

Intro to Google Earth

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- In which we learn how to navigate around the world,
make new paths and plan lessons using Google Earth



Levels of use

1. **Basic:** Browsing, flying around, virtual tourism
2. **Middle:** Organizing into lesson plans, shifting the nature of the questions that can be asked (shift from “where” to “how” and “why” questions)
3. **Advanced:** Creating new content to share with others; building new layers or using the API to extend the capabilities of Earth

Course outline

Flying with Google Earth

- Examines the controls used to get around in Google Earth

Using Placemarks

- Looks at what a placemark is and how they can be used

GE Tips

- General tips on using Google Earth

Overlays

- Shows how to lay pictures over the ground in Google Earth

Creating Placemarks

- Shows the basics of creating placemarks which can be used in lessons

Images and the Web

- Shows how to use graphics from the web in placemarks

Network Links

- What a network link is and how it can be used

The Art of Map Making

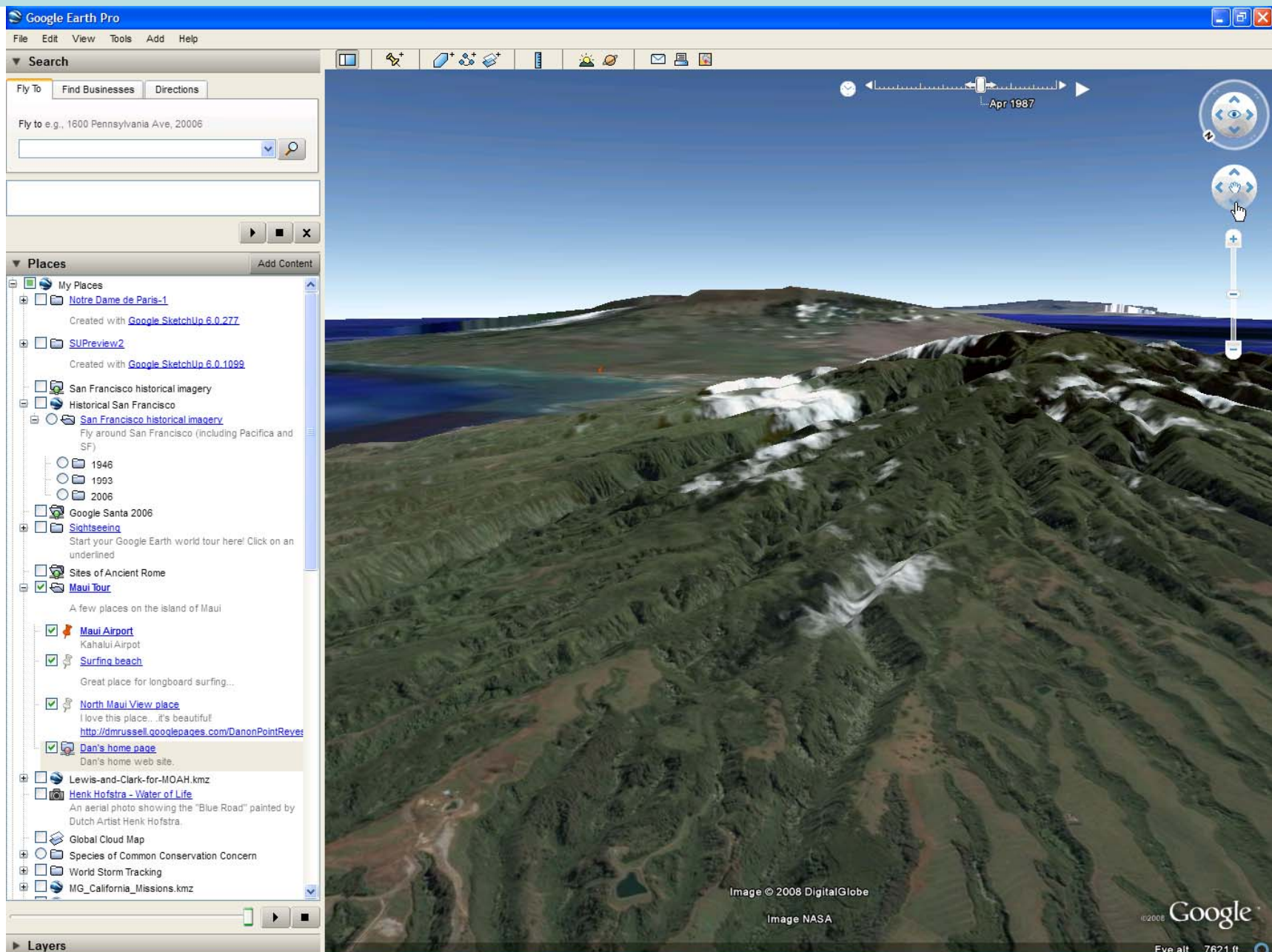
Starting up

- Make sure all the menu items are the same (Tools and Views)
- Panels tour
- Keyboard shortcuts

