

## Continental-scale interaction between vegetation and climate

# Tetsuzo Yasunari[1]

[1] HyArc, Nagoya Univ.

<http://mausam.hyarc.nagoya-u.ac.jp/>

To fully understand the earth system for solving the current global environmental issues, it is essential to establish and promote the synthetic science of the Earth-Life Interactive System, where the atmosphere, the hydrosphere, the geosphere and the biosphere interact each other. James Lovelock, a British environmental scientist proposed an idea of Gaia as the Earth-Life interactive system, emphasizing that the earth environment is controlled actively by the biosphere. However, to what extent and/or how the real earth system is Gaia still remains a big issue unresolved. This new virtual institute of SELIS aims to deeply understand the earth system, through solving this fundamental issue, and to propose a new perspective of our planet earth on which all the living creatures depend. The current earth environmental studies have been forwarded independently by physics and chemistry based earth sciences, and by ecology and physiology based biological sciences. However, there has been, so far, no framework for promoting studies on The Earth-Life Interactive System synthetically by integrating these two independent field of sciences. Our urgent issues to be tackled are, therefore, to break down the status quo, and to establish a new framework for research and education for a synthetic understanding of the earth environment system through close collaboration of the earth and biological sciences. Fortunately our university has already achieved some important accomplishment related to SELIS (e.g., on the climate-ecosystem interactions) through the 21st COE program, and has established Study Consortium for Earth-Life Interactive System (SELIS) to further promote this new science.