listed here although such facilities are not considered usable as refuges. Some are so deeply buried in snow as to make them inaccessible, while others are difficult to locate. Information provided: (1) position and description of location; (2) dates established and deactivated or last visited; and (3) estimate of available accommodation, food, fuel, and supplies of other kinds.

### **Byrd Aurora Substation**

**Position:** 79°26'S, 188°4'W, approximately 64km from present Byrd Station.

**Dates of Operation:** March 1963 - October 1963

**Description:** Prefabricated shelter, 16 man/months food and supplies, and 9,464 liters of diesel fuel

### **Camp Neptune**

**Position:** 83°31'S, 57°15'W, Neptune Range of Pensacola Mountains  
**Dates of Operation:** November 1963 - January 1966  
**Description:** 4.9m x 7.3m Jamesway building, 32 drums fuel, 4-6 man/months food, 113 kg. explosives

### **Patuxent Camp**

**Position:** 84°54'S, 63°W, Patuxent Range of Pensacola Mountains  
**Dates of Operation:** November 1962 - December 1965  
**Description:** 4.8m x 4.8m Jamesway building, 4 drums fuel, 458 man/days food plus cooking utensils

### **Prebble Glacier Camp**

**Position:** 84°15'S, 164°10'E, at mouth of Prebble Glacier, Queen Alexandra Range  
**Dates of Operation:** November 1966 - February 1967  
**Description:** 4.8m x 4.8m Jamesway building, 4 drums fuel, 1 man/month food supplies

### **Camp Gould**

**Position:** 78°57'S, 85°45'W, East Heritage Range  
**Dates of Operation:** November 1962 - February 1967  
**Description:** 4.8m x 4.8m Jamesway building, 48 drums fuel, 8-10 man/months food

### **Amundsen Glacier Camp**

**Position:** 86°18'S, 160°55'W, adjacent to Amundsen Glacier on the Faulkner Escarpment  
**Dates of Operation:** November 1963 - January 1964  
**Description:** 4.8m x 4.8m Jamesway building, 4 fuel drums, 400 man/days food, cooking utensils

### **Byrd Coast Camp**

**Position:** 76°55'S, 144°W, in Edsel Ford Range at Mount Farley  
**Dates of Operation:** October 1966 - January 1967  
**Description:** 4.8m x 4.8m Jamesway building, 2 man/months food and fuel

### **Camp Ohio**

**Position:** 84°52'S, 114°20'W, Ohio Range, Horlick Mountains  
**Dates of Operation:** November 1961 - January 1967  
**Description:** 4.8m x 4.8m Jamesway building, 7 drums fuel, cooking utensils, 2 man/weeks food supplies

### **Camp Minnesota**

**Position:** 73°30'S, 94°30'W, in northwestern side of Jones Mountain  
**Dates of Operation:** November 1961 - January 1965  
**Description:** 4.8m x 4.8m Jamesway building, unknown quantity of food and fuel

### **Little Rockford**

**Position:** 79°30'S, 147°19'W, (relocated in 1959 from 79°35'S, 156°46'W)  
**Dates of Operation:** December 1958 - February 1965  
**Description:** 3 Wannigans, 1 improvised shelter, food and fuel unknown

### **Plateau Station**

**Position:** 79°15'S, 40°30'E  
**Dates of Operation:** December 1965 - January 1969  
**Description:** Main building 21m x 7.6m van; emergency station separated from main building consists of 9m x 2.4m van attached to a 4.8m x 8m Jamesway; 3-4.8m x 8.5m' and 1-4.8m x 4.8m Jamesway huts with limited supply of DFA and mogas available; however, access may be difficult owing to snow cover; 100 man/months of food plus cooking utensils.

## **Camp Ohio II**

**Position:** 86°S, 127°W, near crashed R4D aircraft  
**Dates of Operation:** November 1962 - January 1965  
**Description:** 4.8m x 7.3m Jamesway, 4 drums fuel, 2 man/months food  
plus cooking utensils

## **Roosevelt Island Hut**

**Position:** 80°11'S, 161°39'W  
**Dates of Operation:** 1969  
**Description:** Provisions for 25. No radio

## **Hallett Station**

**Position:** 72°19'S, 170°13'E  
**Dates of Operation:** January 1957 - February 1973  
**Description:** 4 buildings

## **Brockton Station**

**Position:** 80°01'S, 178°02'W  
**Dates of Operation:** October 1965 - February 1972  
**Description:** 4 buildings, 14 drums fuel, and 4,164 liters bulk fuel

## **Marie Byrd Land Camp**

**Position:** 75°45'S, 135°W  
**Dates of Operation:** October - December 1977  
**Description:** 5 Jamesway huts, bulk DFA, food