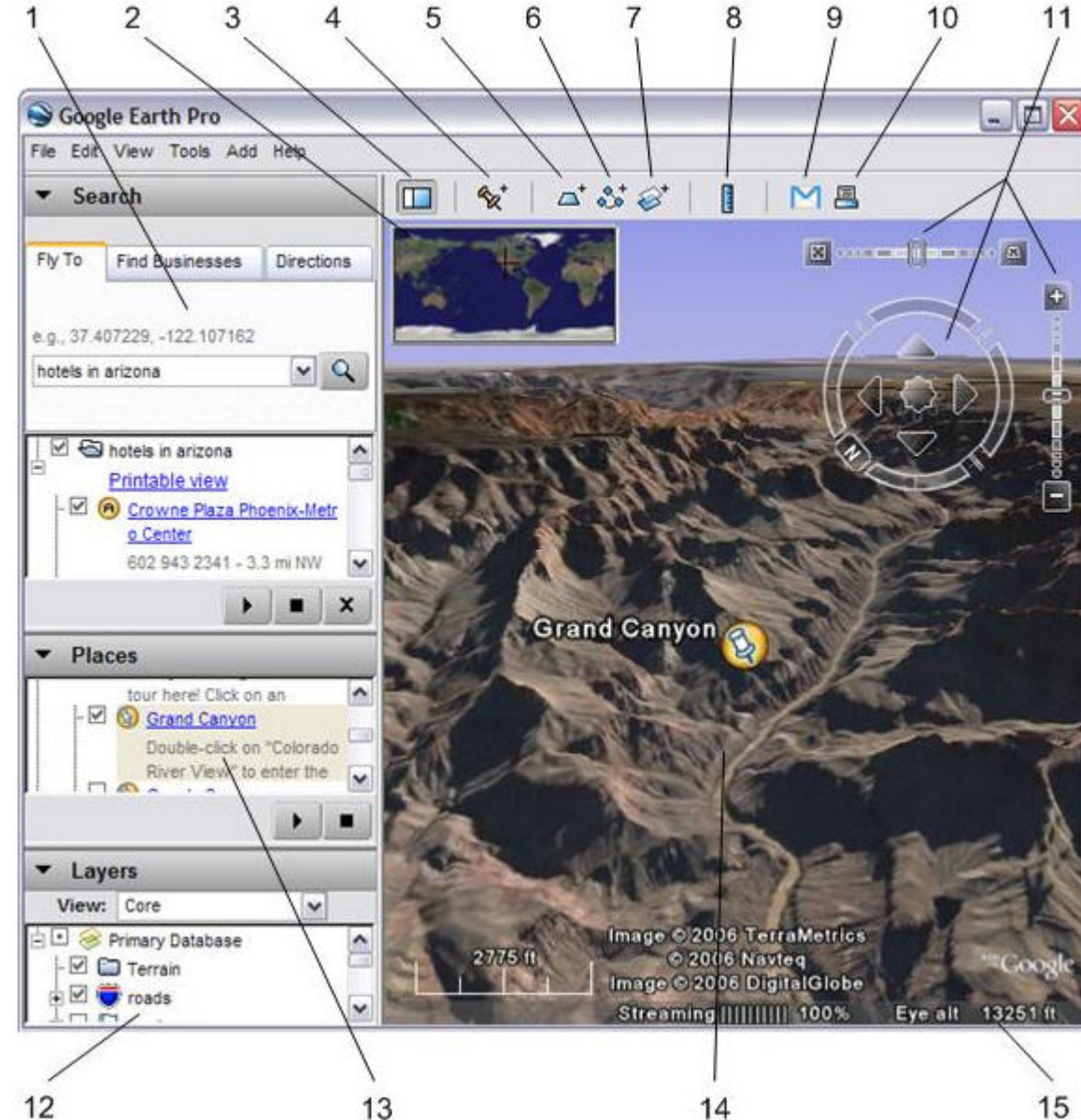
Terminology

- **Placemark:** a location w/ style information; a mark on the map
- **Layer:** an additional layer of information atop the maps (can turn on/off)
- **Tour:** animated fly-thru from placemark to placemark

