

XV. Oceanography- Government

*Section XV of the Modifications of Activities Planned for 1998-99
presents final information regarding United States Antarctic Program
sponsored oceanographic expeditions during the 1998-99 season.*

Note: For actual tracks of the Research Vessels NATHANIEL B. PALMER and
LAURENCE M. GOULD please see Attachment C, Cruise Tracks.

R/V NATHANIEL B. PALMER

The R/ V NATHANIEL B. PALMER made nine cruises during the period of 30
March 1998 through 31 March 1999. Cruises are:

Cruise NBP98-2A

08 April - 26 April 1998: Maintenance period- Lyttelton, New Zealand

Cruise NBP98-3

01 May – 20 June 1998: Studies of sea-ice communities in the Ross Sea region of
Antarctica.

S-325 (Garrison) and S-286 (Jefferies)

Cruise NBP98-4

25 June - 20 July 1998: Transit to Punta Arenas, Chile to pick up Haz/Rad waste
for transport to Seattle, Washington

Cruise NBP98-5

25 July - 19 August 1998: Transit to Seattle, Washington

The R/V NATHANIEL off loaded Haz/Rad waste and, while in port, routine
maintenance projects were accomplished.

Cruise NBP98-6 and NBP98-6A

20 September – 29 October 1998: Pacific Ocean Transit to Honolulu, Hawaii.

ARVOC meeting was held aboard the vessel 01-02 October. n Honolulu. The vessel continued transit to Apia, Western Samoa and multibeam sea trials took place during the transit.

Cruise NBP98-7

02 November - 20 December 1998: The third installment of a multi-disciplinary project investigating the variability of the various aspects of the atmosphere, ocean, and benthic environments in the Ross Sea.

S-216 (Dunbar)

Cruise NBP99-1

26 December 1998 - February 1999: Studies of sea-ice communities in the Ross Sea region of Antarctica.

S-325 (Garrison) and S-286 (Jefferies)

Cruise NBP99-2

12 February - 30 March 1999: Study the timing of ice sheet grounding and retreat from the continental shelf in the Ross Sea region Bellingsham, Amundsen Seas and Lallenmand Fjord during the past glacial episode.

S-083 (Anderson)

Biology & Medicine

	I.D. No.	Institution
Garrison, David (+2)	S-325	University of California, Santa Cruz

Ocean & Climate

	I.D. No.	Institution
Jeffries, Martin (+6)	S-286	University of Alaska, Fairbanks
Dunbar, Robert (+14)	S-216	Rice University

Geology & Geophysics

	I.D. No.	Institution
Anderson, John (+6)	S-083	Rice University

R/V LAURENCE M. GOULD

The R/V LAURENCE M. GOULD made five science cruises and passenger transports to the Antarctic Peninsula during the period of 30 March 1998 through 31 March 1999.

Cruise LMG98-3 and LMG98-3A

26 March 1998 – 5 May 1998: Passenger transports to Palmer Station

Cruise LMG98-4 and LMG98-5

9 May 1998 – 26 July 1998: Passenger transports to Palmer Station. Vessel personnel deployed XBTs while transiting in support of S-260 (Peterson)

Cruise LMG98-6 and LMG98-7

28 July 1998 – 4 September 1998: Maintenance Dry Dock period, Talcahuano

Cruise LMG98-8 and LMG98-8A

10 September 1998 – 3 October 1998: Station Support and COPA opening

Cruise LMG98-9

12 October 1998 – 20 November 1998: Transport of S-002 (Mopper) and S-010 (Neale) field team members to Palmer Station

Cruise LMG98-10

24 November 1998 – 27 December 1998: Vessel sailed south along the Antarctic Peninsula, stopping at various islands and sites en route to Palmer Station to conduct field studies. GO-087-O (Dalziel), GO-097-O (Weins), GO135-O (Dorman), OO-260-O (Peterson), BO-040-O (Trivelpiece)

Cruise LMG99-1

6 January 1999 – 14 February 1999: Bellingshausen Sea BP-046-O (Karl)

Long Term Ecological Research on the Antarctic Marine Ecosystem

Cruise LMG99-2

22 February 1999 – 17 March 1999: Deception Island BO-050-O (K. Smith) and BO-085-O (Felbeck) Dr. Smith's project was a time-series study of the water column and benthic community. Dr. Felbeck's team surveyed and mapped submerged fumeroles and searched for invertebrate macrofauna.

