

# RSSG NEWSLETTER JULY 1986

## FROM THE CHAIR: Challenges and Opportunities

Let me begin my term of office by paying tribute, on behalf of the membership, to Vince Ambrosia for the leadership he has provided during the past year, and to John Place for guiding us through some treacherous financial straits. I take the reins of a specialty group that is vigorous and has great potential for future accomplishment.

You will note, in this issue, a report on the annual RSSG business meeting in which a number of new initiatives were proposed. These are exciting prospects, but we are in no way limited to them. I hope that you will contact me, your other elected officers, and committee chairs to volunteer your help, your ideas, and your constructive criticisms. We want to know how RSSG can better serve you. We also need your active participation in the work of the group.

The future vitality of our specialty group is dependent upon your involvement. I believe that this is so important that I have asked Kam Lulla, RSSG Vice Chair, to organize and head a new committee on RSSG membership. This committee will seek to identify ways in which the RSSG can better address interests and needs of both the membership at large and particular constituencies (e.g. students, employees of government and private industry). The committee will also explore means by which RSSG might attract and retain new members, and might generate more involvement by the membership in RSSG activities. You are invited and encouraged to share your thoughts and suggestions regarding these matters with Kam.

Please feel free to call or write when you have ideas to share or whenever I can be of any help. I'm looking forward to hearing from you.

Jim Merchant, Chair RSSG  
Dept. of Geography  
University of Kansas  
Lawrence, KS 66045  
(913) 864-5143 or 864-4775

## UPCOMING EVENTS

A remote sensing short course is being offered this summer at the University of Colorado Institute of Arctic and Alpine Research. The course description:

Techniques in image analysis will be used to study phenomena in the Indian Peaks region of the Colorado Front Range. Microcomputer-based digital image processing and interpretation, employing geographic information systems software, will be used in conjunction with field site visits and ground mapping. The course will make use of Landsat multispectral data, aerial photography, and digitized photography. Dr. Ray Lougeay of the State University of New York - Geneseo will be the instructor. The course, for 3 semester hours of credit, will meet Monday through Friday (all day) from 7/21/86 through 8/1/86. Tuition is \$390. For further information, contact Ruth Ann Cameron, Business Manager, Mountain Research Station, Institute of Arctic and Alpine Research, University of Colorado - Boulder, Nederland, Colorado 80466, telephone (303) 492-8841.

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The NCGE Remote Sensing Committee will be presenting a four-hour workshop-cum-demonstration session for the Chicago Meeting (October 9-12, 1986). The workshop, "Digital Image Processing and Remote Sensing for Environmental and Geoscience Educators," is open to all NCGE attendants at no charge. The program is scheduled for Friday October 10, from 9:30 a.m. to 4:30 p.m. The morning session will be lectures, and a question-answer session; the afternoon session will include demonstrations and limited hands-on experience on ERDAS, RIPS, and Applepips. This session, organized by Dr. Kamlesh Lulla, Indiana State University, promises to be interesting and exciting.

At the Annual Meeting of the Middle States Division of the AAG, October 17th and 18th, 1986, the Department of Geology and Geography of Hunter College will offer an intermediate level workshop, "Classroom Applications of Remote Sensing and Image Processing Hardware and Software." Registration is \$5 per person, preregistration before August 15th is required. The workshop will be from 11 a.m. to 2 p.m. Friday.

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#### CALL FOR PAPERS-AAG Great Plains/Rocky Mountain Division RSSG Sessions

The Remote Sensing Specialty Group will sponsor and organize remote sensing paper sessions at the Annual Meeting of the AAG Great Plains/Rocky Mountain Division to be held October 2-4 1986 in Omaha, Nebraska. Those wishing to present a paper in an RSSG-sponsored session should send a 100 word abstract to Jim Merchant, Dept. of Geography, University of Kansas, Lawrence, KS, 66045. Please designate whether the paper will be an oral or poster presentation. Abstracts must be received by August 15, 1986.

Students should note that the Great Plains/Rocky Mountain Division will continue its tradition of awarding prizes for outstanding student papers. Details on submitting papers for the student competition can be obtained from Joseph S. Wood, Dept. of Geography and Geology, University of Nebraska-Omaha, Omaha, NE 68182-0199, (402) 554-2662.

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#### RSSG PLANNING FOR PORTLAND 1987 ANNUAL MEETING BEGINS

RSSG members who wish to organize special sessions, workshops, or field trips, or who wish to participate in planning for other RSSG events to be held during the Portland 1987 Annual Meeting are encouraged to contact, as soon as possible, Vincent G. Ambrosia, (415) 694-6184. Guidelines for submitting papers and posters were published in the May issue of the AAG Newsletter. All materials must be received by Vince by September 20, 1986. Duane Nellis is organizing an RSSG-sponsored poster session. Those interested in participating should send the appropriate materials to Duane, by September 13, 1986.

