ORNL DAAC
WebGIS Demonstration

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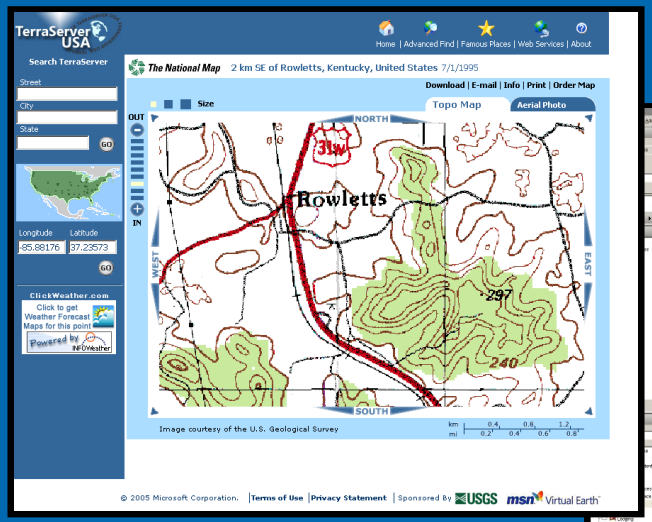
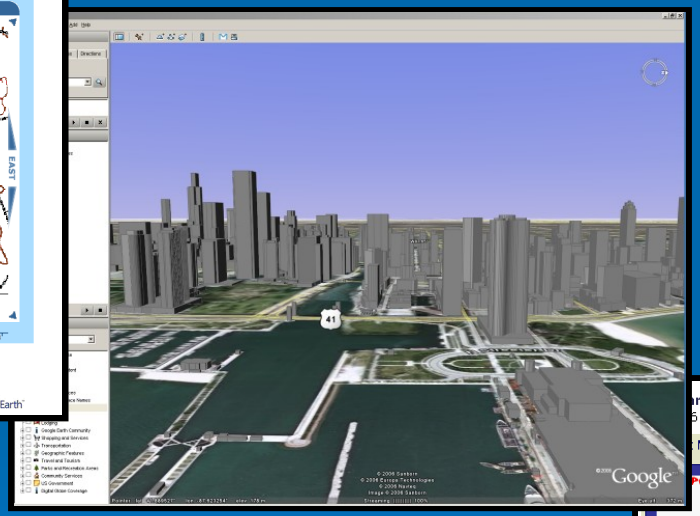
WebGIS

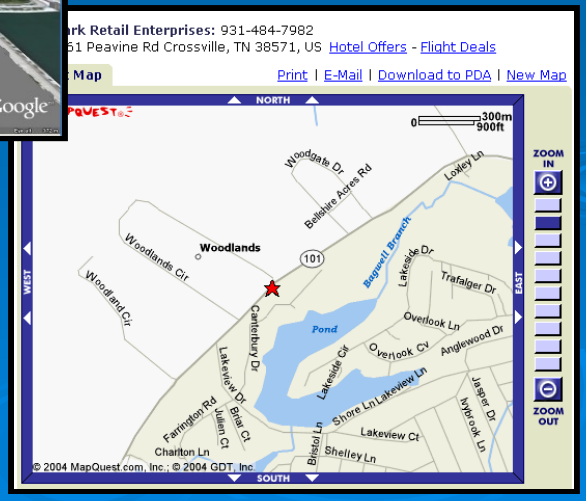
"WebGIS or Web-GIS describes a set of software that can be used to operate GIS functionality throughout a web infrastructure." - MapServer http://mapserver.gis.umn.edu/



