

Promoting China-U.S. Collaboration on Soil and Water Resources

China-U.S. Workshop on Sustainable Management of Soil and Water Resources; Shenyang, China, 5–8 January 2010

Population growth and rapid urbanization in China have intensified competition for land use with consequences for agricultural productivity, water use allocation, and soil and water quality. Sustainable management and effective remediation technologies are needed in all regions of China. Similar problems exist in the United States, due, for example, to urban sprawl and pressures to increase biofuel production driven by government subsidy programs. As globally dominant contributors to greenhouse gas emissions, China and the United States also have a mutual interest in understanding their consequences.

To discuss current research on soil and water resource sustainability issues and

promote bilateral collaboration in research and graduate education between U.S. and Chinese institutions, a workshop was hosted by the Chinese Academy of Sciences (CAS) Institute of Applied Ecology.

Participants presented and discussed recent research on using models to develop strategies for soil and water resource use considering uncertainty; effects of land use and management practices on water use efficiency; fate and transport of contaminants in soil, groundwater, and surface water; effects of land use and management on soil carbon balance and nutrient cycling; and molecular techniques for studying mechanisms of soil biochemical processes.

In addition, discussions of mechanisms for research collaboration and graduate student exchanges were undertaken, and the director of the Institute of Applied Ecology offered letters of appointment for U.S. participants as affiliated research faculty to facilitate joint proposals, student mentoring, and a faculty/student visiting program. With financial support from the Institute of Applied Ecology, U.S. and Chinese researchers will partner on the above mentioned research areas. The meeting created collegial relationships that should foster productive collaboration in the years ahead.

The workshop organizing committee included faculty from the Institute of Applied Ecology, Northeast Institute of Geography and Agricultural Ecology, China Agricultural University, Liaoning Academy of Agricultural Sciences, Shenyang Agricultural University, and University of Tennessee's Institute for a Secure and Sustainable Environment.

More than 80 participants represented 14 Chinese institutions, University of

Tennessee, Purdue University, Argonne National Laboratory, and Oak Ridge National Laboratory. Visits before and after the conference to Liaoning Academy of Agricultural Sciences, Shenyang Agricultural University, CAS Northeast Institute of Geography and Agricultural Ecology (Harbin), China Agricultural University (Beijing), and CAS Institute of Geographic Sciences and Natural Resources Research (Beijing) further extended the impact of the conference.

The meeting was cosponsored by the China-U.S. Joint Research Center for Ecosystem and Environmental Change (<http://isse.utk.edu/jrceec/>), established in 2006 to promote research collaboration, academic exchange, student education, and technology training and transfer in areas of environmental concern.

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