Flying... demo + shortcuts



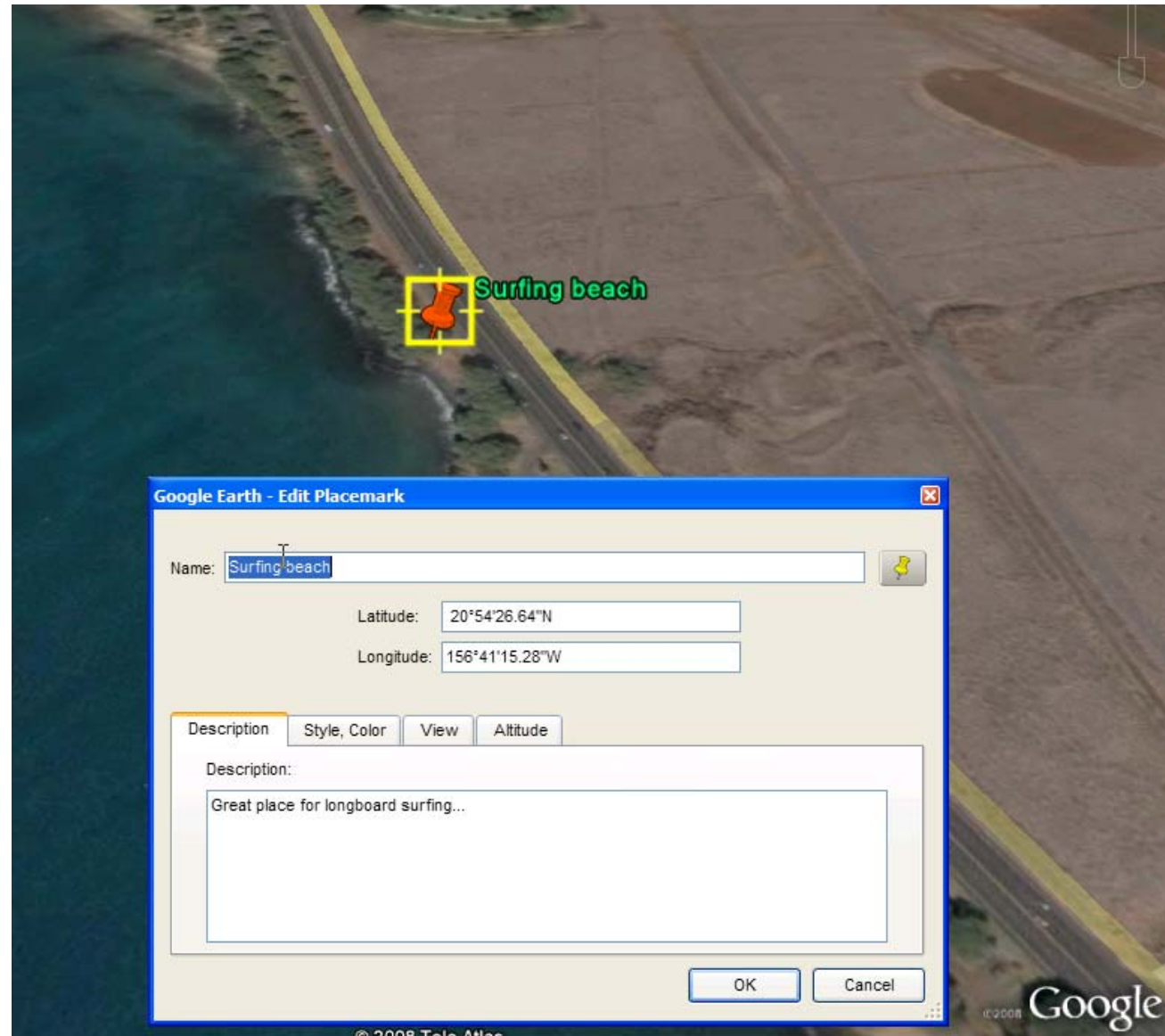
Google Earth Quick Start User Guide



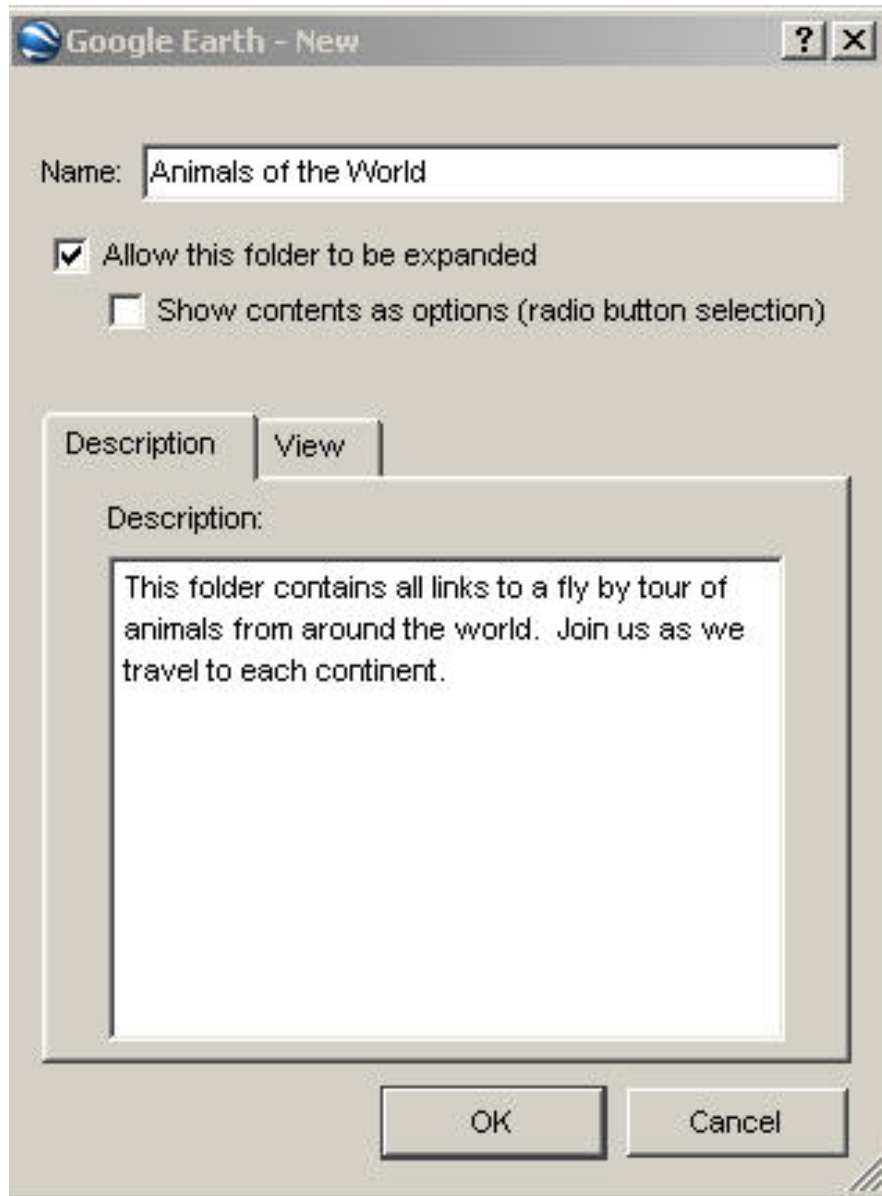
1. **Search Panel**- Use to find places and directions
2. **Overview Map**- Use for an additional perspective
3. **Hide/Show sidebar**- Click to conceal or display side bar
4. **Placemark**- Click to add a placemark
5. **Polygon**- Click to add a polygon
6. **Path**- Click to add a path
7. **Image Overlay**- Click to add an image
8. **Measure**- Click to measure distance
9. **Email**- Click to email view or image
10. **Print**- Click to print current view
11. **Navigation Controls**- Use to tilt, zoom and move
12. **Layers Panel**- Use to display points of interests
13. **Places Panel**- Use to locate, save, and organize placemarks
14. **3D Viewer**- View the globe and terrain
15. **Status Bar**- View streaming status

Creating a placemark

- Add>Placemark
 - then edit the properties of the placemark
- Show how to modify a placemark once made



Adding Placemark into Folders



1. You can put placemarks into folders...

To create a **Folder** (Ctrl+Shift+N)

This helps keep placemarks organized.

Adding Placemarks

Google Earth - New

Name: African Animals

Latitude: 11°46'46.52"N

Longitude: 9°51'26.90"E

Description

Description:

Welcome to Africa! Home of many exotic animals. Let's go deep into the East African savannah and jungles to see crocodiles, elephants, buffaloes, hippos, and gorillas. Click on the link below to see a movie.

OK Cancel

African Animals

- **2. Add Placemark**
(Ctrl+Shift+P)
To change the placemark icon, click the icon to the right of the placemark name.

Icon

Color: Scale: 1.0 Opacity: 100%

<http://maps.google.com/mapfiles/kml/pal4/icon29.png>

Grid of icons including: flag, download, home, compass, square, circle, square with dot, globe, square with dot, warning, person, coffee cup, fork and knife, bed, document, cube, folder, film, camera, person, airplane, wheelchair, plus, house, church, tree.

Add Custom Icon... Clear Custom Icons No Icon OK Cancel

Adding Placemarks

3. Adding **Sounds or Video**

- Find media online (NOTE: media MUST be online.... Linkable.. *Not on your desktop!*)

