



GE110 Fall 2008 - Lab 11

November 24, 2008

Introduction to Google Earth

Working Directory D:\GE110\Lab_11

[Hhttp://earth.google.com/](http://earth.google.com/)

▽ Google Earth – 3 Versions

- ✓ **Google Earth** - Google Earth lets you fly anywhere on Earth to view satellite imagery, maps, terrain, 3D buildings and even explore galaxies in the Sky. You can explore rich geographical content, save your toured places and share with others.

- ✓ **Google Earth Plus** - Intensify your Google Earth experience with these added features:
 - Enhanced network access for faster performance
 - Real-time GPS tracking and track/waypoint import – for upload of data from select GPS devices
 - ▶ Verified support for Magellan and Garmin devices only
 - ▶ Does not support export of tracks or waypoints to a GPS
 - Greater-than-screen-resolution printing – for impressive hardcopies
 - Spreadsheet imp[orter – to import locations from .CVS files

- ✓ **Google Earth Pro** - With Google Earth Pro, it's easy to research locations and present your discoveries.
 - Represent your location-based data using 3D drawing tools, or transfer up to 2,500 locations by address or geospatial coordinates from a spreadsheet. The GIS Data Importing Module lets you incorporate GIS data in file formats such as .shp and .tab.
 - additional measurement tools (square feet, mile, acreage, radius and so on), so simply select the points on the screen using your mouse and let Google Earth calculate the rest.
 - Export high-resolution images up to 11" x 17" (4800 pixels, H[sample print](#)H - 890k), and use them in documents, presentations, web or printed materials. Your audience can come along for the ride as you create your own compressed movies (.wmv, H[sample movie](#)H - 13MB) of the zooms and virtual tours you take in Google Earth.

▽ Google Earth – Gallery

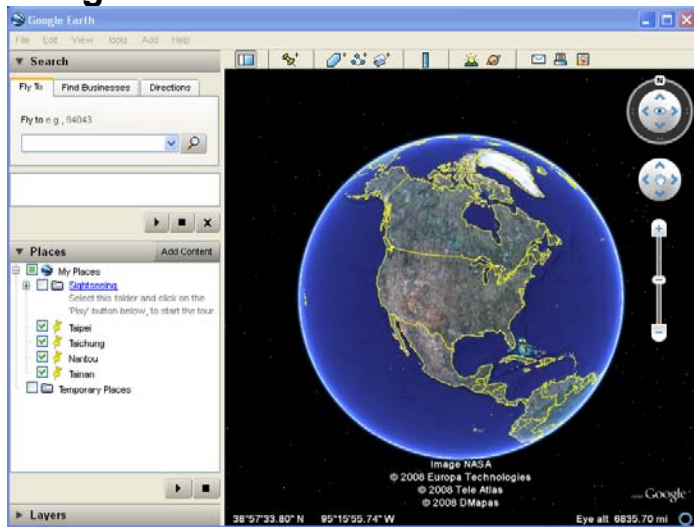
[Hhttp://earth.google.com/gallery/index.html](http://earth.google.com/gallery/index.html)

Google Earth is a geographic browser -- a powerful tool for viewing, creating and sharing interactive files containing highly visual location-specific information. We call these files KMLs (for Keyhole Markup Language): what HTML is to regular Internet browsers, KML is to geographic browsers. You can open KML files in both Google Earth and H[Google Maps](#)H, as well as in many other geographic browsers. This KML Gallery contains some interesting examples of KMLs that organizations, communities, and users just like you have created using both Google Earth and the H["Create a map" feature in Google Maps](#)H.

