

## Future of the Earth System Science based on High-end computing capability

# Akimasa Sumi[1]

[1] Center for Climate System Research Univ. of Tokyo

In the Earth System Science, we cannot conduct an experiment in a fully controlled environment, neither we cannot obtain all data which describe the state of the Earth. On the other hand, the Earth is a system, where sub-systems are interacting in a complicated manner, and even for understanding a sub system, we have to pay attention to the whole behavior of the Earth system.

Promising way for advancing our knowledge about the Earth is a computation. In the past, we simplified problems to obtain a solution, but now we can get a solution in a realistic situation.

The Earth Simulator, which became available in March,2002, has provided us 1000 times faster capability than the present computer. By using this powerful computing capability, a lot of challenges in the Earth Science have been conducted by many researchers. Their new results will be presented in this session.