Present and Future of Earth and Planetary System Science

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Earth system science considers the Earth as a system composed of multiple subsystems, and focuses on the interactions among them. It was proposed by NASA in 1988, and has been adopted and developed in the universities in many countries including Japan. It is, however, mainly applied to the issues on climate change or the Earth's surface environment which is composed of atmosphere, hydrosphere, cryosphere, and biosphere. We have to make advance in this field to include interactions of the Earth's interiors and magnetosphere to address the large-scale and/or long-term phenomena arising on Earth and other planets.