Microsoft Terra Server

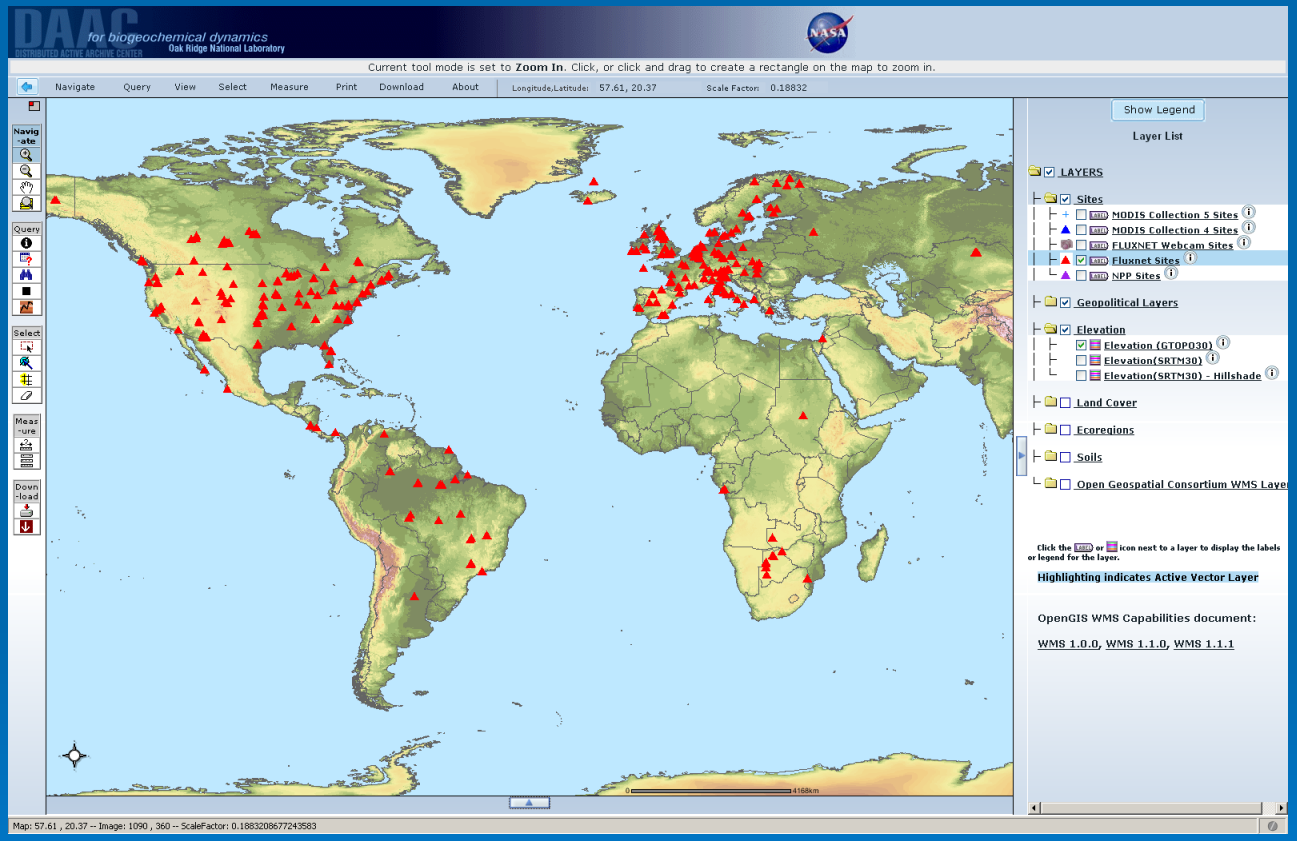


Google Earth



Mapquest

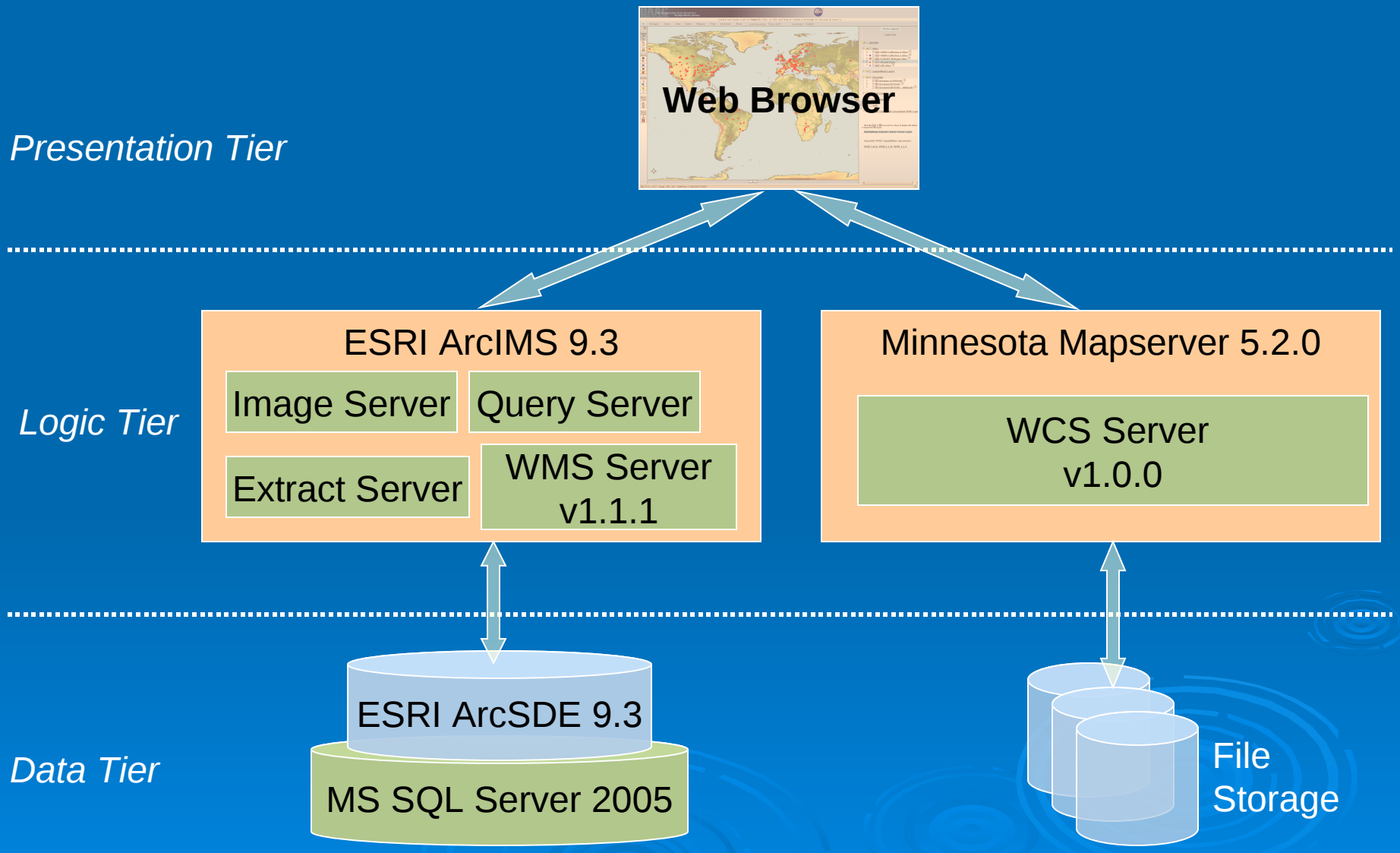
ORNL DAAC WebGIS



System Architecture:

- ESRI ArcIMS 9.3
- ESRI ArcSDE 9.3
- Minnesota Mapserver 5.2.0
- Microsoft SQL Server 2005 database back end

WebGIS System Architecture:



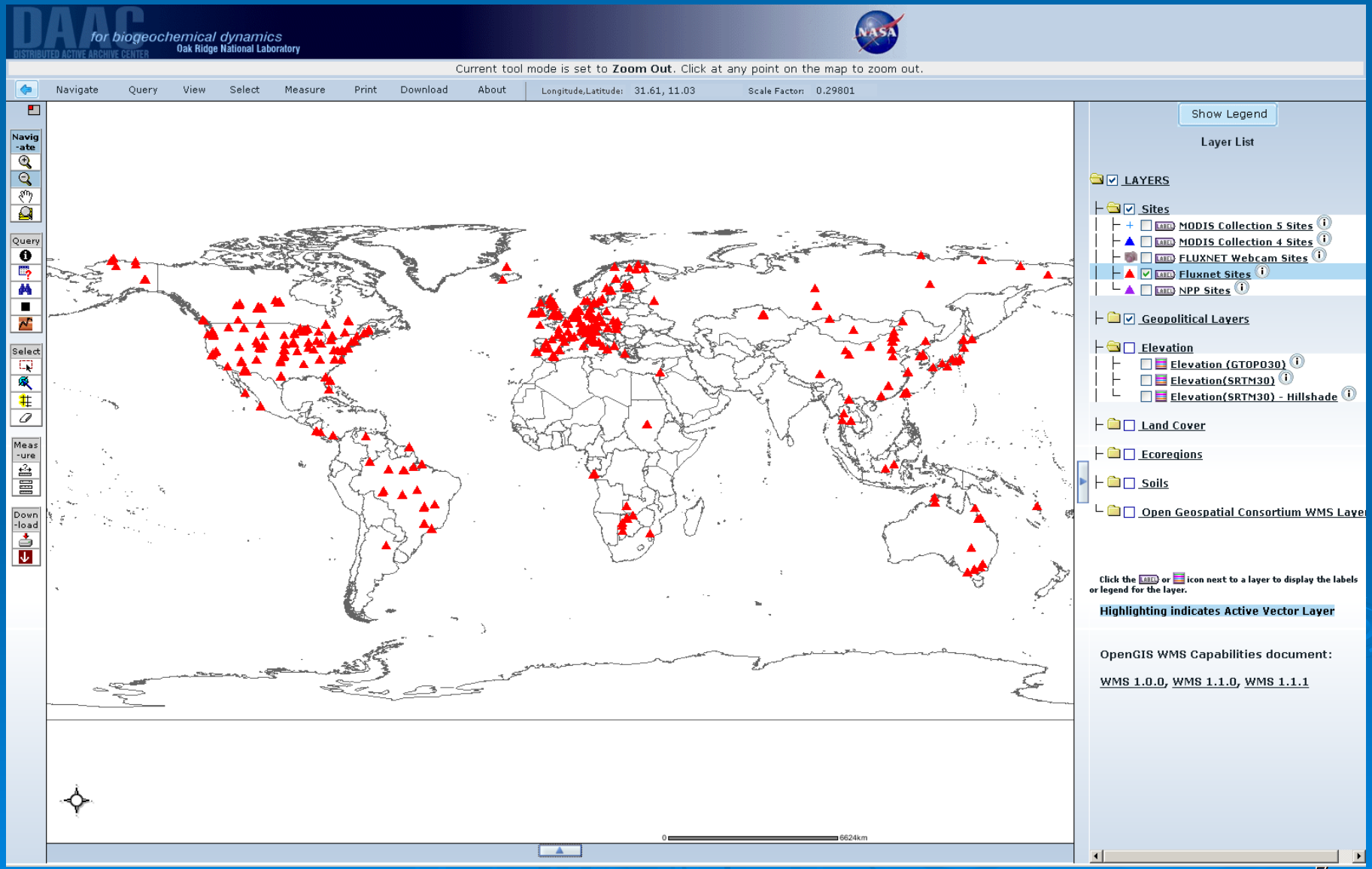
Data Layers offered

- Land cover
- Biophysical
- Elevation
- Geopolitical layers
- Field Sites (MODIS, FLUXNET, NPP)
- OGC data sets from USGS and Microsoft

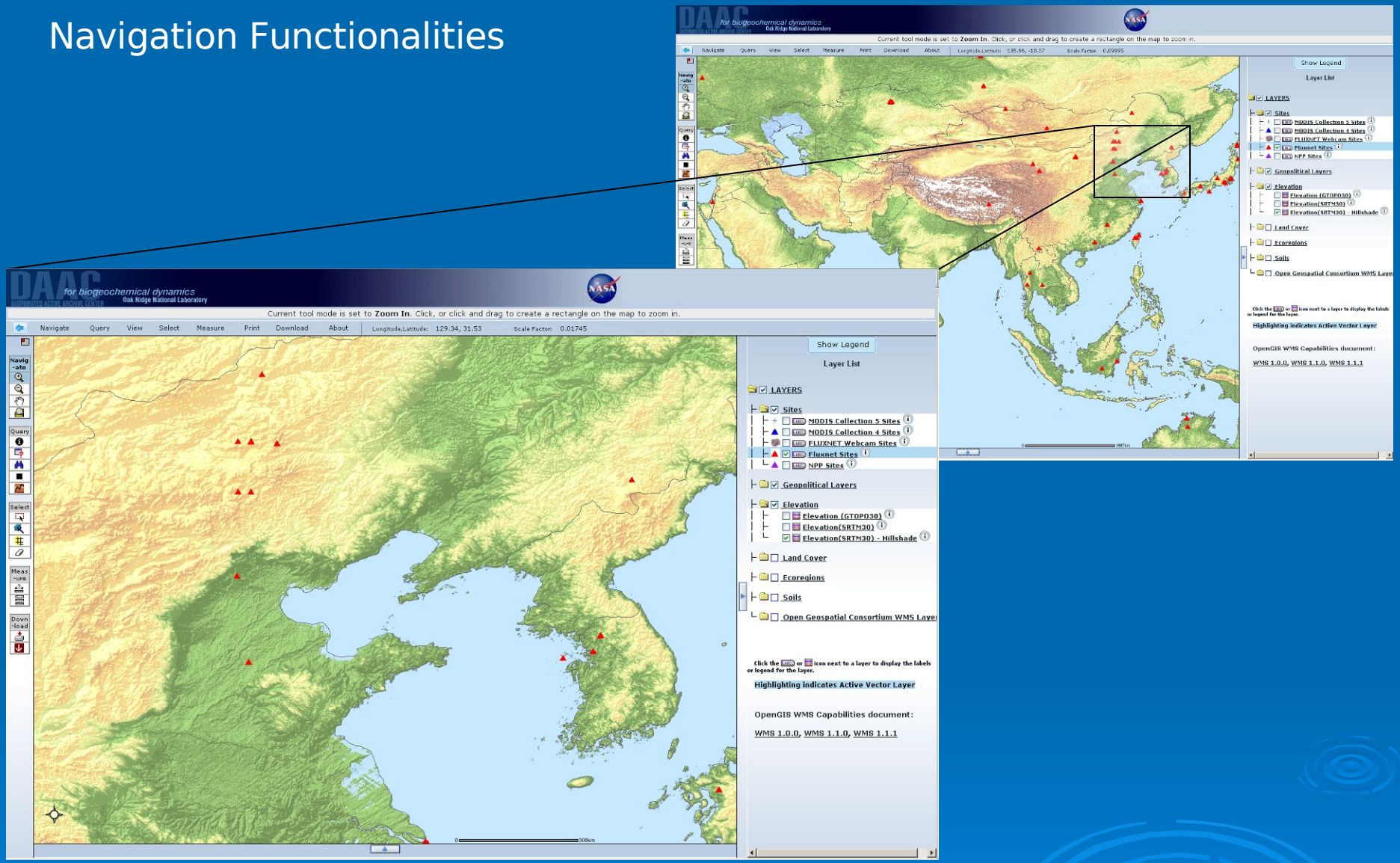
(OGC) Standards supported in ORNL-DAAC WebGIS

- The Open Geospatial Consortium, Inc.® (OGC)
- WMS 1.1.1 – Get me a picture of a data set from someplace and I define what area I want, what projection I want , what format I want…..
- WCS 1.0.0 – Get me the actual data set from someplace and I define what area I want, what projection I want , what format I want…..