## **Ellsworth Mountains Camp**

**Position:** 79°07'S, 85°39'W  
**Dates of Operation:** November 1979 - January 1980  
**Description:** 1 Jamesway hut

### **McGregor Glacier Hut**

**Position:** 85°08'S, 174°50'E  
**Dates of Operation:** 1982-83 season  
**Description:** Camp buried under snow. No radio

### **Dome C Camp**

**Position:** 74°39'S, 124°10'E  
**Dates of Operation:** Camp active summer seasons through 1981/82. Last visited  
Jan. 1996  
**Description:** 8 Jamesway huts, 3,785 liters POL, and 2,722 kg. food

### **Beardmore South Camp**

**Position:** 85°2'S, 164°15'E  
**Dates of Operation:** October 1984 - February 1986  
**Description:** Wooden module buried under snow, mogas, some JP8  
available.

### **Siple Station**

**Position:** 75°56'S, 84°15'W  
**Dates of Operation:** January 1979 - February 1988  
**Description:** An unsafe enclosed area under-the-snow, and Jamesway huts  
on the surface.

### **Upstream Bravo**

**Position:** 83°29'S, 138°06'W  
**Dates of Operation:** February 1994  
**Description:** All structures buried.



## **XII. Permits, Species Killed, Captured**

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*Information regarding Antarctic Conservation Act Permits issued or  
species killed or captured during the 2000-2001 season will be  
reported in Section XII of the Modifications of the United States  
Antarctic Activities Planned for 2000-2001.*

## XIII. Radioactive Materials

*Section XIII of the 2000-2001 season plans lists the radioactive materials to be used and provides information regarding their form, nuclide, site, and specific use.*

<u>PROJECT</u>	<u>NUCLIDE</u>	<u>FORM</u>	<u>SITE</u>	<u>USE</u>
BP-016-O	<sup>14</sup> C	<sup>14</sup> C - Sodium bicarbonate	Palmer Station; R/V LAURENCE M. GOULD	Palmer Station/LM GOULD: LTER on the Antarctic Marine Ecosystem: An Ice Dominated Environment - Phytoplankton Ecology Component
BO-025-O	<sup>14</sup> C <sup>3</sup> H <sup>35</sup> S	<sup>14</sup> C - Bicarbonate Acetate <sup>3</sup> H - Thymidine <sup>35</sup> S - DMSP	McMurdo Station/Dry Valleys	McMurdo Dry Valleys: A Cold Desert Ecosystem
BO-037-O	<sup>35</sup> S	<sup>35</sup> S - L-methionine and L-cysteine mix	Palmer Station	Structure, Function, and Expression of Cold-Adapted Tubulins and Microtubule- Dependent Motors from Antarctic Fishes
BM-042-P	<sup>14</sup> C <sup>3</sup> H	<sup>14</sup> C - Bicarbonate <sup>3</sup> H - Thymidine	McMurdo Station/Dry Valleys	McMurdo Dry Valleys: A Cold Desert Ecosystem
BM-042-V	<sup>14</sup> C	<sup>14</sup> C - Sodium Bicarbonate	McMurdo Station	McMurdo Dry Valleys: A Cold Desert Ecosystem

<u>PROJECT</u>	<u>NUCLIDE</u>	<u>FORM</u>	<u>SITE</u>	<u>USE</u>
BM-042-W	<sup>14</sup> C -	<sup>14</sup> C - Sodium Bicarbonate	McMurdo Station	McMurdo Dry Valleys: A Cold Desert Ecosystem
BP-046-O	<sup>3</sup> H <sup>14</sup> C <sup>14</sup> C <sup>14</sup> C <sup>3</sup> H	<sup>3</sup> H - Leucine <sup>14</sup> C - Bicarbonate <sup>14</sup> C - Glucose <sup>14</sup> C - Acetate <sup>3</sup> H - Thymidine	R/V LAURENCE M. GOULD	ILTER: Microbiology and carbon flux
BO-197-O	<sup>32</sup> P	<sup>32</sup> P - UTP	McMurdo Station	Diving Biology of Emperor Penguins
BO-200-O	<sup>3</sup> H	<sup>3</sup> H - Leucine <sup>3</sup> H - Thymidine	R/V NATHANIEL B. PALMER	Determination of bacteria plankton response to UV radiation in the Weddell Sea and Palmer Station LTER grid.
OO-257-O	<sup>63</sup> Ni	<sup>63</sup> Ni - Foil or Plated source	South Pole Station	South Pole Monitoring for Climatic Change: U.S. Department of Commerce; National Oceanic and Atmospheric Administration, Climate Monitoring and Diagnostics Laboratory (Source is inside an electron capture detector of a gas chromatograph)
OO-270-O	<sup>63</sup> Ni	<sup>63</sup> Ni	South Pole	An Investigation of Sulfur Chemistry in the Antarctic Troposphere (ISCAT)

