

# RSSG Newsletter

Association of American Geographers  
Remote Sensing Specialty Group

November 1992



## RSSG ANNOUNCES PRELIMINARY PROGRAM FOR AAG-ATLANTA

The RSSG-sponsored sessions for the 1993 Atlanta AAG meetings have been announced by Dr. C.P. Lo (University of Georgia), RSSG Program Chair. The meetings will be held April 6-11, 1993.

Sessions are as follows:

### **Paper Session 1. Remote Sensing Applications to Terrain Mapping**

**Chair: C.P. Lo (University of Georgia)**

R. Welch (University of Georgia) Three-Dimensional Mapping, Terrain Visualization and GIS Applications on Personal Computers

J. Jensen and S. Narumalani (University of South Carolina) Improvements in Remote Sensing Derived Imagemap (Photomap) and Thematic Map Design

W. Welsh, S. Walsh and D. Butler (University of North Carolina) The Influence of Mass Movements on the Spatial Pattern of Alpine Treeline, Glacier National Park, MT

M. Dillworth (Western Michigan University) Geomorphic Mapping Via Quantification of Landscape Structure

S. Narumalani and J. Jensen (University of South Carolina) Remote Sensing for Habitat Assessment of Dawhats Al Musallamyah and Ad Daffi in Saudi Arabia prior to the Gulf War Oil Spill

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## LAND REMOTE SENSING POLICY BILL ENACTED

On October 28, 1992 President Bush signed into law H.R. 6133, the Land Remote Sensing Policy Act of 1992. In a press release issued by the White House, the President noted that the Act will "ensure that continuity of Landsat-type data is maintained for the foreseeable future....The Act will also encourage future commercial opportunities in remote sensing by:

- supporting investments in new remote sensing technologies;
- removing unnecessary restrictions on the dissemination of privately gathered data;

Continued on page 3 ... Landsat

## RSSG REQUEST FOR NOMINATIONS

The AAG Remote Sensing Specialty Group (RSSG) requests nominations for the positions of Director (1993-1995) and Student Director (1993-1994). All nominees must be current members of the AAG and RSSG, and must verify that they are willing to run.

Send nominations by January 21, 1993 to:

Tina K. Cary  
EOSAT  
4300 Forbes Boulevard  
Lanham, MD 20706  
Telephone: (301) 552-0542  
FAX: (301) 552-5476



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**Paper Session 2. Remote Sensing Applications to Rural Land Use Analysis - I** Jointly sponsored by RSSG and the Contemporary Agriculture and Rural Land Use Specialty Group

**Chair: M.D. Nellis (Kansas State University)**

- C. Bussing and M.D. Nellis (Kansas State University) Dynamics of Rural Land Use Conflicts in the Chobe District of Botswana
- J. Gritzner (South Dakota State University) and A. Gad (National Research Center, Soils and Water Department, Cairo, Egypt) Assessing Soil Degradation in New Agricultural Lands, East Nile Delta
- P. Mausel and Y. Wu (Indiana State University) and E. Moran and E. Brondizio (Indiana University) Land Use Changes near Altimira, Brazil Derived from Landsat TM
- J. Harrington, Jr. (Indiana State University) and L. Harrington (Eastern Illinois University) Remote Sensing and GIS Contributions to Building a Sustainable Willapa Ecosystem

**Paper Session 3. Remote Sensing Applications to Rural Land Use Analysis - II** Jointly sponsored by RSSG and the Contemporary Agriculture and Rural Land Use Specialty Group

**Chair: C. Bussing (Kansas State University)**

- S. Berta (Indiana State University), T. Gress (Stennis Space Center) and P. Sridhar (Indiana State University) Assessing the Effectiveness of Using SPOT Data for Updating Wetland Inventories
- T. Gress and D. Kettler (Stennis Space Center) and S. Berta (Indiana State University) Wetland Recertification and Sampling Using Satellite Remote Sensing
- P. Bauman (State University of New York-Oneonta) Surveying Potato Fields in the Columbia River Basin Using Satellite Data
- D. Luman and R. Greene (Northern Illinois University) The Use of SPOT and SLAR Data to Assess Agricultural Land Use Conversions on the Rural-Urban Fringe of the Chicago Metropolitan Region.

**Paper Session 4. GIS for Scientific Research**  
Sponsored by RSSG and the GIS Specialty Group

**Chair: D. Brown (Michigan State University)**

- T. Allen (University of North Carolina, Chapel Hill) Markovian Analysis of Multitemporal Snowcover Using a GIS
- J. Dobson (Oak Ridge National Laboratory) Spatial Logic and GIS in the Generation of Hypotheses, Models and Theory
- D. Brown (Michigan State University) Generating Hypotheses About Spatial Constraints on Vegetation Patterns at Treeline
- J. Merchant (University of Nebraska-Lincoln) Advanced Techniques for Landscape Regionalization
- Discussant: M. F. Goodchild (NCGIA, University of California-Santa Barbara)

**Poster Session 1. Applied Remote Sensing: Environmental Assessment**

- M. Wilkinson and R. Mohler (Lockheed Engineering and Sciences Company, NASA/Johnson Space Center) and V. Tchakerian (Texas A&M University) Aridity and Large Continental Sedimentation Dispersal Patterns
- R. Mohler (Lockheed Engineering and Sciences Company, NASA/Johnson Space Center) and J. Giardino (Texas A&M University) Change Detection of Surface Extent of Great Salt Lake
- D. Dickason (Western Michigan University) and M. Bishop, D. Kirchhoefer and B. Provencher (University of Nebraska-Omaha) Groundwater Contamination Assessment Using Landsat Thematic Mapper Data
- R. Hubbard, B. Quayle, M. Bishop, and H. Shroder, Jr. (University of Nebraska-Omaha) Analysis of SPOT Multispectral Data for Classifying Forest Cover Conditions in the Czech Republic
- C. Watson, R. Fraser, D. Neizer, J. Shroder, Jr. and M. Bishop (University of Nebraska-Omaha) Evaluation of Landsat TM Data for Environmental Assessment of Fontenelle Forest, Nebraska

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Landsat ... Continued from page 1.

