Planning
with
Google™
Earth

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Objectives:

What is Google Earth?

Navigating Google Earth

Examples

- Public Sewage and Water Service Area Analysis

- Walkability Assessment

- New Alexandria Borough Build-Out Analysis
Advantages/Disadvantages

More resources

Introduction

What is Google Earth?

At its most basic:

• Virtual, 3-Dimensional Globe

• Satellite Imagery

• AKA… a Geobrowser

A geographic information program (i.e. mapping program) that allows users to freely navigate the globe (among other geographies) and **annotate features from a desktop platform as a pc program**

Introduction

Structure

Keyhole **M**arkup **L**anguage   or   **KML**   or   **.KML**

• Just like Word or PowerPoint have files associated with them, so does GE.

• The file format by which GE reads and outputs **annotations** (i.e. placemarks, polygons, paths, tours, overlays, etc.).

Introduction

Structure

KMZ = KML(zipped)

The KMZ file format is a zipped file that acts like a folder for the **annotations**

A KMZ file will condense numerous KML's, images and other annotations into a smaller file

Introduction

Structure

COMPLEXITY

Annotations:

<u>Placemarks</u>: points in space that identify a particular (x, y) location

<u>Paths</u>: lines in space that identify a continuous series of (x, y + x, y + ...) locations to create a single feature

<u>Polygons</u>: areas in space that identify 2-dimensional locations that consume space

Introduction

Structure

COMPLEXITY

Annotations:

Tours: recordings of your movements or along a path

Photos: images that can be inserted into any view within GE

Image Overlays: drape an image over the virtual globe surface

Introduction

Structure

COMPLEXITY

Annotations:

<u>Models</u>: 3-D figures that can be created in other programs (Google SketchUp) and uploaded to complement the 3-D virtual globe

<u>Network Links</u>: aren't *true* annotations. They allow a content producer to hold data at a remote location for local viewing (like every web page).

Introduction

Structure

Info Balloons:

Descriptive HTML balloons that appear when an annotation is clicked in the Places Panel
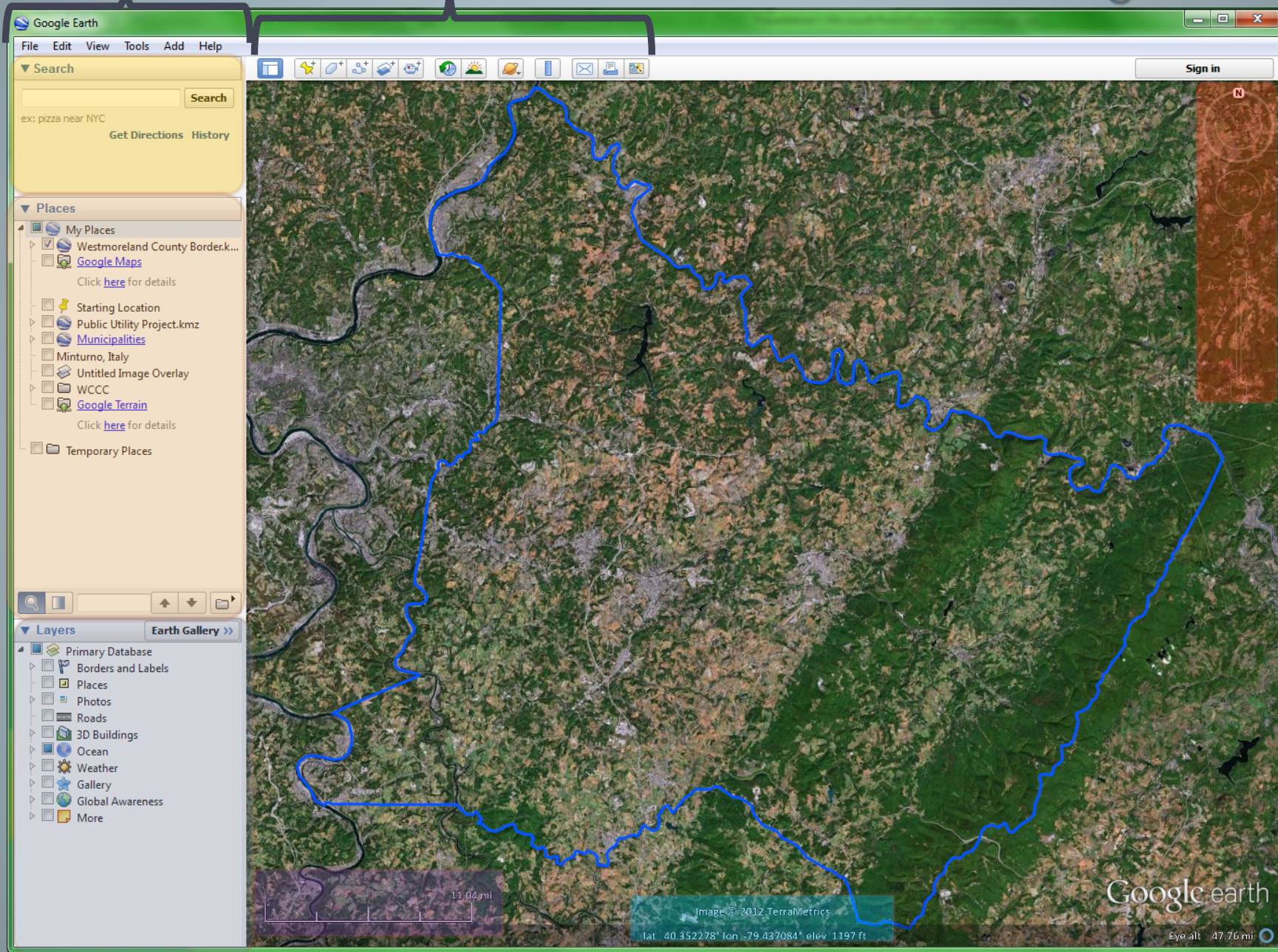
One of the most powerful tools in Google Earth. Allows a user to communicate more information than merely spatial.

Evaluating Use

GE has many great attributes, however just as a cartographer must consider limitations of GIS, one must make considerations for GE's limitations

Advantages

FREE!!!

3-D

Simple to learn and operate

Dynamic scaling and views

Plays well with GIS, Export to KML tool

Files are much smaller and easier to share

Advantages

Street View

Incorporation with Google Maps & online mapping, Sketchup, CommunityViz, Google Fusion Tables, ArcGIS Online, Google Spreadsheet Mapper

Take it with you on your smart phone

With Google, possibilities are endless

Disadvantages

Poor print quality

Poor analytical capabilities

Poor thematic mapping capabilities

Google Earth Pro $400

Basemaps are limited to aerial imagery, there are workarounds

Quality of aerial imagery varies by year, season, geography and resolution

Disadvantages

Limits on the number of features that can be exported and successfully viewed from ArcMap

Computer, projector and screen are necessary to present, and possibly internet

In summary

Simplistic approach to mapping and geographic visualization reduces barriers to geographic communication and offers unique opportunities versus other technology, but…leads to poorer functionality and customization

More Resources

Google Earth Tutorials & More

• support.google.com/earth

Google Earth Blog;

• gearthblog.com

Google Earth Library; Topo Maps & More Overlays

• gelib.com

Google IT!