<b>PROJECT</b>	<b>NUCLIDE</b>	<b>FORM</b>	<b>SITE</b>	<b>USE</b>
BO-301-O	<sup>35</sup> S <sup>14</sup> C <sup>32</sup> P <sup>3</sup> H	<sup>35</sup> S - Methionine <sup>14</sup> C - Amino Acids <sup>32</sup> P - Nucleic Acids <sup>3</sup> H - Amino Acid	McMurdo Station	Metabolic studies of various Antarctic organisms
BO-310-O	<sup>3</sup> H	<sup>3</sup> H - Thymidine	McMurdo Station	Determination of Dry Valley Lake Organisms
BO-313-O	<sup>35</sup> S	<sup>35</sup> S - Sulfur	R/V LAURENCE M. GOULD	Determination of Southern Ocean Sulfate Bacteria
GLOBEC/ Vernet	<sup>14</sup> C	<sup>14</sup> C - Sodium Bicarbonate	R/V NATHANIEL B. PALMER	Global Ocean Ecosystem Dynamics

## **XIV. Research Rockets**

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*Section XIV reports the planned use of research rockets. The United States Antarctic Program will launch no research rockets during the 2000-2001 season.*

## **XV. Oceanography - Government**

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*Section XV outlines plans for United States Antarctic Program sponsored oceanographic expeditions during the 2000-2001 season.*

### **R/V NATHANIEL B. PALMER**

The R/V NATHANIEL B. PALMER first arrived in the Antarctic Peninsula area in April 1992. The vessel is owned by Edison Chouest Offshore and is of United States Registry. The vessel will be on long-term charter to support the United States Antarctic Program. The R/V NATHANIEL B. PALMER is ice-class ABS A2, is 93.9 meters long, has a beam of 18.3 meters, a design draught of 6.9 meters, and displaces 6800 long tons. The vessel has 13,000 shaft horsepower driving two controllable pitch propellers. The vessel has a crew of 26 and accommodation for 39 scientists.

#### **Research Capabilities.**

The vessel is equipped with a satellite precision navigation system, side-looking and fish-finding sonar, INMARSAT communications, TeraScan, and HF and VHF transceivers. The vessel is equipped with Dynamic Positioning. A deep sea trawl and coring winch and two hydro-winchs are operated through stern and starboard A-frames. One hydro-winch, equipped with electromechanical cable, leads through a baltic-room arrangement, protected from the weather. The vessel is equipped with multi-channel seismic capability, a swath multibeam bathymetric system called SeaBeam, and is equipped with laboratories totaling approximately 520 square meters, all located contiguously on the main deck. The vessel also has a suite of portable lab vans.

**Ship's Master:** Captain Joe Borkowski.

## **Scientific Programs in the Antarctic Treaty Area**

The R/V NATHANIEL B. PALMER will conduct cruises in the Southern Ocean surrounding Antarctica, for scientific research in the following disciplines: Physical and Chemical Oceanography, Marine Geology and Geophysics, and Marine Biology.

## **Intended Tracks and Schedule**

The vessel is currently scheduled for work in the Weddell and the Ross Sea. Ports of call include: Punta Arenas and Talchvano, Chile; Hobart, Australia; Capetown, South Africa; and, New Orleans and Fouchon, Louisiana. The vessel will make a hazardous waste transport from Palmer Station to the United States in August 2000.

## **R/V LAURENCE M. GOULD**

The R/V LAURENCE M. GOULD first arrived in the Antarctic Peninsula in January, 1998, and is owned by Edison Chouest Offshore and is of United States Registry. The vessel will be on long-term charter to support the United States Antarctic Program. The R/V LAURENCE M. GOULD is ice-class ABS A1, is 14.02 meters, has a design draught of 5.48 and displaces 3400 long tons. She will be a multidisciplinary research platform, designed for year-round operations in Polar regions.

## **Research Capabilities**

The vessel is equipped with a satellite precision navigation system, side-looking and fish-finding sonar, INMARSAT communications and HF and VHF transceivers. A deep sea trawl winch and two hydro-winches are to be operated through a stern A-frame and starboard side-hydro davits. Various over-the-side sampling equipment will be handled through use of an articulated Hiab crane on the ship's fantail. The vessel will also have single channel seismic capability. In addition, it is equipped with laboratories totaling 99 square meters and an additional 27 square meters in portable laboratory vans. Zodiacs are available for ship-to-shore transport and sample collection.

**Ship's Master:** Captain Warren Sanamo

## **Scientific Programs in the Antarctic Treaty Area**

The R/V LAURENCE M. GOULD will support research during 2000-2001 season that includes biological, chemical, and physical oceanography as well as marine geology and geophysics. The R/V LAURENCE M. GOULD will also provide logistic support to transport scientists, cargo, and personnel to/from Palmer Station.