- streamlining the licensing process for private remote sensing systems; and
- encouraging growth of the market for remote sensing data by pricing federally provided data at the cost of fulfilling user requests, but no higher."

The new Landsat bill has several significant features including:

1. Provision for the launch and operation of Landsat 7. The Department of Defense (DoD) will pay for hardware, while NASA will cover operating costs;

2. Replacement of NOAA as management agency for the Landsat program. The program will now be jointly managed by NASA and DoD;

3. A "transition period" (with respect to data pricing and data distribution policy) between passage of the legislation and launch of Landsat 7 in about five years. The deadline for an agreement between EOSAT and the new NASA/DoD management team on the details of the transition is September 30, 1993. The legislative history directs that the final phase of the transition be initiated within three years. This means that by late 1995 a two track data policy should be in place under which the Federal government and its "affiliated users" purchase data at the cost of reproduction, while commercial users must continue to pay commercial prices. The term "affiliated users" is loosely defined so as to accommodate a great many noncommercial organizations and institutions involved in applied research and education;



4. A complete new data policy beginning with launch of Landsat 7 under which Landsat data will be available to all users at the marginal cost of reproduction; and,

5. A provision enabling private firms to receive Landsat data (after the launch of Landsat 7) under license using their own antennas, and to thereafter distribute it with or without value-added charges.

At least five RSSG members have been involved in various aspects of the congressional process that produced the new legislation. Their roles have included providing testimony, consulting, participating in meetings, making presentations, and other functions. Those persons known to the RSSG Editor include Mike Helfert (NASA/Johnson Space Center), John Jensen (University of South Carolina), Don Rundquist (University of Nebraska-Lincoln), Kevin Price (University of Kansas), and Mark Jakubauskas (University of Kansas). Recently, Don Rundquist and John Jensen have been asked to provide input to NASA and DoD in regard to action on Landsat 7.

Construction of Landsat 7 is expected to begin within 3-4 months. With the change in legislation, DoD has expressed interest in adding a 5-meter panchromatic capability to the sensor package. The additional cost of such a change may make it infeasible, but the issue is not dead. Preliminary discussions on specifications for Landsat 8 are also underway.

RSSG members who have contributed to the legislative process in any way, or who are involved in planning for the future of Landsat, are urged to provide news for future issues of the RSSG Newsletter. Because the details of the new Landsat Act are complex, it is suggested that RSSG members contact their congressional delegations for copies of the entire bill.

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Note that additional remote sensing sessions may be organized from papers submitted to AAG headquarters rather than to Professor Lo. Other RSSG events will include the annual Business Meeting.

For additional information contact:

Dr. C.P. Lo  
Department of Geography  
Room 204, GGS Building  
University of Georgia  
Athens, GA 30602-2502  
Telephone: 706-542-2330  
FAX: 706-542-2388  
EMAIL: [chpanglo@uga.bitnet](mailto:chpanglo@uga.bitnet)

## EMAIL LISTS PROLIFERATE

In the June issue of the RSSG Newsletter Daniel Brown (Michigan State University) summarized methods for accessing a remote sensing discussion list called IMAGRS-L. RSSG members having access to EMAIL may be interested in a recent note from Una Smith (Biology Department, Yale University) that appeared on GIS-L, the GIS list operated by NCGIA at SUNY-Buffalo. Ms. Smith has compiled a lengthy list of listserv subscription lists for biologists. She mentions several of potential interest to RSSG members. These include:

ACDGIS-L@AWIIMC12	Geographische Informationssysteme
CLIMLIST@OHSTVMA	CLIMLIST Climatology Distribution List
COASTGIS@IRLEARN	Coastal Geography Distribution List
GEOGRAPH@FINHUTC	Geography
GEOLOGY@PTEARN	Geology Discussion List
GEONET-L@IUBVM	Geoscience Librarians and Information
GIS-L@UBVM	GIS Discussion List
MAPS-L@UGA	Maps and Air Photos Systems Forum
STAT-GEO@UFRJ	Quantitative Methods in the Geosciences
UIGIS-L@UBVM	User Interfaces for GIS
WVGIS-L@WVNVM	West Virginia GIS Discussion List

To subscribe send an EMAIL message to the listserv at the appropriate node, with the text: "SUB listname your name". For example, to subscribe to GIS-L, send a message to GIS-L@ubvm.cc.buffalo.edu. The message should read: "SUB GIS-L John Jones".

To receive a copy of the full list contact Una Smith on Internet: smith-una@yale.edu.

