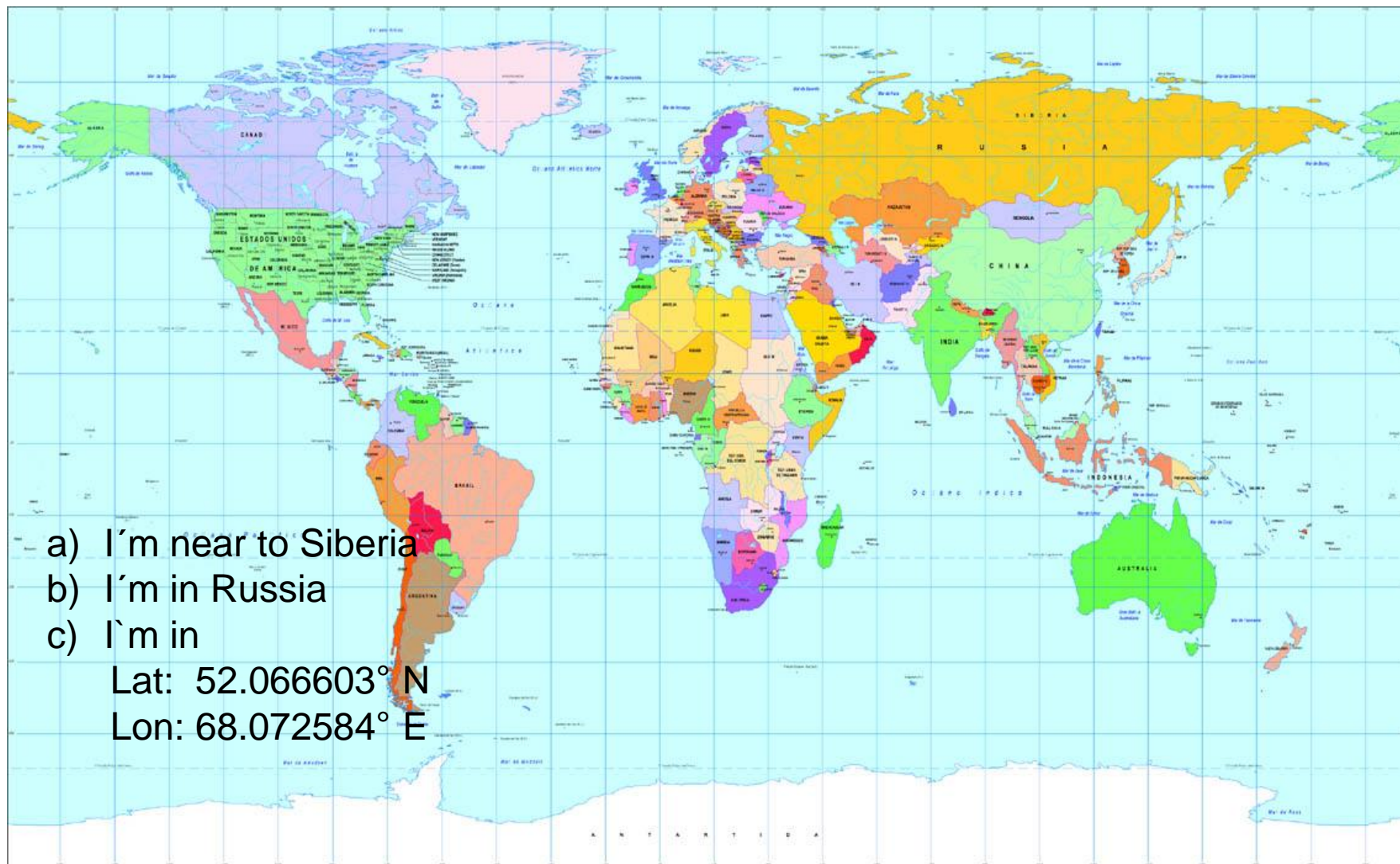




Spatial data

Diana Gomez Barroso
Rebeca Ramis Prieto

Coordinate System



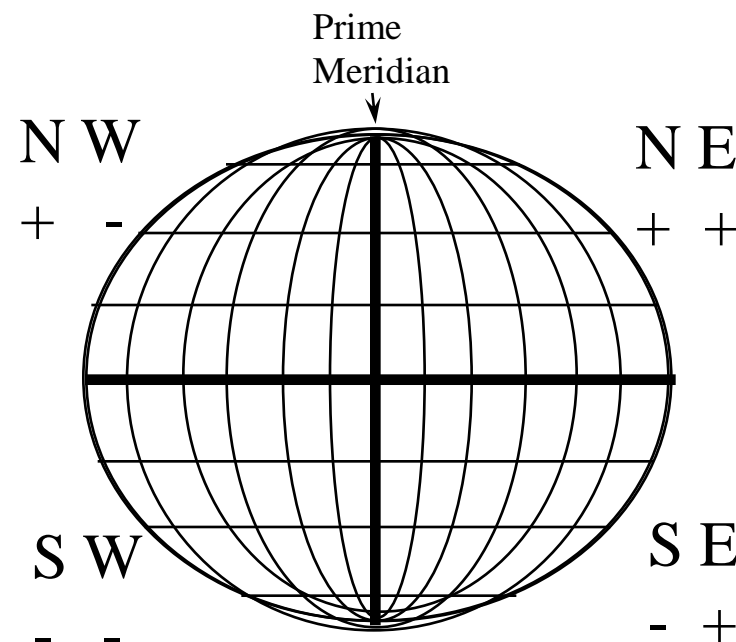
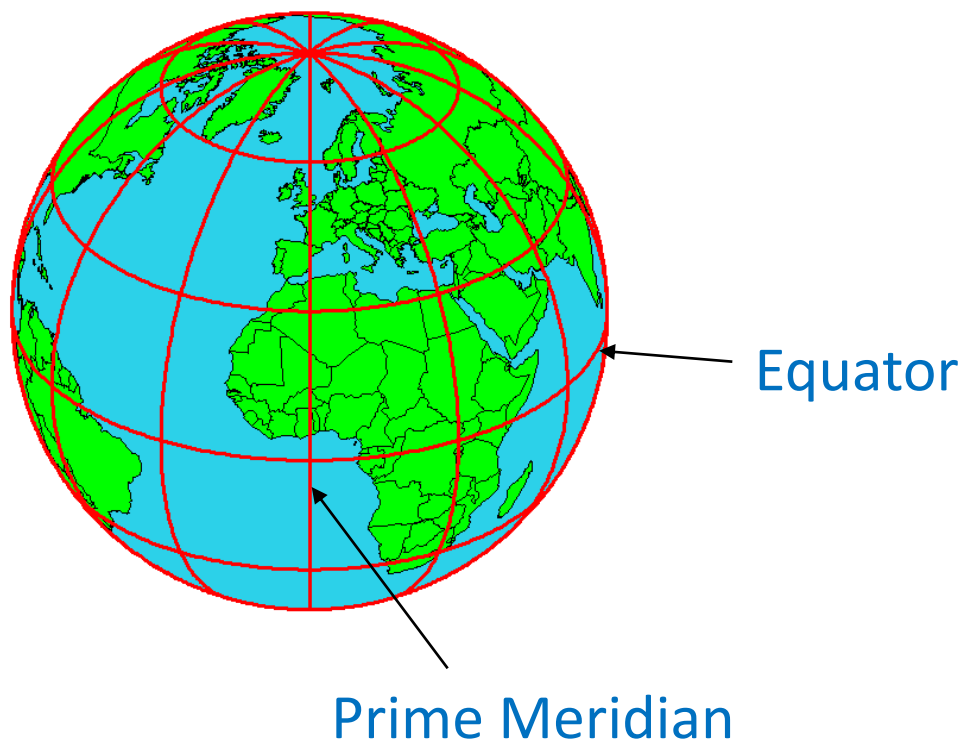
- a) I'm near to Siberia
 - b) I'm in Russia
 - c) I'm in
- Lat: 52.066603° N
Lon: 68.072584° E



- Two main coordinates systems:
 - Geographic coordinate system
 - Universal Transverse Mercator. UTM