## **Intended Tracks and Schedule**

The R/V LAURENCE M. GOULD will transport support personnel to and from Palmer Station, provide research support, and enter a routine maintenance period, the month of August in Talcahuano, Chile. The vessel will perform approximately 19 cruises in the Antarctic Peninsula area during 2000-2001 season. The vessel will assist with the hazardous waste transport from Palmer Station in July 2000.



## **XVI. Visiting Expeditions**

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*Section XVI provides information on expeditions visiting U.S. stations during the 2000-2001 austral summer. Data will be accumulated during the course of the season and reported in next year's report of modifications to these plans.*



# **Appendix I**

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*Appendix I of the Activities Planned for 2000-2001 lists the  
Initial Environmental Evaluation/ Environmental Assessments from  
October 1, 1999 - September 30, 2000.*

1. Construction of a New Science Support Center McMurdo Station, Antarctica [MCST0001.EAF] signed 10/06/99.
2. McMurdo Gym/Hanger Bathroom [MCST0000.R01] signed 10/06/99.
3. McMurdo Chalet Deck Upgrade [MCST0000.R03] signed 11/22/99.
4. Relocation of Milvans at Palmer Station [PLST0000.R01] signed 01/12/00
5. Copacabana Field Camp Upgrade, King George Island, Antarctica [PLFC0001.EAF] signed 01/24/00
6. Helicopter Fuel System Upgrade, McMurdo Station, Antarctica [MCST0002.EAF] signed 03/07/00

## **Appendix II**

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*[Appendix II of the 2000-2001 season plans](#) provides information  
on planned science projects in Antarctica during this time period.  
Please follow the above link to a complete listing.*

## **Attachment A, Comms Forms**

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*Attachment A of the 2000-2001 season plans lists the, types,  
schedules and frequencies of telecommunications equipment used by  
the United States Antarctic Program.*

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**

**COUNTRY** United States of America  
**STATION** McMurdo  
**CALL SIGN** NGD

**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**  
**LATITUDE** 77°55'S **LONGITUDE** 166°39'E

OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

TRANSMITTERS				RECEIVERS				REMARKS
TYPE	FREQUENCY BANDS	TYPES OF TRANSMISSION AND POWER	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	TYPE	FREQUENCY BANDS	TYPES OF RECEPTION AVAILABLE	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	
AN/FRT-83	2-30 MHz	1K08F1B, 3K00J3E 1K24F1B, 100H0A1A 1KW	SYNTHESIZED					
CM-200VT CM-200UT	116-149.95 MHz 225-399.95 MHz	6K00A3E, 10W 6K00A3E, 10W	SYNTHESIZED SYNTHESIZED	CM-200VR CM-200UR	116-149.95 MHz 255-399.95 MHz	6K00A3E 6K00A3E	CRYSTAL CRYSTAL	
AN/LST-5C	225-399.995 MHz	30K0F3E/20W	SYNTHESIZED	AN/LST-5C	225-399.995 MHz	30K0F3E	SYNTHESIZED	
RT-100	2-30 MHz	100H0A1A, 3K00J3E 100W	SYNTHESIZED	RT-100	2-30 MHz	100H0A1A, 3K00J3E	SYNTHESIZED	
RT-7000	2-30 MHz	100H0A1A, 3K00J3E	SYNTHESIZED	RT-7000	2-30 MHz	100H0A1A, 3K00J3E	SYNTHESIZED	
AN/PRC-1099	2-30 MHz	100H0A1A, 3K00J3E, 20W	SYNTHESIZED	AN/PRC-1099	2-30 MHz	100H0A1A, 3K00J3E	SYNTHESIZED	
AN/LST-5C	225-399.95 MHz	30K0F3E/20W	SYNTHESIZED	AN/LST-5C	225-399.995 MHz	30K0F3E	SYNTHESIZED	
SR-210	1.6-30 MHz	100H0A1A, 3K00J3E 150W	CRYSTAL	SR-210	1.6-30 MHz	100H0A1A, 3K00J3E	CRYSTAL	
DRAKE TR-7	2-30 MHz	100H0A1A, 3K00J3E	VFO	DRAKE TR-7	2-30 MHz	100H0A1A, 3K00J3E	VFO	
CUBIC T4150	1.6-30MHz	100H0A1A, 3K00J3E 1KW	SYNTHESIZED	CUBIC LCR2000	1.6-30 MHz	100H0A1A, 3K00J3E	SYNTHESIZED	

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**COUNTRY** United States of America  
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OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