Right Click on download icon and copy short cut

OR as it streams Right Click, then click properties, and copy location

Paste in Placemark description

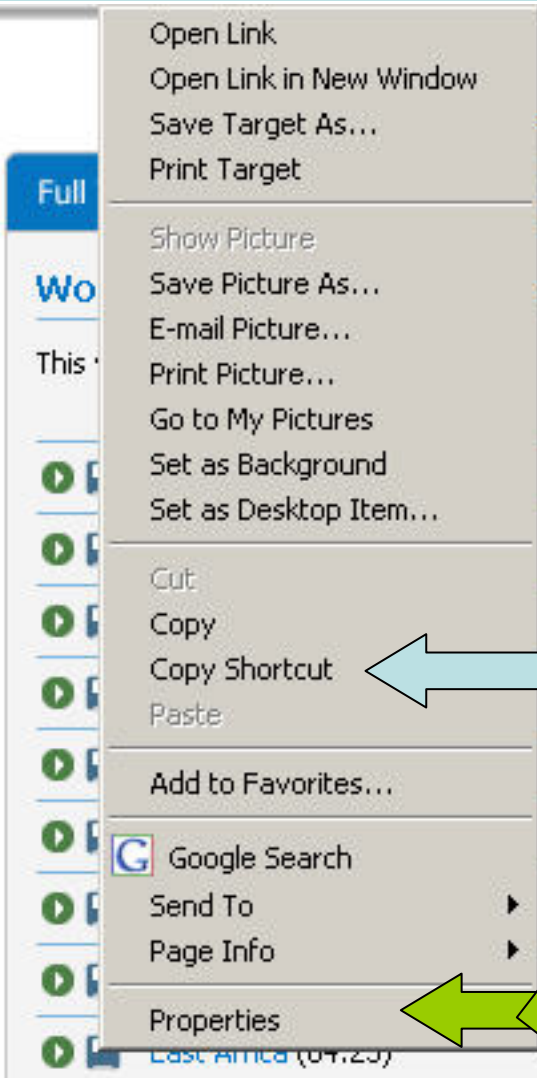
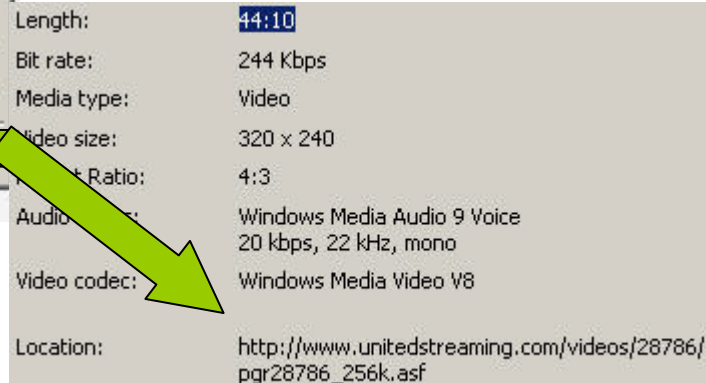
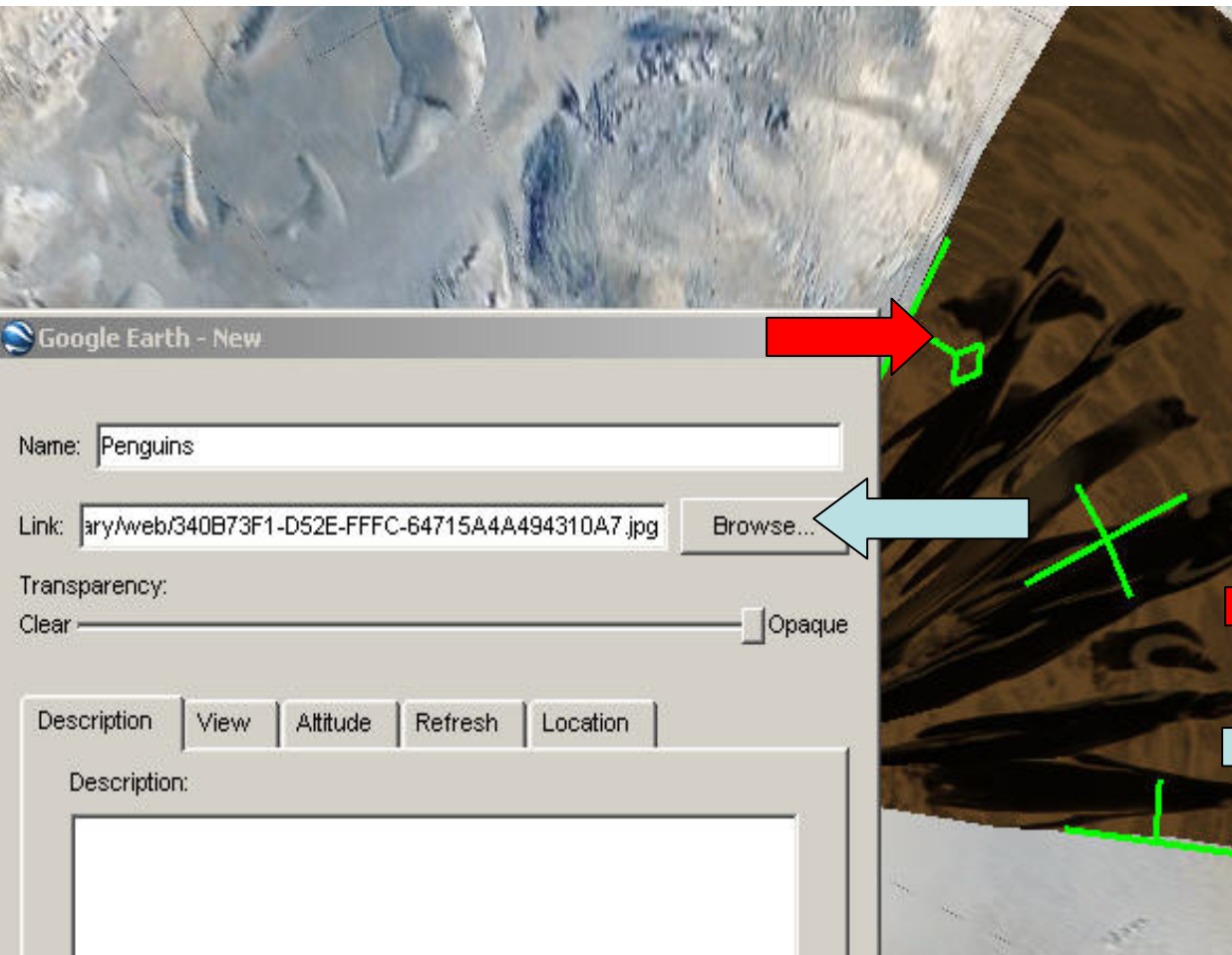
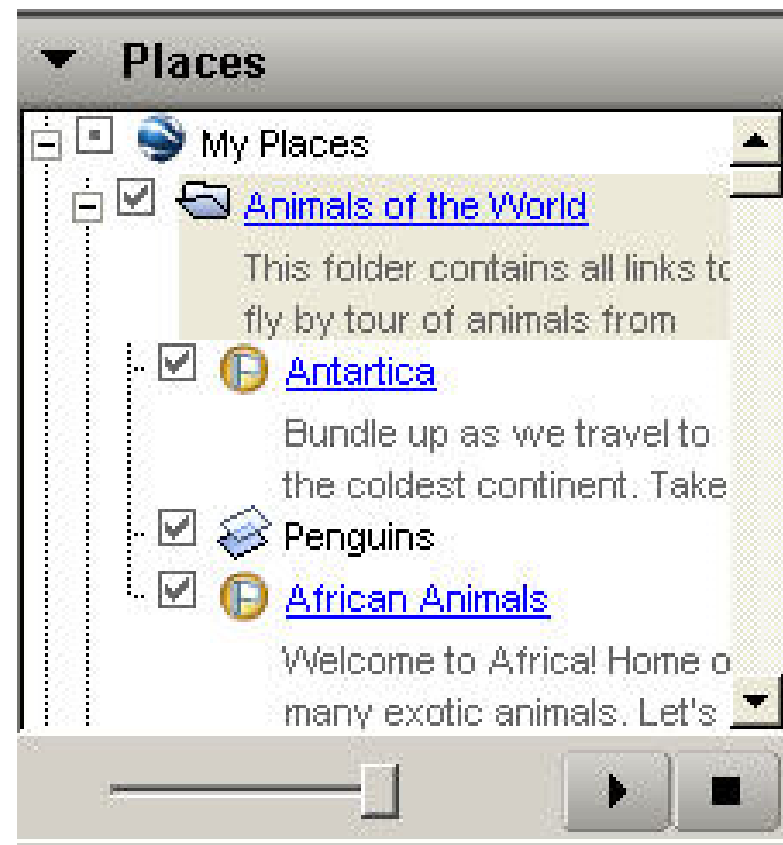
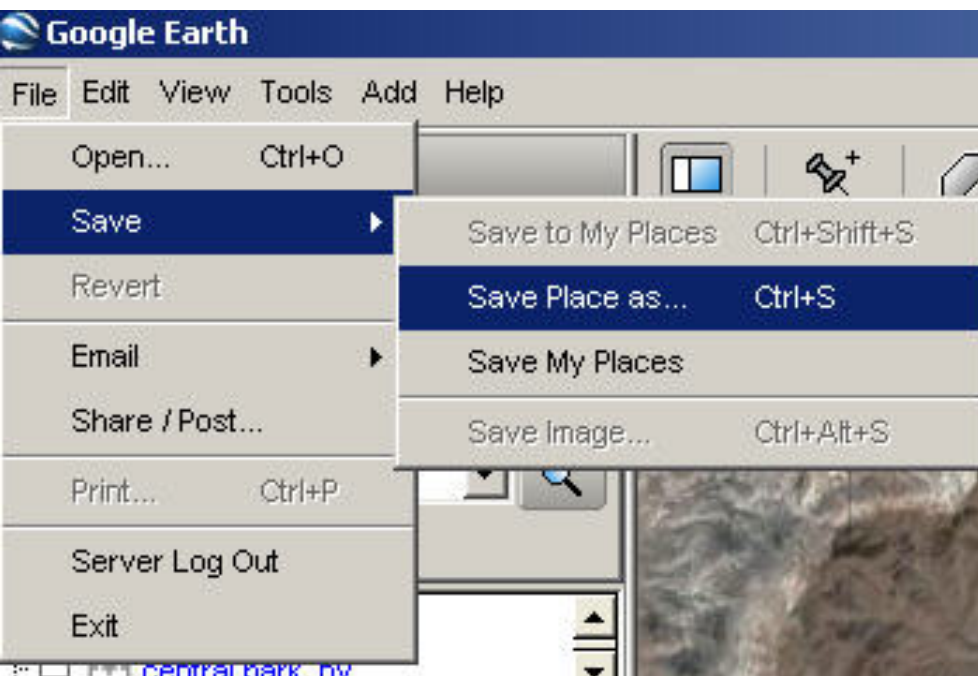


