A newsletter of the NJ Department of Agriculture in collaboration with the NJ Department of Education

May 2006
Volume 1, Issue 1

GIS ❋ GPS ❋ REMOTE SENSING ❋ SPATIAL ANALYSIS

In the Field with GIS

GIS Conference for Ag Educators

The New Jersey Department of Agriculture, in collaboration with the New Jersey Department of Education, hosted the first ever Geographical Information Systems GIS/Global Positioning System Conference for agriculture educators in New Jersey. The day-long event was held on May 1 at the Rutgers Eco-Complex in Burlington County. Conference participants had the opportunity to learn about cutting edge geospatial technologies, such as geographic information systems and remote sensing. Key speakers during the day included: Dr. Jack Rabin, Assistant Director, New Jersey Agriculture Experiment Station; Dr. Peter Oudemans, Rutgers Extension Specialist in Blueberry and Cranberry Pathology; and Merrilee Torres of the Burlington County GIS Office. Topics covered included: Introduction to Geospatial Technologies and Remote Sensing/GIS Information and Vocabulary; Geospatial Thinking and Demonstrations; Career Opportunities and Applications of GIS; and the Meaning of Geospatial Technologies for the Agriculture, Food, and Natural Resources Curriculum.

Rutgers Eco-Complex

During a hands-on "geocaching" session conducted by Mr. John Moore, Geoscience and Remote Sensing instructor at Burlington County College, and Mr. Joe Latigona, School Resource Officer, Medford Police Department, participants were also able to explore the use of global positioning system (GPS) receivers. GPS units "capture" signals from a number of satellites orbiting the Earth to identify the specific location on the surface of the planet where the unit or receiver is located.

In this issue…

The Departments of Agriculture and Education are planning to discuss a follow up hands-on training on GIS software. Stay tuned for more information as plans develop!

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Quick Notes…

"Education World" Gets on the GIS Bandwagon

"Education World" provides an online environment rich in resources for educators. Now, for educators on the cutting edge of technology, there is more!

Visit Education World at: http://www.education-world.com/a_tech/tech/tech186.shtml and find GIS lessons, activities, and projects for the classroom.

The New Jersey Geographic Information Network

The New Jersey Geographic Information Network (NJGIN) is your new and improved gateway to geospatial information in New Jersey.

Explore the NJGIN Website at: https://njgin.state.nj.us/NJ_NJGINExplorer/index.jsp.

The New Jersey Geospatial Forum

The New Jersey Geospatial Forum (NJGF) is an open organization, encouraging the participation of any individual interested in New Jersey's geospatial industry. The NJGF meetings draw individuals from many different sectors sharing a common interest in geospatial technologies.

The NJGF has six primary objectives:

1. Stimulate and encourage the advancement of an interdisciplinary, professional approach to the planning, design, operation, and use of Geographic Information Systems (GIS) and related technology to meet the needs of public and private information providers, stewards, and users in New Jersey;

2. Provide a forum for communication and coordination among the various professional disciplines that comprise the membership of the NJGF;

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The New Jersey Geospatial Forum *(continued)*

3. Bridge the gap between information producers, stewards, and users;

4. Promote professional and educational development of the membership by providing opportunities for the exchange of knowledge and information;

5. Provide a conduit through which the membership can reach consensus on GIS policies and standards as they relate to New Jersey's spatial data infrastructure; and

6. Provide a mechanism through which the interests and concerns of New Jersey's GIS community can be directed to appropriate policy makers.

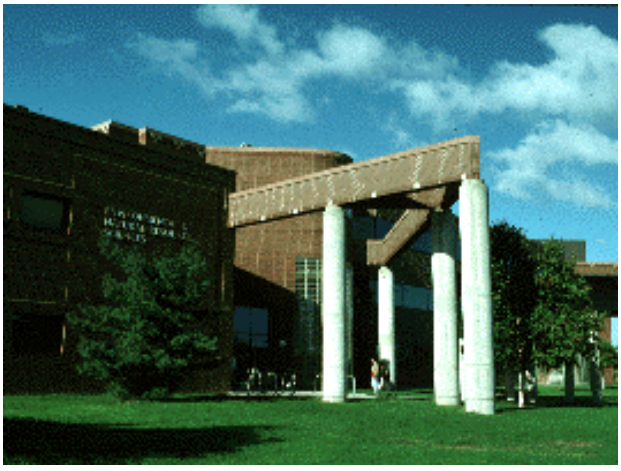
For more information on NJGF, visit: https://njgin.state.nj.us/OIT_NJGF/index.jsp.

Remote Sensing and Spatial Analysis at Rutgers

The Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA) is located in the Environmental and Natural Resource Sciences building on the Cook College Campus of Rutgers University.

CRSSA's active research and development program focuses on advancing the application of various geo-spatial technologies including remote sensing, geographic information systems (GIS) and global positioning systems (GPS).