### USE YOUR NEWSLETTER

The RSSG Newsletter is your vehicle for communicating with colleagues interested in remote sensing. You are invited to send news regarding publications, awards, honors, academic programs, research activities, commercial ventures, students, jobs and other announcements to:

James W. Merchant  
Conservation and Survey Division  
University of Nebraska-Lincoln  
113 Nebraska Hall  
Lincoln, NE 68588-0517  
Telephone: (402) 472-7531  
FAX: (402) 472-2410  
Internet: JM1000@CALMIT.UNL.EDU

### EOSDIS TESTBED PROVIDES ON-LINE IMAGE BROWSING

The Earth Observing System Data and Information System (EOSDIS) has been established to provide computing and networking facilities supporting EOS research activities. The EOSDIS testbed system provides on-line digital image data of the western U.S. from the NOAA Advanced Very High Resolution Radiometer (AVHRR) via Internet. There is no charge for the service.

The system provides both AVHRR images and image viewing, on-line browse, and image manipulation software. The software, Motifsho

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# SATELLITE UPDATES

## EOSAT CELEBRATES TWENTIETH ANNIVERSARY OF LANDSAT-1, ANNOUNCES LANDSAT-6 LAUNCH

The Earth Observation Satellite Company (EOSAT) has prepared a new full-color pamphlet in honor of the 20th anniversary of the launch of Landsat-1. The pamphlet includes a brief history of the Landsat program, an outline of technical features of Landsats 1-6, and, on the inside, a poster identifying major applications of satellite data.

Many RSSG members will wish to obtain the September 1992 issue of Landsat Technical Notes. The full-color brochure summarizes the technical configuration of Landsat 6. The satellite is to be launched in early 1993. Landsat-6 is also the focus of the Summer 1992 issue of Landsat Data Users Notes (Volume 7, Number 2). The newsletter contains descriptions and photos of the Enhanced Thematic Mapper, the new Norman, OK receiving station, simulated image samples, and other news.

EOSAT also announced that the company will, henceforth, be covering operating costs for Landsat, relieving U.S. taxpayers of a \$19 million annual subsidy. For additional information, or to obtain free copies of Landsat brochures, Data Users Notes, or Technical Notes contact:

EOSAT  
4300 Forbes Boulevard  
Lanham, MD 20706  
Telephone: (301) 552-0574 or (800) 344-9933

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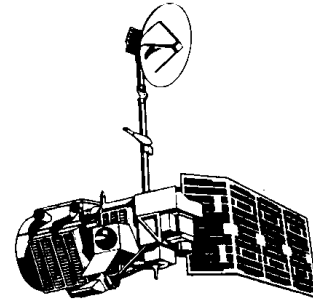
## EOSAT INTRODUCES MICRO SCENE

A new GIS-oriented product, "Micro Scene," has been announced by EOSAT. Provided in an ARC/INFO-compatible format, the new product covers an area of 30 x 30 minutes, or roughly one-sixteenth of a Landsat scene. Data can be ordered in any three of the seven Thematic Mapper bands. Three levels of geometric correction are available. Micro Scenes sell for \$2600 each. For additional details contact: EOSAT, 4300 Forbes Boulevard, Lanham, MD 20706 Telephone: (301) 552-0560 or (800) 344-9933.

## SOFTWARE FACILITATES LANDSAT EXABYTE-PC DATA TRANSFER

Landsat data stored on Exabyte 8mm tape is now accessible to IBM PC-based GIS and image processing systems. Eidetic Digital Imaging Ltd. now provides TEX1, a software package that transcribes data from Exabyte tape to the hard disk of an IBM PC or compatible. TEX1 costs \$350 plus shipping and handling in the U.S. and \$375 elsewhere. For additional information contact:

Eidetic Digital Imaging, Ltd.  
1210 Marin Park Drive  
Brentwood Bay, B.C.  
CANADA V0S 1A0  
Telephone: (604) 652-9326



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## BROCHURE DESCRIBES EOS-AM SPACECRAFT

A new full color large-format brochure from NASA describes the Earth Observing System (EOS) AM satellite and its five-sensor package. EOS-AM will be a polar-orbiting sun synchronous platform having an equatorial crossing at 10:30 a.m. The sensor package will include the Clouds and Earth's Radiation Energy System (CERES), Measurements of Pollution in the Troposphere (MOPITT), Multi-Angle Imaging Spectro-Radiometer (MISR), the Moderate Resolution Imaging Spectrometer (MODIS), and the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER). For copies of the brochure contact:

National Aeronautics and Space Administration  
Goddard Space Flight Center, Code 421  
Greenbelt, MD 20771.

## SPOT IMAGE CORPORATION ANNOUNCES NEW PROGRAMS

SPOT Image Corporation has announced the inauguration of its "SPOT Album" program under which any archived imagery from the launch of SPOT-1 in 1986 through 1989 will be made available on CD-ROM for \$1200 per scene. The data will be processed to Level 1B. There are no limits on the number of scenes that can be ordered. Educators should note that SPOT data for areas in the vicinities of educational institutions can be purchased for \$650/scene, and all Level 1 archived imagery is \$1000/scene.

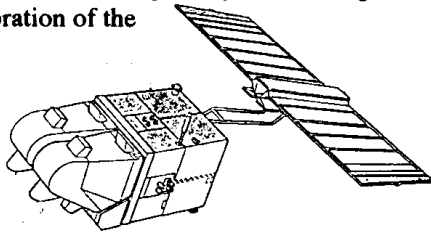
PROMOSPHERE '92 has been designed by SPOT Image Corporation as a celebration of the conclusion of the International Space Year. The special offer encompasses three programs.

