

# RSSG

## Newsletter



Remote Sensing Specialty Group  
Association of American Geographers

December 1999 Volume 20 Number 2

### From the Chair

It's time to set our sights on the upcoming AAG Annual Meeting in Pittsburgh. Thomas Allen (Old Dominion University) and Tim Foresman (University of Maryland Baltimore County) have put together an excellent program of papers from the RSSG. Having been involved in organizing the RSSG sessions in the past, I know how much time and effort that they have devoted to our specialty group to make the annual meeting a success. Tom and Tim have organized several sessions that should appeal to a wide audience as well as some sessions with a much narrower focus. I expect several of these sessions to be "standing room only." The six sessions sponsored by the RSSG are listed elsewhere in this issue.

It's hard to believe that my two-year hitch as RSSG chairman is up already. It has been an interesting experience for me. I have particularly enjoyed being able to communicate with a large percentage of our membership on a variety of issues during the past two years. I have relied heavily on the other officers in the specialty group, especially my Vice Chair Dale Quattrochi (NASA/Marshall Space Flight Center), past Chair Kevin Price (University of Kansas), Secretary/

Continued on page 2...From the Chair

### 1999 William T. Pecora Award presented to John E. Estes

**Dr. John E. ("Jack") Estes**, University of California, Santa Barbara, one of the pioneers in geographic remote sensing, is the recipient of the **1999 William T. Pecora Award**. The award was presented on Tuesday, December 7, 1999 at the Fourteenth William T. Pecora Memorial Remote Sensing Symposium held in Denver, CO.

The award was presented to Jack "in recognition of his outstanding contributions as a researcher and teacher in the use of remote sensing and geographic information systems (GIS) technologies to analyze earth resources."

Continued on page 3...Jack Estes

### AAG 2000 Annual Meeting April 4-8, 2000 Pittsburgh, Pennsylvania

The Remote Sensing Specialty Group (RSSG) will sponsor a variety of sessions at the forthcoming 2000 AAG Annual Meeting. The RSSG program co-chairs for AAG 2000, Tom Allen (Old Dominion University) and Tim Foresman (University of Maryland-Baltimore County), have assembled a program highlighting linkages of remote sensing to the digital world under the theme: *Remote Sensing Applications and Integration for the New Millennium*.

*For details, see pp. 4-8*

From the Chair...continued from page 1.

Treasurer Jeff Olsenholler (University of Nebraska-Omaha), and the Editor of this newsletter, Jim Merchant (University of Nebraska-Lincoln). I know that our specialty group will be in good hands as Dale assumes the job of Specialty Group Chair in Pittsburgh. Numerous other members of our group have helped me out during my tenure by offering suggestions and giving me advice on a number of specialty group-related items. I would like to thank Doug Goodie (Kansas State University), Mark Jakubauskas (University of Kansas), and Duane Nellis (University of West Virginia) for always taking time out from their schedule to answer my RSSG-related questions.

This is an exciting time to be in the remote sensing business. New satellites, improved image processing hardware and software, and a large number of interesting research topics should help to keep our specialty group strong and vibrant for the foreseeable future. I'll see you in Pittsburgh!

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The William T. Pecora Award is presented annually to recognize outstanding contributions by individuals or groups toward the understanding of the Earth by means of remote sensing. The award is sponsored jointly by the Department of the Interior (DOI) and the National Aeronautics and Space Administration (NASA). The award was established in 1974 to honor the memory of Dr. William T. Pecora, former director of the U.S. Geological Survey, and Under Secretary, Department of the Interior. Dr. Pecora was a motivating force behind the establishment of a program for civil remote sensing of the Earth from space. His early vision and support helped establish what we know today as the Landsat satellite program.

During the award ceremony, it was noted that "Dr. John E. Estes is an internationally recognized leader in developing and applying remote sensing and GIS tools for mapping land use/land cover, validating land cover map products, monitoring land cover change, mapping protected areas, identifying agricultural crop types, modeling fire fuels, modeling water demand, analyzing biodiversity, and detecting marine oil pollution. He joined the faculty of the Geography Department at the University of California, Santa Barbara, in 1969, and has served as the department chairman and director of the Department's Remote Sensing Research Unit. Dr. Estes has a unique ability to lead and guide graduate students, rather than direct them, in pursuit of their education and research objectives.