WebGIS DAAC ORNL



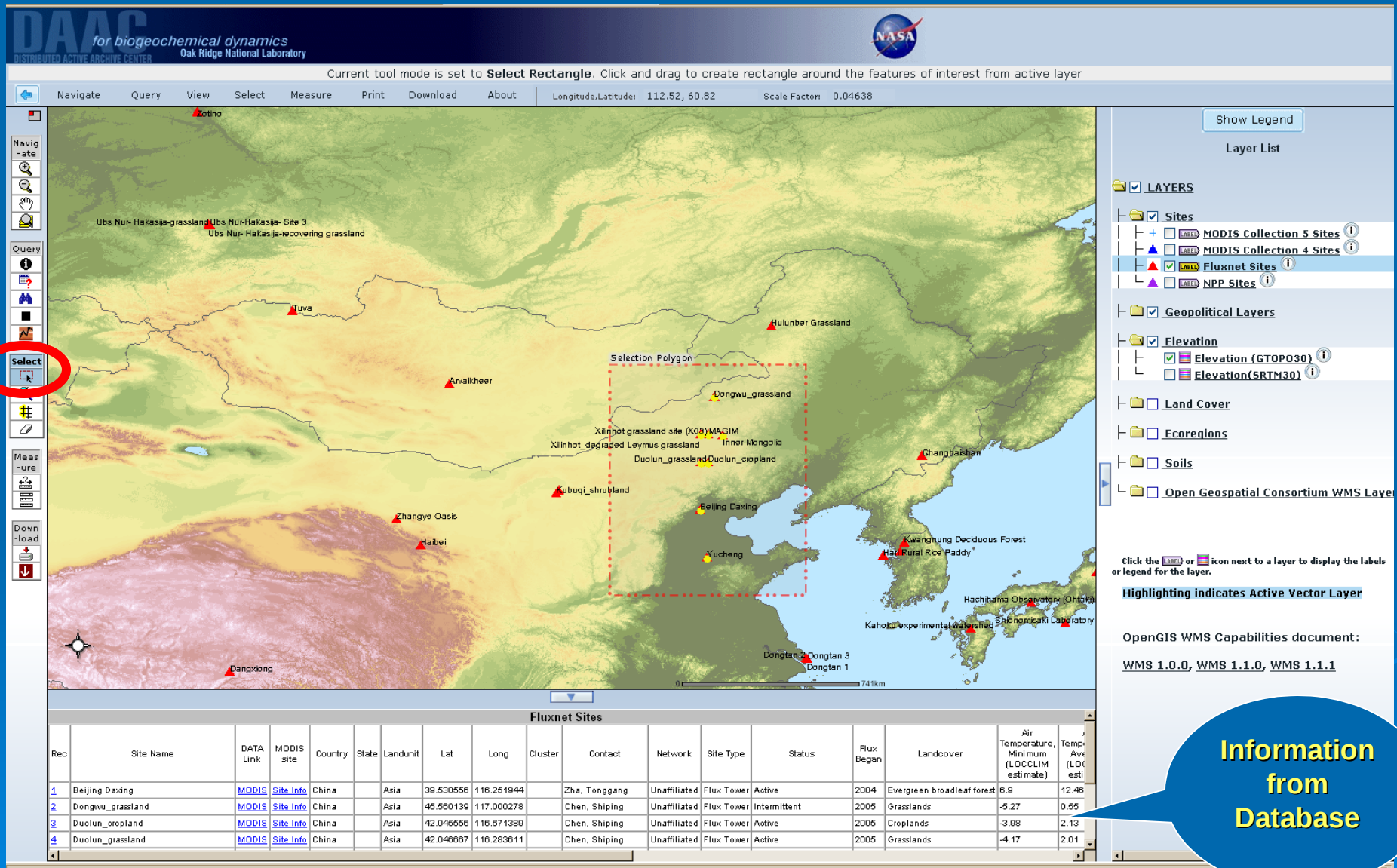
Navigation Functionalities



- Zoom in
- Zoom out
- Pan (East, West, North, South, Any)