**LATITUDE** 77°55'S      **LONGITUDE** 166°39'E

TRANSMITTERS				RECEIVERS				REMARKS
TYPE	FREQUENCY BANDS	TYPES OF TRANSMISSION AND POWER	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	TYPE	FREQUENCY BANDS	TYPES OF RECEPTION AVAILABLE	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	
INMARSAT A TERMINAL	L BAND		VFO	INMARSAT A TERMINAL	L BAND			
NASA TDRSS EARTH STATION	KU BAND		SYNTHESIZED	NASA TDRSS EARTH STATION	KU BAND		SYNTHESIZED	
USES INTELSAT EARTH STATION	C BAND		SYNTHESIZED	USES INTELSAT EARTH STATION	C BAND		SYNTHESIZED	
NASA MGS	S, KU BAND		SYNTHESIZED	NASA MGS	S, KU BAND		SYNTHESIZED	





**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**
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**LATITUDE** 77°55'S **LONGITUDE** 166°39'E

 OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

ANTENNA			FACSIMILE		TELEPRINTER		REMARKS	
TYPE	AZIMUTH (IN DEGREES OR OMNI)		INDEX OF COOPERATION	DRUM SPEED	TYPE	SPEED (bauds)		LIST OF AVAILABLE FREQUENCIES
RHOMBIC	088T	T	9165L/AE	120/240 (scans	KPDT-3 (MOD-40)	75	US-14 ANTARCTIC BROADCAST/RATT WORKING	2650, 4872, 5810, 6397, 8092, 11004, 16321.5
RHOMBIC	088T	T	I of C N/A	per minute vice				
RHOMBIC	146T	T		rpm)				
RHOMBIC	220T	T			KPDT-3 (MOD-40)	50-75	US-17 INTERNATIONAL ANTARCTIC COMMON	4771.5, 7996.5, 9007.5, 11554.5
7 CONICAL MONOPOLES	OMNI	T	9271D/H/AE	120/240 RPM	KPDT-3 (MOD-40)	75	US-4 SHIP SHORE*	2026.4, 2717.4, 3248.4, 8298.4, 12345.4, 12357.4
ROSETTE ARRAY	DIRECTIONAL	R	I of C N/A				US-5 LONG RANGE AIR TO GROUND*	4719.5, 5727.5, 6709.5, 8999.5, 9034, 11257.5, 13252.5
END-FIRE ARRAY	088T	T					US-6 AIR TO GROUND WEATHER*	10641, 12222, 14700
CONICAL MONOPOLE	OMNI	T/R			KPDT-3 (MOD-40)	75	US-9 AIR TO SHIP*	3103.5, 5697.5
RHOMBIC	088T/146T/220T					75	US-15 ANTARCTIC SHIP TO SHORE*	4242, 8420, 12630
							US-16 ANTARCTIC BROADCAST/RATT WORKING*	2572, 4147.4, 6225.4, 6365.5, 7340, 7750, 8298.4, 8678, 9073, 11156, 12098, 12457, 133551.5, 14805, 16860, 16529.4
							AA-1 DISTRESS AND CALLING SAR*	2183.4, 3023.5, 4127, 8364
							USB-2*	2717.4



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**COUNTRY** United States of America
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**CALL SIGN** NGD
**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**
**LATITUDE** 77°55'S    **LONGITUDE** 166°39'E

 OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

ANTENNA		FACSIMILE		TELEPRINTER		REMARKS	
TYPE	AZIMUTH (IN DEGREES OR OMNI)	INDEX OF COOPERATION	DRUM SPEED	TYPE	SPEED (bauds)		LIST OF AVAILABLE FREQUENCIES
7 METER DISH	VARIABLE					BI TDRSS (NASA)	KU BAND
11 METER DISH	VARIABLE					BI USES	C BAND
2 METER DISH	VARIABLE					BI INMARSAT	L BAND
10 METER DISH	VARIABLE					MCMURDO NASA MGS	S,KU BAND
CONICAL MONOPOLE	OMNI DIRECTIONAL					BI HF RCV	1.6-30 MHz
LOG PERIODIC	146					BI HF RCV PALMER	1.6-30 MHz
RHOMBIC	88					BI HF RCV CHCH	1.6-30 MHz
RHOMBIC	266					BI HF RCV POLE	1.6-30 MHz

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**
**COUNTRY** United States of America
**STATION** McMurdo
**CALL SIGN** NGD
**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**
**LATITUDE** 77°55'S **LONGITUDE** 166°39'E

 OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

STATION WORKED	GMT		FREQUENCIES USED		CIRCUIT CONDUCT			REMARKS
	OPEN	CLOSE	TRANSMITTING	RECEIVING	TYPE OF EMISSION (See ccir 432) (X)	TYPE OF TRAFFIC	SX OR DX	
SOUTH POLE	OCT-- ON MAR-- 2000-- DAILY SUN-	--NOV CALL --OCT --2130 LESS DAY	2650 5810 6397 8090 11004 4872	7340 - P&SP 7750 - P&SP 9073 - P&SP 13551.5 - P&SP	1.24F1	ALL SYNOPS HOURLIES (AS REQUIRED) TERMINAL	DX	
			11554.5 9032 13252.5	11554.5 9032 13252.5	3A3J 3A3J	VOICE VOICE	SX SX	
PALMER	SAME AS ABOVE		SAME AS ABOVE		SAME AS ABOVE			
INMARSAT COASTAL EARTH STATION SANTA PAULA, CA	TIME OPEN 18 HR. PER DAY. START AND STOP CHANGES WITH PERCESSION OF SATELLITE.		1.636.-1.654 GHz	1.535-1.543 GHz		VOICE/DATA/ FACSIMILE		