Dr. Estes has also made significant contributions to the remote sensing and GIS communities that extend far beyond the academic community. He has taken extended assignments with both the USGS and NASA to assist in formulating national and international programs and policies for Earth observation. He is currently chair of the International Steering Committee for Global Mapping, and serves on NASA's Space Station Science Utilization Advisory Committee and Earth System Science and Applications Advisory Committee, as well as the National Academy of Sciences Space Applications Board and Mapping Science Committee."

***Congratulations, Jack, from all of your friends and colleagues in RSSG!***

## **2000 RSSG Outstanding Contributions Award**

### ***Nominations Requested***

The RSSG Outstanding Contributions Award is presented to members of the AAG RSSG who have made especially noteworthy contributions to the field of Remote Sensing. Past honorees have included: Dr. David Simonett (posthumously), Dr. Benjamin Richason, Jr. (posthumously), Dr. Alan Strahler, Dr. John Estes, Dr. John Jensen, Dr. Duane Nellis, Dr. Kamlesh Lulla, Dr. James Campbell, Dr. Stephen Walsh, Dr. Robert Holz, Dr. Sam Goward, Dr. James Merchant, and Dr. Dale Quattrochi.

Candidates for the award are evaluated by a selection committee appointed by the RSSG board. The Chair of the RSSG Outstanding Contributions Award Committee is Stephen J. Walsh (University of North Carolina). Other members of the committee are Daniel G. Brown (Michigan State University) and Ling Bian (State University of New York at Buffalo).

**Nominations for the 2000 award must be received by February 15, 2000.** Nominations must include a letter of nomination and a complete vita for each candidate. Send nominations to:

Dr. Stephen J. Walsh  
Department of Geography  
University of North Carolina  
Chapel Hill, NC 27599-3220  
(919) 962-3867 (tel)  
(919) 962-1537 (fax)  
swalsh@email.unc.edu

# 2000 Annual Meeting of the AAG

## Remote Sensing Specialty Group Organized and Sponsored Sessions

### Program Co-Chairs:

**Tom Allen, Old Dominion University**

**Tim Foresman, University of Maryland Baltimore County**

**Session: Remote Sensing's Promise for a Digital Earth Future**

**Organizer:** Tim Foresman, University of Maryland Baltimore County and

Tom Allen, Old Dominion University

**Chair:** Mark Jakubauskas, University of Kansas

*Remote Sensing Portal to the Digital Earth Initiative.* Timothy W. Foresman, Office of Earth Science, NASA Headquarters.

*A Strategy for Assessing the Spatial and Temporal Variability of Contemporary U.S. Land Cover Change.* Thomas R. Loveland, EROS Data Center, U.S. Geological.

*The Landsat-7 Science Mission: A Bridge to the 21st Century.* Samuel N. Goward and Jeffery Masek, Laboratory for Global Remote Sensing Studies, Department of Geography, University of Maryland.

*Global Mapping: Remote Sensing's Challenge.* John E. Estes, Remote Sensing Research Unit, Department of Geography, University of California, Santa Barbara.

*The State of Aircraft and Satellite Remote Sensing: Year 2000 and Beyond.* John D. Althausen and Greg A. Olson, Department of Geography, Central Michigan University.

**Session: Remote Sensing of Landscape Pattern and Change**

**Organizer:** Tim Foresman, University of Maryland Baltimore County and

Tom Allen, Old Dominion University

**Chair:** Phil Keating, University of Miami

*From Pattern to Process: Investigating Land Use and Land Cover Change in Indigenous Communities of Northeastern Ecuador.* Gabriela Valdivia, Department of Geography, University of Minnesota.

*Land Use and Landscape Fragmentation at the Bird's Eye Level: Examination of a Complex Forestry Management Scheme and its Effects on Local Ecology.* Theresa K. Burcsu, School of Public and Environmental Affairs, Indiana University, Catherine Tucker, Center for the Study of Institutions, Population, and Environmental Change, Indiana University, Jonathan Belmont, School of Public and Environmental Affairs, Indiana University, Cristian Rene Sanchez, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, and Vicky Meretsky, School of Public and Environmental Affairs, Indiana University.

