

Foreword

We are pleased to present to you the 1993 Seventh Annual Special GIS Issue of *Photogrammetric Engineering & Remote Sensing (PE&RS)*. This is the second year that we have served as the Guest Editors for this special issue. Although we have greatly appreciated the opportunity to serve the American Society for Photogrammetry and Remote Sensing in this manner, we have decided that it is time to relinquish the assignment. We are pleased to announce that Dr. Ann MacLean of Michigan Technological University will assume responsibility for next year's special issue on GIS. We express sincere appreciation to all the authors who submitted articles for consideration of publication in this issue. From a variety of excellent articles, we have selected eight that span an array of topics in both the theoretical, technical, and practical areas of GIS.

The first two articles are commentaries in which the authors were invited to express their ideas and suggest future directions for those in GIS related work. Our first commentary is by Jerome E. Dobson who discusses a conceptual framework for integrating remote sensing, GIS, and geography. Dobson draws a distinction between technical and conceptual integration of these methods and encourages a revival of landscape concepts in a more holistic view of "integration." Douglas J. Wheeler provides a commentary on the technical and theoretical obstacles associated with linking a GIS with process models for global change research. Wheeler summarizes his commentary with specific recommendations to process modelers, GIS developers, and data producers.

The third article, authored by Clifford W. Greve, John A. Kelmelis, Robin Fegeas, Stephen C. Guptaill, and Nancy Mouat, presents a synopsis of the temporal data model problems and efforts of the USGS in developing and managing the data in the National Digital Cartographic Data Base. Kim E.

Lowell, in the next article, presents an alternative method for the development of ecological models - a method useful when the geographic units are not defined *a priori*. In the following article, Eric R. Olsen, Douglas Ramsey and Davis S. Winn describe a technique for mapping the spatial variation in diversity within a landscape using fractal concepts. In the next paper by Thomas R. Allen and Stephen J. Walsh, Markovian transition probability matrices are used to characterize landscape changes (snow cover patterns) temporally and spatially.

The final two articles describe the application of a GIS approach to avian habitats and nonpoint source pollution. Andrea M. Herr and Lloyd P. Queen discuss a GIS modeling approach to identify potential nesting habitats of the greater sandhill cranes in northwestern Minnesota. In the next article Kyehyun Kim and Stephen Ventura describe the use of GIS based models and large scale aerial photography to estimate non-point source pollutant loadings in an urban environment.

We feel these articles provide a mixture of informative discussions about some of the key issues in the field of GIS. We extend a sincere thanks to the 51 professionals who served as reviewers. Additional thanks go out to the reviewers who examined a manuscript several times or examined more than one manuscript. We especially appreciate the thorough efforts of all the above and the time constraints that they were willing to work within to meet the publication deadlines. Donald F. Hemenway, Jr., PE&RS executive Editor, and James B. Case, Editor-in-Chief, also provided substantial assistance in coordinating the efforts and preparing the manuscripts for publication. Again, we hope you enjoy this issue and we invite you to prepare an article for next year's Special GIS Issue.

NOTICE TO MEMBERS

The 1994 ballot for the Election of Officers will be distributed as part of the January 1994 issue.

You will not be receiving the ballot in the mail.

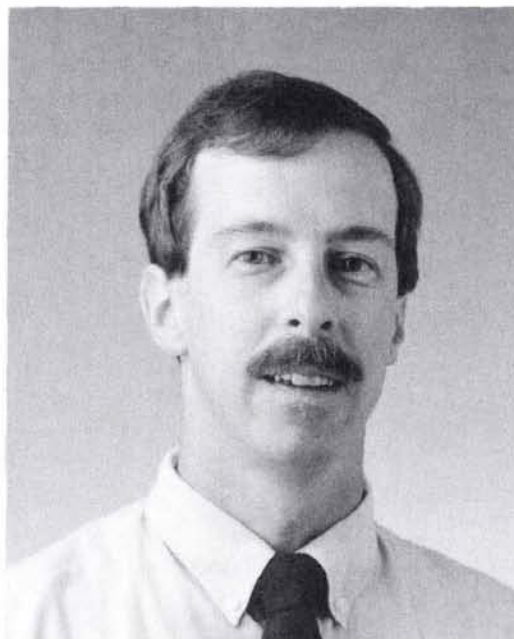
Be sure to vote

Guest Editors

Michael E. Hodgson **Department of Geography** **University of Colorado**

Michael E. Hodgson is Assistant Professor in the Department of Geography, University of Colorado. Dr. Hodgson has been engaged in the development and application of the methods used in geographic information systems (GIS), automated cartography, and remote sensing studies since 1978. He holds a B.A. in Geography from the University of Tennessee and both the M.S. and Ph.D. in Geography from the University of South Carolina.

Dr. Hodgson also serves as director for the Geographic Information Processing Laboratory located at the Geography Department, University of Colorado. Specific research now underway relates to the design of knowledge-based image analysis methods and computationally efficient spatial searching algorithms. Funded projects in the application of GIS methods include the understanding of attitudes and behavior of individuals toward natural hazards.



Kevin P. Price **Department of Geography** **and** **Kansas Applied Remote Sensing** **(KARS) Program** **University of Kansas**

Kevin P. Price is an Assistant Professor of Geography and Acting Associate Director of the Kansas Applied Remote Sensing (KARS) Program at the University of Kansas. Dr. Price transferred to KU in 1989 where he teaches remote sensing, GIS, and environmental conservation. Prior to KU, he was a faculty member in Geography at Utah State University and Adjunct Professor of Range Science, Forestry, Fisheries and Wildlife, and Landscape Architecture.

He received his B.S. and M.S. from the Department of Botany and Range Science at Brigham Young University where he studied plant community relationships and quantitative ecology. His Ph.D. is in Geography at the University of Utah where his specialty was applied remote sensing and GIS for environmental monitoring and modeling. At the U of U, he was the Environmental Project Scientist at the Center for Remote Sensing and Cartography (CRSC).

Dr. Price serves as consultant for the U.S. Forest Service, Bureau of Land Management, and environmental research and law firms. His research interests are in environmental monitoring and modeling and use of hyperspectral measurements to study biophysical properties of vegetation. He also instructs national and international workshops in GIS and remote sensing.

