

MGI016-09

Room: 201B

Time: May 27 15:40-15:50

## Cooperation among large-scale projects on climate change

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The 4th Assessment Report (AR4) of Intergovernmental Panel on Climate Change (IPCC) published in 2007 is a significant milestone for climate change projection. Results in AR4 project warming of ~3 degrees under a scenario where carbon dioxide concentration becomes 2.5 times higher than today at the end of this century. Projection range is 1.1-6.4 degrees including other scenarios. AR4 contains a statement that it is very likely that human activities caused the warming in the second half of the 20th century, based on comprehensive analysis on observed and simulated data. People now share the view that the role of science related to climate change will shift from providing its evidence to obtaining insights that could contribute to establish adaptation/mitigation policies. Several national projects on global environment have started around the year of AR4 publication:

- Innovative Program of Climate Change Projection for the 21st Century (KAKUSHIN),
- Integrated Research on Climate Change Scenarios to Increase Public Awareness and Contribute to the Policy Process (S-5),
- Comprehensive Assessment of Climate Change Impacts to Determine the Dangerous Level of Global Warming and Appropriate Stabilization Target of Atmospheric GHG Concentration (S-4), and
- Data Integration and Analysis System (DIAS).

KAKUSHIN focuses on model development while S-4/5 on impact assessment, both of which address the above mentioned shift in emphasis. DIAS aims at information dissemination through integration and analysis of observed and simulated data regarding global environment. To facilitate collaboration among the listed projects, a framework called "Climate Scenario Task Group" has been established. Although data from global warming projection are not observed data, anticipation is that more scientists engaged in data analysis on global environment will utilize simulation results to assess the impact of climate change. In the presentation, these projects and frameworks are outlined with emphasis on collaborations to push forward climate projection research confronting a turning point.

Keywords: global warming, impact assessment, projection data, cooperation