

JAXA の地球観測計画 JAXA Earth Observation Program

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To understand and analyze global environmental conditions is an essential element of guaranteeing our safety and quality of life. Among other things, we need to be able to spot environmental disasters in a timely manner, and to monitor and manage the Earth's natural resources. For this purpose, Japan has launched a number of Earth Observation remote sensing satellites since 1987. Data collected by these satellites allow us to understand the processes and interactions among land masses, oceans, and atmosphere. We use these data in many ways for the benefit of our everyday lives: weather forecasts, disaster monitoring, exploitation of natural resources, and environmental protection of forestry and fishery. JAXA is committed to promoting the observation of Earth from satellites. The Earth Observation System has been established with the aim of improving the accuracy of monitoring and forecasting global environmental changes. JAXA's Earth Observation System is responsible for developing Earth Observation satellites; collecting observation data via ground stations; and the recording, storage and use of the data in research.

At the 2002 World Summit on Sustainable Development, the GEO (Group on Earth Observation) was proposed and established by the G8 (Group of Eight) leading industrialized countries. The GEO is constructing a Global Earth Observation System of Systems (GEOSS) on the basis of a 10-Year Implementation Plan for the period of 2005 to 2015. The Plan defines a vision statement for GEOSS, its purpose, scope, expected benefits, and the nine "Societal Benefit Areas" of disasters, health, energy, climate, water, weather, ecosystems, agriculture, and biodiversity. Japan Aerospace Exploration Agency's (JAXA) earth observation satellite program is expected to develop GEOSS, particularly the areas of climate, water, and disaster. This paper describes the outline of JAXA's earth observation program including operating satellites [Greenhouse gas Observing SATellite (GOSAT), Tropical Rainfall Measurement Mission (TRMM), and Global Change Observation Mission-Water 1 (GCOM-W1)] as well as new generation satellites [Advanced Land Observing Satellite (ALOS)- 2/3, GCOM-C, Global Precipitation Measurement (GPM), Earth Cloud, Aerosol, and Radiation Explorer (EarthCARE) and GOSAT-2].

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