- ✓ Demo of B4 – Lidar data for San Andreas
- ✓ Demo – Resolution differences from standard vs Pro

	Google Earth Download	Google Earth Plus Buy	Google Earth Pro Buy/7-Day Trial
License	Free version for home/personal use	Enhanced version for home/personal use	Professional version for commercial use
Price	Free	\$20*	\$400*
Imagery Database	Primary	Primary	Primary
Performance		Enhanced	Fastest
Fly to anywhere on the planet, or explore space	✓	✓	✓
Search for schools, parks, restaurants, and hotels	✓	✓	✓
Get driving directions	✓	✓	✓
Explore Featured Content	✓	✓	✓
Tilt and rotate the view in 3D	✓	✓	✓
Printing images	1000 pixels	1400 pixels	4800 pixels
Saving Images	1000 pixels	1000 pixels	4800 pixels
Drawing tools	✓	✓	✓
GPS data import **		✓	✓
Real-time GPS tracking		✓	✓
Spreadsheet data import		100 points	2500 points
Local Business Ads	✓	Optional	Optional
Support	Website only	Website, email (login issues only)	Website, email, chat
Measure area			✓
Movie Maker			✓
GIS data importing			✓
GDT traffic counts data***			\$200

Google Earth



Google Earth – Earth



Google Earth - Sky

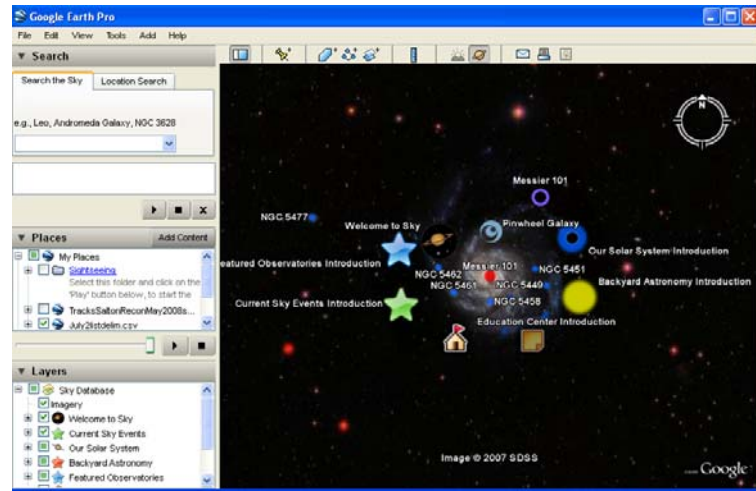
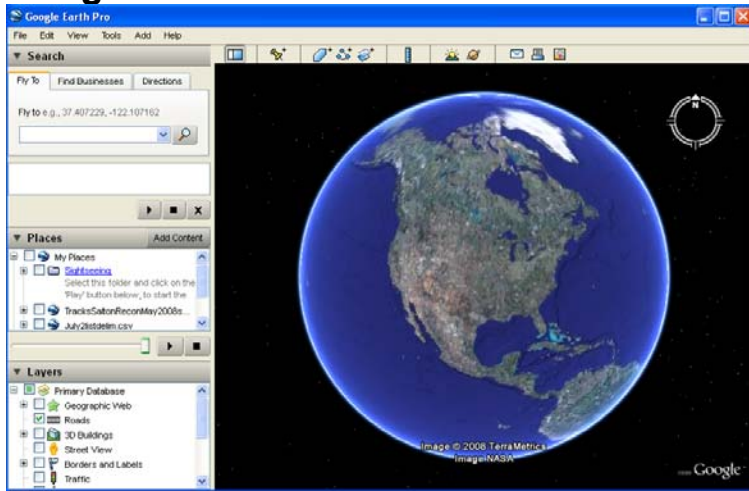
Tools	Add	Help
Web		
Ruler		
GPS		
Play Tour		Ctrl+Alt+P
Enter Flight Simulator...		Ctrl+Alt+A
Options...		