Image Overlays



- To add an **Image Overlay** press (Ctrl+Shift+O) or from the menu bar click "Add" then "Image Overlay"
- Rt Click on web image, then click properties, and copy address. (Note: make sure you get all correlating lines of the address)
- Adjust green box to desired image size
- Paste image address in the link box

Fly Over and Saving



Ruler



- To find out distance traveled, from the menu bar select "Tools" then "Ruler"
- By clicking different points with your mouse you can create a line or a path.
- To convert units of measure select from the drop down menu.
- Can also use polygon and circle to measure

Find Businesses

- To look for businesses (i.e. Starbucks, Pizza Parlors) in a particular location, type in the name of the company, city or zip code and enter.
- You will be able to find reviews, addresses, phone numbers, and even get directions.

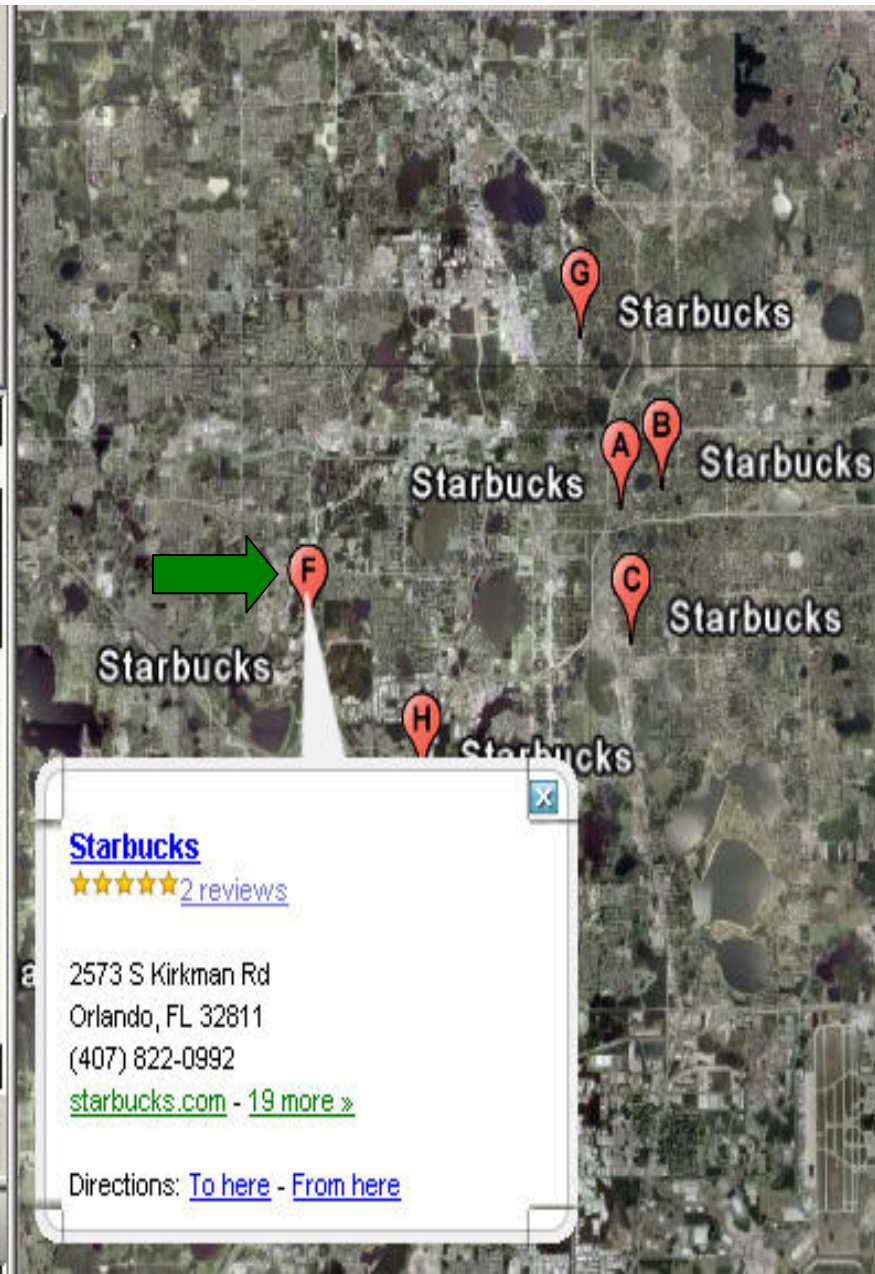
Fly To Find Businesses

What e.g., Restaurants
starbucks, orlando florida

Where e.g., Sauquoit, NY
Current view

- B** [Starbucks](#)
20 N Summerlin Ave, Orlando
FL 32801
- C** [Starbucks](#)
2453 S Orange Ave, Orlando
FL 32806
- D** [Starbucks](#)
7600 Dr Phillips Blvd, Orlando
FL 32819
- E** [Starbucks Coffe Company](#)
13851 Towne Place Blvd,
Orlando, FL 32837
- F** [Starbucks](#)
2573 S Kirkman Rd, Orlando,
32811

