

THE GLOBAL CARBON PROJECT TSUKUBA INTERNATIONAL OFFICE

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April 2004



Ribbon-cutting ceremony opens Global Carbon Project at NIES, Tsukuba (Japan) on Earth Day. Gen INOUE, Penelope CANAN, Berrien MOORE III cut the ribbon.

The Global Carbon Project (GCP) opened its second International Project Office on April 22, 2004, at Japan's National Institute for Environmental Studies. Promoted under the Earth System Science Partnership (ESS-P), the GCP Tsukuba Office joins the GCP office in Canberra, Australia, located at the Earth Observation Center.

World leaders of four science communities—the International Geosphere-Biosphere Programme, the International Human Dimensions Program, the World Climate Research Programme, and Diversitas—created the ESS-Partnership. Based on their “Amsterdam Declaration,” announced in 2001 at the Global Change Open Science Conference, they initiated a project to foster scientific collaboration on the carbon-climate-human system as a system of complex components—the Earth System. As scientists they urged governments, public and private institutions, and people of the world to cease “business-as-usual” behaviors that, scientifically speaking, are simply not sustainable on this planet.

They emphasized the need to see the Earth as a self-regulating system composed of physical, chemical, biological, and human components. They also called for a reorganization of science to promote collaboration appropriate for understanding the Earth System.

The purpose of GCP is to develop comprehensive, policy-relevant understanding of the global carbon cycle, encompassing its natural and human dimensions and their interactions with climate. To realize its purpose, the GCP is dedicated to fostering collaboration and integration across disciplines of natural and social sciences and across national and institutional boundaries. This image of the way science must work is a dramatic departure from the past (*reductionism*) and presents an exciting challenge for us who want to bridge the barriers among the sciences through a *systems approach*, and to make our work policy relevant (*understandable, timely, in the hands of the right people*).

The importance of understanding the interaction between human societies and the non-human components of this planet has become paramount. This is so because human practices since the Industrial Revolution (for example, fossil fuel burning, land use changes, and urbanization) have had such a large impact on the planet that the Earth has moved well outside the range of the natural variability exhibited over the last half million years at least. In other words, patterns of social behavior have brought the Earth to an operating state for which we have no historical comparison. We do know that this unprecedented planetary condition is not sustainable.

Activities of the GCP are organized around three main themes: (1) patterns and variability; (2) processes and interactions; and, (3) carbon management. Our current priority areas are coordination and standardization of measurements from different platforms on land, air, and ocean for carbon-climate research; integration of carbon management into community development plans and programs; international comparisons of biogeochemical models and model-data validation exercises; and developing carbon mitigation and adaptation options under an umbrella of regional sustainable development.

The Tsukuba office is particularly focused on fostering the scientific understanding of the “human dimensions” of the carbon cycle and the challenge of linking such understanding to science on the other components of the Earth System. The human dimensions include patterns and processes concerning demography, social (in)equality, technology, social institutions, and culture as they are interrelated and related to the carbon cycle and climate. Social institutions refer to the clusters of norms and values that have crystallized into recognizable large-scale social patterns such as the family, religion, the polity, the economy, and science.

The GCP Tsukuba office plans to embark on a variety of avenues of inquiry and action to move the understanding of the human dimensions of the carbon cycle forward. The activity plans are expected to become official after they have been discussed with the Scientific Steering Committee at a meeting planned for July 2004 in Goa, India.

One of the first projects planned is a comparison of the specification of variables and linkages in a number of “coupled models.” Secondly, we anticipate fostering a project-based approach to carbon emission reduction and sequestration as an opportunity for regional development. We think that real projects will help us identify the different policy-relevant expert perspectives and offer a focus for “outcome-based” collaboration. For that reason we are hoping that Yamagata Prefecture and US state of Colorado (already “sisters”) will work together to test an integrated carbon management approach that we want to develop along with colleagues within NIES, in Yamagata, and Colorado.

Another activity planned for the GCP Tsukuba office is our Science and the Media Network project to link scientists and journalists in partnerships designed to improve the communication between them. We look forward to working with such organizations as Japan’s Global Environmental Forum, the Japan Environmental Journalist Association, the National Association of Science Writers in the US, the Asia-Pacific Network, the New York Times and the Keystone Center for Science and Policy to advance the level of understanding for citizens of the pressing challenges surrounding global warming, climate change, lifestyle choices, and the political economy.

We hope to stimulate the amount, quality, and exchange of research being conducted within the social sciences, policy studies, and the humanities so that more people are considering the carbon cycle and climate change in their thinking. That means that we will tap existing research and policy networks to invite greater participation in deriving policy relevant carbon cycle science, beginning with the active intellectual community in Tsukuba Science City. One part of this effort is the GCP Seminar Series on Human Dimensions of the Carbon Cycle that will begin at NIES in September.

The Executive director of the GCP-Tsukuba office is Dr. Penelope Canan, a sociology professor from the University of Denver in Colorado (USA). Melanie Hartman (USA) is senior researcher, Harumi Kato (JAPAN) is special assignment researcher, Dr. Georgii Alexandrov (RUSSIA) is a biosphere modeler, and Yukako Ojima (JAPAN) is secretary.

The Scientific Steering Committee is comprised of scientific leaders from around the world and across disciplines. The nations represented on the committee include Australia, Canada, France, Germany, India, Italy, Japan, Mexico, Taiwan, Thailand, the United Kingdom, and the United States. Dr. Yoshiki Yamagata of the Climate Change Research Project (NIES) is a member of the Science Steering Committee.