



Writing Kml and Kmz Files

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Recursos

- ..\Day07\codigo\KML_Samples.zip
- ..\Day07\software\GoogleEarthWin.exe

Overview of Talk

- Introduction
- Examples
- Provide Code
- Conclusions

Introduction

- KMLs are used to display geographic data in an Earth browser such as:
 - Google Earth
 - <http://www.google.com/earth/index.html>
 - ossimPlanet
 - <http://www.ossim.org/OSSIM/ossimPlanet.html>
 - NASA World Wind
 - <http://worldwind.arc.nasa.gov/java/>
- The specification is publicly available with a lot of support on the pages provided below
- Create in Google Earth or by hand

Documentation

- From Google:
 - http://code.google.com/apis/kml/documentation/kml_tut.html
 - <http://code.google.com/apis/kml/documentation/kmlreference.html>
 - <http://code.google.com/apis/kml/documentation/topicsinkml.html>

Basic Components of a KML

- KMLs use a tag-based structure based on XML
 - <document>
 - <tag1>content1</tag1>
 - <tag2>content2</tag2>
 - </document>
- Useful for creating objects with multiple layers of information
- KMLs are case sensitive
 - tag != Tag
- Allow embedding of HTML script for customizing looks

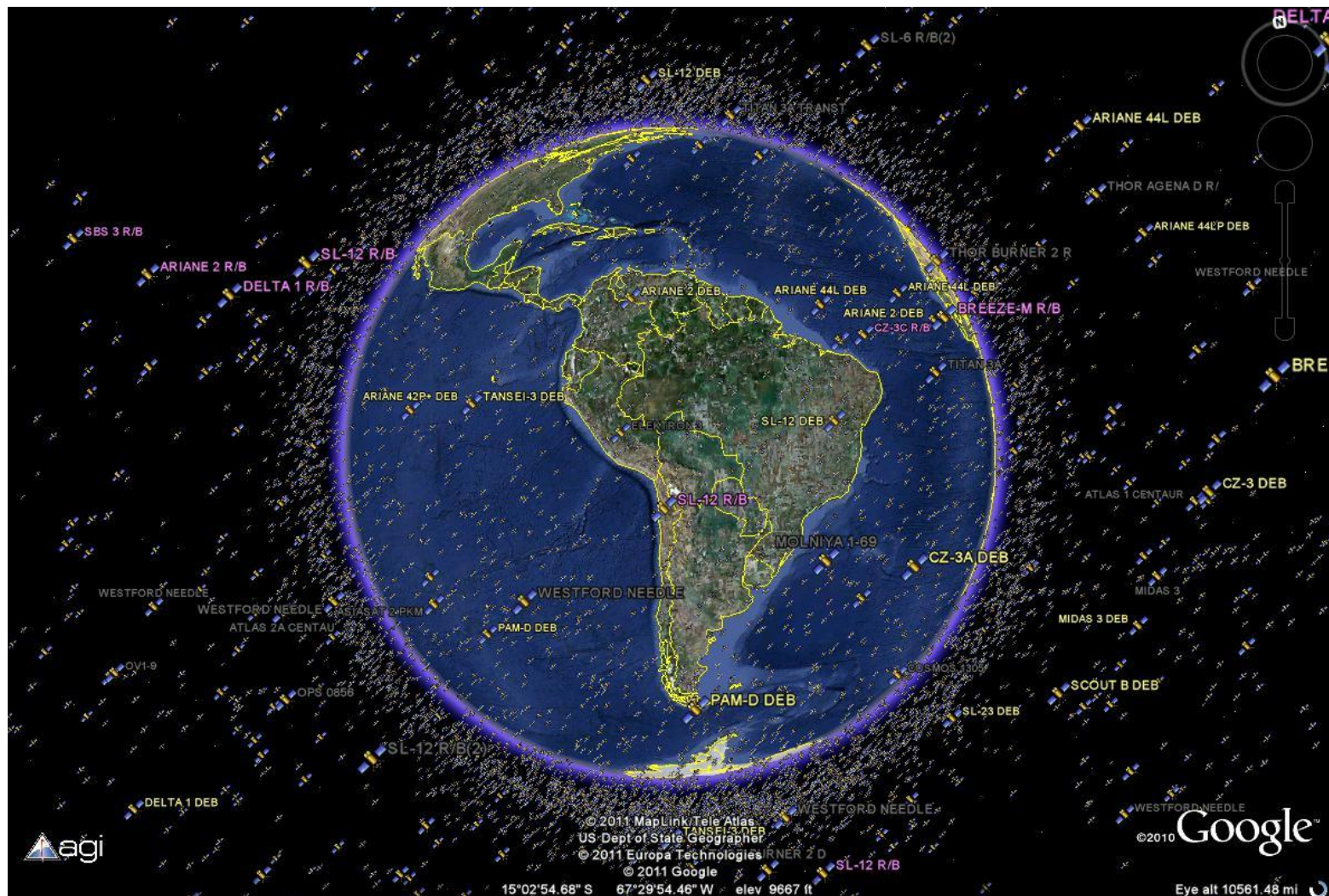
Basic Components of a KML

- **Placemarks**
 - Add a marker for a specific location
- **Ground Overlays**
 - Place your own image on the earth
- **Paths**
 - Plotting trails
- **Polygons**
 - 3D buildings
 - 2D shapes

Advanced Components of a KML

- Automatically updating network links
 - For data sources that aren't static
 - Current satellite locations
 - <http://adn.agi.com/SatelliteDatabase/SatelliteDatabase.kmz>
 - Current burning fires
 - http://activefiremaps.fs.fed.us/data/kml/conus_latest_modis.kml
- Customized styles
 - Personalize your outputs
- Tours
 - Automatically moves the earth to different locations displaying different information along the way.
 - Virtual tours of cities