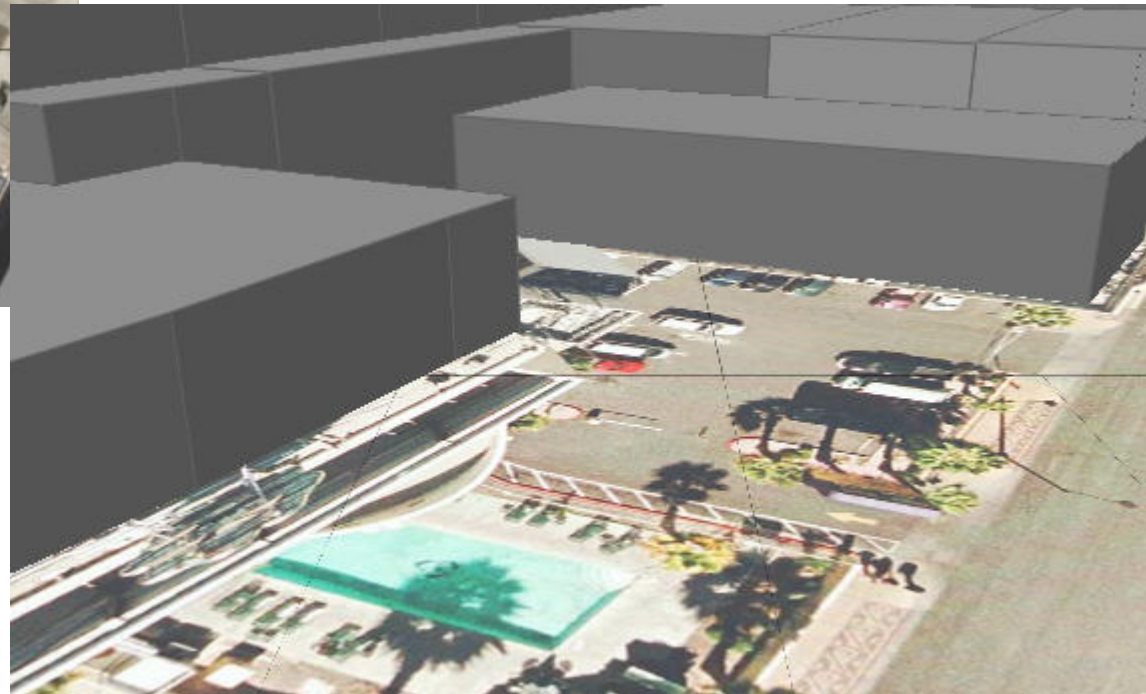
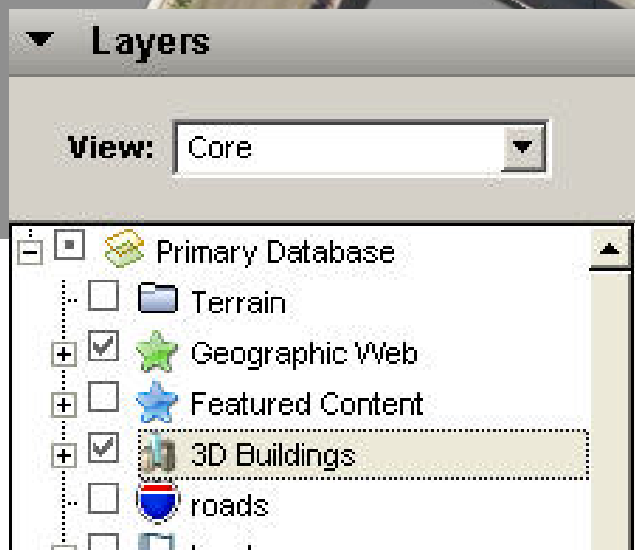
Places



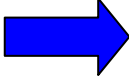
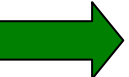

Layers: 3D Buildings

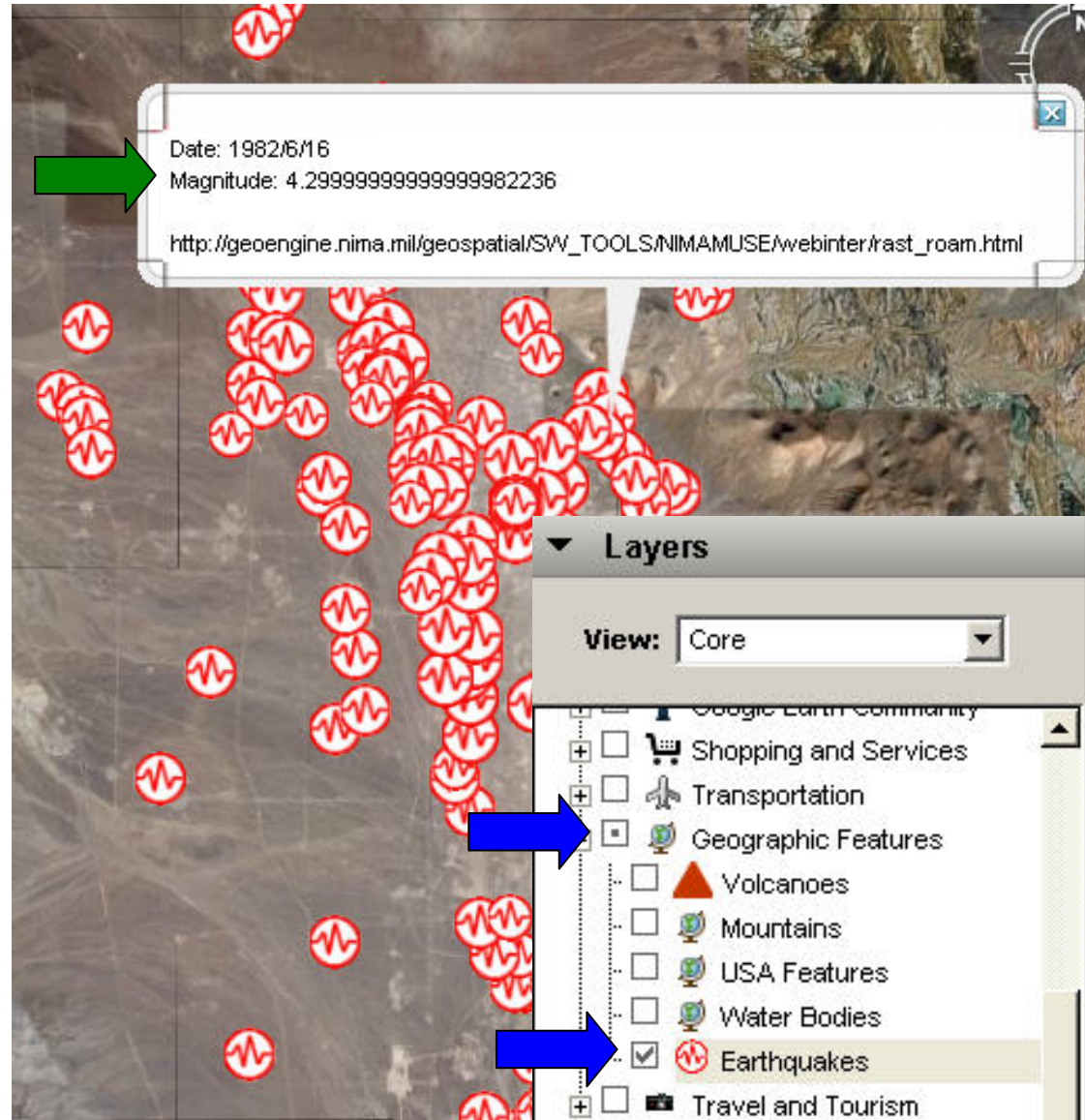


- To turn on 3D buildings, go down to the “Layers” menu and check “3D Buildings”
- For added fun, zoom in, tilt your screen and fly through the streets



