

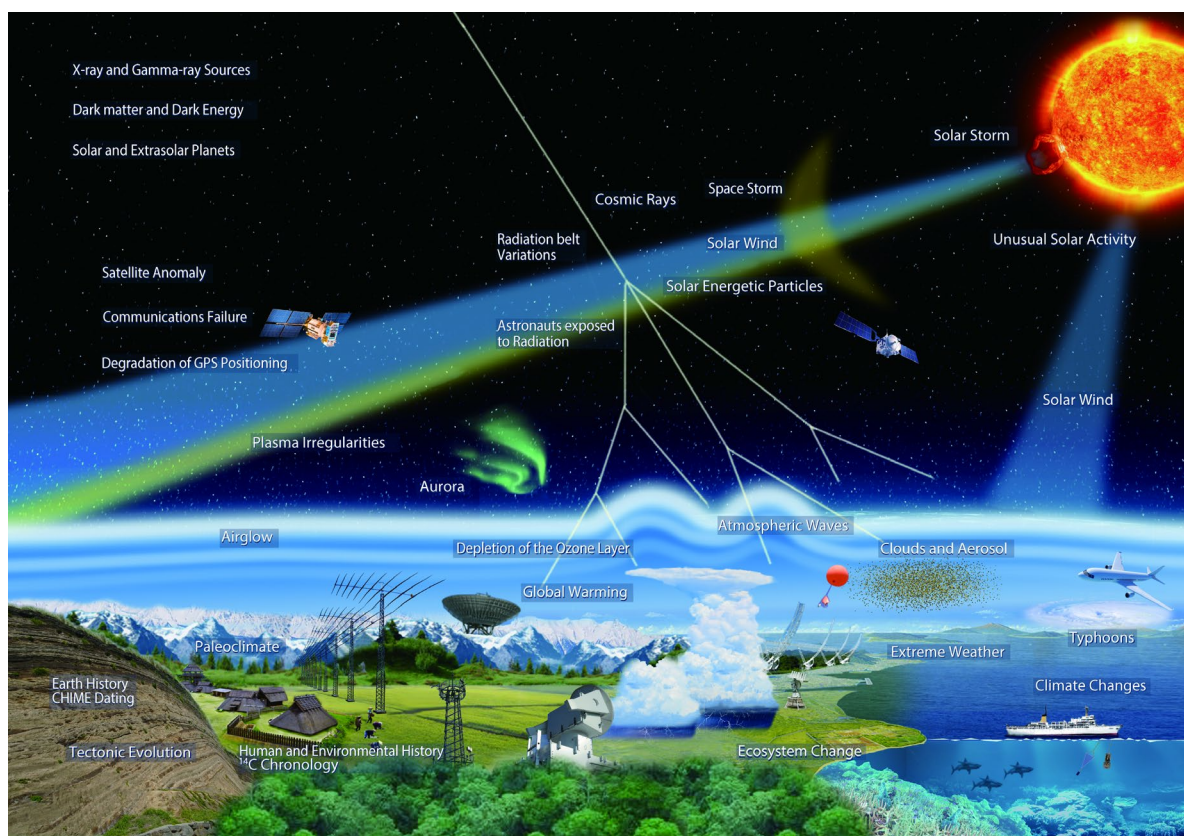
8. Research Topics

The mission of the ISEE is to comprehend the mechanisms and interactions of diverse processes occurring in the integrated space–Sun–Earth system to deal with global environmental problems and contribute to human society in the space age. Diverse research topics have been studied under seven research Divisions for Integrated Studies, Cosmic Ray Research, Heliospheric Research, Ionospheric and Magnetospheric Research, Meteorological and Atmospheric Research, Land–Ocean Ecosystem Research, and Chronological Research. Additionally, to develop new interdisciplinary research, the Institute will perform the following four interdisciplinary research projects in 2022 based on proposals from faculty members using the director’s Leadership Funds:

- 1) Energetic Particle Chain -Effects on the middle/lower atmosphere from energetic particle precipitations-
- 2) Direct Search for Dark Matter with Paleo-detector
- 3) Data Rescues of the Analog Observational Records for the Past Solar-Terrestrial Environment
- 4) Changes in Surface Temperature at Dome-Fuji in East Antarctica from the Mid-Twentieth Century and the Impact of Solar Activity

The seven research divisions are introduced in Section 8.1. The Research Divisions and Office for the Development of Interdisciplinary Research Strategy and its interdisciplinary research projects are introduced in Section 8.3. Interdisciplinary Research.

The ISEE also has three research centers that contribute to the national and international research development of the relevant disciplines in cooperation with the research divisions. The Center for International Collaborative Research (CICR) conducts extensive observations using four domestic observatories (Moshiri, Rikubetsu, Fuji, and Kagoshima) and a global observation network to enhance collaboration and joint research between domestic and international researchers and institutions. The Center for Integrated Data Science (CIDAS) is developing infrastructure and research for intensive studies of the space–Sun–Earth system through the analysis of big data and advanced computer simulations. The Center for Orbital and Suborbital Observation (COSO) performs planning and technological research using orbital and suborbital observation vehicles, such as aircraft, balloons, rockets, and satellites, with domestic and international networks. More information on these Research Centers can be found in “8.2 Research Centers”



Research Subjects at the ISEE