Galaxy 1 provides a copy of ESRI's

ArcView software with

the purchase of 2 or more full scene SPOTViews.

Galaxy 2, limited to first-time SPOT clients, offers SPOT coverage of any project area up to the area of a full Landsat TM scene (i.e., up to 10 SPOT scenes at \$500/scene). Galaxy 3 offers SPOT data for your old maps, imagery, air photos, and so forth. SPOT data are discounted by 25% off list prices, and there are no limits on number of scenes that can be purchased. All Promosphere '92 products must be delivered by December 31, 1992.



RSSG Newsletter readers may also be interested to learn that SPOT Image Corporation has become the distributor for Russian Almaz synthetic aperture radar (SAR) and Sojuzkarta 5-meter resolution satellite photography. In addition, SPOT offers posters (\$25.00 each covering dozens of locations around the globe), SPOT'ART prints (\$150-300 each), and SPOT Watches. That's right, you can buy a wristwatch (\$65.00) with New York City, San Francisco, Boston, Washington, D.C. or the Florida Keys on the face.

For details contact:

SPOT Image Corporation  
1897 Preston White Drive  
Reston, VA 22091-4368  
Telephone (703) 620-2200  
FAX (703) 648-1813

## REMOTE SENSING IN THE U.K. GEOGRAPHY NATIONAL CURRICULUM

*RSSG Assistance is Requested for New Project*

The Institute of Education, University of London has established a project to develop teacher support materials that encourage the use of remotely sensed images in Geography. This one-year project is sponsored by the British National Space Centre and the Department for Education. The primary focus of the project is to enable teachers of students from 9-16 years-of-age to integrate remotely sensed images into their teaching. With this in mind, a number of units will be developed to cover all areas of the United Kingdom Geography National Curriculum. These will make use of different types of images, including aerial photographs, Landsat, SPOT, weather satellite and radar images covering a wide range of scales and representing many areas of the world.

The project team does not wish to reinvent the wheel. Rather the aim is to bring together high quality ideas, materials and images to promote the use of remotely sensed information. There are a wide range of opportunities to study parts of the USA in the UK curriculum. The project team would welcome assistance from RSSG members in development of materials. Especially sought is information regarding:

1. Relevant projects in teaching;
2. Availability of images and materials that might be of help in the development of teachers packs, or that might be otherwise useful (especially of the USA or developing countries); and/or
3. Publications which should be promoted or mentioned in the materials being prepared.

Persons having such information, or wishing additional details on the project are invited to contact: Dave Hassell, RSG Project Officer, Institute of Education, University of London, Bedford Way, London, WC1H 0AL, England. FAX: 071-612-6450.

## PECORA 12 SYMPOSIUM TO CONVENE IN AUGUST 1993

### First Announcement and Call for Papers

The Pecora 12 Symposium on Land Information from Space-Based Systems will be held August 24-26, 1993 in Sioux Falls, SD. The symposium is being sponsored by the U.S. Geological Survey and the National Aeronautics and Space Administration in cooperation with the American Society for Photogrammetry and Remote Sensing and other federal agencies, professional and non-profit organizations.

The Pecora 12 Symposium will provide a forum for professionals in land remote sensing:

- To identify land information requirements for addressing issues in the earth, atmospheric, biological and hydrological sciences at a variety of spatial and temporal scales,
- To report progress in mapping, monitoring and characterizing Earth's land-related resources using remote sensing systems on space-based platforms, and
- To define opportunities for enhancing progress in land-related space-based remote sensing, and to facilitate future research.

The meeting format will consist of invited papers complemented by selected volunteered oral and poster papers, and extensive formal and informal discussion. Priority will be given to papers that address conference themes including, but not limited to, topics such as:

- Land use and land cover inventory and monitoring
- Mapping soils and geological features
- Global and regional change analysis
- Human dimensions of global change
- Digital terrain data
- Landscape-sensor interactions
- Space-based sensors - current and future
- Data archive and access
- Dataset development
- Accuracy assessment
- Environmental modeling

Although slides and overheads will be

# PECORA



accommodated, authors are encouraged to use state-of-the-art methods in presentations (including computer projection, animation, multimedia, computer graphics and video). Appropriate hardware will be provided.

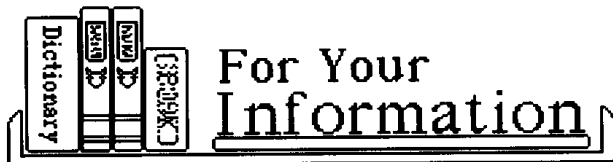
Titles and brief abstracts must be received February 15, 1993. Abstracts should be mailed to:

Pecora 12 Symposium  
USGS\EROS Data Center  
Sioux falls, SD 57198  
Telephone: (605) 594-6007  
FAX: (605) 594-6589

Notification of acceptance and instructions for preparation of manuscripts will be sent to authors by March 15, 1993. Final papers will be due August 15, 1993.