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**
**COUNTRY** United States of America
**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**

 OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

**STATION** Amundsen-Scott South Pole
**CALL SIGN** NPX
**LATITUDE** 90° S **LONGITUDE** \_\_\_\_\_

TRANSMITTERS				RECEIVERS				REMARKS
TYPE	FREQUENCY BANDS	TYPES OF TRANSMISSION AND POWER	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	TYPE	FREQUENCY BANDS	TYPES OF RECEPTION AVAILABLE	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	
MACKAY MSR 8000D	1.6-30 MHz 10 Channel	3K00J3E 6K00A3E 100HA1A 1KW	SYNTHESIZED	MACKAY MSR 8000	1.6-30 MHz	3K00J3E 6K00A3E 100HA1A	SYNTHESIZED	
ICOM 735	1.6-30 MHz 20 Channel	3K00J3E 6K00A3E 100HA1A 100W	SYNTHESIZED	ICOM R70 ICOM IC-735	0.1-30 MHz 0.1-30 MHz	3K00J3E 6K00A3E 100HA1A	VFO VFO	
Motorola Maxar Transceiver	135.5-149.3 MHz 4 Channel	16F3/20W	CRYSTAL	Motorola Maxar Transceiver	135.5-149.3 4 Channel	15K00FZD		
REPCO Exciter	149.282	4F3/1W	CRYSTAL	Hamtronics	135.57 MHz	4F3	CRYSTAL	ATS-3
Kenwood TM-721 Transceiver with Mirage/KLM Amplifier	130-150 MHz 430-460 MHz	F3/300W	SYNTHESIZED	Kenwood TM-721 Kenwood R-5000	130-150 MHz 0.1-30 MHz	15K00F2D 3K00J3E 6K00A3A 100HA1A	SYNTHESIZED VFO	ATS-3
Kenwood TH25	140-150 MHz	F3 / 3W	SYNTHESIZED	Kenwood TH25	140-150 MHz	F3	SYNTHESIZED	
ABA Transmit.	1.5-5.26 Hz	90K00G2W/50W	SYNTHESIZED	ICOM-735	0-30 MHz	4F4, 6A3B, 6A9B		
Kenwood TH45	440-450 MHz	F3 / 3W	SYNTHESIZED	Kenwood TH45	440-450 MHz	F3	SYNTHESIZED	
RITRON	450 MHz	F3 / 7W	CRYSTAL	RITRON	450 MHz	F3	CRYSTAL	

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**

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 ARLINGTON, VA 22230

**COUNTRY** United States of America
**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**
**STATION** Amundsen-Scott South Pole
**CALL SIGN** NPX
**LATITUDE** 90° S **LONGITUDE** \_\_\_\_\_

ANTENNA			FACSIMILE		TELEPRINTER		REMARKS	
TYPE	AZIMUTH (IN DEGREES OR OMNI)		INDEX OF COOPERATION	DRUM SPEED	TYPE	SPEED (bauds)		LIST OF AVAILABLE FREQUENCIES
RHOMBIC	167 T	T/R					HF COMMUNICATIONS	0-30 MHz
RHOMBIC	167 T	T/R					HF COMMUNICATIONS	0-30 MHz
SLOPING V	64 T	T/R					HF COMMUNICATIONS	0-30 MHz
CONICAL MONOPOLE	OMNI	R					ANTARCTIC BROADCAST	0-30 MHz
CONICAL MONOPOLE	OMNI	T/R					HF COMMUNICATIONS	0-30 MHz
TRI BAND	STATES	T/R					BACK UP HF	1.6-30 MHz
TRI BAND	STATES	T/R					BACK UP HF	1.6-30 MHz
TRI BAND	STATES	T/R					BACK UP HF	1.6-30 MHz
CIRCULAR POLAIZED YAGI	VARIABLE	T/R					LES 9	L BAND
CIRCULAR POLARIZED YAGI	VARIABLE	T/R					ATS-3	L BAND
4 METER DISSH	VARIABLE	T/R					GOES3	C BAND
2 METER DISH	VARIABLE	T/R					TDRSS	KU BAND

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**
**COUNTRY** United States of America
**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**

 OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

**STATION** Amundsen-Scott South Pole
**CALL SIGN** NPX
**LATITUDE** 60°S **LONGITUDE** \_\_\_\_\_

STATION WORKED	GMT		FREQUENCIES USED		CIRCUIT CONDUCT			REMARKS
	OPEN	CLOSE	TRANSMITTING	RECEIVING	TYPE OF EMISSION (See ccir 432) (X)	TYPE OF TRAFFIC	SX OR DX	
MCMURDO	OCT – MAR 24 hrs. daily MAR – OCT Daily less local Sunday		7340 7750 9073 10235 13551.5 15564	2650 4872 (Alt.) 5810 (Alt.) 6397 (Alt.) 8090 11004 17361.5	3K00J3E	ALL TELETYPE TRAFFIC, 74.2 BAUD (75 BAUD) 100 WPM 850 Hz SHIFT		
MCMURDO PALMER	OCT – MAR 24 hrs. daily MAR – OCT Daily less local Sunday		4770.0 7995.0 9032 11553.0	4770.0 7995.0 9032 11553.0	3K00J3E	VOICE - INTERSTATION		USB SUPPRES -SED CARRIER
MCMURDO PALMER	OCT – MAR 24 hrs. daily MAR – OCT as required		9032 13251.0 11255.0 4718.0 5826.0 6708.8	9032 13251.0 11255.0 4718.0 5826.0 6708.8	3K00J3E	VOICE - AIRCRAFT		USB SUPPRES -SED CARRIER
MCMURO PALMER	AS REQUIRED		2182 8364 3023 121.5 MHz 243.0 MHz 282.8 MHz	2182 8364 3023 121.5 MHz 243.0 MHz 282.8 MHz	3K00J3E 3K00J3E 3K00J3E 3K00J3E 3K00J3E 3K00J3E	DISTRESS AND CALLING/SEARCH AND RESCUE		USB USB USB AM AM AM
LOCAL AIR/GROUND	ON CALL ONLY OCT – FEB 15 <sup>TH</sup>		360.2 MHZ 134.1 MHZ	360.2 MHZ 134.1 MHZ	6K00A3E	VOICE (APPROACH CONTROLS – GCA)		

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**
**COUNTRY** United States of America
**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**

 OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

**STATION** Palmer
**CALL SIGN** NHG
**LATITUDE** 64°46'S      **LONGITUDE** 64°05'W

TRANSMITTERS				RECEIVERS				REMARKS
TYPE	FREQUENCY BANDS	TYPES OF TRANSMISSION AND POWER	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	TYPE	FREQUENCY BANDS	TYPES OF RECEPTION AVAILABLE	FREQUENCY SELECTION (CRYSTAL VFO, etc.)	
GX23205 STANDARD MARINE	156-162 MHz 55 CHANNEL	16K0F3E/25W	SYNTHESIZED	STANDARD MARINE	156-162 MHz 55 CHANNEL	16K0F3E	SYNTHESIZED	MONITOR Ch16 & 27
SUNAIR LINEAR AMP GSL-1900A	1.6-30 MHz	3K00J3E/1 KW		SUNAIR GSB-900DX TRANSCIEVER	1.6-3.0 MHz	3K00J3E 3K00J1D	SYNTHESIZED	AX.25
SUNAIR GSB-900DX TRANSCIEVER	1.6-30 MHz	3K00J3E, 3K00J1D 100W	SYNTHESIZED	ICOM R 70	0.1-30 MHz	3K00J3E	SYNTHESIZED	
MOTOROLA MSR- 2000	161.950 MHz	16F3/112W	CRYSTAL	MOTOROLA MSR-2000	157.350 MHz	16F3	CRYSTAL	CARRIER ACCESS REPEATER
MOTOROLA MICOR	149.195 MHz CH 2 149.163 MHz CH 6A 149.283 MHz CH 6B 149.245 MHz CH 4	16F3/375W	CRYSTAL	MOTOROLA MICOR	135.575 MHz CH 2 135.543 MHz CH 6A 135.663 MHz CH 6B 135.625 MHz CH 4	16F3	CRYSTAL	ATS-3
NERA Saturn Bm	1636.5 MHz 1645.0 MHz	F9	SYNTHESIZED	NERA Saturn Bm	1535.0 MHz to 1543.5 MHz	F9	SYNTHESIZED	INMARSAT TERMINAL
Univ. of Miami LES-9 Transceiver	303.350, 303.375, 303.450, 303.475 MHZ	16F/20W	SYNTHESIZED	Univ. of Miami LES-9 Transceiver	249.550, 249.575, 249.650, 249.675 MHZ	16F3	SYNTHESIZED	LES-9
Kenwood TS450S Transceiver	2-30 MHZ	100H0A1A, 3K00J3E 100W	SYNTHESIZED	Kenwood TS450S	2-30 MHZ	100H0A1A, 3K00J3E	SYNTHESIZED	Amateur Radio
Kenwood TS922A Linear Amplifier	2-30 MHZ	100H0A1A, 3K00J3E 1KW	SYNTHESIZED					

