

## Japanese Global Change Research and its Spatial Data Support Facilities

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The Earth has been evolving slowly over the past 4.6 billion years. Nevertheless, recently, human activities have begun to affect our planet significantly. To protect the Earth's environment and ecosystems and to help human societies to develop in harmony with nature, it is essential to understand the mechanisms of the global environment and to observe and predict global change. In Japan, JAMSTEC (Japan Agency for Marine-Earth Science and Technology) is a well-known research agency for global change research field. Currently JAMSTEC has a research institute "RIGC (Research Institute for Global Change)" in its house. RIGC deals with the science of environmental change, and aims to monitor the oceans, air, land, and ecosystems. RIGC also cooperates with institutions both at home and abroad, e.g. the Global Earth Observation System of Systems (GEOSS), and the United Nations Intergovernmental Panel on Climate Change (IPCC). RIGC contributes to decision-making on climate change solutions and the enhancement of the earth's sustainability on a global and human scale, while securing Japan's presence in the arena of environmental change. On the other hand, Japan undertook to locate the head office of The Asia-Pacific Network for Global Change Research (APN) by assignment of former Environment Agency (current Ministry of Environment), and has been supporting concrete activities with collaboration among consortium countries and international agencies. APN is a network of 22 member country governments that promotes global change research in the region, increases developing country involvement in that research, and strengthens interactions between the science community and policy-makers. As data support facilities, Japan has an enriched public-common dataset. For instance, most of geographical data is organized by the National Land Agency, e.g. Digital Map 25000 (Spatial Data Framework). An international project, "Global Map" series, was initiated by Geographical Survey Institute of Japan. For the data related to environment, "GIS dataset on the Natural Environment, Japan" is available by Nature Conservation Bureau in Ministry of the Environment. Most recently, JAXA developed "Global Change Observation Mission 1st-Water (GCOM-W1), named SHIZUKU." The H-IIA Launch Vehicle No. 21 (H-IIA F21) with "SHIZUKU" onboard will be launched on May 18, 2012.

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Topics: Data and Information for a Planet Under Pressure