Continued on page 5...RSSG Program

***Harmonic Analysis of Time-series AVHRR NDVI Data.*** Mark E. Jakubauskas, Kansas Applied Remote Sensing (KARS) Program, University of Kansas, David R. Legates, Department of Geography, University of Delaware, and Jude H. Kastens, Kansas Applied Remote Sensing (KARS) Program, University of Kansas.

***Textural Measures of Urban Land Covers.*** Charles W. Emerson, Department of Geography, Western Michigan University.

***Evaluation of Automated Anisotropic Reflectance Correction of Satellite Imagery in Mountain Environments.*** Jeffrey D. Colby, Department of Geography, East Carolina University and Michael P. Bishop, Department of Geography and Geology, University of Nebraska at Omaha.

***Application of Spherical Geometry to Change Vector Analysis of Landsat Data.*** Thomas R. Allen, Department of Political Science and Geography, Old Dominion University and John A. Kupfer, Department of Geography and Regional Development, University of Arizona.

**Session: Remote Sensing of Forest Biophysical Properties**

**Organizer:** Philip Townsend, University of Maryland Center for Environmental Science, Appalachian Laboratory.

**Chair:** Philip Townsend, University of Maryland Center for Environmental Science, Appalachian Laboratory.

***Continuous Fields of Vegetation Properties Derived from Remotely Sensed Data.*** Ruth S. DeFries, Department of Geography, University of Maryland, College Park.

***Remote Sensing of Boreal Forest Biophysical Variables: Results from a Model Driven with AVHRR Observations.*** Scott Goetz, Steve Prince, Jennifer Small and Michelle Thawley, Department of Geography, University of Maryland, College Park.

***Quantifying Forest Vertical Structure for Integration with Remote Sensing Studies.*** Robert A. Chastain Jr. and Philip A. Townsend, University of Maryland Center for Environmental Science, Appalachian Laboratory.

***Remote Sensing of Forest Biophysical Properties Using Satellite SAR Data: Results from the Mountains and the Swamps.*** Philip A. Townsend, Clayton C. Kingdon and Robert A. Chastain, Jr., University of Maryland Center for Environmental Science, Appalachian Laboratory.

***The Vegetation Canopy Lidar Mission: the Earth as Never Seen Before.*** Michelle A. Hofton, Ralph Dubayah, Department of Geography, University of Maryland, College Park, J. Bryan Blair and Robert Knox, NASA/GSFC.

***Estimation of Tropical Forest Structural Characteristics Using Large-Footprint Lidar.*** Jason B. Drake, Ralph Dubayah, Department of Geography, University of Maryland, College Park, David B. Clark, La Selva Biological Station, Costa Rica, and Robert Knox, NASA/GSFC.

***Seeing the Forest for the Trees: Reforestation and Forest Degradation in Western Honduras.*** Jane Southworth, School of Public and Environmental Affairs, Indiana University, Catherine Tucker, CIPEC, Indiana University, and J.C. Randolph, School of Public and Environmental Affairs, Indiana University.

***MicroMSI for Windows: A Tool for Remote Sensing Education.*** Scott A. Loomer, Department of Geography and Environmental Engineering, United States Military Academy.

***Image Processing Techniques for Mapping Tropical Montane Vegetation: New Results from the Ecuadorian Andes.*** Philip L. Keating, Department of Geography and Regional Studies, University of Miami, Coral Gables.

**Session:** **Land Cover and Population Patterns in Remote Sensing**  
**Organizer:** Tim Foresman, University of Maryland Baltimore County and Tom Allen, Old Dominion University  
**Chair:** Tom Evans, Indiana University

***Spatial Integration of Social, Political and Biophysical Factors Contributing to Landcover Change.*** Tom P. Evans, Department of Geography and CIPEC, Indiana University, Bloomington, IN, 47405 and Elinor Ostrom, CIPEC and Workshop in Political Theory and Policy Analysis, Indiana University and Emilio F. Moran, CIPEC and Department of Anthropology, Indiana University.

