

The Ellsworth Land Survey

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During the 1966–1967 summer season, the United States began a multidisciplinary, helicopter-supported scientific survey of coastal West Antarctica. The program began near the Ross Ice Shelf in western Marie Byrd Land, and the original plan was to work eastward that season through a series of camps to the Eights Coast. The expected rate of progress was not obtained, however, because of generally poor weather and the limited number of flying days. During the first season, the survey reached eastward to the Ruppert Coast and was conducted from a single camp in the Edsel Ford Ranges. In 1967–1968, two permanent camps and one tent camp were occupied as work progressed eastward to Mount Murphy. During the 1968–1969 season, the survey was completed with studies in the Hudson Mountains, the islands of the Amundsen Sea, Thurston Island, the Jones Mountains, and the Eights Coast.

The scientific party ranged from 9 to 13 during the 1968–1969 season. Three geologists from Texas Technological College, who were responsible for the geological program early in the summer, were relieved by three geologists from the University of Wisconsin later in the season. Botanical studies were conducted by a two-man party from the Ohio State University. One worker from Washington University (St. Louis) collected rock specimens for paleomagnetic investigations. Exchange scientists Boris Lopatin from the Soviet Union and Fernando Munizaga from Chile carried out geological studies in the first part of the season. Four topographic engineers from the U.S. Geological Survey established ground control for cartographic purposes. These scientists were supported in the field by 13 officers and men of the U.S. Army Aviation Detachment (Antarctica Support), 3 U.S. Navy men, and a USARP field assistant.

The Ellsworth Land Survey was conducted from two semipermanent camps, each consisting of four Jamesway buildings. Camp 1 was located on the snow dome of the King Peninsula. Camp 2 was established about 5 miles northwest of the Jones Mountains, near the site of former Camp Minnesota. A fuel cache was laid by a C-130 near eastern Thurston Island so that that area could be worked from either camp.

During the first week of November, Camp 1 was erected and the scientific personnel arrived. Bad weather prevented the start of work until November 15, allowing only eight days in all for helicopter flying that month and December. Nevertheless, the efficiency of the helicopters allowed completion of the necessary work from this camp, and some of the geologists returned to McMurdo December 16. On the same day, four Navy men were flown to the Jones Mountains to begin construction of Camp 2.

The relieving scientific party made three unsuccessful flights to Camp 2 before weather conditions permitted landing on January 5. Camp equipment was transferred on five C-130 flights, and Camp 1 was closed January 10 when the three helicopters flew to Camp 2. Helicopter operations in the Jones Mountains began January 11, and the month proved to be a favorable one for working. Scientific work by either helicopter or motor toboggan was possible on two days out of three, although the helicopters and 14 men were pinned down in Camp 1 January 13–17 after being caught in a sudden storm while working on Thurston Island. Surveys of the Jones Mountains, Thurston, Dustin, and McNamara Islands, and Lepley Nunatak were completed from this base, and Camp 2 was closed on January 30.

The discovery of the rock shelter and camp built on Lepley Nunatak by a party from USS *Glacier* for survival during a storm in February 1961 is of historical interest. A cairn and survey post constructed by the same expedition were also observed on McNamara Island. No trace was seen of Camp Minnesota, established in the Jones Mountains in December 1960.

The planned scientific survey of coastal West Antarctica has now been completed from the Rockefeller Mountains of Marie Byrd Land to the Eights Coast of Ellsworth Land. Preliminary results of the field program are reported in the following pages.

Geology of the King Peninsula, Canisteo Peninsula, and Hudson Mountains Areas, Ellsworth Land, Antarctica

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Geologic investigations were the responsibility of a three-man team from Texas Technological College: Craig M. White, basement geologist from the University of Wisconsin; Fernando Munizaga, geochronolo-