



**Land Remote Sensing Program
Science Fair**

**U.S. Geological Survey Headquarters
Reston Virginia**

April 12-13, 2005

April 11, 2005 Invitees travel to Reston

April 12, 2005

Welcoming Remarks/Keynotes/Invited Speakers (includes time for questions)

- 8:45 **J. Feuquay**, Program Coordinator, Land Remote Sensing, Welcome/Logistics
- 9:00 **Chip Groat**, Director, USGS, – Keynote
- 9:30 **Barb Ryan**, Associate Director, Geography Discipline
- 9:50 **Carol Aten**, Chief, Administrative Policy and Services
- 10:10 **J. Feuquay** – The LRS Program and Mission

10:25 **Break**

Invited Speakers from other programs.

- 10:40 **Ann Frondorf**, Chief Scientist, Geospatial Information Office
- 11:00 **Pierre Glynn**, Chief Scientist, Water Discipline
- 11:20 **Robert Szaro**, Chief Scientist, Biology Discipline
- 11:40 **Linda Gundersen**, Chief Scientist, Geology Discipline

12:00-13:00 Lunch

Invited Speakers from Geography Program

- 13:00 **Jonathan Smith**, Deputy Program Coordinator, Geographic Analysis and Monitoring
- 13:20** Overview of USGS LRS Research and Application Element in the FY05 LRS Program - **Carl Markon**

Selected LRS Based Presentations

- 13:40 InSAR Monitoring of Volcanos and Landslides - **Zhong Lu**
- 13:45 Assessing Urban Growth and Environmental Influences – **George Xian**
- 14:15 Landscapes of Diseases – **Steve Guptil**
- 14:45 Hydrologic Derivatives from SRTM – **KrisVerdin**

15:15 **Break**

15:30 **Carl Shapiro**, Program Coordinator, Science Impacts

16:00 Phenological Trends – **Brad Reed**

16:30 Lidar and Multispectral Imagery Exploitation on the Gunnison Gorge National Conservation Area – **John Kosovich**

17:00 NCAP- Results from Internal Review – **David Kirtland**

17:30 Closing Remarks/Task for Tomorrow – **Jay Feuquay**

18:00 -20:00 PM Poster Session (Refreshments Served)

21:00 – 22:00 Question and Answer for Poster Authors

Natural and Anthropogenic Hazards – Preparation, Response, and Mitigation

Development of RADAR Remote Sensing Technologies.....**Zhong Lu**

InSAR Studies of Coastal Regions.....**Zhong Lu**

Deformation and Stress..... Zhong Lu for **Tim Masterlark**

Vegetation Drought Response Index Development.....Brad Reed for...**Jess Brown**

Wildland Fire Data Ordering System.....**E. Lile**

Homeland Security.....**S. Durst**

Mapping Tamarisk with High-Res Satellite Imagery..... **Jennifer Stefanacci**

Colorado Front Range Fire Fuels Mapping..... **Jennifer Stefanacci**

Sensor Technology and Characterization Research

Determining Soil Water Content from Remotely Sensed Data..... **E.Lynn Usery**

Sharpening Advanced Land Imager (ALI) Data to Improve Spatial Resolution of

Unmixed Spectral Data**G. Lemeschewsky**

Urban Biomass Extraction for Effective Management.....**Vivian Queija**

Remote Sensing Data Characterization.....**Greg Stensaas**

Assuring the Quality of Aerial Imagery.....**Greg Stensaas and George Lee**

Rapid Response Low Cost Airborne Digital Imagery.....**D. Tucker,**

.....**P. Chavez, and R. Bogel**

InSAR and the Hector mine earthquake: Crustal deformation vs atmospheric anomaly

.....**James Calzia**

Land Characterization

A multi-scale segmentation approach to filling Landsat SLC-off imagery..**Susan Maxwell**

Retrieving Woody Vegetation Structural Parameters from LUTs Generated with a 3-D

Scene Model **Wenhan Qin** and **Zhiliang Zhu**

A Dynamic Approach to Mapping and Predicting Urban Growth Impacts by Modeling

Imperviousness Variations.....**George Xian**

Development of multi-sensor applications for landscape and regional quantification of