Selection Tools

Draw a Rectangle and Select everything inside

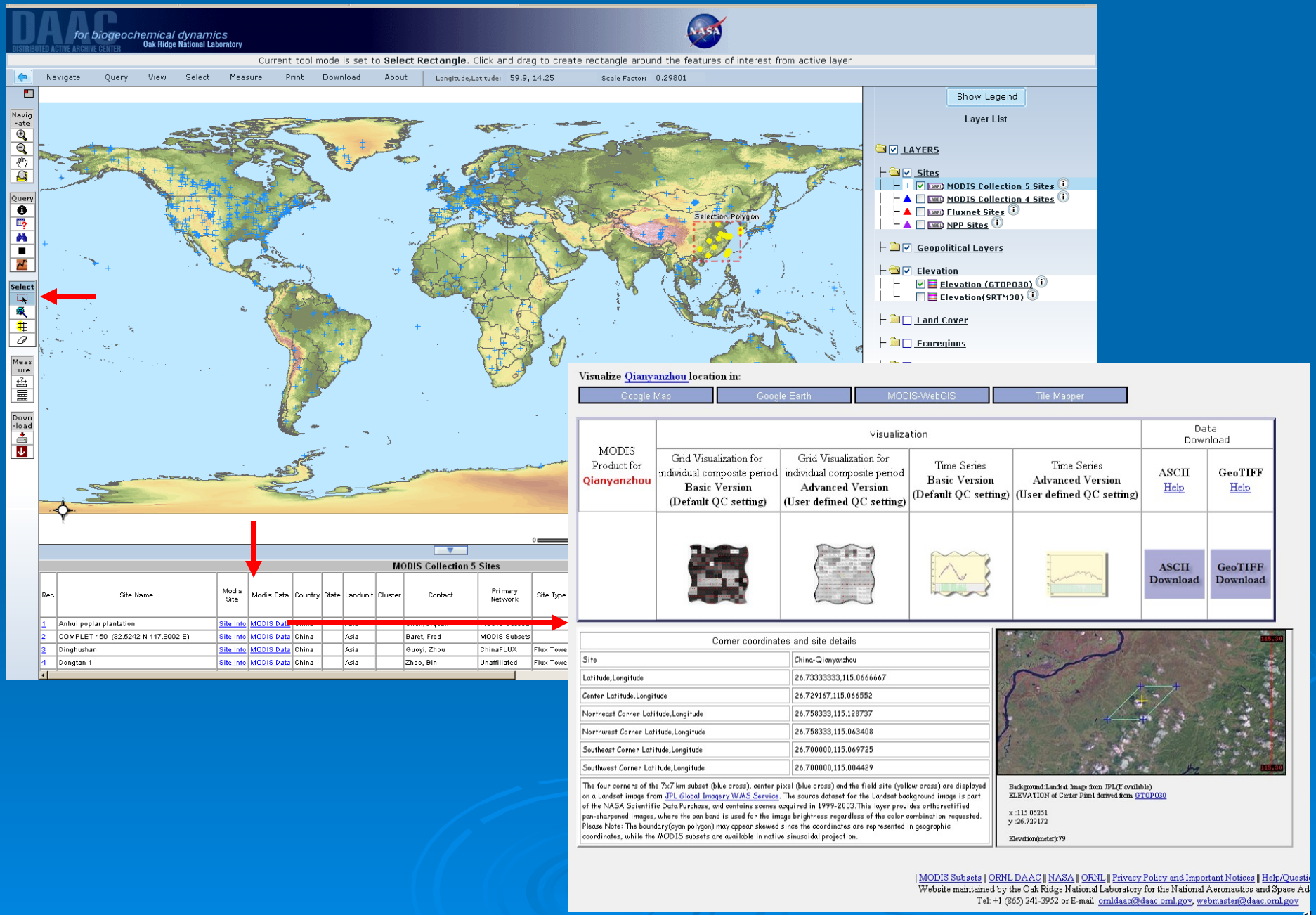


Fluxnet Sites

Rec	Site Name	DATA Link	MODIS site	Country	State	Landunit	Lat	Long	Cluster	Contact	Network	Site Type	Status	Flux Began	Landcover	Air Temperature, Minimum (LOCCLIM estimate)	Temp Ave (LOC esti
1	Beijing Daxing	MODIS	Site Info	China		Asia	39.530556	116.251944		Zha, Tonggang	Unaffiliated	Flux Tower	Active	2004	Evergreen broadleaf forest	6.9	12.46
2	Dongwu_grassland	MODIS	Site Info	China		Asia	45.560139	117.000278		Chen, Shiping	Unaffiliated	Flux Tower	Intermittent	2005	Grasslands	-5.27	0.55
3	Duolun_cropland	MODIS	Site Info	China		Asia	42.045556	116.671389		Chen, Shiping	Unaffiliated	Flux Tower	Active	2005	Croplands	-3.98	2.13
4	Duolun_grassland	MODIS	Site Info	China		Asia	42.046667	116.283611		Chen, Shiping	Unaffiliated	Flux Tower	Active	2005	Grasslands	-4.17	2.01

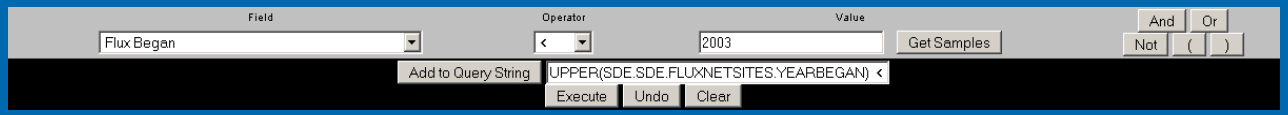
Information from Database

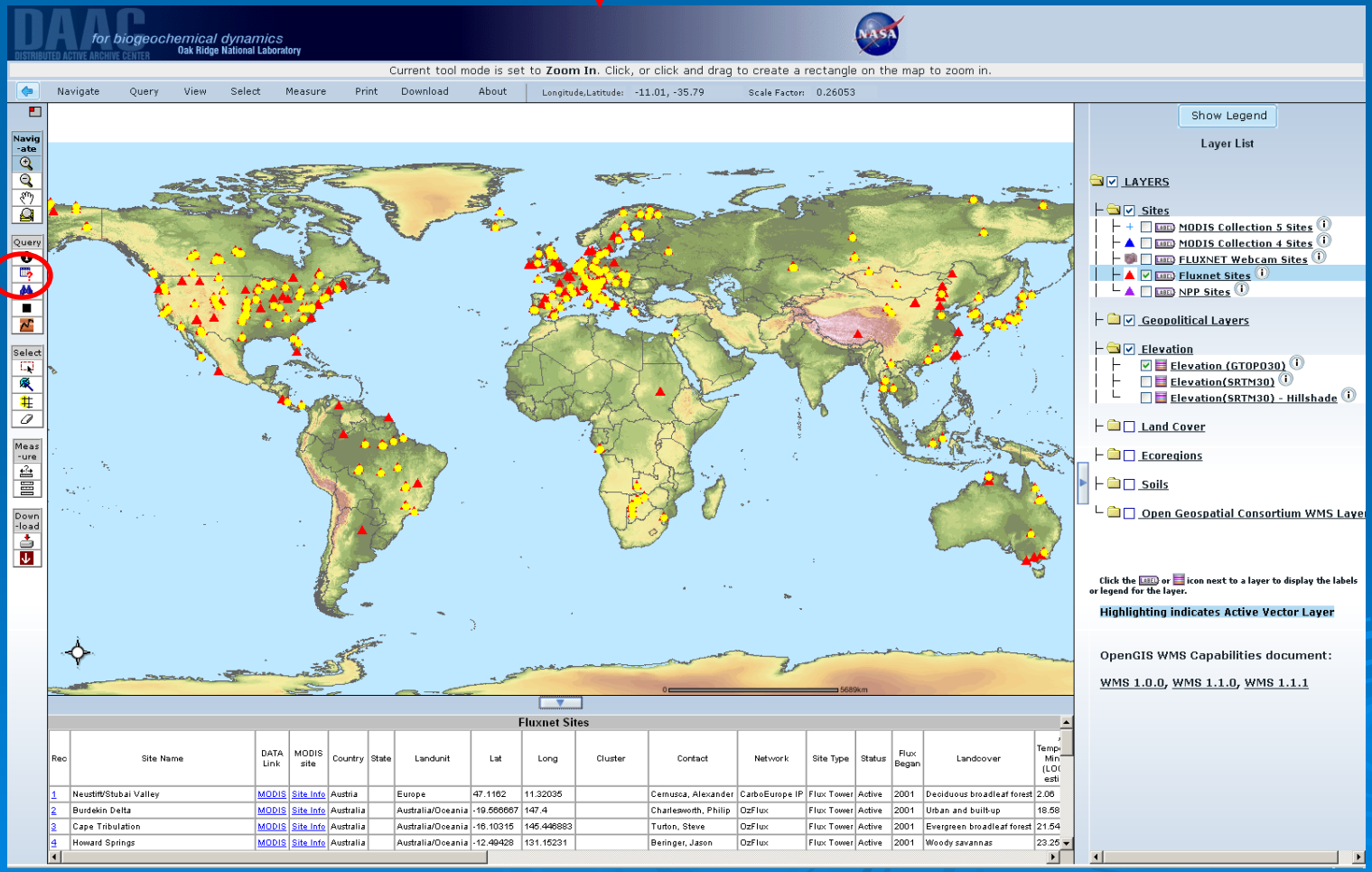
Get Detailed Site Information: Select an Active Layer