To obtain a copy of the complete call for papers, preliminary registration information and information on hotel accommodations contact EROS Data Center or:

James W. Merchant  
Pecora 12 Program Chair  
Conservation and Survey Division  
University of Nebraska  
113 Nebraska Hall  
Lincoln, NE 68588-0517  
Telephone: (402) 472-7531  
FAX: (402) 472-2410  
Internet: JM1000@CALMIT.UNL.EDU



## GLOBAL CHANGE REPORTS AVAILABLE

The Office for Interdisciplinary Earth Studies (OIES), University Corporation for Atmospheric Research, hosts an annual international, multidisciplinary institute on specific issues related to global change. Proceedings from the first three institutes are now available. Each volume includes background reports, which collectively offer a tutorial overview of the subject, and working group reports summarizing the deliberations of the institute. The published volumes include Modeling the Earth System edited by Dennis Ojima, Trace Gases and the Biosphere edited by Berrien Moore and David Schimel, and Global Changes of the Past edited by Raymond Bradley. Proceedings of the 1991 Institute on Global Changes in Land Use and Land Cover will be published in early 1993. The publications are available free while supplies last. RSSG members interested in global change should also ask to be placed on the mailing list for the excellent OIES newsletter, EARTHQUEST. To order publications or subscribe to EARTHQUEST, contact:

Diane Ehret  
Office for Interdisciplinary Earth Studies (OIES)  
University Corporation for Atmospheric  
Research  
P.O. Box 3000  
Boulder, CO 80307-3000  
Telephone: (303) 497-1688  
FAX: (303) 497-1679

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## UNDERSTANDING COMPUTER GRAPHICS

RSSG members, particularly those involved in teaching, may find useful a recent article that reviews basic terms used in computer graphics. The article, "Understanding Computer Graphics" by E. Sapwater was published in the October 1992 issue of

Photo-Electronic Imaging (pp. 24-27). The author discusses bit-mapped vs. vector graphics, various graphics modes, and file formats including TIFF, PICT and many others. All is presented in a manner quite readily understood even by novices.

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## OTA EXAMINES PRICING AND DISTRIBUTION ISSUES FOR REMOTE SENSING SATELLITE DATA

In May 1992 the Office of Technology Assessment (OTA) convened a one-day workshop on Landsat data distribution and pricing issues. A background paper on the workshop, "Remotely Sensed Data From Space: Distribution, Pricing and Applications," was issued in July 1992. The 19-page report is the first publication of an assessment of Earth Observation systems requested by the House Committee on Science, Space and Technology and other House and Senate committees. OTA will issue a detailed report on data issues in 1993. RSSG members will find the background paper interesting reading. For free copies contact:

Jean McDonald  
Office of Technology Assessment  
International Security and Commerce Program  
Congress of the United States  
Washington, D.C. 20510-8025  
Telephone: (202) 228-6420

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## EOSDIS NEWSLETTER

The Earth Observing System Data and Information System (EOSDIS) is one of three primary components of the NASA EOS mission - the other two being the EOS Scientific Research Program and the EOS Observatories. EOSDIS will provide computing and networking facilities supporting EOS research activities, including data interpretation and modeling, data distribution and data archiving. A new newsletter, The EOSDIS Science Data Processor, has been established by NASA to provide a vehicle to exchange information on the many elements of EOS. The newsletter is

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EOSDIS ... Continued from page 4.

(for UNIX machines) and Imagic (for the Macintosh), was developed at the Colorado Center for Astrodynamic Research (CCAR), University of Colorado-Boulder. Display programs allow a user to look at an image, manipulate the histogram, crop, enhance, color, overlay and animate the images.

CCAR stores 3 to 4 satellite passes per day, 7 days a week. Each pass consists of 130 MB of data. The data are calibrated, channels are separated, georegistered, navigated and formatted. The testbed system allows even novice computer users to interface with the browse and ordering systems. "BROWSE" is a program that allows users to select an image, select the viewing size, map the image, overlay a map on the image, and send the image over Internet from the host computer. The browse image is a sample of the full image reduced by a factor of four. "ORDER" works in a similar manner. The user has the option to order one of several images and have them returned to the FTP Anonymous Directory under their name for access over Internet.

Work is currently under way to upgrade the testbed interface to allow users the option of setting the parameters of the images they want. Users will pick a centerpoint (lat/long), the type of projection, the resolution, the viewing window size, and the channels to be processed. Options will also include calculation of zenith angles, the processing of a high resolution overlay map, the development of an elevation-mapped image, and the image bit size (8 bit or 2 byte).

The testbed is a joint effort of CCAR, the University of California-Santa Barbara and the NCAR Mesa Laboratory. To login to the EOSDIS testbed or obtain additional information call Tim Kelley at (303) 497-1221 or Internet: [kelley@sanddunes.scd.ucar.edu](mailto:kelley@sanddunes.scd.ucar.edu).

- Adapted from an article by Tim Kelley and Bill Emery published in the NASA/OSSA Information Systems Newsletter (October 1992).