**INFORMATION ON TELECOMMUNICATIONS EQUIPMENT AND SCHEDULES FOR THE YEAR 2000-2001**

**COUNTRY** United States of America  
**STATION** Palmer  
**CALL SIG** NHG

**ADDRESS FOR CORRESPONDENCE ON THIS INFORMATION:**

**LATITUDE** 64°46'S    **LONGITUDE** 64°05'W

OFFICE OF POLAR PROGRAMS  
 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

ANTENNA		FACSIMILE		TELEPRINTER		REMARKS	
TYPE	AZIMUTH (IN DEGREES OR OMNI)	INDEX OF COOPERATION	DRUM SPEED	TYPE	SPEED (bauds)		LIST OF AVAILABLE FREQUENCIES
SLOPING "V"	3400					HF (long distance)	2-30 MHz
CONICAL MONOPOLE	OMNI					HF (local ops.)	2-30 MHz
J-POLE (2)	OMNI					VHF (local ops.)	155-163 Mhz
CROSS POLARIZATION YAGI	ATS-3 SATELLITE 3150					DUAL ARRAY VOICE TRANSMIT	149.195, 149.220, 149.245, 149.249 MHz
CROSS POLARIZATION YAGI	ATS-3 SATELLITE 3150					DUAL ARRAY VOICE RECEIVE	135.555, 135.575, 135.600, 135.625 MHz
CROSS POLARIZATION YAGI	LES-9 SATELLITE 3140					DUAL ARRAY DATA TRANSMIT	303MHz
CROSS POLARIZATION YAGI	LES-9 SATELLITE 3140					DUAL ARRAY DATA RECEIVE	249MHz
HF YAGI (TRI-BAND)	ROTATABLE					AMATEUR/MARS/HAM	14, 21, 28 MHz
PARABOLIC DISH	IMMARSAT SATELLITE					MARISAT, VOICE, DATA, TELEX	1.5-1.6 GHz
860' RHOMBIC	1950					HF primary, MCMURDO + POLE, VOICE + RATT	2-30 MHz design center = 11,553 kHz
COAXIAL	OMNI					VHF LOCAL AIR-GROUND	116-135 MHz
VHF MARINE WHIP	OMNI					VHF Marine Repeater Primary & Secondary for local boating ops.	155-163 MHz
5 ELEMENT COAXIAL	OMNI					VHF MARINE BASE	155-163 MHz



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TYPE	AZIMUTH (IN DEGREES OR OMNI)	INDEX OF COOPERATION	DRUM SPEED	TYPE	SPEED (bauds)		LIST OF AVAILABLE FREQUENCIES
ENCLOSED MONOPOLE	OMNI					NOAA ARGOS relay for J-275	401.650 MHz
ENCLOSED 1.2M STEERABLE DISH	STEERABLE					TERA SCAN WEATHER DATA RX FOR T-312 (Receive)	1689, 2252.2 MHz

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STATION WORKED	GMT		FREQUENCIES USED		CIRCUIT CONDUCT			REMARKS
	OPEN	CLOSE	TRANSMITTING	RECEIVING	TYPE OF EMISSION (See ccir 432) (X)	TYPE OF TRAFFIC	SX OR DX	
MCMURDO SOUTH POLE	DEC-- 1100 Dai- MAR-- 1100 Daily Satur-	-MAR 0000 ly --OCT 0000 less local day	4771.5 7996.5 (Primary)  11554.5 (Primary)	4771.5 7996.5 8975.5 11554.5	3A3J	VOICE - INTER-STATION		USB SUPPRES -SED CARRIER
MCMURDO SOUTH POLE	AS REQUIRED		9032 (Primary) 13252.5 (Second.) 11256.5 (Tertiary) 4719.5 (Alt. 5727.5 on 6709.5 call) 9034	9032 13252.5 11256.5 4719.5 5727.5 6709.5 9034	3A3J	VOICE - AIRCRAFT		USB SUPPRES -SED CARRIER
MCMURDO SOUTH POLE	AS REQUIRED		2182 8364 3023.5	2182 8364 3023.5	3A3J	DISTRESS AND CALLING/SEARCH AND RESCUE		USB
ROTHERA	1130 1730 2330 DAI	1135 1735 2335 LY	3186 (Second.) 4553 (Primary)	3186 4553	16F3 3A3J	WEATHER SYNOPTIC GROUPS		USB USB USB
COPACABANA, SEAL IS., CAPE SHERIFF	OCT- 0000 Z DAI	MAR 0030 Z LY	4125 (Primary) 4131 (Secondary)	4125 4131	3A3J	VOICE		USB