

## Overview of 50 years meteorological observation at Syowa Station

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Japan started Antarctic Research Expedition in conjunction with the International Geophysical Year (IGY) started in 1957, the first surface meteorological observation at Syowa Station began in March 1, 1957. Elements observed at the time were, temperature, humidity, wind, weather, clouds, atmospheric phenomena such as snow, and telegram had been created and reported to the World Meteorological Centre, Melbourne via Mawson station, four times a day, every six hours. New elements such as global solar radiation, sunshine duration, aerological observations, total ozone observations using Dobson spectrophotometer added later, had enriched the contents of observation in the past 50 years.

Meteorological observations at Syowa station have been implemented from the beginning in the framework of the World Meteorological Organization (WMO) activities to participate in cooperation with other countries and have been promoting the WMO World Weather Watch (WWW) programme, the World Climate Programme (WCP) and the Global Atmosphere Watch (GAW) programme as one of a very small number of observation points in the Antarctic (11 aerological observation points) and providing realtime data. The observations also contributed to the Baseline Surface Radiation Network (BSRN), as one of the project of the Global Energy and Water Cycle Experiment (GEWEX), and data evaluation (validation) of earth observation satellites .

One of the examples as a contribution of long term observation at Syowa station is a remarkable contribution in discovery of the Antarctic ozone hole. The data which is observed and sent every day contribute to an understanding of the daily weather phenomenon and as basic data in the future for understanding global warming and a climate change through an advantage of the Antarctic area to be distant enough from human activities.