METEOROLOGICAL OBSERVATIONS AT ADVANCE CAMP IN EAST QUEEN MAUD LAND, ANTARCTICA (ABSTRACT)

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Meteorological observations are made at Advance Camp (74°12′S, 34°59′E, 3200 m above sea level) in East Queen Maud Land, Antarctica, from 7 February 1985 to 3 January 1986. The observations included those by a long-term unmanned weather recoder which operated from 1 March to 15 October 1985, with some interruption due to the extremely low temperature below −60°C. The total duration of data amounted to 10 months for the air temperature and 8 months for the wind speed and direction.

The annual mean temperature and wind speed are −43.6°C and 8.2 m/s, respectively, which are estimated from the temperature difference from and the wind speed ratio to those at Mizuho Station. The wind direction constancy (W. SCHWERDTFEGER: Weather and Climate of the Antarctic, Amsterdam, Elsevier, 261 p., 1984) is as high as 0.93 perhaps because of the steep slope (2.7×10^{-3}) in spite of the high altitude. We conclude that this new station is located in the Cold Katabatic region (P. C. DALRYMPLE: Antarctic Meteorology, ed. by M. J. RUBIN, 195, 1966 (Antarct. Res. Ser., **9**)).

Concentrated observations including low-level soundings with radiosondes and pilot balloons are carried out in November and December. Wind spirals up to 2000 m above the ice surface indicated that the wind in the free atmosphere influences strongly the surface wind and that the role of surface inversion is rather small. The surface wind system in the summer seems to be strongly affected by the synoptic pressure systems.

The importance of diurnal activities is also made clear. The height of a diurnal mixing layer reaches about 400 m and the strength of a blizzard is observed to be amplified on the plateau perhaps because of the instability of the surface layer.

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DETERMINATION OF SEA ICE CONCENTRATION FROM AVHRR VISIBLE AND NEAR INFRARED IMAGERY (ABSTRACT)

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Sea ice concentrations are determined from the visible and near infrared albedo of the AVHRR