Geographic coordinate system

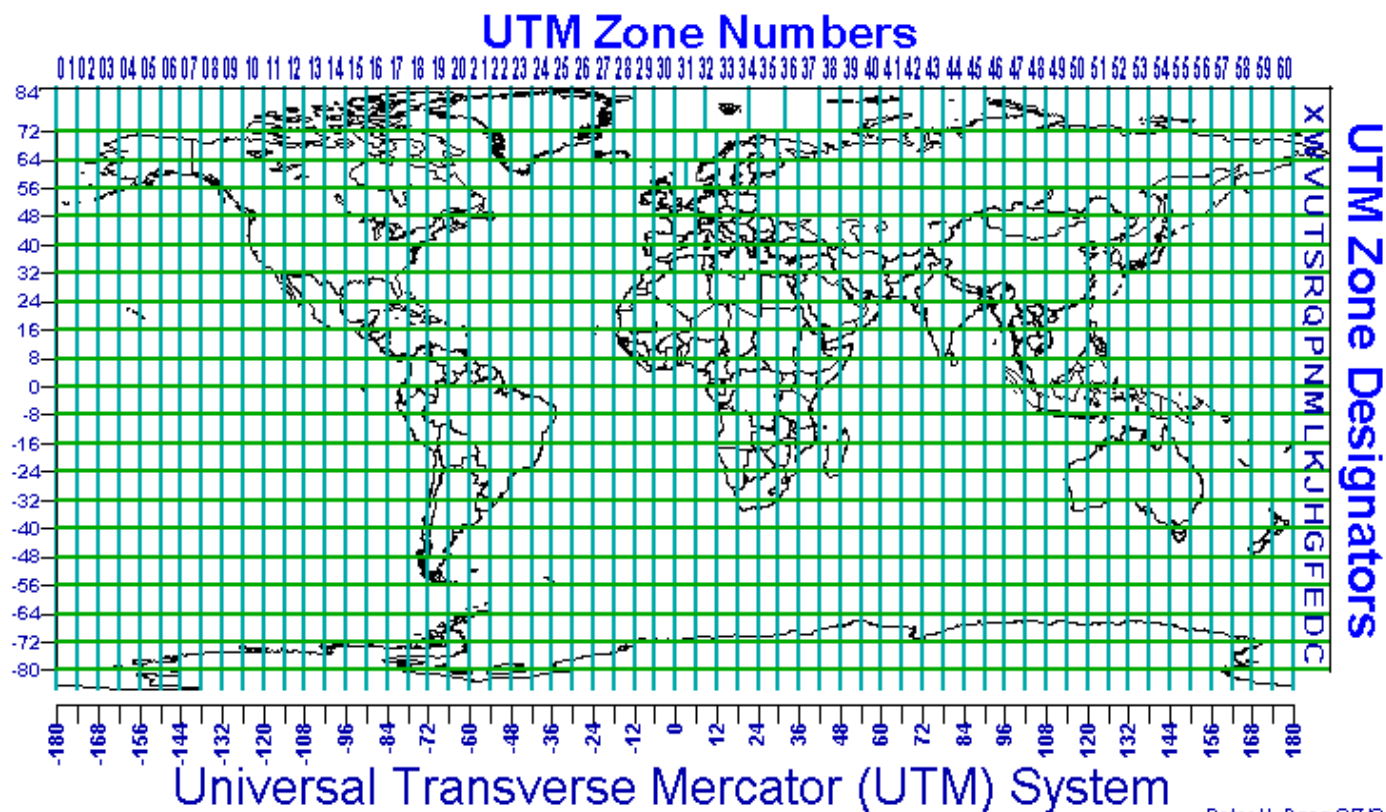


Measured in either degrees, minutes, seconds, or decimal degrees (dd)