***Zone-Based Estimation of Population and Housing Units from Satellite-Generated Land Use/Cover Maps.*** C. P. Lo, University of Georgia.

***Remote Sensing of Land Cover Contrasts along the Frontier between Haiti and the Dominican Republic.*** Jeffrey S. Wilson and Timothy S. Brothers, Indiana University-Purdue University, Indianapolis. Eugenio Marcano, Universidad Nacional Pedro Henriquez Urena, Santo Domingo, Dominican Republic.

***Comparison of Digital Spatial Pattern Recognition Indices for Characterizing Land-Cover from Remote Sensing Data.*** Jane M. Read, Department of Geography, Syracuse University, Syracuse, and Nina S-N. Lam, Department of Geography and Anthropology, Louisiana State University.

***Land-cover Change Analysis of China Using Pathfinder AVHRR Landcover (PAL) Data, 1982-92.*** Stephen S. Young, Department of Geography, Salem State College.

**Session:** **Spatial-Temporal Analyses and Modeling in Remote Sensing**  
**Organizer:** Tim Foresman, University of Maryland Baltimore County and Tom Allen, Old Dominion University  
**Chair:** Tom Allen, Old Dominion University

***Identifying Man-made Features Using Wavelet-based Indices.*** Ling Bian, Department of Geography, State University of New York at Buffalo.

Continued on page 6...RSSG Program

## 2000 AAG Annual Meeting RSSG Student Competitions Update

The number of student abstract submissions was tremendous for the paper and poster competitions scheduled for the 2000 AAG Annual Meeting in Pittsburgh! We reached new highs for student participation in both competitions. There are 10 entrants in the **RSSG-sponsored student paper competition** and 14 entrants in the **RSSG/GISSG/Cartography SG-sponsored student poster competition**. The competitors are the sole or first authors of the presentations. Please support the students by visiting their posters and coming to their paper presentations. There are two paper sessions and one poster session dedicated to the competitions. I will provide more details about the competitions in the next newsletter and via the RSSG email listserver. The students' names and abstract titles are listed below:

### RSSG-Sponsored Student Paper Competition

- John Rogan (& Janet Franklin) – San Diego State University  
*Processing Multitemporal TM Imagery to Extract Forest Cover Change Features in Cleveland National Forest, Southern California*
- Bradley C. Rundquist – Kansas State University  
*Spatio-Temporal Variation in the Relationships between NDVI and a Tallgrass Prairie Canopy using Field Spectroscopy*
- Jerry Griffith (Edward Martinko, Jerry Whistler, and F. Jerry De Noyelles) – University of Kansas  
*Vegetation Phenological Metrics, Landscape Pattern, and Stream Conditions*
- Joseph P. Messina – University of North Carolina at Chapel Hill  
*Non-Traditional Pattern Metrics as Applied in a Multiphase Hybrid Landuse/Landcover Classification Scheme*
- Jeremy L. Mennis – Pennsylvania State University  
*Exploring Relationships Between El Niño / Southern Oscillation and Vegetation Vigor in the Southeast USA*
- Mary C. Henry – University of Arizona  
*Assessing Fire Related Forest Structure in the Arizona Sky Islands using Landsat Thematic Mapper Data*
- Soe Win Myint (& Nan D. Walker) – Louisiana State University  
*Application of NOAA AVHRR and SeaWiFS reflectance measurements for the determination of surface suspended sediment concentrations along a river-influenced coast*
- Cynthia S.A. Wallace – University of Arizona  
*Characterizing Wildlife Habitat Using Hyper-Temporal Remote Sensing Data: Principal Components Analysis vs. Fourier Transforms*
- Phillip E. Dennison (Dar A. Roberts, Ernest Reith, & John C. Regelbrugge) – University of California at Santa Barbara  
*Mapping Chaparral Biomass in the Santa Monica Mountains Using Synthetic Aperture Radar*
- Steven R. Schill – University of South Carolina  
*Evaluating the Influence of Bidirectional Reflectance Distribution Function (BRDF) when Modeling Biophysical Variables in Coastal Environments using Remotely Sensed Data*