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published six times per year. For a free subscription contact:

Science Data Processor  
Westover Consultants, Inc.  
6303 Ivy Lane, Suite 416  
Greenbelt, MD 20770  
Telephone: (301) 220-0685  
FAX: (301) 345-2742

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### **NOAA ENHANCES EARTH SYSTEM MONITOR**

The Earth System Monitor is a newsletter published by the National Oceanic and Atmospheric Administration (NOAA). Most RSSG members will find it full of useful information. The Monitor has recently been expanded and enhanced, and is published in a much more attractive format. The September 1992 issue contains articles on GIS, NOAA satellite data products and services, early climate records in the U.S., the NOAA Earth System Data Directory and news on a wide variety of remote sensing-related matters. The newsletter is published quarterly. For a free subscription contact:

Richard J. Abram  
Office of Environmental Information Services  
NOAA/NESDIS Ex2  
Universal Building, Room 506  
1825 Connecticut Avenue, NW  
Washington, D.C. 20235  
Telephone: (202) 606-4561

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### **EARTH OBSERVATION MAGAZINE**

A new magazine dealing with remote sensing and GIS has been inaugurated. Earth Observation Magazine began publishing in April 1992. A second issue appeared in September 1992. Each issue contains a number of articles written in non-technical style, many color images and maps,

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ads from vendors, and news of new developments in remote sensing. RSSG members may want to request sample copies of both issues before deciding whether to place an order. Annual subscriptions are \$48.00, but educators can subscribe for \$29.95/year.

Earth Observation Magazine  
P.O. Box 3623  
Littleton, CO 80161  
Telephone: (303) 290-6619

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### **SATELLITES AND EDUCATION IN THE U.S.**

The National Oceanic and Atmospheric Administration (NOAA) has issued a new report entitled "Satellites and Education in the United State - Annual Summary" (July 1992). Authored by Douglas Brown, NOAA's Chief of Educational Services, the report discusses the use of NOAA satellite data in secondary education. Information on projects, meetings, publications, teaching resources and software is provided. Many university instructors will find the materials and programs discussed to be of substantial interest. To request a copy of the report, or to obtain additional information on NOAA educational programs, contact:

Arlette Draper  
Educational Affairs Office  
National Oceanic and Atmospheric  
Administration  
Federal Building #4, Room 0145  
Suitland and Silver Hill Roads  
Suitland, MD 20233  
Telephone: (301) 763-4690

### **IGBP PUBLISHES GLOBAL CHANGE: REDUCING UNCERTAINTIES**

The International Geosphere-Biosphere Programme (IGBP) has published a new full-color booklet entitled Global Change: Reducing Uncertainties. The booklet excellently outlines important issues related to Earth's air, water, biological resources, the coastal zone and so forth. Efforts of IGBP to deal with these issues, using technologies that include remote sensing, are also described.

RSSG readers may wish to subscribe to IGBP's Global Change Newsletter to keep up with new publications and IGBP developments. Free copies of the newsletter, Global Change: Reducing Uncertainties, and other IGBP reports are available from:

International Geosphere-Biosphere Programme  
The Royal Swedish Academy of Sciences  
Box 50005  
S-104 05 Stockholm, Sweden  
FAX: (+46) 8 166 405

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### **CANADA CENTRE FOR REMOTE SENSING RELOCATES**

The Canada Centre for Remote Sensing (CCRS) has moved. The Centre can be contacted at:

588 Booth Street  
Ottawa, Ontario  
Canada K1A 0Y7  
Telephone: (613) 947-1214  
FAX: (613) 947-1385



## ARE REMOTE SENSING JOURNALS GEOGRAPHY JOURNALS?

Kevin P. Price  
Department of Geography and Kansas Applied Remote Sensing  
213 Lindley Hall  
University of Kansas  
Lawrence, Kansas 66045-2121  
(913) 864-5542 or 7723

Last spring I went through my mid-tenure evaluation (3rd year review) to assess my progress relative to tenure and promotion. After reviewing my list of publications, I was encouraged by my review committee members to publish some of my research in "geography journals" before I come up for tenure. At first I was surprised that geography, of all disciplines, would be concerned about whether a journal was a geography journal (Don't we have trouble even defining geography?), and I was even more surprised to learn that some geographers did not consider remote sensing journals to be geography journals. This was especially baffling to me, because I thought my job description was written by geographers who specified their desire to hire a remote sensing specialist.

Why do remote sensors in geography seem to suffer from common misperceptions about our identity as geographers? We might alleviate some misunderstandings if non-remote sensing geographers thought of remotely sensed data as they think of data collected in our other subdisciplines. For example, what if remotely sensed data were thought of as house-to-house survey data, with each house representing a pixel and the questions on the questionnaire representing different wavelengths? Like remotely sensed data, the survey data could be analyzed to determine whether there are geographic patterns that can be related to meaningful processes. A similar analogy can be applied to many other geographic problems.

Another way that we might dispel erroneous concepts about our specialty is by presenting information that demonstrates how our remote sensing research is viewed in the scientific community. This was not my original intention when I first went to our science library to conduct a survey of geography journals. In a sincere effort to comply with my committee's recommendation, I decided to select a journal to publish in by conducting a survey using the same criteria often used to evaluate a professor being considered for tenure and promotion -- I would rank the journals according to how often articles in them were cited. My survey revealed some interesting results that I would like to share with our Remote Sensing Specialty Group, and the rest of our geography colleagues after I finish gathering more information.

The first findings that I will present were obtained from the 1987 - 1990 *Science Citation Index (SCI)* (Data for 1991 and 1992 are not yet available.). In Table 1, I provide a list that ranks the geography journals according to their average *SCI Impact Index* over a four year period. The journals listed in Table 1 are the only scientific publications in geography (among over 4000+ journal entries) that had a qualifying citation impact index of greater than 0.000 (The index values were rounded to three places behind the decimal.). The impact index is calculated over a two year period by dividing the number of times a journal is cited by the number of articles published in the journal during this period. An index of 1.0 means that the articles in a journal are cited an average of one time during the sample period. During my survey, I observed that many journals had an impact index of 0.000. One should keep in mind that the impact index is biased in favor of journals supported by larger memberships, but regardless, the index is still a valuable indicator of a journal's exposure among the scientific community.