Cruise LMG99-3

21 March 1999 – 24 April 1999: Weddell Sea, King George Island, Palmer Station
Transport two TO-513-O members to Palmer Station for maintenance and
calibration on the ultraviolet-monitoring instruments. BO-036-O (Sidell) and
BO-037-O (Detrich) conducted fishing operations for ongoing studies at Palmer
Station. BO-300-O (Anderson) conducted dredging, coring, and trawling
activities from the vessel as well as collection of water-column samples.

Note: See Appendix III for complete list of scientific personnel for each I.D.
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Ocean and Climate

Peterson, Ray	S-260	Scripps Inst. of Oceanography
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Biology & Medical Research

Mopper, Ken (+4)	S-002	Washington State University
Neale, Patrick (+2)	S-010	Smithsonian Environmental Res. Center
Trivelpiece, Wayne (+3)	S-040	Montana State University
Karl, David (+9)	S-046	University of Hawaii
Smith, Kenneth (+9)	BO-050-O	University of California, San Diego
Felback, Horst (+3)	BO-085-O	University of California, San Diego
Sidell, Bruce (+4)	BO-036-O	University of Maine
Detrich, William (+5)	BO-037-O	Northeastern University

Geology & Geophysics

Dalziel, Ian	S-087	University of Texas
Wiens, Douglas(+3)	S-097	Washington University
Dorman, LeRoy(+4)	S-135	University of California, San Diego
Taylor, Douglas	S-097	Washington University

R/V YUZHMOREGEOLOGIYA

The R/V *Yuzhmorgeologiya* was chartered for the fourth consecutive year by the National Oceanic and Atmospheric Administration, National Marine Fisheries Service to support activities of the U.S. Antarctic Marine Living Resources (AMLR) field research program. Shipboard surveys were conducted on three legs in the AMLR study area between early January and late March 1999. A large- area survey was conducted on Leg I and again on Leg II; Leg III was dedicated to a bottom trawl survey. Two major water zones were observed during the surveys on Legs I and II: "Drake Passage water" (Water Zone I) and "Bransfield Strait water" (Water Zone IV). Water Zone I dominated the area northwest of Livingston and King George Islands, which included new AMLR stations. A prevailing southwest to northeast flow was observed across the AMLR study area, with an eddy-like feature northwest of Elephant Island.

This was the second full season of seabird research at Cape Shirreff. The breeding populations of chinstrap and gentoo penguins this season were determined to be 7581 chinstrap penguin pairs and 830 gentoo penguin pairs. This represents a slight change from the 1997/98 seas on when there were 7617 and 810 breeding pairs, respectively. Reproductive success of chinstrap penguins was higher and gentoo penguins lower in the 1998/99 season than in the previous season. Penniped studies at Cape Shirreff indicated that Antarctic fur seal pup production increased in 1998/99 over last year. Return rates for adult female fur seals and yearling pups appeared to indicate good over-winter survival. At Palmer Station, Adelie penguin breeding success in 1998/99 decreased, with 1.49 chicks creched per pair compared to 1.58 during the 1997/98 season. Of the 2082 broods censused in January 1999, 61.9% contained two chicks, which was almost no change from the 60.9% report in January 1998. Chick production totaled 5469 chicks this season, a 4.4% decrease relative to the 5722 chicks reported from these colonies in January and February 1998.