Continued on page 8...RSSG Student Competition

## **RSSG/GISSG Cartography Specialty Group-Sponsored Student Poster Competition**

- Kelly J. Crowell (Kenneth L. White) – University College, University of New South Wales, Australian Defense Force Academy  
*SWIR Characterization of Fluvial Sediments: A Remote Sensing Approach*
- Brent R. Bauer – Kent State University  
*Cartography on the WWW*
- Courtney E. Hart – University of North Carolina at Chapel Hill  
*Assessing the Nature and Magnitude of Land Use/Land Cover Change in Northeast Thailand*
- Phillip M. McDaniel – University of North Carolina at Chapel Hill  
*Assessing Deforestation in the Ecuadorian Amazon: Integrating NDVI and Accessibility Surfaces*
- Michael J. Hradesky – Kent State University  
*Ohio Population Trends*
- Kevin Coughlin (Brian Cacchiatti, Daniel J. Boudreau, Jr.) – Salem State College  
*Remote Sensing: How It Works*
- Adam G. Moskal (Joe Kosofsky) – Salem State College  
*Applications of High-Resolution Aerial Imagery*
- Gregory R. Christo (Benjamin LaBlanc, Daniel J. Boudreau, Jr.) – Salem State College  
*Presentation of Remote Sensing Data to the Public*
- Daniel J. Boudreau, Jr. (Michael J. Hamilton, Gregory Christo) – Salem State College  
*Measuring Environmental Change and Development Impacts within the Ipswich River Basin*
- J.M. Shawn Hutchinson – Kansas State University  
*A Comparison of Techniques to Remove the Influence of Topography from SAR Imagery*
- Richard M. Warnick – University of Utah  
*Reverse Proximity and the Demand for Additional Wilderness Areas in Utah*
- Marguerite S.E. Forest – University of Oregon  
*Using GIS to Link Ecological Sustainability and Ecological Footprints in Haida Gwaii, BC*
- Jill Hallden – Michigan State University  
*Development of a System for Visualizing Remotely-sensed Data*
- Gloria C. C. Britton (Jenny R. Tankersley, Joy Volpi, Eric Adams, Wendee Zadanski) – Kent State University  
*Analysis of the 14 June 1990 Flash Flood at Shadyside, Ohio*

If you have any questions about the competitions or about student participation in the RSSG, you can contact me using the information listed below.

Michael Hernandez  
RSSG Student Director  
University of Utah  
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260 South Central Campus Drive, Room 270  
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(801) 581-8218 (department office)  
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# Call for Nominations

## Remote Sensing Specialty Group

Nominations for three RSSG offices are solicited. Offices to be filled in 2000 include:

- **Vice Chair (2 year term)**
- **Director (2 year term)**
- **Student Director (1 year term)**

**All nominees must be current members of RSSG and AAG, and must have agreed to serve.** If you are interested in serving as an RSSG officer, you are encouraged to nominate yourself! However, no anonymous nominations will be accepted. The name of the person placing the nomination must be provided.

Office (*Circle one*):      **Vice Chair**      **Director**      **Student Director**

Name of nominee: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

City: \_\_\_\_\_ State/Province: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Name of person placing the nomination: \_\_\_\_\_

Please send nominations by **February 1, 2000** to:

William A. Tyler  
Department of Geography and Geology  
203 Strong Hall  
Eastern Michigan University  
Ypsilanti, MI 48197  
Email: tylerw@dteenergy.com

**The AAG Remote Sensing  
Specialty Group  
News and Information**

The **RSSG Newsletter** is your vehicle for communicating with colleagues interested in remote sensing. You are invited to send news regarding research activities, student activities, academic awards, honors, programs, projects, commercial ventures, and announcements to the editor, James Merchant (see address below). If possible, please submit contributions on a disk in Wordperfect or ASCII format or by e-mail.