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The ninth annual Applied Geography Conference will be held from October 23-25, 1986 at the U.S. Military Academy, West Point, New York. Four remote sensing sessions are part of the program. The remote sensing sessions and their chairs are:

1. "Applied Remote Sensing for Environmental Assessment," M. D. Nellis, Kansas State University.
2. "Operational Applications of Remotely Sensed Data," J. Estes, University of California-Santa Barbara.
3. "Application of Remote Sensing to Modern Mapping," R. Smith, Defense Mapping Agency.
4. "Computer Integration of Digital Maps and Image Data," R. Welch, University of Georgia.

Several of the papers to be presented in these sessions will be published in the Applied Geography Conference Proceedings.

## REMOTE SENSING SPECIALTY GROUP

### OFFICERS

#### Chairperson

James W. Merchant  
Dept. of Geography  
University of Kansas  
Lawrence, KS 66045  
(913) 864-5143 or 864-4775

#### Vice Chairperson

Kamlesh P. Lulla  
Dept. of Geography and Geology  
Indiana State University  
Terre Haute, IN 47809  
(812) 237-2252

#### Secretary-Treasurer

G. Lennis Berlin  
Dept. of Geography, Box 15016  
Northern Arizona University  
Flagstaff, AZ 86011  
(602) 527-7220 until Jan., 1987  
(602) 523-6566 after Jan., 1987

#### Director (May 86-April 88)

Tina K. Cary  
Dept. of Environmental Resources  
Cook College, Rutgers University  
P.O. Box 231  
New Brunswick, NJ 08903  
(201) 932-9631

#### Director (May 85-April 87)

M. Duane Nellis  
Dept. Of Geography  
Dickens Hall, Kansas State U.  
Manhattan, KS 66506  
(913) 532-6727

#### Student Director (May 86-April 87)

John W. Jones  
Dept. Of Geography  
University of Nebraska-Lincoln  
Lincoln, NE 68588  
(402) 472-2865

### COMMITTEE CHAIRS

#### Membership

Kamlesh P. Lulla  
Dept. of Geography and Geology  
Indiana State University  
Terre Haute, IN 47809  
(812) 237-2252

#### Awards

Earl J. (Jay) Tullos  
Earth Observation Satellite  
Company (EOSAT)  
4300 Forbes Blvd.  
Lanham, MD 20706  
(301) 552-0500

#### Publications

Donald C. Rundquist  
Conservation and Survey Division  
113 Nebraska Hall  
University of Nebraska-Lincoln  
Lincoln, NE 68588  
(402) 472-3471

#### Portland Program

Vincent G. Ambrosia  
Nasa/Ames Research Center  
MS 424-4  
Moffett Field, CA 94035  
(415) 694-6184

#### Phoenix Program

Currently Vacant-volunteer needed...  
Contact James Merchant, RSSG Chair

## RSSG BUSINESS MEETING REPORT

The annual business meeting of the Remote Sensing Specialty Group was held on Monday, May 5, 1986 in Minneapolis, MN. Vincent Ambrosia (NASA/Ames Research Center), RSSG Chair, conducted the meeting. The membership was briefed on current RSSG activities and proposed new initiatives. These included:

### Election Results

Vincent Ambrosia (Nominations Committee Chair) reported that he and Kamlesh Lulla (Indiana State University) were tied for the office of Vice-Chair at the conclusion of official mail balloting. A vote was taken at the business meeting in order to break the tie. Kam Lulla was elected new RSSG Vice-Chair. Other new officers include Len Berlin (U.S. Geological Survey), Secretary-Treasurer; Tina Cary (Rutgers University), Director; and John W. Jones (University of Nebraska - Lincoln), Student Director.

### Treasurer's Report

John Place (U.S. Geological Survey), outgoing Secretary-Treasurer, provided a summary of RSSG's financial situation. Members were encouraged to send 1986-87 dues (5.00) to Len Berlin, new Secretary-Treasurer.

### Financial Statement

	Debit	Credit
Previous balance -----		\$792.96
AAG Rebate for 1985 -----		173.25
AAG Rebate for 1986 -----		166.50
Dues Received as of May 2 -----		175.75
Workshop I for 1985 Annual Meeting -----		30.46
Workshop II for 1985 Annual Meeting -----	497.00	
Newsletter, publishing and mailing -----	293.91	
Program Participation Fee, 1986 -----	15.00	
Interest on savings account -----		41.63
	\$805.91	\$1380.55
Totals		
Balance		574.64
Savings Account		574.64

### Membership

The RSSG currently has 361 registered members, although our mailing list stood at 655 persons in late April 1986. Again, we are one of the largest and most active of the AAG specialty groups.