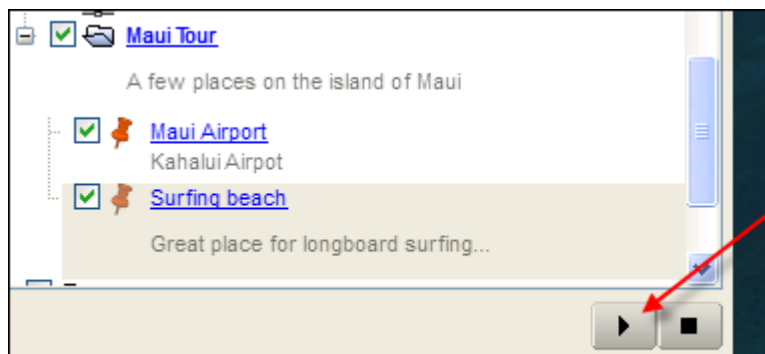
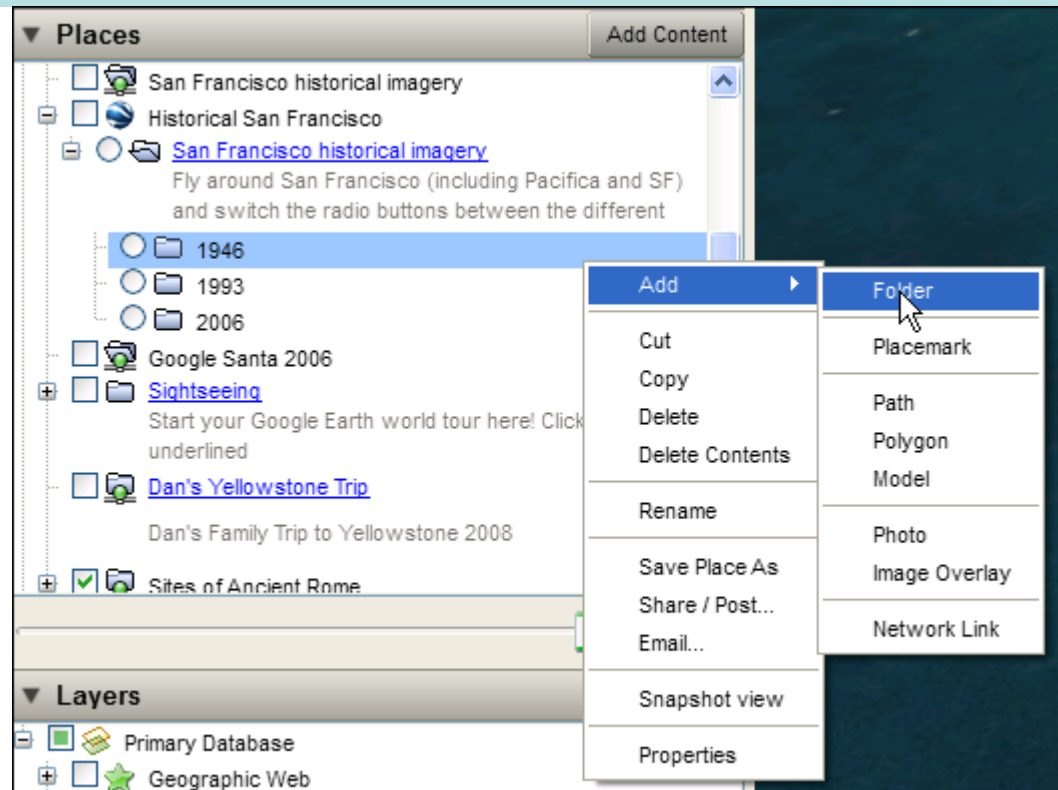
Layers: Earthquakes

-  In the "Layer" menu under "Geographic Features" is a check box for "Earthquakes"
-  When you enable this icon, images will be displayed of the locations of a variety of earthquakes. Click on the icon to see date, magnitude, and a weblink.
-  To view several earthquakes along a fault line type in "Area 51" in the fly to box.



Creating a tour

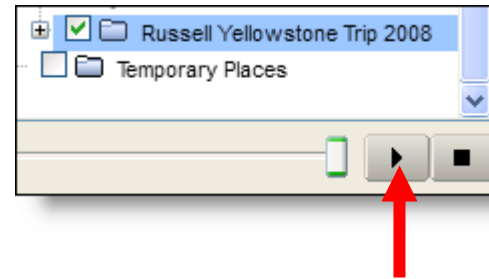
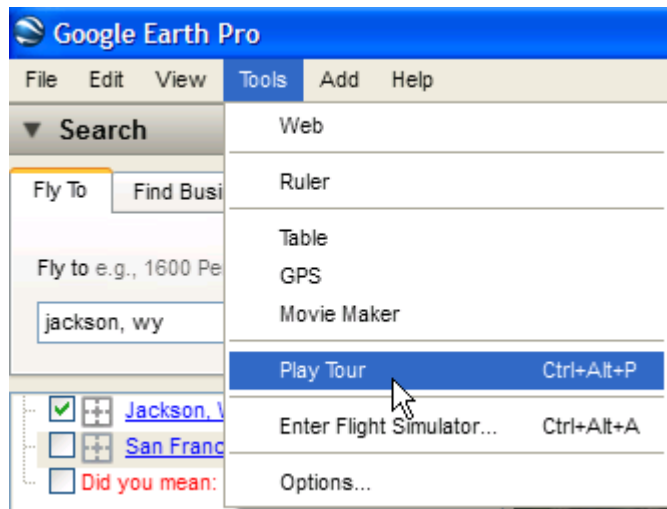
- Add>Folder
(in MyPlaces)
You can drag your
placemarks in here



Then click play!

