

南極・昭和基地における地震モニタリング観測
- 遠地地震検知率の長期変動と表層環境 -

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**Seismic monitoring observation at Syowa Station, Antarctica
- Long-term detectability of teleseismic events and surface environmental
variations -**

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Seismic phase identification procedures for teleseismic events at Syowa Station (69.0°S, 39.6°E; SYO), East Antarctica have been carried out since 1967 after the International Geophysical Year (IGY 1957-1958). After development of INTELSAT telecommunication link, digital waveform data have been transmitted to the National Institute of Polar Research (NIPR) for the utilization of seismic phase identification. Arrival times of teleseismic phases, P, PKP, PP, S, SKS have been detected manually and reported to the International Seismological Centre (ISC), and published as the “JARE Data Reports” for every year. Variations in teleseismic detectability for longer terms more than half century are involved in meteorological environment, including sea-ice spreading area around the Antarctic. Recorded teleseismic and local seismic signals have sufficient quality for many research purpose regarding dynamics and structure of the Earth. The continuously recorded data are applied not only to lithospheric studies but also to the Earth’s deep interiors, as significant contribution to Federation of Digital Seismological Networks (FDSN) in high southern latitude. The data-management issues in the Antarctic are strongly connected with the Standing Committee on Antarctic Data Management (SCADM) under the Scientific Committee on Antarctic Research (SCAR) of ICSU, as well as the Antarctic Master Directory (AMD) in the Global Change Master Directory (GCMD) of NASA. In the broader context of global seismic monitoring, together with seismic networks of FDSN, additional permanent stations in the Antarctic could also contribute to both the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) and the Pan-Antarctic Observations System (PAntOS) under SCAR.