

RELATIONSHIP BETWEEN POSITION OF LONG WAVE UPPER
AIR WESTERLY TROUGH AND WEATHER CONDITION OF
GEOLOGICAL SURVEY AREA IN THE ANTARCTIC OCEAN
(ABSTRACT)

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Ocean bottom basic surveys have been conducted 12 times in the Antarctic Ocean by HAKUREI-MARU since 1980-81. There have been considerable weather condition differences between good weather years and bad years as follows. In the best year, the survey team had 80.3% good condition time (wind force 4 or less) during the survey, but only 37.6% in the worst year. These weather condition differences are mostly due to the frequent appearance of developed cyclones is caused by the location of the westerly long wave trough in the upper air general circulation. When the westerly long wave trough was located just west of the survey area, cyclones from middle latitude developed as they moved southward along the east side of the long wave trough to the survey area. Recently we can obtain good analyzed upper air charts for the whole southern hemisphere, and it has become possible to predict the positions of the upper air long wave trough and ridge several weeks ahead. This leads to the possibility of predicting the long range trend of weather conditions in the Antarctic survey area.

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