

7 December 2010

LTER 2010 GIS Survey Results

This is a summary of the results of the GIS survey. All 26 LTER sites responded. There is also an Excel file with the complete answers.

Question 1. Do you have a person responsible for GIS data at your LTER? What percentage of their time do they work with GIS? Give the name and email address of the person.

The amount of time spent on GIS work varies greatly between LTER sites. Most of the percentages given are estimates and some are approximate totals of multiple people at a site. Five sites don't have a person responsible for GIS data. Three sites spend <5%, nine sites 6-25%, 2 sites 26-50%, 1 site 51-75% and 5 sites have a full time person for their GIS work or groups of people working on GIS that total 100%.

Site	GIS person	contact email
AND	Theresa Valentine	Theresa.valentine@oregonstate.edu or tvalentine@fs.fed.us
ARC	Jason Stuckey	j.stuckey@alaska.edu
BES	Jonathon Walsh & 3+ others	walshj@caryinstitute.org
BNZ	Jamie Hollingsworth	jhollingsworth@alaska.edu
CAP	PhD student	ptarran@asu.edu
CCE		kbaker@ucsd.edu
CDR	Dan Bahauddin	danbaha@umn.edu
CWT	John Chamblee	chamblee@uga.edu
FCE	Mike Ruggie	ruggem@fiu.edu
GCE	Travis Douce	tdouce@uga.edu
HBR	John Campbell	jlcampbell@fs.fed.us
HFR	Brian Hall	brhall@fas.harvard.edu
JRN	Barbara Nolen	bnolen@nmsu.edu
KBS	Suzanne Sippel	sippel@kbs.msu.edu
KNZ	Adam Skibbe	askibbe@ksu.edu
LUQ	Mei Yu	meiyu@ites.upr.edu
MCM		welch.318.osu.edu
MCR		gastil@msu.ucsb.edu
NTL	Aaron Stephenson	ajstephenson@wisc.edu
NWT	Hope Humphries	hope.humphries@colorado.edu
PAL		kbaker@ucsd.edu
PIE	various people	hgarritt@mbl.edu
SBC		mob@icess.ucsb.edu
SEV	Mike Friggins	friggins@sevilleta.unm.edu

SGS Robert Flynn
VCR John Porter

robert.flynn@colostate.edu
jporter@lternet.edu

Question 2 What GIS software do you use at your site?

All sites use ArcGIS version 9 or 10 except for CCE, PAL and SBC who don't use GIS.

CCE and PAL use geospatial software applications such as satellite image processing packages IDL and Matlab.

MCR- Moorea Island does not allow disclosure of research locations so their use of GIS is somewhat limited.

Other GIS software used in addition to ArcGIS: Idrisi (PIE) , QuantumGIS (KBS, NTL & PIE), GRASS GIS (PIE), RiverGIS (PIE), ERDAS Imagine 8 (CWT, VCR), MapWindow GIS (CWT), ArcView 3.3(FCE), GDAL (KBS), uDIG (NTL), Definiens (PIE), ArcPad (SEV), Google Earth and Google Maps.

Question 3 What file formats does your site use for vector data?

LTER sites use a combination of the following formats; shapefiles, coverages, ArcSDE, personal geodatabases, file-based databases, KML, PostGIS and well-known text. Shapefiles are used most commonly (19 sites) and 18 sites use one of more of the geodatabase formats (ArcSDE, personal and file-based geodatabases).

Shapefiles- 19 sites; 6 of these use shapefiles exclusively

ArcSDE; 8 sites

Coverages- 4 sites; 1 site uses coverages exclusively

Personal geodatabase; 5 sites

File-based geodatabase; 5 sites

KML; 1 site use this for public viewing

PostGIS; 1 site is moving to this

Well-known text; CCE and PAL use this format in order to be compatible with a number of geospatial applications. They only have a limited amount of vector data. Arc Export format; 1 site uses this for posting data on the web.

Several sites mentioned that they are moving to one of these formats: geodatabase, file-based geodatabase, SDE and PostGIS.

Question 4- What format does your site use for raster data?

The two most common raster file formats used by the LTER sites are ESRI grids (13 sites) and Erdas Imagine (.img) files (8 sites). Geotiffs (4 sites) and tiffs (6

sites) are also very common. The following formats are used by one or two sites: Mr. Sid (2), JPG (2), JGP2 (1), ECW (1), SDR (1), LAN (1), ASCII (1), RST (1). HDF & Net CDF are used for satellite data by two sites.

Question 5- Do you use a spatial database? If so, what software and version does your site use.

