

Foreword

THIS FOURTH Special Geographic Information Systems (GIS) Issue of *Photogrammetric Engineering & Remote Sensing*, published by the American Society for Photogrammetry and Remote Sensing (ASPRS), focuses on international GIS activities.

The boom in GIS activities is indeed a world-wide phenomenon. Predictably, we are seeing the developed world providing the leadership in the development of systems, methodologies, and applications strategies. This issue provides examples of the research leadership coming from the industrial world.

While we have not yet witnessed the same level of GIS growth in the developing world, there is certainly a strong realization between both the international donor community and host government officials that GIS technology offers tools that can be used to address resource development, and humanitarian and environment program needs. At the project level, GIS technology is being used to improve the integration and analysis of disparate data, and to increase the understanding of analysis results through the generation of effective products. For example, in Sub-Saharan Africa GIS is being used for integrated analysis of resource, socio-economic, and remotely sensed data to detect and monitor areas vulnerable to famine (see cover).

There are some significant reasons why GIS will, and should, quickly become accepted within developing country programs. In the short-term, GIS technology can facilitate communications between technicians and decision makers. Perhaps more important in the long-term is the role that a GIS can play in facilitating the sharing of information between government agencies. Eventually, improved use and understanding of resource information can help the developing world reverse the current trends of environmental degradation and dwindling assets.

Unfortunately, this issue does not include a paper describing

the United National Environment Program's (UNEP) Global Resource Information Database (GRID). Throughout the world, UNEP/GRID is serving as a catalyst for GIS use. They provide data clearinghouse services for global-, regional-, and national-scale spatial data. Their sponsorship of GIS training for national representatives is also helping to build the foundations for GIS acceptance in the developing world. (Editor's Note: For a description of UNEP/GRID, see the article, "Managing Data for the Monitoring of Tropical Forest Cover: The Global Resource Information Database Approach," by Sipi Jaakkola, which appeared on pages 1355 to 1357 of the October 1990 issue of *PE&RS*.)

If we revisit GIS diffusion in a couple of years, we will likely see a continuation of industrial world leadership in GIS technology development. We will likely also see greater use of the technology for less-developed country applications. While there will be a GIS gap between the haves and the have-nots, the gap will be narrower. We can expect to see the current GIS leading edge being diffused for practical purposes.

I wish to thank all those who have contributed to this special GIS issue. This includes everyone who submitted manuscripts, as well as the technical reviewers who offered their time and expertise. Both groups accepted and adhered to a tight timetable for manuscript review and modification. Of course, Donald F. Hemenway, Jr., ASPRS Director of Communications, deserves thanks for providing guidance and reminders of *PE&RS* requirements and timetables.

*Thomas R. Loveland
Guest Editor, PE&RS
EROS Data Center
U.S. Geological Survey*

Guest Editor

Thomas R. Loveland EROS Data Center

Thomas R. Loveland is a Remote Sensing Scientist for International Projects in the U.S. Geological Survey, National Mapping Division's EROS Data Center in Sioux Falls, South Dakota. He is responsible for the design of geographic information system (GIS) and remote sensing components for international development projects involving USGS and the U.S. Agency for International Development. He is currently participating in projects covering 15 African nations.

Mr. Loveland has been involved in applications development programs at EROS for over 10 years. In addition, he has served in both GIS and remote sensing applications and management positions with state governments in South Dakota and Arizona. He has a B.S. and M.S. in Geography from South Dakota State University in Brookings, South Dakota.