AMLR Scientific Personnel

Cruise Leader

Roger P. Hewitt

Southwest Fisheries Science Center

Leg I

Wesley A. Armstrong	Southwest Fisheries Science Center	Leg II
Christopher D. Jones	Southwest Fisheries Science Center	Leg III

Physical Oceanography

Anthony F. Amos	University of Texas at Austin	Leg II
Charles Rowe	University of Texas at Austin	Legs I, II
Andrea Wickham-Rowe	University of Texas at Austin	Leg I

Phytoplankton

Osmund Holm-Hansen	Scripps Institution of Oceanography	Leg I
Vicente E. Chacon Chade	Instituto de Fomento Pesquero	Leg II
Guillermo Aravena Cuevas	Escuela la Ciencias del mar	Leg I
Erwin Guzman	Univeridad Austral de Chile	Leg I
Christopher D. Hewes	Scripps Institution of Oceanography	Legs I, II
Susana B. Giglio Munoz	Escuela de Ciencias del mar	Leg II
Hardy R. Wellman Ruiz	Universidad Austral de Chile	Leg II

Bioacoustic Survey

Roger P. Hewitt	Southwest Fisheries Science Center	Leg I
Peter Kappes		Legs II, III
Jacqueline Popp		Legs I, II, III

Krill and Zooplankton Sampling

Valerie Loeb	Moss Landing Marine Laboratories	Legs I, II
Wesley A. Armstrong	Southwest Fisheries Science Center	Leg I
Richard Capitan		Leg II

Kim Dietrich		Legs I, II
Michael Force		Legs I, II
Nancy Gong	Moss Landing Marine Laboratories	Legs I, II
Adam Jenkins	Wayward Sailor Maritime	Legs I, II
Darci Lombard	Moss Landing Marine Laboratories	Legs I, II

Bottom Trawl Survey

Christopher D. Jones	Southwest Fisheries Science Center	Leg III
Kim Dietrich		Leg III
Peter Kappes		Leg III
Karl-Hermann Kock	Sea Fisheries Science Center	Leg III
Darci Lombard	Moss Landing Marine Laboratoies	Leg III
Jacqueline Popp		Leg III
David Ramm	CCAMLR	Leg III
Sunhild Wilhelms	Bundesamt fuer Seeschifffahrt und Hydrographie	Leg III

Pinniped Studies

Matthew R. Rutishauser	University of California at Santa Cruz	Leg I
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Cape Shirreff Personnel

Michael E. Goebel	Southwest Fisheries Science Center	25 Nov 98 – 26 Feb 99
Richard Capitan		25 Nov 98 – 10 Feb 99
Terence Carten		25 Nov 98 – 26 Feb 99

Daniel P. Costa	University of California at Santa Cruz	13 Jan 99 – 26 Feb 99
Rennie S. Holt	Southwest Fisheries Science Center	13-29 Jan 99 10-26 Feb 99
Jeremy T. Sterling	University of California at Santa Cruz	25 Nov 98 – 29 Jan 99
Wayne Z. Trivelpiece	Southwest Fisheries Science Center	29 Jan 99 – 26 Feb 99
Matthew R. Rutishauser	University of California at Santa Cruz	29 Jan 99 – 26 Feb 99
Seal Island Personnel		
Rennie S. Holt	Southwest Fisheries Science Center	30 Jan 99 – 09 Feb 99
Wesley A. Armstrong	Southwest Fisheries Science Center	30 Jan 99 – 08 Feb 99
Adam Jenkins	Wayward Sailor Maritime	30 Jan 99 – 08 Feb 99
Kim Dietrich		30 Jan 99 – 08 Feb 99

Palmer Station Personnel

William R. Fraser	Montana State University	29 Dec 98 – 06 Apr 99
Donna L. Patterson	Montana State University	29 Dec 98 – 06 Apr 99
Peter Duley	Montana State University	29 Sep 98 – 15 Feb 99
Matt Irinaga	Montana State University	29 Sep 98 – 15 Feb 99