

## Collaboration beyond the difference between science and government

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Government and public take actions with decisions and judgments based on scientific knowledge. Science community widens and deepens human knowledge with continual research efforts. Therefore, any scientific conclusion, which is once regarded as true, can be denied by later researches. This is the origin of disagreement between science, which has essential uncertainties, and government and society, which require definite decisions. They need to acknowledge such differences that exist between science and government to improve the society.

In the volcano eruption prediction in Japan, the relationship between science community and government-public functions well. The reason is "reasonable distance" between them. Japan Meteorological Agency (JMA) is responsible for issuing volcano information for evacuations. The information is justified in the discussion of the Coordinating Committee for the Prediction of Volcanic Eruption (CCPVE), where both scientists, geologists to geophysicists, and government personnel participate. Scientists often devoted themselves to the disaster reduction plan in local society near volcanoes, also contributing establishment of reasonable-distance between scientists and local government-public.

The Headquarters of Earthquake Research Promotion (HERP) is responsible for making use of the scientific knowledge of earthquakes in disaster reduction. In contrast to the volcano eruption prediction, it is rather difficult to keep reasonable distance between scientists and government-public for the following reason. The community of earthquake science is much bigger than that of volcano eruption prediction. Government personnel are changed in two years. Most of earthquake scientists live in Mega cities, and many prefectures have no earthquake scientists to ask for advices.

Volcanic Alert Levels were established following the requirement by the public. The level is designed so that each level corresponds to a definite evaluation action of the residents. Although, this is more than that volcano science can provide, the level functions so far with a conservative operations. For example, in the 2011 eruption of Kirishima nobody was insured or killed in spite of no precursors are observed. The alert level was kept level 2 after the small eruption of the previous year.

HERP issues long-term probability of earthquake occurrence in Japan, which was a strong requirement of the public after the 1995 Kobe earthquake. Characteristic earthquake model is used for the evaluation, because this the only usable model for the calculation of long-term probability of earthquake. To meet the responsibility for the public the government have to evaluate earthquake probability for all of major active faults and plate boundaries in Japan territory, in spite of large uncertainty. In the evaluation the off-Tohoku area are divided into several regions, each of which was assigned its own characteristic earthquake. Interaction of asperities, which represents the region division, was not taken into account. The off the coast of Tohoku earthquake is really a result of such interaction. After the earthquake the "Off-the-coast-of-Tohoku-type" earthquake are introduced in the evaluation process, but still based on the characteristic earthquake hypothesis. The disaster reduction plan based on the long-term evaluation depends on the polity of the Cabinet Office or local governments.

The above examples are the results of interaction among social demands, governmental policy and state-of-the art of scientific knowledge. Though we have to admit that they are more than the present achievement of volcano and earthquake science, it is inevitable to issue some information for practical disaster reduction. We need to make continual efforts to improve the disaster reduction measure through effective communication between governmental personnel, public and scientists.

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U10-02

Room:Main Hall

Time:May 1 09:45-10:15

## Space Policy in Japan after new decision system

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In 2012, decision system on space policy in Japan changed. Since then, new space policy has been decided under the supervision of national committee on space policy. In this talk I will introduce the structure of this new system and vision of space exploration of our country in the next decade.

U10-03

Room:Main Hall

Time:May 1 10:15-10:45

## The relationship between Earth and Planetary Science and politics from the stand point of oceanography

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Ocean political issue is one of the most critical issues in recent Japan including continental shelf, resources, fishing, conservation of living resources, and total environment of the Earth. Science has been required to give contribution to policy making, which means that to keep balance is important for us. I will discuss the situation of science in recent Japanese ocean politics and how we should go.

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U10-04

Room:Main Hall

Time:May 1 11:00-11:30

## Transdisciplinary approach for global environment and Future Earth

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The global environmental studies are now required to make progress toward global sustainability and futurability of the earth system. RIHN is now stepping forward to transdisciplinary approach for tackling these issues. This approach involves strong collaboration with the international Future Earth initiative. We also emphasize the importance of Asia-Pacific region as a complex tectonic-environmental hot spot region on these issues.

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U10-05

Room:Main Hall

Time:May 1 11:30-12:00

## Relationship between scientists and government - public

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How scientists should be saying to the government and society? Based on the norms of scientists, I will discuss the social role of scientists.

Keywords: scientists, government, public

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U10-06

Room:Main Hall

Time:May 1 12:00-12:30

## Earth science, community, and government

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Earth and planetary science stands on a special position between natural science and the community and government, which in turn means an importance of our community from both sides. We have encountered various difficulties in March 2011, when our words gave a great influence on community and we had frustration how we presented scientific results that might have caused social confusion. We will discuss how Earth and planetary science keep good distances from social community and government and how we should play our role.

Keywords: earth and planetary science, community, government