Short Reports from GIS Related ASM 2009 Workshops

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The following are shorter versions of the longer working group reports for the following ASM 2009 Workshops:

Applications of LiDAR to Ecological Research
LTER Remote Sensing Data Information and Coordination
Communicating your research visually to the wired world
Integrating spatial and temporal data across the LTER network

Applications of LiDAR to Ecological Research http://asm.lternet.edu/2009/workgroups/applications-lidar-ecological-res... [1]

The workshop Applications of LiDAR to Ecological Research was attended by 50 people. The workshop consisted of a presentation on LiDAR basics by Monica Moskal from the University of Washington, a presentation on LiDAR applications at the HJ Andrews Experimental Forest by Tom Spies (US Forest Service), and a discussion period. It is clear that LiDAR is being used at many sites and many other sites are planning to use it. There is good potential for continued cross-site

activity around this topic. The presentations are posted on the ASM website.
Several items were identified during the session;
1. The need for some standards/guidelines for sites as they acquire data. Experiences have varied at individual sites (what data products they should specify as deliverables in contracts, what level of accuracy, and calibration of intensity returns).
2. Sources of funding: what are they, how do you find out about them, what consortiums are available, what will be available from NEON and when.
3. Cross site opportunities that folks would be interested in:
a. Coastal sites looking at elevation limits with species, marsh flats and applications in water.
b. Forested sites looking at biomass and LAI estimations: LAI is difficult to measure and calibrate and there could be benefit in having a group meet to discuss technical challenges.
c. California/Oregon interested in shrub areas in burnt areas.
Items Assigned:
1. Develop a mailing list for the 50 people who filled in the signup sheet.
2. Survey LTER sites to see who has LiDAR, date, level of accuracy, software they are using to process/model.
3. Develop a resource data base for help in processing and using LiDAR in ecological research

LTER Remote Sensing Data Information and Coordination
http://asm.lternet.edu/2009/workgroups/lter-remote-sensing-data-information-and-coordination

One of the main points of discussion during the meeting was a need for an LTER committee to focus on
remote sensing and spatial data issues, particularly at the Network level to address ISSE research. The
past LTER technology committees considered spatial data as a part of their discussions, but not a
primary focus. Now that the Technology Committee has been disbanded, most of the issues covered by
the LTER Technology Committee are now included in other committees like the LTER IM, NISAC,
and Climate committees. So a focus on spatial data, particularly for Network-level research, is no
longer covered in the current LTER committee structure. A Spatial Data Committee could give the
LNO advice that could be documented and implemented though agreement by the LTER Executive
Board. For instance, a committee could come up with standards that LNO would document and post.
An example would be acquisition of specific data or use of tools that could be linked to Google Earth.
This committee would could also link with the Information Management GIS

working group. This
group does not focus on remote sensing issues, but, coordinates efforts within the LTER Information
Management Committee related to management of spatial data. There is no current path for the GIS
committee to get their recommendations implemented except through the IM committee itself, so
representation of this IM working group on an LTER Spatial Data Committee would be important.
This group agreed that a committee was needed and people agreed to serve as initial members of the
committee. Theresa Valentine agreed to serve as the person to represent the IM GIS working group on the committee. (read the rest of the final report)

Communicating your research visually to the wired world
http://asm.lternet.edu/2009/workgroups/communicating-your-research-visua... [2]
The LTERMaps team presented a power point (related materials) on current visualization tools available to LTER sites, and a comparison of three different interactive mapping technologies. There were demos of the technologies and the strengths and weaknesses of each were identified. The LTERMaps project was also introduced to the workshop attendees and there was discussion on enhancements, partnerships, and future direction.
LTERMaps is an inter-site effort between Andrews, Konza Prairie, Bonanza, Georgia Coastal, and Baltimore LTER sites. The core group has been meeting via video conference calls since January 2009 and have developed a prototype with no outside funding.
Future Direction: The LTERMaps team would like to get together to finalize Phase 1 of the LTERMaps project and begin the design and development part of Phase 2. Phase 1 is a common access to all LTER sites through a mapping interface. There is basic information about each LTER site, along with site boundaries, and aerial photography.
Phase 2 provides a more detailed look into each LTER site, and can also provide a detailed look into cross site activities such as Clim/HydroDB and EcoTrends. Phase 1 will be stored at the Network Office.

Integrating spatial and temporal data across the LTER network
http://asm.lternet.edu/2009/workgroups/integrating-spatial-and-temporal-... [3]
Jin Yao (JRN) gave a short presentation on the need of integrating spatial and temporal data to solve ecological questions, using two papers (Guttal and Jayaprakash 2008 and 2009) on finding early warning signals of regime shifts in ecosystems as illustrations. The meeting participants 2
were then divided into five groups, and asked to come up with a topic (or question) that can only be explored with both spatial and temporal data, at any scale, from site to regional, continental to global.
Christine Laney (JRN) introduced the EcoTrends and P2ERLS projects and

websites, introduced EcoTrends' participating sites and variables, and the motivational reasons for wanting to build web services that display the long-term data within their spatial context. The discussion groups were asked: Are there any temporal data in EcoTrends that can help solve your question? If not, what temporal data do you wish you could have? Where would you normally find these data?
Three presenters gave short presentations on the availability of spatial data on the internet. John Vande Castle (LNO) introduced the type of remote sensing data archived by the LTER Network Office. Theresa Valentine (AND) introduced a website that uses the Adobe Flex API to display data from the EcoTrends Socioeconomic Catalog, a website that hosts human population and economic data from 1790 and 2000 for 23 LTER sites. Jin Yao (JRN) introduced six online geodatabase sites that host mainly USA spatial data. After these three presentations, the groups discussed the following: Are there any spatial data mentioned in the three presentations that can help you solve your question? If not, what spatial data do you wish you could have, and do you use any sources that have not been mentioned yet?

- gisData [4]

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Source URL: http://im.lternet.edu/news/committees/working_groups/gis_data/asm2009_other

Links:
[1] http://asm.lternet.edu/2009/workgroups/applications-lidar-ecological-research
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