DPP Polar Coordination and Information Section reorganized

To improve the ability of the Division of Polar Programs to respond to Presidential and Congressional mandates in the Arctic and Antarctic, the Polar Coordination and Information Section was reorganized in November 1986. The section is now composed of two groups, one focusing on arctic policy and information projects and the other on arctic policy.

Succeeding Joseph Bennett as head of the section is John B. Talmadge, who joined the division in 1985 to coordinate the Foundation’s activities under the Arctic Research and Policy Act of 1984. Anton Inderbitzen, who was DPP’s associate chief scientist, is head of the arctic staff. This group will be responsible for gathering, compiling, and analyzing information about U.S. and foreign activities in Antarctica, improving interagency and international coordination of antarctic programs, managing specimen and data collections, developing and defending the public’s interest in interagency and international forums, and administering U.S. laws and regulations in Antarctica. They also will continue to be responsible for the division’s arctic-related publications and an information program.

The arctic staff under the direction of Jerry Brown will lead government-wide coordination and communication activities with emphasis on implementing the arctic 5-year plan. They will focus on an arctic information network, international cooperation, U.S. arctic research logistics capabilities, and coordination of Greenland research. Dr. Brown came to DPP from the U.S. Army’s Cold Regions Research and Engineering Laboratory in 1985.

Currents, water quality, bottom sediments, and bathymetry in McMurdo Sound near McMurdo Station

At the request of ITT/Antarctic Services Inc., Raytheon Service Company performed a water quality study in McMurdo Sound in November and December 1982. We were evaluating potential locations for the seawater intake for a replacement desalination unit, which was installed at McMurdo Station. In this article we present data on currents, water quality, bottom sediments, and bathymetry, which may be of interest to researchers conducting projects in McMurdo Sound adjacent to the station.

Figure 1 shows where we collected samples and took measurements. We monitored currents from 24 November to 23 December 1982 at five locations identified by depth. We deployed Endecor Model 105 current meters at mid-depth on moorings suspended from tripods erected over holes in the sea ice. Bottom pressure was monitored at the 14-meter station with an Aanderaa WLR-5 gage. During this period, water samples were collected with 2 liter Kemmerer bottles, and bottom sediments were sampled with a 0.003 cubic-meter Ponar grab at the stations shown in figure 1. Water depth was measured with an Elac LAZ 100 depth sounder through holes drilled in the ice at 55 locations distributed throughout the study area.

The diurnal tide in McMurdo Sound strongly influences currents. The tidal range, which averaged 0.8 meters during the 29 days that we recorded, exhibited a marked variation in range over a 13-day cycle. The spring range was 1.1 to 1.5 meters, whereas the neap range was 0.2 to 0.7 meters. The results, shown in figure 2, are similar to previous tide measurements taken in this area by Mac-Donald and Burrows (1959) and by Heath (1971). Their analyses indicate that the range variations result from interaction of the K1 (lunisolar) and O1 (principal lunar) declinational components which have periods of 23.93 hours and 26.87 hours, respectively, and cause a 360° phase shift every 13 days.

Currents recorded during the study exhibited two speed maxima every 25 hours, one peak corresponding to tidal flood and the other to tidal ebb. The tide floods in a southeasterly direction and ebbs toward the west and northwest. Depending on the location, either the flood or ebb predominated in terms of flow speed and duration. Maximum current speeds ranged from 15 to 30 centimeters

Two men die after fall into crevasse

Two employees of ITT/Antarctic Services, Inc. (ITT/ANS), the National Science Foundation antarctic support contractor, were killed on 23 November 1986 while hiking about 2 miles northeast of McMurdo Station. Along with another ITT/ANS employee, Thomas J. Powell, the two men, Matthew M. Kaz, 25, of San Carlos, California, and John E. Smith, 44, of Portland, Oregon, were returning to McMurdo Station from Castle Rock, an outcrop about 3 miles from the station. They had deviated from the flagged route to go to nearby Scott Base, the New Zealand station on Ross Island.

The two victims fell approximately 70 feet into the crevasse. The third man, Thomas Powell, went to McMurdo Station to get help, and a rescue team was dispatched to the site immediately. The men were extracted from the crevasse but were unconscious when they reached the surface. They were taken to the medical facility at McMurdo Station where they were pronounced dead. Their bodies were flown to Christchurch, New Zealand, and onward to their hometowns in the United States. Their deaths have prompted the National Science Foundation to establish a special committee to review safety procedures in Antarctica.

These two fatalities are the first to occur in the U.S. Antarctic Program since February 1982, when a Navy enlisted man was killed while assisting in unloading USNS Southern Cross, the annual supply ship. Since 1946, 49 Americans (including these two men) have died in Antarctica while participating in the U.S. Antarctic Program.