### RSSG Newsletter

The RSSG Newsletter was published in June 1985, September- December 1985 and March 1986. The Newsletter is mailed to approximately 655 persons. Mailing costs have been reduced as a result of the acquisition of IRS tax-exempt status, thereby allowing bulk mailing privileges for the newsletter. Future issues of the Newsletter will be edited and published by faculty and staff of the Cook College Remote Sensing Center, Rutgers University. All articles, mailing list changes and other correspondence should be mailed to:

Dr. Tina K. Cary  
 Department of Environmental Resources  
 Cook College  
 P.O. Box 231  
 New Brunswick, NJ. 08903

### Twin Cities 1986 Annual Meeting

The RSSG sponsored eight activities at the Twin Cities AAG meetings. Tina Cary (Rutgers University) presented a 1 1/2 day workshop on "Digital Processing of Remotely Sensed Data" on May 3-4 1986. Seven persons enrolled for the course. Roger Miller (University of Minnesota) provided his Earth Resources Data Analysis System (ERDAS) for use in the workshop. ERDAS features both a broad array of software for analysis of remotely sensed data and GIS capabilities. ERDAS, Inc. (Atlanta, GA) will provide equipment and software for a repeat of this workshop at the Portland meetings.

Ben Richason III (St. Cloud State University) arranged two half-day field trips for Monday, May 5. A morning tour of Mark Hurd Aerial Surveys, Inc. which included "everything from the photo lab to the automated mapping stations," was attended by 30 persons. An afternoon trip to the Remote Sensing Laboratory at the University of Minnesota - St. Paul campus included a demonstration of the Lab's color infrared video camera system. A full complement of 45 persons participated in the afternoon visit.

Three special paper sessions were organized by Kamlesh Lulla (Indiana State University):

1. Large Area Ecosystem/Biome Characterization via Remote Sensing (Chair: Kamlesh Lulla, Indiana State University)
2. Advanced Sensor Systems and Applications (Chair: David Hicks, Environmental Research Institute of Michigan)
3. Remote Sensing: Technique Development (Chair: Vincent Ambrosia, NASA/Ames Research Center)

A Remote Sensing Specialty Group-sponsored poster session on "Remote Sensing of the Environment," organized by Duane Nellis (Kansas State University), included 12 additional papers. Topics ranged from using Landsat TM digital data for urban analysis to applying high altitude photography in rangeland assessment.

James Merchant (University of Kansas) organized a Forum on Commercialization of Earth Observation Systems and Future Data Availability. During this session, speakers from EOSAT, SPOT Image and EROS Data Center were invited to review changes taking place in satellite remote sensing and outline the respective functions, products and services of their organizations. The forum provided data users an opportunity to raise questions regarding the impacts of commercialization and to express needs, concerns, interests, ideas and opinions.

### **Future Plans and New Initiatives**

A number of significant decisions were made regarding proposed future initiatives. These include the following:

- Annual Meetings - In view of the short time between the date of each annual meeting and the deadline for program planning for the subsequent annual meeting (generally about September 20), it was decided to initiate planning on a two-year cycle. Committees will be formed for both the Portland (1987) and Phoenix (1988) meetings. Vincent Ambrosia (NASA/Ames Research Center) will be the RSSG Program Chair for the Portland meetings. A Program Chair for the Phoenix convention (1988) will be nominated by the RSSG Chair as soon as possible. An effort will be made to develop, for each annual AAG meeting, at least one advanced workshop specifically designed to address needs and interests of RSSG members. Topics suggested, to date, include radar remote sensing, advanced sensor systems (TIMS, AOS, etc.), teaching remote sensing, and acquiring and using microcomputer - based image processing and geographic information systems. Instructors of such

workshops will presume that enrollees already have a foundation in remote sensing. RSSG will continue to offer introductory remote sensing workshops as demand and interest warrant.

