High performance geographical information systems for synthesis across ecological research sites

Abstract:
LTER sites are developing high performance Geographic Information Systems (GIS) to facilitate synthesis across sites. Technologies are emerging that will further enhance the ability to spatially analyze temporal data and develop models that can be shared across sites.
The workshop will highlight GIS development projects around the LTER network, emerging tools, and will investigate additional GIS resources and tools needed to assist researchers with synthesis analysis. The workshop participants will identify issues, barriers, existing resources, and the potential for collaborative efforts with partners.

The Workshop:
The workshop had three presenters:
1. Liz Sarrow of ESRI demonstrated the new capabilities of ArcGIS9.2 software that support visualizing and analyzing temperal change, patterns, and trends. Liz highlighted data from the Andrews LTER, including historical fire data and a combination of road construction, harvesting, and landslide data. She then accessed ClimDB to access precipitation data and displayed the data on graphs. The software is scheduled to be released in the fall of 2006 and users will be able to visualize long-term data through time-based animations that synchronize the display of multiple layers on the same time interval.
2. Jonathan Walsh shared his experience incorporating Google Earth with GIS software using Baltimore Ecosystem Study LTER data.
3. Theresa Valentine from Andrews LTER site, updated the group on WatershedDB. WatershedDB is a project to assemble spatial data for participating experimental watersheds in the USFS/LTER-sponsored ClimDB/HydroDB project. She demonstrated a pilot internet accessible application that allows researchers to view and interact with site spatial data layers, and link to the data collected and stored in ClimBD/HydroDB.

There wasn't time for a general meeting after the presenters, but the group agreed to meet after lunch the next day to discuss the future direction of the LTER GIS Committee and LTER site GIS needs for synthesis.

Lunch Meeting:
Several members attended the lunch meeting. We began by reviewing the results from the GIS workshop at the 2003 All Scientist Meeting and talked about items that needed to be discussed with the IM committee. We also discussed a proposal to have an official LTER GIS committee and agreed that it would be important to continue the work we have started and to have contact with other LTER GIS staff at a more frequent interval than once every 3 years. Theresa agreed to work with Don Henshaw on the creation of an official GIS committee. We also talked about finding out information on the last GIS survey of LTER sites. Eda C. Melendez-Colom volunteered to do an analysis of the last GIS survey and the group would determine if it needed to be updated.

The rest of the meeting was spent working on a proposed post ASM proposal to look at land-use/landcover data over time at several LTER sites. Gil Pontius, Barbara Nolen, and Theresa Valentine agreed to work on the proposal.

Attendees at GIS Workshop, ASM 2006

Name	LTER Site
He Hohjlin	China Cern
Stevan Easl	CAP
Suzanne Sipple	KBS
Ryan Kirk	CWT
Bob Flynn	SGS
Paul Lefort	Warra LTER, Tasmania
Steph Lyon	CDR
Sanjay Advani	MCM
Akiko Ogawa	Japan
Don Henshaw	AND
Rebecca Koskela	BNZ
Andrew King	NIWOT
Chris Gardner	MCM
Mike Rugge	FCE
Linda Powell	FCE
Margaret O'Brian	SBC
Chelse Prather	LUQ
Nancy Harris	LUQ
Andrew Pike	LUQ
Wei We	LUQ
Jamie Hollingsworth	BNZ
Barbara Nolen	JRN
Nicole Hansen	JRN
Stacey Weems	JRN
Lyle Cavanough	SBC
Brandon McLean	CAP
John Hom	BES
Andrew Balser	ARL
Ximmei Hao	KBS
Atzimba Lopez	Mexico
John Anderson	JRN
Sabine Grobner	MCR
Todd Ackerman	NWT
Alex Suazo	SGS
Gil Pontius	PIE
John Schalles	GCE
Steven Paton	STRI

Eda Melendez	LUQ
Theresa Valentine	AND
Jonathon Walsh	Baltimore
Liz Sarow	ESRI

Attendees of GIS Group Lunch Meeting:
Suzanne Sippel
Eda C. Melendez-Colom
Jonathan Walsh
Barbara Nolen
R. Gil Pontius Jr.
Jin Gao
Jamie Hollingsworth
Theresa Valentine