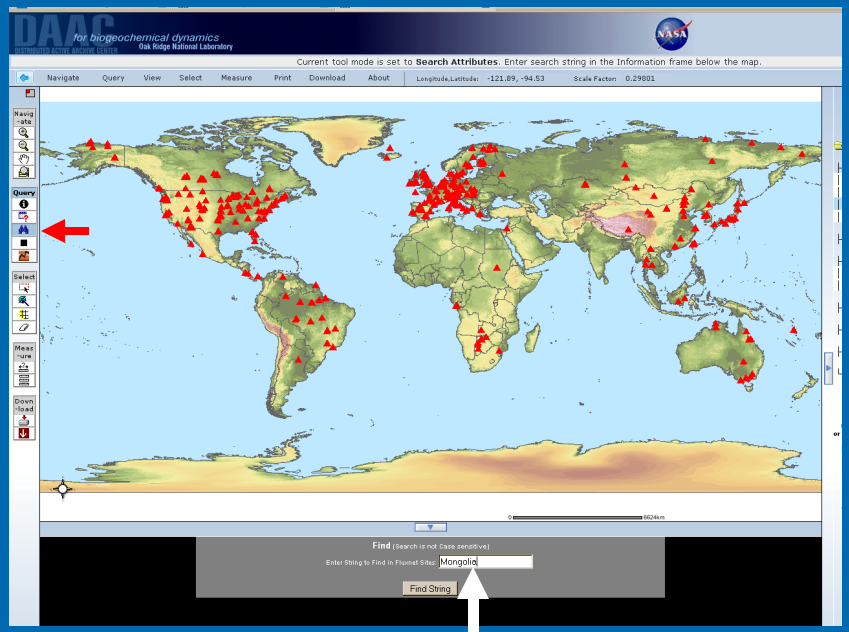
Query

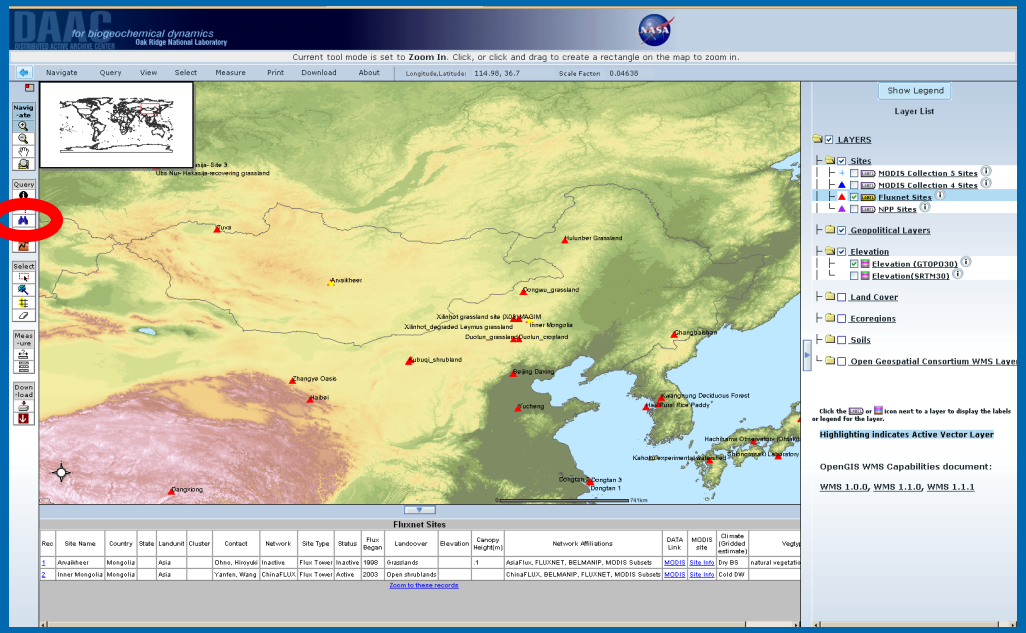
All FLUXNET sites that started operating before 2003





Find Tool





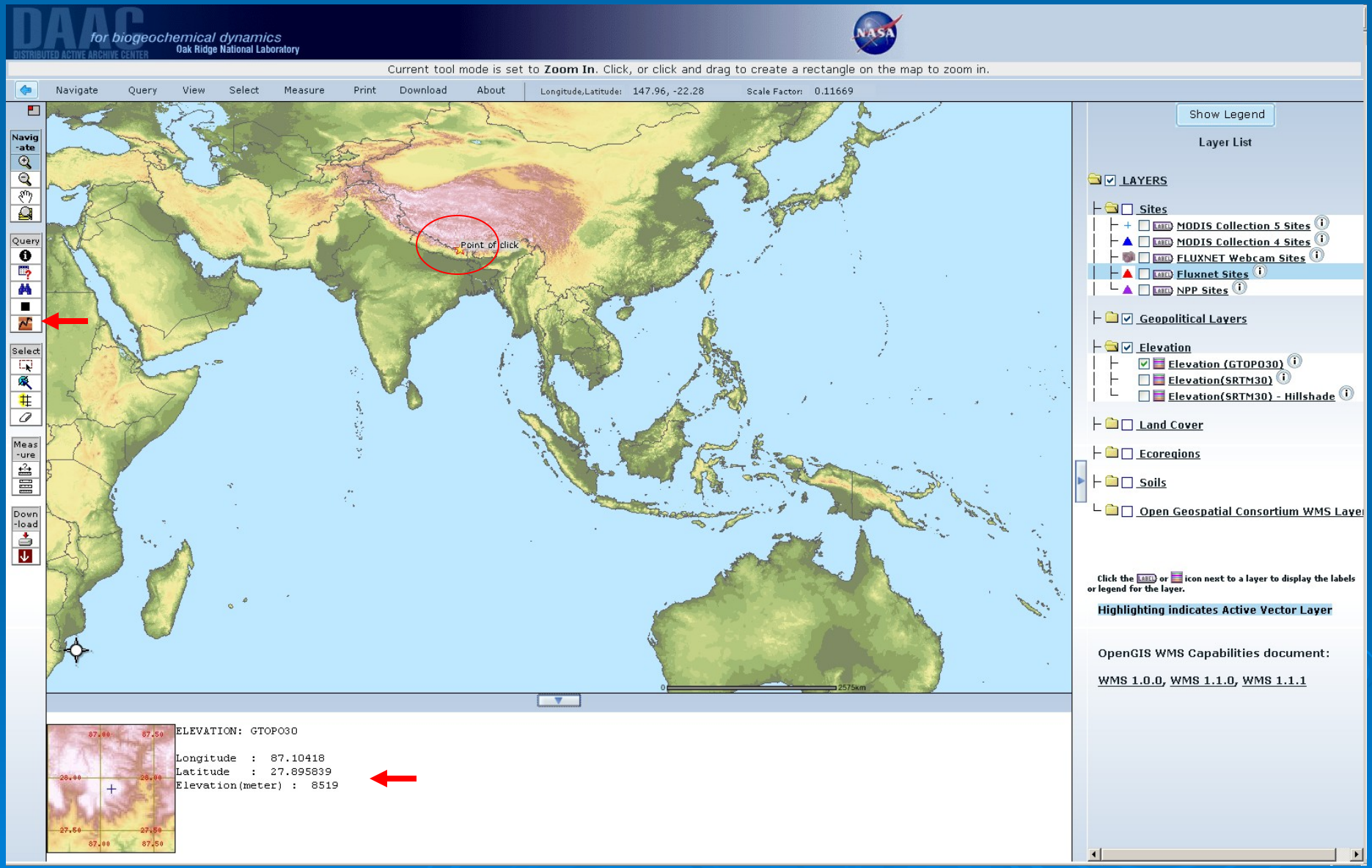
Find “Mongolia ”