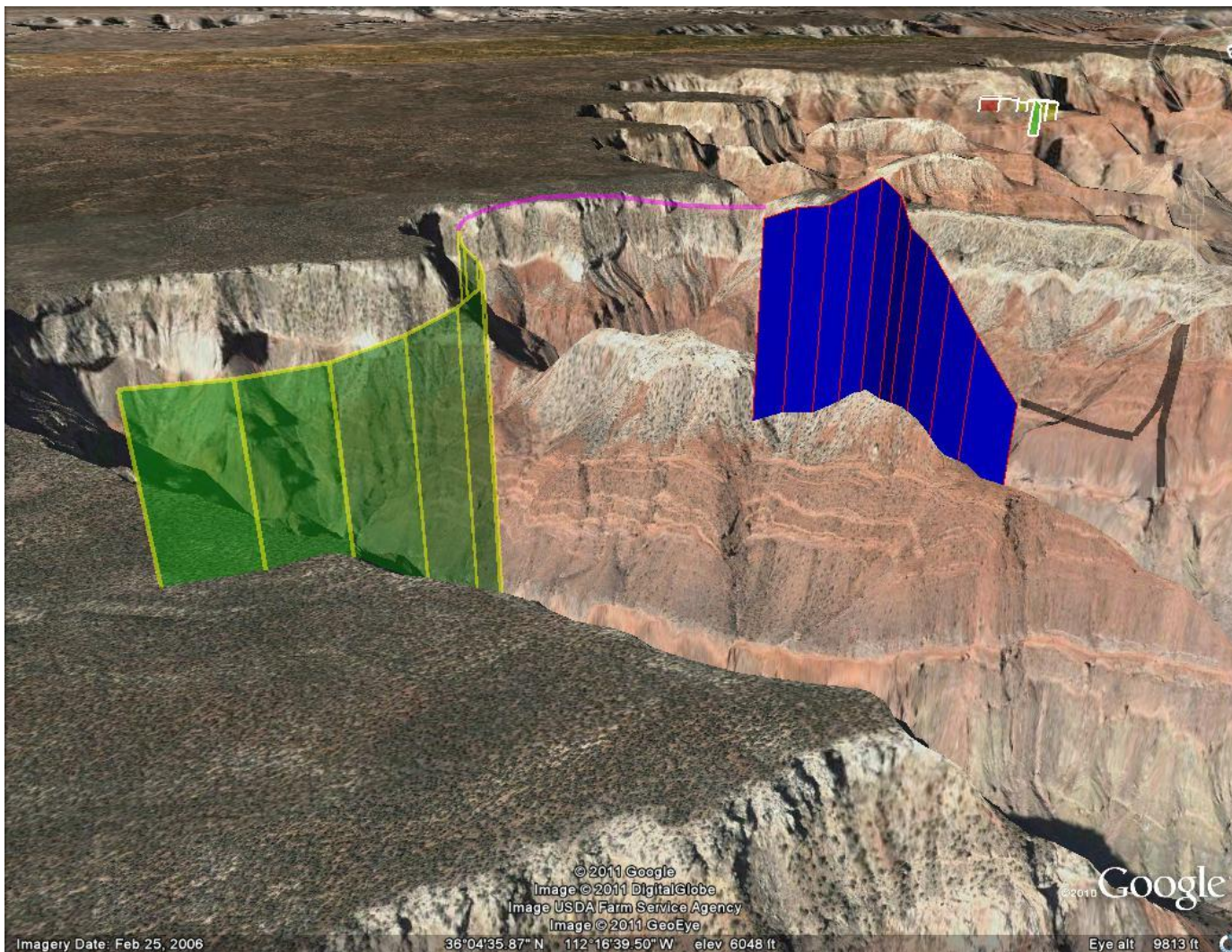
KML Examples



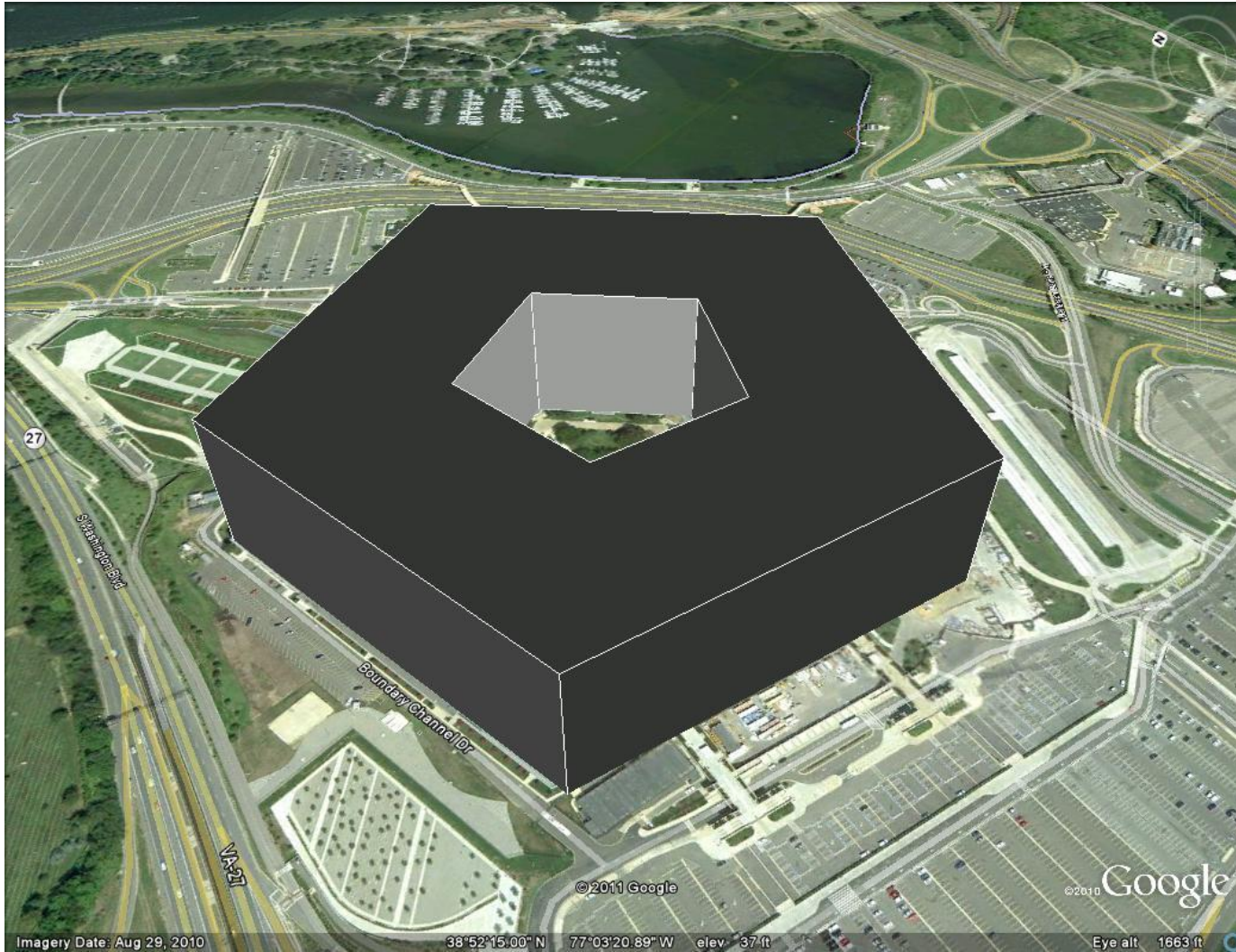
KML Examples



KML Examples



KML Examples



KML Examples



Components of a KML File

- Each of the features of a KML has its own tag
- Use these tags to customize your KML
- Lets look at a KML file from Googles website:
 - http://code.google.com/apis/kml/documentation/KML_Samples.kml
- This should be on your computers at:
 - ..\09_KMLshp\examples\kmlWriter.zip
- You can open this with Google Earth
- Then choose File->Open KML

OssimPlanet Notes

- Not all features of KML are supported by ossimPlanet such as:
 - Network features
 - gx extensions
 - Ground overlays

KML Writer Code

- I've provided you with a class that you can use to create simple kml files
- It is located at:
 - ..\09_KMLshp\examples\KML_Samples.zip
- Also located on the course website

KML Writer Build

