

**INTEGRATED RESEARCH SYSTEM FOR
SUSTAINABILITY SCIENCE (IR3S),
UNIVERSITY OF TOKYO**

Created in 2005 by the Committee for Presidential Initiatives as the first interdisciplinary research project at the University of Tokyo, IR3S was a global pioneer in creating the field of sustainability science and has continually worked toward building a global foundation for its study. By integrating the study of universal challenges shared around the world with unique local and regional challenges, IR3S seeks to contribute to the resolution of both global and local problems. The results of its efforts have already led to the proposal of a strategic vision for building a sustainable society by identifying and integrating elements that lead to a low-carbon society, a resource-circulating society, and a society in harmony with nature.

**INSTITUTE FOR
SUSTAINABILITY AND PEACE,
UNITED NATIONS UNIVERSITY (UNU-ISP)**

The UNU Institute for Sustainability and Peace (UNU-ISP) seeks to achieve and promote a better understanding of three of the most pressing issues on the UN agenda: global change, peace and security, and development. UNU-ISP takes an innovative approach to sustainability, bridging these cross-cutting themes through research, educational and collaborative initiatives with the aim of solving current problems and anticipating future challenges.

**UNIVERSITY OF INTERNATIONAL
COOPERATION (UCI), Costa Rica**

The University for International Cooperation is an accredited private university in Costa Rica by the Higher Education Council of Private Universities by Article 238-94 second session, on April 21 of 1994.

It was created in response to the need for trained professionals with inter and multidisciplinary knowledge and skills, tools and values to lead change processes required under the concepts of sustainability and globalization.

UCI has a nationally and internationally renowned both for his academic career as technical assistance to countries; continually receive requests for assistance from governments, state institutions, universities, organizations and private corporations, NGOs and individuals. UCI is always innovating in their work areas, leading processes in Latin America.

Schedule

Hands-on Training	Hands-on Training	Field Trip	Lecture	Lecture	Lecture
in San Jose 13 Feb	in San Jose 14 Feb	15 Feb	in La Fortuna 16 Feb	in La Fortuna 17 Feb	in La Fortuna 18 Feb

Contact:
Integrated Research System for Sustainability Science (IR3S)
The University of Tokyo
7-3-1, Hongo, Bunkyo-ku, Tokyo, 113-8654, JAPAN



**IR3S & UNU
SUSTAINABILITY
INITIATIVE**



AN INTERNATIONAL SEMINAR
**SUSTAINABILITY
IN ACTION**
ADAPTING TO GLOBAL CHANGE USING
ECOSYSTEM SERVICES

13-19 February 2013

Main Organizers:



Co-Organizers:

Sapienza University of Rome
Chalmers University of Technology
Swiss Federal Institute of Technology Zurich
Arizona State University

Sponsors:

JSPS Core-to-Core Program
Integrated Research System for Sustainability Science (IR3S)

International Seminar in Costa Rica

An international seminar, jointly organized by the University of Tokyo, United Nations University and University of International Cooperation (UCI), will be held from 13th to 18th February 2013 in Costa Rica, a country that is well known for having some of the world's richest biodiversity. This 1-week programme consists of two parts. First, thematic lectures will be given by the UCI Faculty which will cover various issues with multidisciplinary approaches, including global changes, climate change in Mesoamerica, ecological economics, natural resource governance, and local organization for conservation and development. The second part is hands-on training where participants will learn methodologies in climate change projection downscaling as well as mapping ecosystem services for the future changes using GIS and remote sensing software. Afterwards, participants will be given opportunities to apply their theoretical and practical learning in assessing current real world problems through small individual/group projects.



Lectures on Sustainability

Global change

Global change is happening at all levels and climate change is the most important consequence, though not the only one. Global trends are discussed including the impact (or no impact) of the international negotiations. Current consumption driven development will not curb the change in GHG emissions and thus we must prepare for adaptation strategies. Adaptation strategies require knowledge management, both scientific and local or community/indigenous knowledge. Action will require empowerment to incorporate knowledge and seek local responses which must be holistic, especially inter-sectoral. Landscape approaches are urgently required but they require true inter- and transdisciplinary approaches where environment and production go hand-in-hand. Carbon footprint and carbon neutrality. Ethics and leadership, The Earth Charter. Creative management for solutions.