Universal Transverse Mercator. UTM

- Divided into 60 UTM zones
- Units are meters
- X,Y coordinates



Peter H. Dana 9/7/94

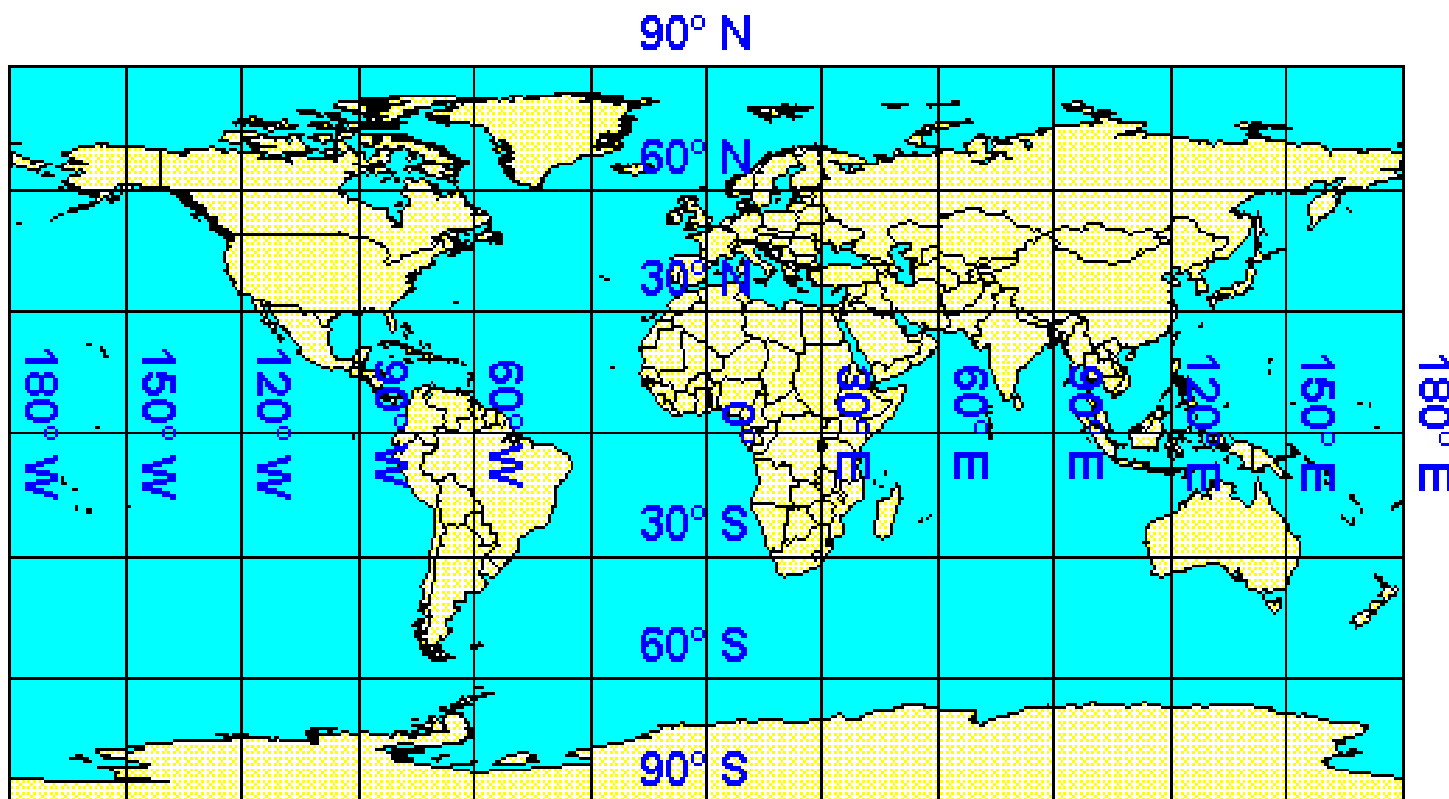
Coordinate System



Lat 30.044434 ° N

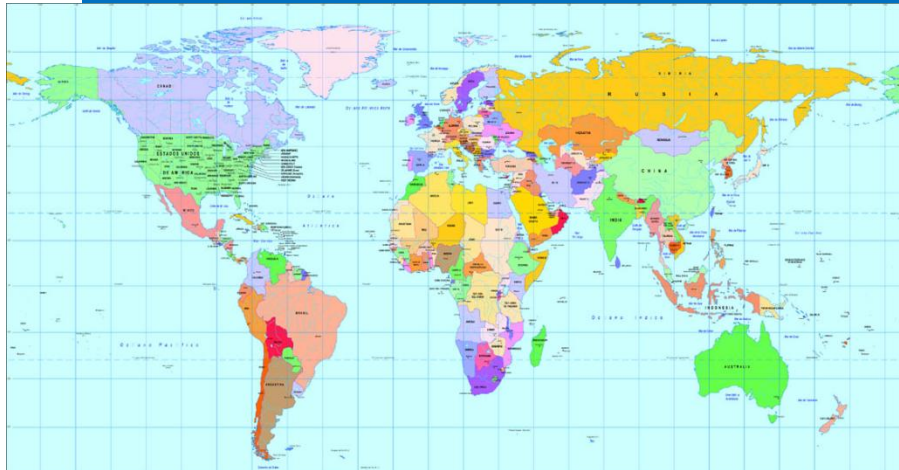
Log 31.235735 ° E

Peter H. Dana 9/20/94



Unprojected Latitude and Longitude

Map projections



La superación del Eurocentrismo en los mapas - Por ARNO PETERS



EL MUNDO POLÍTICO

Guía del Mundo 2003/2004

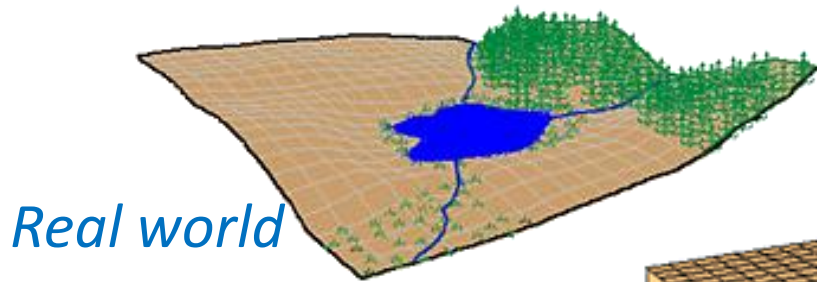
Map projections



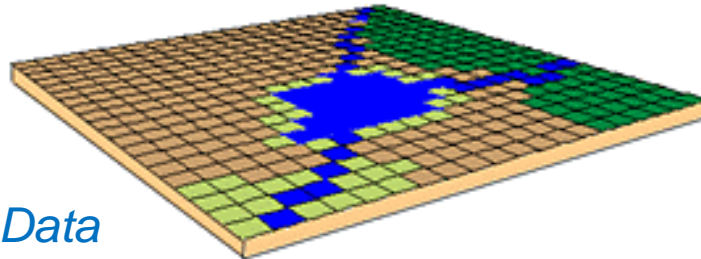
- Principal projections :
 - Lamber
 - Mercator
 - UTM

<http://franson.com/coordtrans/guide.asp?section=SupportedCountries&platform=winx>

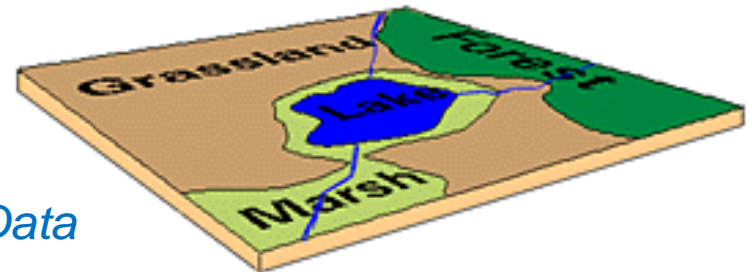
- Raster and Vector data



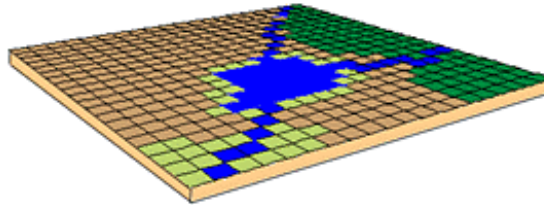
Raster Data



Vector Data



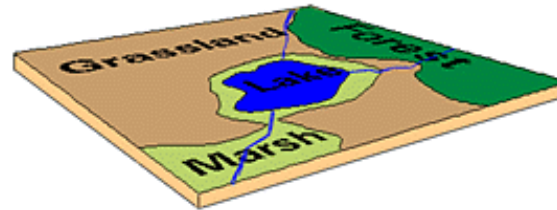