- To build the project with Cmake we need to modify two batch (*.bat) files
 - `build_cmake_project_vs10.bat`
 - `cmake_arguments.bat`
- Then run the `build_cmake_project_vs10.bat` file
- Open the `sampleKMLwriterApp.sln` file
- Compile (F7) in Visual Studio
- Copy your `runProject.bat` file from another project
- Change to run the new program
- Run the `runProject.bat` file

build_cmake_project_vs10.bat

```
@echo off
```

```
set OLDPATH=%PATH%
```

```
call "C:\Program Files (x86)\Microsoft Visual Studio  
10.0\VC\vcvarsall.bat"
```

```
set PATH="C:\Program Files (x86)\CMake 2.8\bin";%PATH%
```

```
call cmake_arguments.bat
```

```
set PATH=%OLDPATH%
```

```
set OLDPATH=
```

Will change to
Program Files – Windows 7
Program Files (x86) – Windows 7 64-bit
Archivos de programa – Windows XP

cmake_arguments.bat

```
set common_dir="C:/libraries/ossim-3rd-party-vs2010"  
set common_lib=%common_dir%/lib/win32  
set ossim_install_dir="C:/libraries/ossim_install"  
set ossim_lib=%ossim_install_dir%/lib
```

```
cmake -G "Visual Studio 10"^  
-DCMAKE_BUILD_TYPE=Release^  
-DCMAKE_INCLUDE_PATH=%common_dir%/include^  
-DOPENCV_INCLUDE_DIR=%common_dir%/include^  
-  
  DOPENCV_LIBRARIES=%common_lib%/cv210.lib;%common_lib%/cv  
  aux210.lib;%common_lib%/cxcore210.lib;%common_lib%/cxts2  
  10.lib;%common_lib%/ml210.lib;%common_lib%/highgui210.li  
  b^  
-DOSSIM_INCLUDE_DIR=%ossim_install_dir%/include^  
-DOSSIM_LIBRARIES=%ossim_lib%/ossim.lib^
```

runProject.bat

```
@echo off  
set OLDPATH=%PATH%  
set THIRD_PARTY=C:\libraries\ossim-3rd-party-vs2010\bin\win32  
  
set OSSIM_INSTALL=C:\libraries\ossim_install\bin  
set PATH=%THIRD_PARTY%;%OSSIM_INSTALL%  
  
sampleKMLwriterApp.exe  
  
pause  
  
set PATH=%OLDPATH%  
set OLDPATH=
```