The **RSSG WWW site** is located at <http://www.earthsensing.com/rssg/index.html>  
The site was developed, and is maintained, by:

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Participate in the on-line RSSG discussion list: [rssg@calmit.unl.edu](mailto:rssg@calmit.unl.edu)

To subscribe to the neb-gisnews list, please send a message to: [listserv@ulysses.unl.edu](mailto:listserv@ulysses.unl.edu) with the line, *subscribe rssg* in the body of your message.

For additional details, contact:

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Conservation and Survey Division  
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**Coordinator, Center for the Applications of Remote Sensing  
Oklahoma State University**

The Department of Geography at Oklahoma State University invites applications for the open position of Coordinator of the Center for the Applications of Remote Sensing (CARS). This is a full-time position with the primary responsibility for managing the activities (research and contract projects) of CARS. We are seeking a person who is skilled in the use of remote sensing and GIS technologies in a broad range of fields with special emphasis on natural resource management issues, and is familiar with the computing environments of Windows NT and UNIX. Responsibilities also include technical assistance to the Department's teaching and research labs. Ability to teach short courses and workshops is desirable. A master's degree in geography with a specialization in remote sensing and/or GIS, or a degree in another field that is supplemented with extensive experience in geographical computing is required. It is expected that the successful applicant will have excellent interpersonal, organization, and communication skills. Salary will be commensurate with qualifications. Review of applicants will begin 5 November 1999, however, the search will continue until the position is filled. Please send a resume and the names of three references to:

CARS Coordinator Search Committee Chair  
Department of Geography  
225 Scott Hall  
Oklahoma State University  
Stillwater, OK 74078-4073  
FAX: (405) 744-5620  
E-Mail: [rroh69@okstate.edu](mailto:rroh69@okstate.edu)

*Oklahoma State University is an affirmative action and equal opportunity employer committed to multicultural diversity. Women and minorities are encouraged to apply.*

# WHAT'S NEW



## Remote Sensing of Hazards: A Bibliography

The James and Marilyn Lovell Center for Environmental Geography and Hazards Research housed in the Department of Geography, Southwest Texas State University, is pleased to announce that our first in-house publication, *The Use of Remote Sensing in Detecting and Analyzing Natural Hazards and Disasters, 1972-1998: A Partially Annotated Bibliography* is now available. The bibliography is 102 pages long and contains over 400 references, at least half of which are annotated. If you are interested in obtaining a copy, please send a check for \$10 made out to "Department of Geography-SWT" to the attention of Pam Showalter, Department of Geography, Southwest Texas State University, San Marcos, TX 78666-4616. The bibliography is currently available in hardcopy, only. If you wish to use a credit card, please e-mail Dr. Showalter for specifics about format, or call her at (512) 245-7980. Unfortunately, we cannot offer this publication for free, however the \$10 charge

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## NASA Unveils Earth Observatory Web Site

To help improve communications between its Earth scientists and the general public, NASA recently unveiled the Earth Observatory, a Web site where the public can learn about global climatic and environmental change. The **Earth Observatory** presents, in lay terms, stories, images, and animations that illustrate the complexities of Earth system science, as well as NASA's use of satellites and remote-sensing data to study our home planet. The site's URL is <http://earthobservatory.nasa.gov>.

Updated weekly, the purpose of the Earth Observatory is to serve as an information resource for educators, interested lay persons, and media writers. The site presents a new way of communicating the goals, objectives, and science results of EOS and NASA's Earth Science Enterprise to the public, using methods that better fit the next "electronic" century, rather than the present "paper-based" century. The goal of the site is to become a "living document" that the Earth science community continually updates to chart its progress as it extends human awareness and understanding of our home planet. So, whether accessed by an elementary school "whiz kid," a graduate student, a journalist, or a member of congress, the Earth Observatory will serve as an interactive resource for learning the newest information about the causes and effects of environmental change through the use of remote-sensing data.

Although, the Earth Observatory is supported by a core team that focuses on the Landsat 7, Terra, and EOS PM-1 missions, the core team hopes that the larger EOS and Earth Science Enterprise communities will also submit articles and images for publication on the site

**RSSG Newsletter**  
c/o James W. Merchant  
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University of Nebraska-Lincoln  
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Lincoln, NE 68588-0517

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