Some of you may be surprised to see that three remote sensing journals are listed among the top five scientific geography publications (Yes, I did say geography, and they are among the top five highest-impacting geography journals.). For comparison purposes, I show in Table 2 the average impact index for selected journals from other disciplines. Journals listed in Table 2 were selected because of my personal interests and should not be considered an attempt to represent journals commonly used by geographers.

You may find the ranking of journals in Table 1 even more interesting when contrasted with a list of U.S. geography journals that were ranked according to how geographers perceive their quality (Lee and Evans, 1984) (Table 3.)? Interestingly, even when the Social Science, Art and Humanity journals are excluded from Lee and Evans' list, there is little resemblance between the two rankings. I am not suggesting that many of our geography journals and their articles are not of high quality; rather, I am suggesting that according to the *Science Citation Index*, few scientists outside of geography are aware of our journals.

Regardless of how we perceive our journals, clearly our perceptions do not strongly parallel the impact most of our publications are making within the scientific community. Of course, many geography journals specialize in areas of cultural geography and may not be considered for listing in the *SCI*. Unfortunately, the reference librarians at my library were not aware of a comparable index for the Social Science, Art, or Humanity journals so I am unable to present the impact of these journals within their academic fields.

In summary, based on these findings, it seems that geographers in remote sensing are justified in asking geographers who disassociate remote sensing from geography to substantiate their conclusions on grounds other than their perceptions. Some geographers have contended that if we are really geographers, we should be able to publish in non-remote sensing journals (which I suspect most of us are able to do). Given, however, the significant impact that our remote sensing journals are having within the sciences, is it unreasonable to suggest to some non-remote sensing geographers that they publish in our geography journals?

#### LITERATURE CITED

- Lee, David and Arthur Evans. 1984. American Geographers' Rankings of American Geography Journals. *Professional Geographer*, 36(3):292-300.
- Science Citation Index. 1987-1990. Journal Citation Index, Institute for Scientific Information (ISI), Philadelphia, PA.

Table 1. List of the only geography journals that had a *Science Citation Impact Index* of greater than 0.000 between 1987 and 1990. The index values shown are for a four year average between 1987 and 1990.

Geography Journals:	IMPACT INDEX
1. <i>Quaternary Research</i>	1.520
2. <i>Remote Sensing of Environment</i>	1.260
3. <i>Journal of Biogeography</i>	0.918
4. <i>International Journal of Remote Sensing</i>	0.798
5. <i>Photogrammetric Engineering and Remote Sensing</i>	0.719
6. <i>Arctic and Alpine Research</i>	0.604
7. <i>Progress in Physical Geography</i>	0.561
8. <i>National Geographic Research</i>	0.533
9. <i>Arctic</i>	0.366
10. <i>Revue de Geographie Physique et de Geologie Dynamique</i> (only two years)	0.309

\* *Quaternary Research* and *Remote Sensing of Environment* were not listed in the *SCI* as geography journals, but rather geology and environmental science journals, respectively. I have listed them as geography journals because in Lee and Evans' (1984) survey they show them as geography journals and the *SCI* index clearly lists remote sensing as a geography subdiscipline and many environmental studies programs are housed in geography departments. I am certain some would list other journals as geography publications, but the above journals were the only ones listed in Lee and Evans' survey and the *SCI*.

Table 2. A four-year (1987-1990) summary of the Science Citation Index statistics for selected scientific publications. The table lists the mean impact index value for each journal and its corresponding standard deviation, coefficient of variation and the trend of the impact index over the four years.

PUBLICATIONS:	MEAN IMPACT INDEX	SD	CV	TREND
* <i>Arctic</i>	0.366	0.113	0.310	up
* <i>Arctic and Alpine Research</i>	0.604	0.105	0.174	level
<i>Ecology</i>	2.617	0.131	0.050	down
<i>Environmental Conservation</i>	0.337	0.017	0.050	level
<i>Forestry</i>	0.456	0.157	0.343	down
<i>Geology</i>	2.393	0.209	0.087	level
<i>Geology Journal</i>	0.710	0.167	0.235	down
<i>Geological Society of America Bulletin</i>	2.461	0.393	0.160	level
<i>Great Basin Naturalist</i>	0.180	0.077	0.428	down
* <i>International Journal of Remote Sensing</i>	0.798	0.244	0.306	down
<i>IEEE Geosciences, Remote Sensing</i>	0.983	0.317	0.322	down
<i>Journal of Applied Ecology</i>	0.968	0.082	0.084	down
* <i>Journal of Biogeography</i>	0.918	0.138	0.150	down
<i>Journal of Ecology</i>	1.615	0.141	0.087	level
<i>Journal of Geology</i>	1.773	0.267	0.151	level
<i>Journal of Forestry</i>	0.404	0.047	0.117	slightly up
<i>Journal of Range Management</i>	0.456	0.012	0.026	level
<i>Journal of Soil Science</i>	0.823	0.111	0.135	level
<i>Journal of Soil &amp; Water Conservation</i>	0.499	0.163	0.326	down
<i>Journal of Wildlife Management</i>	0.631	0.088	0.140	down
* <i>National Geographic Research</i>	0.533	0.145	0.273	level
<i>Nature</i>	16.804	2.173	0.116	up
<i>Oecologia</i>	1.462	0.118	0.081	down
* <i>Photogrammetric Engineering &amp; Remote Sensing</i>	0.719	0.037	0.052	level
<i>Plant Science</i>	1.304	0.338	0.260	down
* <i>Progress in Physical Geography</i>	0.561	0.067	0.119	down
* <i>Quaternary Research</i>	1.520	0.141	0.093	level
<i>Quaternary Science Review</i>	0.982	0.233	0.237	level
* <i>Remote Sensing of Environment</i>	1.260	0.453	0.360	down
* <i>Revue de Geographic Physique et de Geologie Dynamique</i>	0.309	0.170	0.549	out
<i>Science</i>	17.166	2.310	0.135	up
<i>Soil Science</i>	0.620	0.089	0.143	down
<i>Weed Science</i>	0.672	0.124	0.184	up

