

A decorative header at the top of the slide features four overlapping spheres: a green one on the left, and three others (blue, red, and yellow) on the right, all partially cut off by the top edge.

# GIS and Technical Track

Indigenous Mapping Workshop  
25 & 26 February, 2010  
Mountain View, CA, USA

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Christiaan Adams, Google Earth Outreach



# GIS and Technical Track - Topics:

## Converting your GIS data to KML, and using it in Google Earth & Maps

- Creating maps using Google Earth (10min)
- Introduction to data formats
- Creating maps using Google My Maps: (10min)
  - Hands on Exercise: (15min)
- GPS and Google Earth: (15min)
- GIS conversion for Google Earth: (30min)
  - Google Earth Pro features
- Hands on with something: (15min)
- Publishing Data and Security: (30min)



# Creating KML using Google Earth

## Demonstration

Tutorial - Annotate Google Earth:

[http://earth.google.com/outreach/tutorial\\_annotate.html](http://earth.google.com/outreach/tutorial_annotate.html)

Other tutorials:

<http://earth.google.com/outreach/tutorials.html#tab1>



- KML = Keyhole Markup Language
- Originally for Google Earth
- Inspiration from GML
- Given to Open GeoSpatial Consortium (OGC) in 2008
- Now an international standard through the OGC
- "HTML of the GeoWeb"
- half a billion KML files on the web
- XML
- Best for publication and sharing of geo-visualizations

# Shapefiles



- A common GIS data format from ESRI
- Binary format
- Multiple files in a package
- Semi-open
- At least 350K files on web
- Used internally
- Authoritative sources



# Creating KML using Google My Maps

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## Demonstration

MyMaps Tutorial:

[http://earth.google.com/outreach/tutorial\\_mymaps.html](http://earth.google.com/outreach/tutorial_mymaps.html)



GPS - basic concepts and data collection practices

Why use Google Earth? Examples

Importing GPS data into Google Earth

- realtime
- direct import
- gpx import
- visualization - animate, style, etc.

Other tools: GPS-Babel, etc!!

More Resources

Importing GPS into MapMaker?



# Defining some terms

## **Vector Data:**

*Points, Lines Polygons. Where things are and their extents. Useful for analysis and directly representing location.*

## Types of Files:

*KML, Shape, GeoRSS, GPX*

## **Raster Data:**

*Images of data representations. Old maps. Satellite imagery. More performance, less flexibility.*

## Types of Files:

*jpg, png, tiff, geotiff*





- Why use GE & GIS
- KML conversion concepts
- GE Pro - importing GIS Data - demo
- GE Pro features/costs
- ArcGIS - exporting KML - demo
- Shp2KML - demo & hands-on
- Arc2Earth
- Other resources
  - Export to KML script for ArGIS
  - Shape2Earth tool in MapWindow
  - MapInfo Pro GE Link Utility
  - GDAL - for developers
- Other tools
- Resources

# Sharing, Publishing & Promoting

- KML
- Maps API
- My Maps
- Earth Enterprise
- Private Databases
- Cloud Services (App Engine, Amazon Web Services)



# Approaches to Security

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## **Most Secure:**

Earth Enterprise

Private server (GeoServer, Private Database, Local Network)

## **Security in the Cloud:**

Maps API Premier

Fusion Tables

Google My Maps

## **Open to all:**

Private server

Google Maps API Free



# Private Serving Options

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Keeping your own server lets you provide access control, limit to a local network, and have complete control over the design of the output. However, you have to manage the security.

- GeoServer
- Database with script export, serve as KML or Maps API



# For Programers: APIs

- Google Maps API
- Check out Get Maps: <http://maps.google.com/>
- Google Earth API
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- Google Chart APIs
  - Image Chart API (was "chart api")
  - Interactive Chart API (was "visualization api")

