

Foreword

The Advanced Microwave Scanning Radiometer (AMSR) is a multi-frequency, dual-polarized microwave radiometer that detects microwave emissions from the Earth's surface and atmosphere. Various geophysical parameters, particularly those related to water (H₂O), can be estimated from AMSR data. In addition to the proven parameters such as water vapor, precipitation, and sea surface wind speed, novel geophysical parameters, including sea surface temperature and soil moisture, are expected to be retrieved by using new frequency channels. The largest ever microwave radiometer antenna enables us to perform continuous global observation with high spatial resolution. Long-term record of AMSR measurements will play an important role in climate change monitoring as well as in providing indispensable information for understanding the Earth's climate system, including water and energy circulation. Near real-time products will be used for investigating satellite data assimilation into weather forecasting models and will contribute to improving forecast accuracy.

AMSR is scheduled to be launched on board the Advanced Earth Observing Satellite-II (ADEOS-II) in 2002. ADEOS-II is an integrated observing platform with multiple sensors covering the spectrum from visible to microwave frequencies. In addition to AMSR, a combination of these sensors will provide a means of examining the Earth's phenomena from various aspects. AMSR-E on the NASA EOS Aqua is an enhanced model of the AMSR on ADEOS-II. AMSR-E also will be launched in 2002. I hope that these papers will be helpful to utilize the AMSR and AMSR-E data of which will be available soon.

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