CRSSA also develops spatial-statistical analysis/modeling techniques to the environmental, agricultural and natural resource sciences and management.



The Center, directed by Dr. Richard G. Lathrop, provides students, faculty, staff and other researchers with state-of-the-art facilities for remote sensing/GIS/GPS research and teaching.

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Environmental and Natural Resource Sciences building – Cook College

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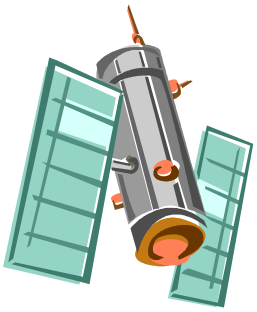
Remote Sensing and Spatial Analysis at Rutgers *(continued)*

CRSSA Agriculture-Related Projects/Sites:

Geospatial Technologies and Farmland Preservation -
http://deathstar.rutgers.edu/projects/preserve/

Geospatial Technologies and Crop Monitoring –
http://www.crssa.rutgers.edu/projects/gps/web_page/web_page.html



Center for Remote Sensing and Spatial Analysis (CRSSA)
Cook College, Rutgers University
14 College Farm Road
New Brunswick, NJ USA 08901-8551
732-932-1582
www.crssa.rutgers.edu

Camp Silos / Farm Tech Trek

The Web is full of resources for geospatial technologies in agriculture, and Camp Silos/Farm Tech Trek Web page is of the more 'fun' sites to visit.

The student site is found at: http://www.campsilos.org/mod4/students/farmtreka.shtml; and,

the teacher site is found at: http://www.campsilos.org/mod4/teachers/farmtrek.shtml.

The site provides a simple and clear explanation of geographic information systems (GIS) and global positioning systems and how they are used in agriculture/farming. Be sure to check out the link for tractor mounted GPS receivers on the site to see what John Deere has been up to in the GPS area.

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Learning to Think Spatially

A recent (2005) publication by the National Academies Press examines the role and importance of spatial thinking in grades K-12. *Learning to Think Spatially: GIS as a Support System in the K-12 Curriculum Committee on the Support for the Thinking Spatially: The Incorporation of Geographic Information Science Across the K-12 Curriculum*, can be purchased or read online at http://www.nap.edu/catalog/11019.html. Readers will learn that, "Spatial thinking—a constructive combination of concepts of space, tools of representation, and processes of reasoning—uses space to structure problems, find answers, and express solutions. It is powerful and pervasive in science, the workplace, and everyday life."

Education Public Access Resource Center

The Education Public Access Resource Center (Ed-PARC) is one of three Public Access Resource Centers established within the Upper Midwest Aerospace Consortium (UMAC). Ed-PARC's website can be found at http://smtc.uwyo.edu/edparc/about_us.asp.

Ed-PARC's mission is to form, support and maintain a collaborative partnership among K-12 educators, teacher educators and scientists to provide students with authentic learning experiences in earth system science. Specific objectives include:

- Develop teaching/learning activities that reflect recent development in understanding how people learn - actively, collaboratively, conceptually, constructively, contextually, multisensorily- and are consistent with ongoing work in national reform efforts;
- Utilize remote sensing, GPS and GIS as tools to inspire students and teachers to think systematically about the earth; and
- Distribute relevant data and information in forms usable in schools.

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Education Public Access Resource Center *(continued)*

The Ed-PARC website offers a number of downloadable lesson plans, including:

- "Declining Farms" (examines the decline in the number of farms in North Dakota);
- "Where's the Beef" and "Got Milk" (examines beef and dairy farms);
- "Open Spaces—Constant Change of the Grassland of the U.S. (examines the continued loss of open space to land development)

To download Ed-PARC Lesson Plans go to: http://smtc.uwyo.edu/edparc/lesson_plans.asp.

Links of INTEREST

- The New Jersey Department of Environmental Protection's GIS website: http://www.nj.gov/dep/gis/
- Guide for integrating GIS into the high school curriculum: http://www.ncsu.edu/gisined/ (note: there are some "dead" links on this site, but generally it is good; hosted by North Carolina State University)
- The National Center for Agriscience and Technology Education: www.agrowknow.org (users need to register to get full use of site and resources)
- The United State Geological Survey/National Geospatial Programs Office: http://www.usgs.gov/ngpo/
- The New Jersey Natural Resources Conservation Service Geographic Information Service: http://www.nj.nrcs.usda.gov/technical/gis/
- Precision agriculture: http://www.ghcc.msfc.nasa.gov/precisionag/

For more information on geospatial technologies from the NJ Departments of Agriculture or Education, please contact:

- Nancy Trivette, NJ Department of Agriculture, nancy.trivette@ag.state.nj.us; or
- Lori Thompson, NJ Department of Education, lori.thompson@doe.state.nj.us.