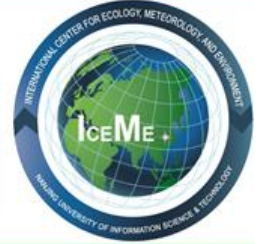




International Center for Ecology, Meteorology, and Environment (IceMe)



The Center

The IceMe was established in January, 2013 on the main campus of Nanjing University of Information Science and Technology (NUIST). The core members of the Center are scientists from the United States and China with complementary research expertise and interests in cross-discipline research on coupled human and natural (CHN) systems at multiple scales. The Advisory Committee consists of world-renowned scientists in the relevant fields to direct IceMe's research and education. Collaborative partnership is continuously sought and welcome.

The Center is built as a cross-college institution, with a vision of conducting cutting-edge, interdisciplinary research and education in China but with a strong interest in global change ecology. The Center maintains a large body of graduate students and postdoctoral research associates through current and future projects.

Why this Center?

To sustain the global, regional, and local economic and social development, the current trend of large-scale ecological and environmental deteriorations must be addressed from both natural and human perspectives. As a consequence of the global change, such as climate change, urbanization, population increases, and volatile economics, a key challenge for the 21st century is that the world is experiencing more frequent extremes of climate, water shortages, air, soil and water pollution, biodiversity losses, food security, lack of energy or exploration of new and renewable energy, socioeconomic and institutional instability, etc. The impacts of these changes on CHN system in China will be particularly severe due to the large population, energy consumption, unique policy-making system, and rapidly economic development. Sound adaptation and mitigation strategies for policy makers in natural resource, environment, and societal management to the above changes must have a science basis. Integrative investigations of the CHN systems from ecology, meteorology, and environmental sciences, as well as socioeconomic and resource management will provide us with promising foundations and approaches to address the above challenges.

Mission

The mission of the IceMe is to advance our knowledge and understanding of the ecological, meteorological, and environmental processes in order to predict the changes of major CHN systems in China due to global changes in climate, natural and human disturbances, energy uses, socioeconomic structure, and institution. We aim at providing sound adaptation and mitigation options and recommendations for policymakers in managing natural resources, the environment, and societies at multiple temporal and spatial scales.

Goals

- Establish a world-class interdisciplinary research center on the consequences of global change on CHN systems at multiple spatial and temporal scales by integrating ecological, meteorological, and environmental studies within the Center.
- Develop networks and alliances at international- and national scales to promote collaborations to advance global change science.
- Educate students and junior scientists by providing a research platform, an education hub, and a team of diverse expertise where interdisciplinary, cross-academic activities can be freely conducted so that next-generation leaders will emerge from IceMe.

Research Foci

- Global change (climate, social, demographic, economic, institutional, policy aspects), and interactions and feedbacks between the human and natural systems.
- Ecosystem carbon, water, and nutrient cycling.
- Carbon sequestration and the regulatory mechanisms of major terrestrial ecosystems.
- Eco-hydrology and water resource supply and demand modeling.
- Land use and land cover change, drivers, and feedbacks to the climate system.
- The impacts of urbanization and climate change on urban meteorology, people, landscape, ecosystems, and the environment.
- Change in agricultural and forestry conditions as well as their physical environment (meteorology).
- Sustainable understanding and management of macro-systems under various globe changes scenarios.