Climate Change in Mesoamerica – current trends

Climate change is rapidly changing conditions in the region. Storms and droughts are threatening all ecosystems, natural or productive. Increases in temperature are changing major ecosystems with cloud forests shifting to rain forests. The implications of these changes on livelihoods and the use of scenarios must guide land-use planning. Variability of scenario modeling requires the analysis and use of case studies where impacts are evident, in order to help determine adaptation strategies.

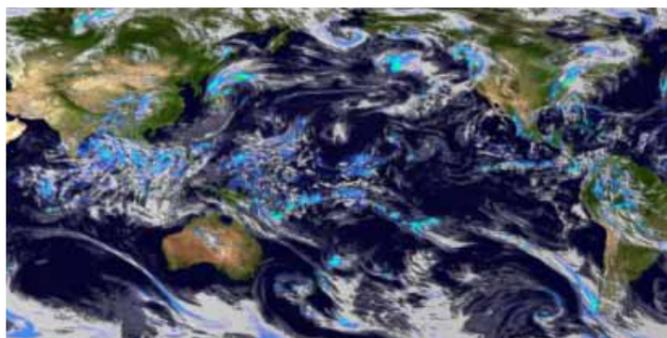
Tool/Methodology

Climate Change Projection Downscaling

Providing a hands-on training of climate change projections. Climate change projections provide important basis for development of future climate change adaptation strategies. However, since projections of future climate is very much subjected to assumptions made in the models related to physical processes, parameterization, model complexity, societal and economic development trends, etc., there are tremendous uncertainties in the projected future climate. Another major challenge in climate change projection is the incompatibility of outputs from different General Circulation Models (GCMs). This range of possible climate scenarios as well as differences with historical observations and trends have led to public confusion about the validity of climate prediction and, more urgently, has led to the delay of appropriate action.

Mapping Ecosystem Services

Urbanization is one of the most important processes taking place in today's world. The process of urbanization involves not only demographic changes but also environmental, social and economic transformations. The impact of urbanization is addressed at various scales such as national as well as local. This seminar will focus into integrating and linking local and global knowledge in understanding local diversity and self-sufficiency in sustainable development. Organized by University of International Co-operation (UCI), San Jose, this is a significant platform to observe the implementation and outcome of the important factors of sustainability. This seminar provides opportunities of discussion with local facilitators, farmers and students and will provide some methodologies in the end. One of the solutions is up-scaling to look into the utilization of rural and urban/peri-urban sustainability and ecological, economic and social resilience. GIS and remote sensing techniques will be applied in Environmental Impact Assessment studies. Overall, this international seminar provides a unique platform for students, researchers and experts to join from all over the world and discuss and learn the challenges of sustainable development in both local and regional levels.



Ecological economics

Economic valuation of natural capital, process and examples. Incorporating social and environmental externalities into business. TEEB. Multicriteria (stakeholder) analysis for valuation of local natural capital. Beyond Green Economy. Natural solutions. Exercises by students to try to estimate natural capital (simple exercises based mostly on the philosophical/ethical components). Discussions and propositions on how to include natural capital into future solutions to sustainable development in relation with world economy, political decisions, national government, local government and communities.

Natural resource governance, local participation

Fundamental aspects of local governance of natural resources and development. International processes (Nagoya Protocol), International Labour Organization / Indigenous and Tribal Peoples Convention No.169. Local community engagement for sustainable solutions and adaptation to climate change.

Local organization for conservation and development

Local community organization. Empowerment. Circles of interaction – from the individual, the family, community levels to all levels of government, the global influences. Strategies for social entrepreneurship.

Business examples. Corporate responsibility – beyond green-wash. Biodiversity Partnership Mesoamerica (www.bpmesoamerica.org)