Eleven sites are presently using a spatial database. Six sites are using ArcSDE (one uses it on top of Oracle, three sites use Oracle, two sites use SQL Server (one uses it with ArcSDE), one site is using PostgreSQL and another plans to use it soon, and another site is migrating from Microsoft SQL to ArcSDE. One site has a database of named points and polygons in mSQL.

Question 6- Does your site use GIS server software for either web mapping or hosting data services?

Nine sites are using GIS server software and most are using ArcGIS Server. AND, BNZ, HFR, NTL SEV and SGS presently use ArcGIS Server for web mapping and some also use it for hosting KML services, however, NTL plans to move to GeoServer. FCE and VCR use MapServer. FCE also uses PHP MapScript for their internal mapping site. GCE and JRN are using ArcSDE plus SQL Server. SEV is interested in the LTERMaps project to meet this goal.

Question 7. Does your site have a functional internet mapping site? If so, include the link. What platform and API was it developed on?

Thirteen sites presently have an internet mapping site.

<u>Site</u>	<u>Web Address</u>	<u>Platform & API</u>
<u>AND</u>	http://andrewsforest.oregonstate.edu/data/iamap.cfm?topnav=101	<u>ArcIMS</u>
<u>BES</u>	http://his09.umbc.edu/dash/	
<u>BNZ</u>	http://ltergis.iab.uaf.edu/bnzmap/	<u>.NET</u>
<u>CAP</u>	http://ltergis.iab.uaf.edu/bnzmap/	<u>Google Map</u>
<u>CWT</u>	http://data.sustainability.glbrc.org/datatables/204	<u>SDE , Java</u>
<u>FCE</u>	http://fcelter.fiu.edu/data/GIS/interactive_map/	
<u>GCE</u>	http://gce-lter.marsci.uga.edu/public/gis/gcewebmap.html	<u>Google Map</u>
<u>HFR</u>	http://hfapps.fas.harvard.edu/HF1830_Map/	<u>ArcGIS Server</u>
<u>JRN</u>	http://jornada-vgis.nmsu.edu:8399/JornadaBaseMap	<u>ArcGIS Server, Java API</u>

<u>MCM</u>	http://www.mcmlter.org/mapping.htm	
<u>NTL</u>	http://www.mcmlter.org/mapping.htm	<u>ArcGIS Server</u> <u>Java ADF</u>
<u>SGS</u>	http://sgslter.colostate.edu/maps.aspx	<u>ArcGIS Server</u>
<u>VCR</u>	http://amazon.evsc.virginia.edu/home1/?q=OnlineMaps	<u>Developed on</u> <u>Solaris, now</u> <u>Mapserver</u>

Question 8. Does your site use ESRI Image Server?

AND and JRM are the only sites that have image server running.

Question 9. Do you have a GPS that collects data at appropriate resolution for you sites needs?

Nineteen sites do have a GPS at appropriate resolution for their sites needs although several of these sites mentioned that they could use improved resolution or features. The other seven sites either borrow a GPS or don't have one to serve their needs.

Question 10. Do you have Lidar data available at the appropriate resolution for your site?

Eight sites (AND, BES, GCE, HFR, KBS, KNZ, NWT, VCR) have Lidar data at the appropriate resolution for their site. Five sites (ARC, BNZ,CWT, FCE, SBC) have some Lidar data but it isn't at the best resolution or they would like additional areas covered. MCM does have some Lidar data but resolution and coverage were not given. The remaining 12 sites don't have Lidar data. Some of these sites are very interested in obtaining Lidar data and a couple mentioned that it is a lower priority because their sites are completely underwater or focus on aquatic systems.

Question 11: Would your IM manager be interested in a GIS introductory short (3-day) course?

Five of the LTER sites said their IM manager or someone else would be interested in such a course and 5 more sites said they might be interested depending on the focus and level of the course. Fourteen sites said they would not be interested; several mentioned that their IM manager already has GIS training. There probably are not enough sites interested in a course with the same focus and level of GIS experience.

Question 12. Do you have any GIS/remote sensing training needs?

Thirteen sites noted that they might be interested in GIS/remote sensing training and listed the following topics that would be useful to them:

- Modeling
- Working with java script API (this API will be used by LTERMaps)

- Using SQL Server databases with GIS data
- SDE/Oracle administration
- Python scripting with ArcGIS
- ArcGIS geodatabases
- Geodata services
- ERDAS Photogrammetry Suite
- Rectification and management of remotely sensed data (satellite imagery and airphotos)
- GIS training
- Advanced ArcGIS Server training
- CWT said they would like to provide a short course for the graduate students at the start of each summer's field season that they would do themselves and it would be helpful to have a set of training *material* prepared, especially one that spoke to spatial data standards and protocols.