- **Awards** - RSSG will re-institute best paper/poster awards at the AAG annual meetings. Separate awards (plaques) will be offered for best presentation by a student and best presentation by a regular member. Earl J. Tullos (EOSAT) is chairing the awards committee.
- **Annual RSSG Publication** - The RSSG will, during the coming year, investigate the possibility of initiating an annual refereed publication. The proposed publication would represent the best of RSSG efforts at each annual AAG meeting. Each year, authors of papers (and posters) would have the option of volunteering their papers for review by a committee of referees selected by the RSSG officers. At least two referees would be persons who are not members of AAG (i.e., non-geographers). Papers selected by the committee would be published in a volume offered for sale by the RSSG to anyone interested. The fee charged would be nominal to cover costs of publication and mailing. It was the consensus of the meeting that such a publication would (1) stimulate interest among RSSG members in preparation of high quality papers for presentation; (2) provide, for those authors whose papers are selected for publication, enhanced recognition of their efforts; and (3) serve to make known to others, both within AAG and within other disciplines, the valuable contributions being made by geographers who specialize in Remote Sensing. A committee chaired by Donald Rundquist (University of Nebraska - Lincoln) will draft a proposal and guidelines for discussion at the Portland annual RSSG business meeting. If endorsed by the membership, the publication could be initiated at the Phoenix 1988 annual meeting.
- **Teaching Materials** - The high cost of digital remotely sensed data has been an issue of concern to RSSG members for over a decade. This issue is of particular concern to those who teach remote sensing. It was suggested, during the 1986 Twin Cities meetings, that the two commercial operators of earth observing satellites (EOSAT and SPOT Image) might entertain a proposal from RSSG to develop teaching modules. Such modules would be comprised of digital data (on tape or floppy disc), imagery, maps, collateral data, and ground truth focused on a specific theme (e.g., using Landsat data for mapping and evaluating soils, wildlife habitat assessment, operation of the Landsat Thematic Mapper). RSSG would assemble a team of specialists who would prepare the modules. One or both private firms would market the materials. RSSG would receive a royalty. It was the consensus of the RSSG annual meeting that RSSG would profit financially from such an arrangement, but that, since these teaching materials would be purchased by many non-geographers, it would also provide high visibility for geographers' (AAG, RSSG) contributions in remote sensing. James Merchant (University of Kansas), RSSG Chair, will explore this potential project with the two firms and report to the RSSG membership on possibilities.

In case you haven't seen the flyer from Prentice-Hall, we are reproducing portions of it here.

## INTRODUCTORY DIGITAL IMAGE PROCESSING

A Remote Sensing Perspective, by John R. Jensen.

Introductory Digital Image Processing shows how to apply digital image techniques to remotely sensed imagery with emphasis on earth resource analysis. Jensen incorporates reproductions of remotely sensed images of selected types of terrain to vividly illustrate how the techniques apply to each topic. Whenever possible, Jensen uses the same image to demonstrate a variety of techniques for better comparative study. You will also find unique treatment of: Image preprocessing (Ch. 6), Thematic Extraction (Ch.8), and FORTRAN program source code listings (Appendix). CONTENTS : Introduction to Digital Image Processing, Remote Sensing Data Acquisition Alternatives, Image Processing System Considerations, Initial Statistics Extractions, Initial Display Alternatives, Image Preprocessing, Image Enhancement, Thematic Information Extraction, Change Detection, The Interface of Remote Sensing and Geographic Information Systems, The SENSOR's Digital Image Processing System, Addresses of Public and Commercial Suppliers of Digital Image Processing Software and/or Hardware.

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This is a continuation of the series on Remote Sensing Centers. If you wish to submit an item on your center, please contact the editor.

### UNIVERSITY OF TENNESSEE, KNOXVILLE

#### GIS and Remote Sensing Laboratory

The University of Tennessee-Knoxville Geographic Information System and Remote Sensing Laboratory has a variety of equipment for GIS and Image Processing research. For Digital Image Processing, the lab has an ERDAS workstation and a Video Laser Disk with an Apple computer interface for image programming. For GIS and Computer Aided Mapping/Design, the lab has the ERDAS workstation, a Prodesign workstation, an Atlas workstation, a Conrac workstation (which will be connected to Oak Ridge), and a Geographics digitizer. Other facilities include an AT&T 3B2/310 minicomputer with three workstations, a Kelsh stereoplotter, and a Zoom Transfer Scope.

Recent research projects include: "Mapping the High Elevation Evergreen Forests in the Great Smoky Mountains National Parks" and "Mapping Evergreen Forest Cover --Great Smoky Mountains National Parks," "Remote Sensing of Hazardous Waste Sites," and "Transportation Networks in Africa".

Some of the personnel at the lab are: John Rehder, Director; Jim Carter, Computer Center Associate Director; Al Hill, Research Assistant and Lab Manager; and Kurt Butefish, Bart Hose, Don Buckwalter, and Carolyn Bolton, Research Assistants.

For further information contact Dr. John Rehder, Dept. of Geography, University of Tennessee, Knoxville, TN 37996-1420.

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Thanks go to the following people for contributing items for this newsletter: Kam Lulla, Ruth Ann Cameron, Duane Nellis, Jim Merchant, John Rehder.