Fluxnet Sites

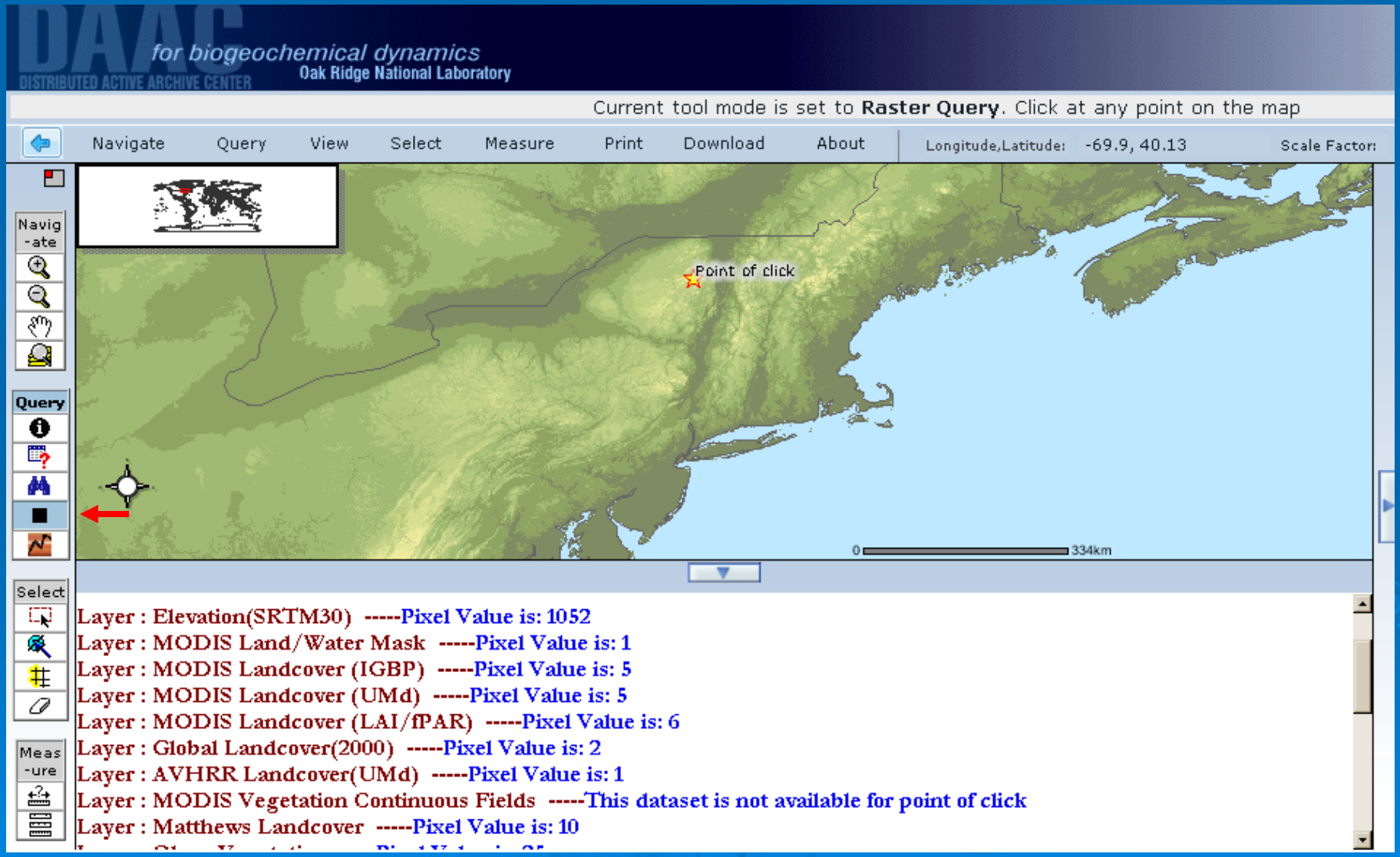
Rec	Site Name	Country	State	Landunit	Cluster	Contact	Network	Site Type	Status	Flux Began	Landcover	Elevation	Canopy Height(m)	Network Affiliations	DATA Link	MODIS site	Climate (Gridded estimate)	Vegtyp
1	Arvaikheer	Mongolia		Asia		Ohno, Hiroyuki	Inactive	Flux Tower	Inactive	1998	Grasslands		.1	AsiaFlux, FLUXNET, BELMANIP, MODIS Subsets	MODIS	Site Info	Dry BS	natural vegetatio
2	Inner Mongolia	Mongolia		Asia		Yanfen, Wang	ChinaFLUX	Flux Tower	Active	2003	Open shrublands			ChinaFLUX, BELMANIP, FLUXNET, MODIS Subsets	MODIS	Site Info	Cold DW	