climate change impacts and carbon dynamics.....**Bruce Wylie**

Land cover mapping and biodiversity characterization **Chandra Giri**

Airborne Hyperspectral Imagery Analysis to Predict Soil Suitability for Application of Coalbed Methane Produced Water, Powder River Basin, Montana .[Jamie Mcbeth](#)
Investigating and Modeling Landscape Vulnerability to Water Erosion and Impact to Coral Reefs, Hawai'i[P. Chavez](#), [Miguel Velasco](#), [J. Isbrecht](#), and [R. Bogle](#)
Examples of ground and remote sensed data analysis for ecohydrologic research and resource management[John Jones](#)
Land-cover characterization of the Lake Tahoe basin: 1940-2002.....[Christian Rauman](#)
Innovative Approaches for Analysis of Lidar Data.....[Jason Stoker](#)
Monitoring land cover and land surface change in the National Petroleum Reserve-Alaska.....[Brook Kintz](#)
Evaluation of IFSAR/Landsat Data Products for Land Cover Mapping in Northern Alaska.....[Michael D. Fleming](#)
Mapping Invasive Leafy Spurge with Remote Sensing Technologies.....[Susan Stitt](#)

Other LRS Related Topics

Landsat New Products.....[Jim Lacasse](#)
Land Remote Sensing Archive and Dissemination.....[Rich McKinney](#)
Land Management Applications of the EROS Digital Photo and Satellite Image Archive[Randy Mckinley](#)
Providing Commercial Imagery to Federal Users.....[Jenn Willems](#)
Commercial Remote Sensing Data Contracts[Mike Duncan](#)
U.S. Geological Survey's Global Visualization View.....[Karen Zanter](#)
A Low Cost System Architecture for Archiving Data Access and Archiving[Tom Kalvelage](#)
USGS EROS 2004 Tsunami Response.....[Brenda Jones](#)
Remote Sensing Education and Training - Renewed Efforts by the USGS EROS[Brian Bailey](#)
The Land Processes Distributed Active Archive Center (LP DAAC) – Data, Tools and Services for the Land Remote Sensing Community.....[John Dwyer](#)

April 13, 2005

Welcome/Instructions/Breakouts

8:30 C. Markon - Schedule for the day

8:40 B. Quirk – Review of previous day

8:55 J. Feuquay – Charges of the Day: Breakouts (pre-defined based on attendee list)

The purposes of the breakout groups are to provide input to the LRS Program Coordinator that can be used as guidance for future planning and direction of the Research and Applications Element in terms of determination of the types of projects to continue and new projects to initiate, and provide information on how best to enhance and initiate cooperative work with other disciplines and agencies.

9:00 Breakout Session 1 (four different groups); Questions to Discuss:

- 1) Do the current activities of the LRS program address the important current issues?

As evidenced by the many and varied posters that were displayed on day one, the LRS Research and Applications Element is involved in numerous projects and at multiple scales and time frames. As such, the first question can be broken down into two sub-questions:

- a. What is LRS not doing that it should be doing?

Are there activities that the LRS Research and Applications Element should be engaged in that are not listed here that meet the goals of the Directors science initiatives and the Geography Science Plan?

- b. What is LRS doing that it should not be doing?

Are there activities that were shown in the poster session that should be discontinued because they no longer meet the Directors science initiatives, the Geography Science Plan, or are no longer considered as research and should be considered more operational in nature.

- 2) What is the best way to coordinate the current activities within the LRS program?

One of the purposes of the Science Fair was to provide a means by which LRS Research and Applications Element scientists could meet with each other and other scientists in closely related fields for discussion about their activities in the field. What would be a good mechanism by which the LRS scientists with similar interests coordinate their activities to reduce redundancy in projects and facilitate the co-submittal of project proposals

- 3) What are the major topical areas that LRS research should focus on in the future?

The posters for day one of the workshop were combined into four topical areas. Are these topical areas the best to use? If not, what would be better group headings to use?

10:20 Break

10:40 Group Reports: Session 1

13:30 Round-table discussion

12:00 Lunch

13:00 Breakout Session 2 (four different groups); Questions to Discuss:

- 1) What are the needs of other disciplines/agencies and how can the LRS program best serve the other disciplines/agencies?

Some of the work that the LRS program achieves is carried out in cooperation with other disciplines within the USGS or with other federal agencies. Are the needs of other disciplines or agencies being adequately addressed? If not, by what means or mechanism can the LRS program address those needs?

- 2) How can the LRS program enhance or initiate new cooperative work with other disciplines and agencies?

Base partially on the answers to the question above, what types of activities should the LRS Program management and research staff engage in to enhance the programs ability to work more cooperatively with other disciplines or agencies?

13:45 Group Reports: Session 2

14:15 Round-table discussion

14:30 Break

15:10 Highlights of Group Reports

15:30 J. Feuquay: summary words of wisdom and future direction.

16:00 Adjourn