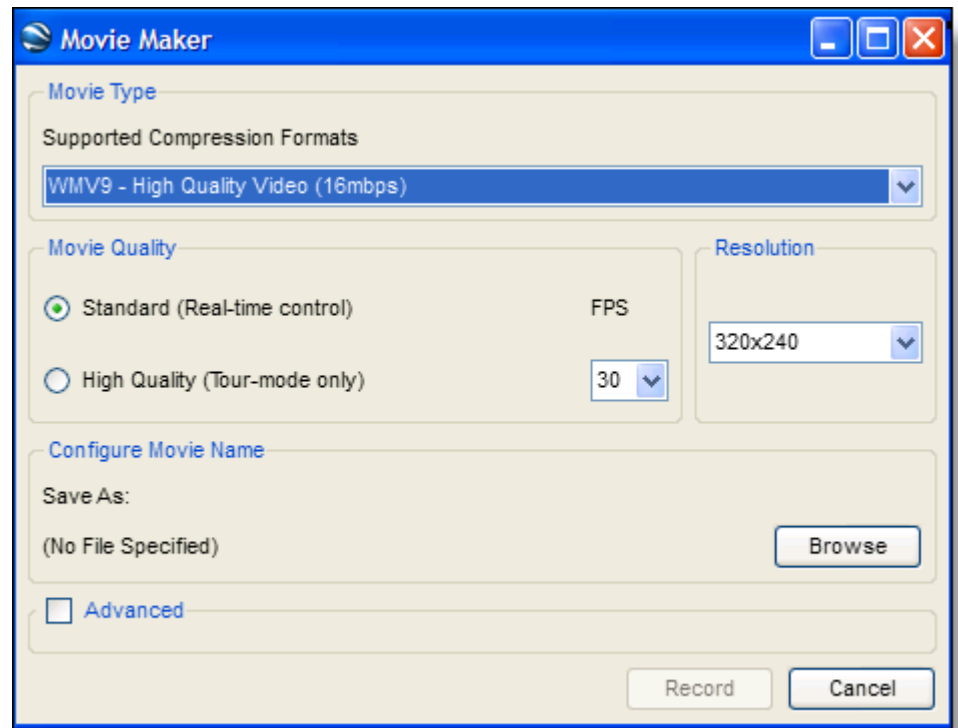
Playing a tour (auto fly from place-to-place)

- Select a folder with placemarks (the tour), and click the Play icon, or
 - Tools>Play Tour



Turning that tour into a movie

- (Only in Pro version)
 - Tools>MovieMaker
- Note:
 - Once you start recording, you need to start the tour playback immediately. Recording STARTS when you click “Record”



Adding a photo overlay

- See World Near-Real Time Overlay
 - Terrain following, clamped at altitude 0
 - This near-realtime cloud image layer is available from:
<http://bbs.keyhole.com/ubb/download.php?Number=373671>



Lesson resources

- <http://www.google.co.uk/schools/primary.html> --
 - * Animal habitats
 - * Settlements
 - * Climate change
 - * Visual Arts
 - * Exploring your area
 - * Development
 - * The Romans in Britain
 - * Chocolate and fair trade
- http://www.google.com/educators/p_earth.html
 - * More general discussion—samples of classroom uses (by grade)

Other content

- Lewis & Clark expedition:
 - http://www.gearthblog.com/blog/archives/2005/11/lewis_and_clark.html
- Juicy Geography
 - British blog that points readers to tweaks, mods, and lesson plan ideas
- Must see collection of maps:
<http://strangemaps.wordpress.com/>

Linking Books to Earth

- <http://google-latlong.blogspot.com/2007/08/google-book-search-in-google-earth.html>
 - Places mentioned in books can now be found using G-Earth
- For a great use of this in the classroom, see Google Lit Trips:
 - www.GoogleLitTrips.com – tours of books you might use in the classroom have already been made (K-5, 6-8, 9-12, Higher Ed)

Sky



- Google Sky is the same as Google Earth, with astronomical data rather than earth planetary data. You can make placemarks, tours, layers, etc.

Integration with Sketchup Models

- Show Notre Dame:
 - This is a model built in SketchUp (the 3D modeling system), then geopositioned in Paris correctly.



Projects to look at

Earth.google.com/outreach/showcase.html

-- compendium of examples; ideas you can use in your classroom

Advanced Topics

- Spreadsheet Mapper Tool
 - Lets you import tables of data into G-Earth
 - http://earth.google.com/outreach/tutorial_mapper.html
- Searching for more great content:
 - Use: filetype:KMZ (to find more content)
 - Example: [California missions filetype:KMZ]
 - *Note: A KMZ file is just a compressed form of a KML file. They both contain the same information—the KMZ file is just smaller than the KML.*
- Create your own SketchUp content and use for teaching purposes

What next?

- An on-demand tool like Google Earth can change the way learning happens...
 - Where are the pyramids? WHY are they there?
 - WHY is Cairo where it is?










 - Where is the San Joaquin watershed?
 - WHY does this affect salmon spawning?

 - Where is the path of the California missionaries?
 - WHY did they follow that path?
 - Pet peeve: Were there other missions than those in Alta California?




Scavenger hunt

- 1) Name the famous monument at Lat 27°10'30.24"N Long 78° 2'32.14"E.
- 2) What is the measurement of one side of the pyramids in meters?
- 3) What is the distance between London and New York State in km?
- 4) What is the only WWF mission in Finland?
- 5) How far are you from home right now in km?
- 6) What is the name of the interesting rock formation found at 50.011, -110.113
- 7) Who is the person on the left in the picture in the top right corner of the Taj Mahal platform?
- 8) How big is a typical tank used to store oil or gas? (Look in LA for tank farms; measure one.)

Community

	Current Events (11 viewing) Placemarks/Overlays regarding events of the day
	Fun and Games (14 viewing) A fun place to post mystery placemarks, pose riddles, and offer hints
	Travel Information (64 viewing) Advice from and for those who travel--hotels, restaurants, and other worldly wisdom
	Transportation (62 viewing) Planes, Trains, Automobiles, Boats and wakes
	Military (52 viewing) All things military: bases, places, and events
	People and Cultures (29 viewing) Famous and infamous people, both real and imagined, singly and in groups
	Nature and Geography (54 viewing) Natural locations and events of note and import
	History Illustrated (30 viewing) Significant events and places in history. Sure, you know what happened, but do you know where it happened?
	Huge and Unique (19 viewing) Large and unusual places: from China's Great Wall and the biggest ball of twine to the Jello and peace capitals of the world

? Education

	Students (7 viewing) Discussion area for students using Google Earth
	Educators Discussion area for educators using Google Earth
	Tools (3 viewing) Tools for using Google Earth in an educational setting: placemarks, guides, tests, and other resources.



For extra help, support, and unique and interesting places, visit the Google Earth Community under the "Help" menu.

References

<http://earth.google.com/userguide/> -- Google's official guide to Earth

<http://google-latlong.blogspot.com/> -- Google Earth + Maps blog about new features, ideas, data resources, case studies, etc.

How to get a free copy of Google Earth Pro (assuming you're an educator):

- * Send a msg to GEEC@google.com -- You will be sent a qualifying questionnaire. You fill out the form with info (name, title, school ID #, etc.)