\*Geography journals with a Science Citation Impact Index greater than 0.000.

Table 3. List of U.S. geography journals ranked according to U.S. geographers' perceptions of their quality. The results were compiled from the responses of 289 geographers who used the following criteria to rank the journals: 5.0 = excellent, 4.0 = good, 3.0 = adequate, 2.0 = less-than-adequate and 1.0 = poor).

U.S. Geography Journals	Ranking
1. <i>Quaternary Research</i>	4.60
2. <i>Annals, Association of American Geographers</i>	4.29
3. <i>Arctic and Alpine Research</i>	4.23
4. <i>Geographical Review</i>	4.19
5. <i>American Cartographer</i>	4.16
6. <i>Economic Geography</i>	4.14
7. <i>Regional Science Association, Papers</i>	4.09
8. <i>Geographical Analysis</i>	4.09
9. <i>Remote Sensing of Environment</i>	4.00
10. <i>Professional Geographer</i>	3.90
11. <i>Physical Geography</i>	3.90
12. <i>Landscape</i>	3.78
13. <i>Urban Geography</i>	3.78
14. <i>Association of Pacific Coast Geographers Yearbook</i>	3.42
15. <i>Journal of Geography</i>	3.42
16. <i>Southeastern Geography</i>	3.36
17. <i>Focus (American Geographical Society)</i>	3.33
18. <i>Remote Sensing Quarterly</i>	3.31
19. <i>National Geographical Magazine</i>	3.21
20. <i>Conference on Latin Americanist Geographers, Proceedings</i>	3.13
21. <i>Historical Geography</i>	3.08
22. <i>Special Libraries Association, Geography and Map Division Bulletin</i>	3.05
23. <i>East Lakes Geographer</i>	2.95
24. <i>China Geographer</i>	2.93
25. <i>California Geographer</i>	2.90
26. <i>Geographic Perspective</i>	2.81
27. <i>Alaska Geographic</i>	2.81
28. <i>Great Plains-Rocky Mountain Geographical Journal</i>	2.79
29. <i>Geographic Survey</i>	2.72
30. <i>Ecumene</i>	2.64
31. <i>Indiana State University, Depart. of Geography and Geology Prof. Papers</i>	2.61
32. <i>Illinois Geographical Society Bulletin</i>	2.55
33. <i>Antipode: A Journal of Radical Geography</i>	2.53
34. <i>Pennsylvania Geographer</i>	2.46

Lee and Evans (1984)

## CALMIT ANNOUNCES 1993 WORKSHOPS

The Center for Advanced Land Management Information Technologies (CALMIT), University of Nebraska-Lincoln has announced its 1993 workshop series. Now entering its fifth year, CALMIT's workshop program has provided training for over 150 persons from 19 states and 8 foreign nations. Courses currently scheduled for 1993 include:

Introduction to GIS	March 8-11
Fundamentals of ARC/INFO	March 15-18
Introduction to Remote Sensing	April 19
Digital Image Analysis	April 20-23
Remote Sensing in Water Resources Assessment	June 7-10
GIS for Environmental Management	June 14-17
Introduction to GIS	Sept. 27-30

Other courses and dates may be added if demand warrants. All courses offer extensive hands-on experience with ERDAS, ARC/INFO or other software depending on subject matter. Classes are

generally small (8-10 persons).

CALMIT also hosts visiting scientists for longer periods of study and research. During 1992 visiting scientists from Montana, China and Saudi Arabia were in residence for periods of 1-8 months.

For additional details, or to receive a brochure, contact:

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## ERIM ANNOUNCES COMMERCIAL AVAILABILITY OF CUSTOM FILM-WRITING AND PHOTOGRAPHIC PRINTS

The Environmental Research Institute of Michigan (ERIM) has initiated a program to provide custom film-writing and photographic products and services. Products may be produced from a wide variety of input media including computer compatible tapes, 8-mm tape and floppy disk. Any type of raster or vector input is acceptable. Files up to 15,000 by 16,800 pixels can be produced at apertures as small as 12.5 microns. Output may be high-quality black and white films or separates that may be easily converted to color transparencies or prints. Print sizes up to 40 x 50 inches are available. Common examples of input data include GIS files, satellite image data, scanned image data and medical imagery. Typical turnaround time for single black and white or color images is one business day. Prices start at \$90 for black and white and \$400 for color images. For additional details contact:

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