Zoom to these records

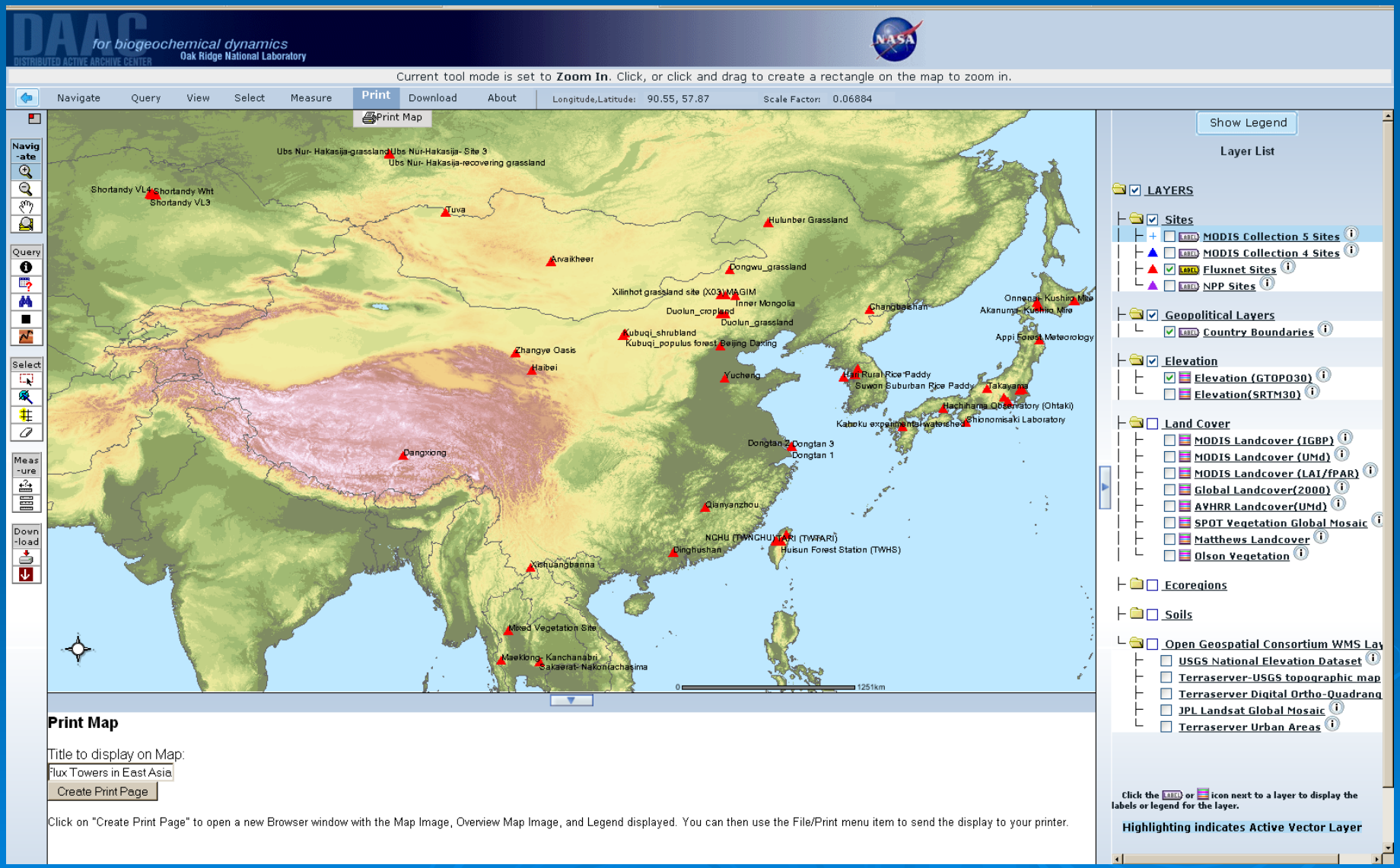
Get Elevation –Mt. Everest



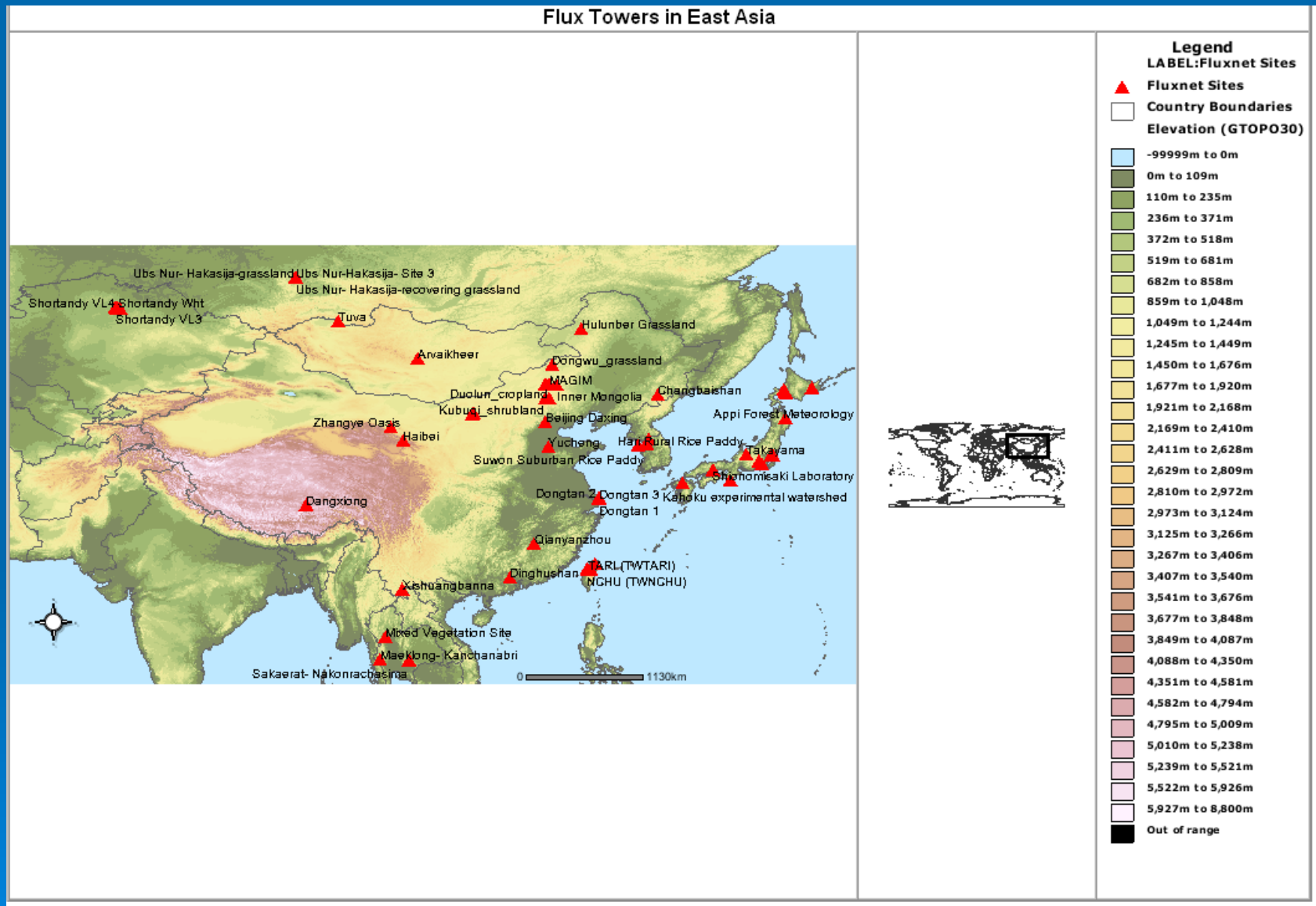
Obtain Pixel Values for Each Layer



Preparing a Map for Printing



Map Suitable for Printing



Questions?

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Email: uso@daac.ornl.gov

- http://daac.ornl.gov/mapserver.shtml
- http://daac.ornl.gov/userserv.html