

The Extension of Remote Sensing from the Traditional Sciences to the Social Sciences and from National Applications to International Implementations

In his Foreword to the inaugural issue (Volume 1, Issue 1) of the Journal of Terrestrial Observation, Professor Emeritus of Electrical and Computer Engineering David Landgrebe, referring to the “real-time” satellite data, such as that collected by the Purdue Terrestrial Observatory’s (PTO) groundstations, stated that, “These types of data gathering should significantly impact both researchers and operational users of terrestrial data by enabling them to much better connect what is observed in the space data with what is apparent from ground observations or conditions and to do so before the ground scene has changed significantly.”

Apparently, the North Atlantic Treaty Organization (NATO) Science for Peace Program agreed with this perspective and awarded Purdue University’s PTO a grant to establish two real-time remote sensing groundstations in Egypt, designated the Kamal Ewida Earth Observatory (KEEO), to be located at Cairo University and at Al Azhar University, in collaboration with the Kandilli Observatory and Earthquake Research Institute at Boğaziçi University, Istanbul Turkey. The KEEO’s primary mission is to facilitate early warning and mitigation of biogenic and anthropogenic disasters, as well as to enable mitigation of epidemics and epizootics, through identification and monitoring of infectious disease vector and reservoir habitats. Ultimately, the availability of the real-time data from multiple satellites will augment regional capacity for planning environmental sustainability and sustainable development initiatives.

The current issue of the JTO (Volume 1, Issue 2) echoes the increasing global role of remote sensing with an article by Dr. M. M. Yagoub, of the University of the United Arab Emirates and Dr. Bernard Engel, Professor and Chair, Agricultural and Biological Engineering, Purdue University, on Remote Sensing and GIS in the United Arab Emirates and an article by Dr. Yongyut Trisurat, Professor, Faculty of Forestry, Kasetsart University, Thailand, on Geo-informatics’ application to Trans-Boundary Diversity Conservation across Thailand, Lao Peoples Democratic Republic and Cambodia. The National Land-based Doppler Radar network (NEXRAD Level II) is examined by Matthew Huber and Jeff Trapp, both of Purdue’s Department of Earth and Atmospheric Sciences, who manage one of three university-based facilities designated by the National Weather Service to receive real-time, nation-wide data from all 159 Doppler radar installations. Molly Macauley, Economist, Senior Fellow and Director of Academic Programs at Resources for the Future, who has also testified before congressional committees on issues related to NASA and on the future market for commercial space, shared her insights in this volume on Landsat’s contributions for earth observations in social science research for management of natural resources and the environment. Barrett Caldwell, Industrial Engineering Faculty at Purdue University and Director of the NASA-sponsored Indiana Space Grant Consortium, presents a Community-based IT Services Determination of GIS User Needs. We have been privileged to receive a Foreword from Dr. Marion Baumgardner, Professor Emeritus of Soil Science and Director Emeritus of LARS (Laboratory for Applications of Remote Sensing). In our recent travels to Khartoum, Sudan to present at the ENTRO Flood Forum, we met Sudanese remote sensing scientists who were first introduced to ERTS satellite data by Dr. Baumgardner, during his travels to Sudan in the 1970s.

- Gilbert L. Rochon and Chris J. Johannsen, Editors