Tools

Add	Help
Folder	Ctrl+Shift+N
Placemark	Ctrl+Shift+P
Path	Ctrl+Shift+T
Polygon	Ctrl+Shift+G
Model	Ctrl+Shift+M
Photo	
Image Overlay	Ctrl+Shift+O
Network Link	

Add

Google Earth Pro

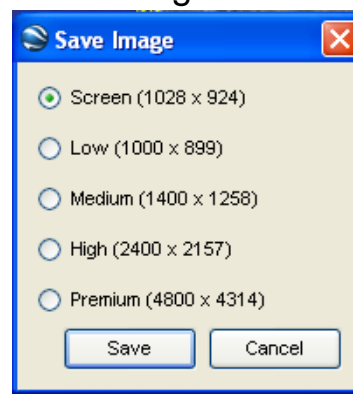


Google Earth Pro – Earth

Tools	
Web	
Ruler	
Table	
GPS	
Movie Maker	
Play Tour	Ctrl+Alt+P
Enter Flight Simulator...	Ctrl+Alt+A
Options...	

Add		Help	
Folder		Ctrl+Shift+N	
Placemark		Ctrl+Shift+P	
Path		Ctrl+Shift+T	
Polygon		Ctrl+Shift+G	
Model		Ctrl+Shift+M	
Photo			
Image Overlay		Ctrl+Shift+O	
Network Link			

Google Earth Pro – Sky



Tools

File		Edit		View		Tools		Add		Help	
Open...								Ctrl+O			
Save											
Revert											
Email											
Share / Post...											
View as Google Maps											

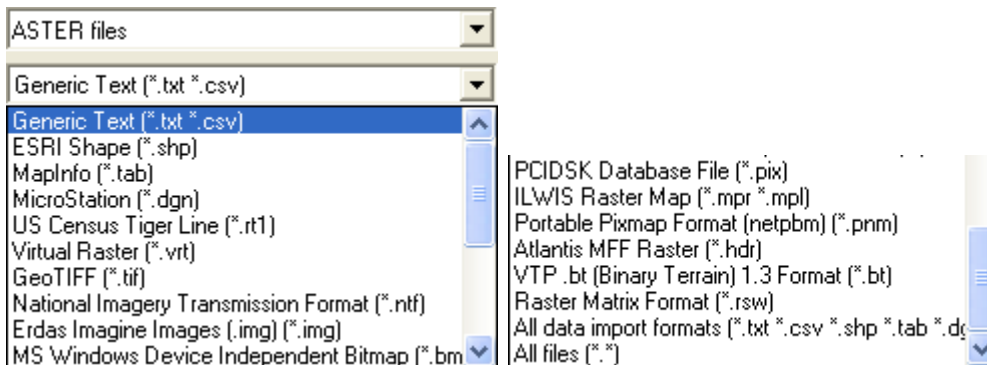
Add

Add		Help	
Save to My Places		Ctrl+Shift+S	
Save Place As		Ctrl+S	
Save My Places			
Save Image...		Ctrl+Alt+S	

Save Image

Kmz (*.kmz)	
Kmz (*.kmz)	
Kml (*.kml)	

Save Place As – Kmz or Kml



Import File Types

▽ ArcMap – KML Files

✓ There are two geoprocessing tools available for creating KML files

- ▶ **Layer To KML** - The Layer To KML geoprocessing tool allows individual layers to be exported directly from ArcMap, ArcGlobe or ArcScene. This is a very quick and simple way to create KML data from ArcGIS Desktop.
- ▶ **Map To KML** – The Map To KML geoprocessing tool allows multiple layers to be exported into a single KML source. The tool works on a single data frame within an ArcMap document and is an effective way of grouping many types of GIS data into a single shared unit.

These tools are available from the To KML group within the Conversion toolbox, and require an ArcView license or higher. Both of the geoprocessing tools generate a zipped KML file (KMZ) in the specified output directory.




▽ ArcGlobe – KML Files

ArcGlobe KML toolbar

The image below shows the Keyhole Markup Language (KML) toolbar.



KML toolbar buttons and their functions

Button	Name	Function
	Add KML Data	Add local KML or KMZ files to ArcGlobe
	Add KML Network Link	Add KML data from specified web URL or server information
	Show/Hide KML Contents window	Opens a dockable window showing KML based layers and their contents open in the current globe