Raster Data



In the raster data model, land cover is represented as:

- Single square cells
- Each cell will have a value corresponding to its land cover type.
- Satellite image, slope, elevation...

Vector Data



In the vector data model, features on the earth are represented as:

- Points
- Lines
- Polygons or areas
- Rivers, political boundaries, road lines, case of disease...

Can have attributes!!

File Formats for Vector Spatial Data:

- Coverage
- Shape File: comprises several (at least 3, usually 5 or 7) files (with extension of .shp, .shx, .dbf...), **all of which must be present in the same folder!!!!**
- Geodatabase: Multiple layers saved in a single .mdb

Shapefiles are the simplest and most commonly used format

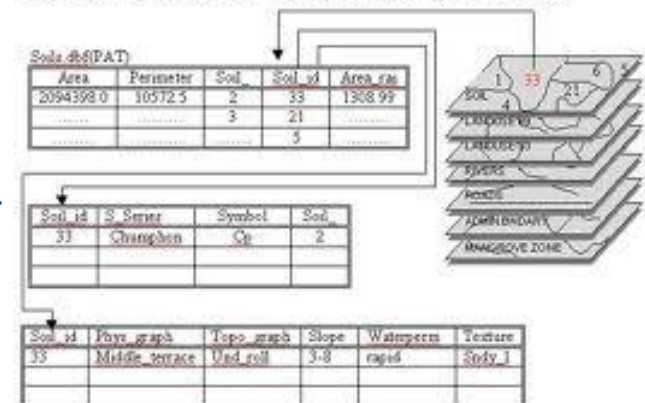


Spatial databases provide structures for storage and analysis of spatial data

How can I get a spatial data?



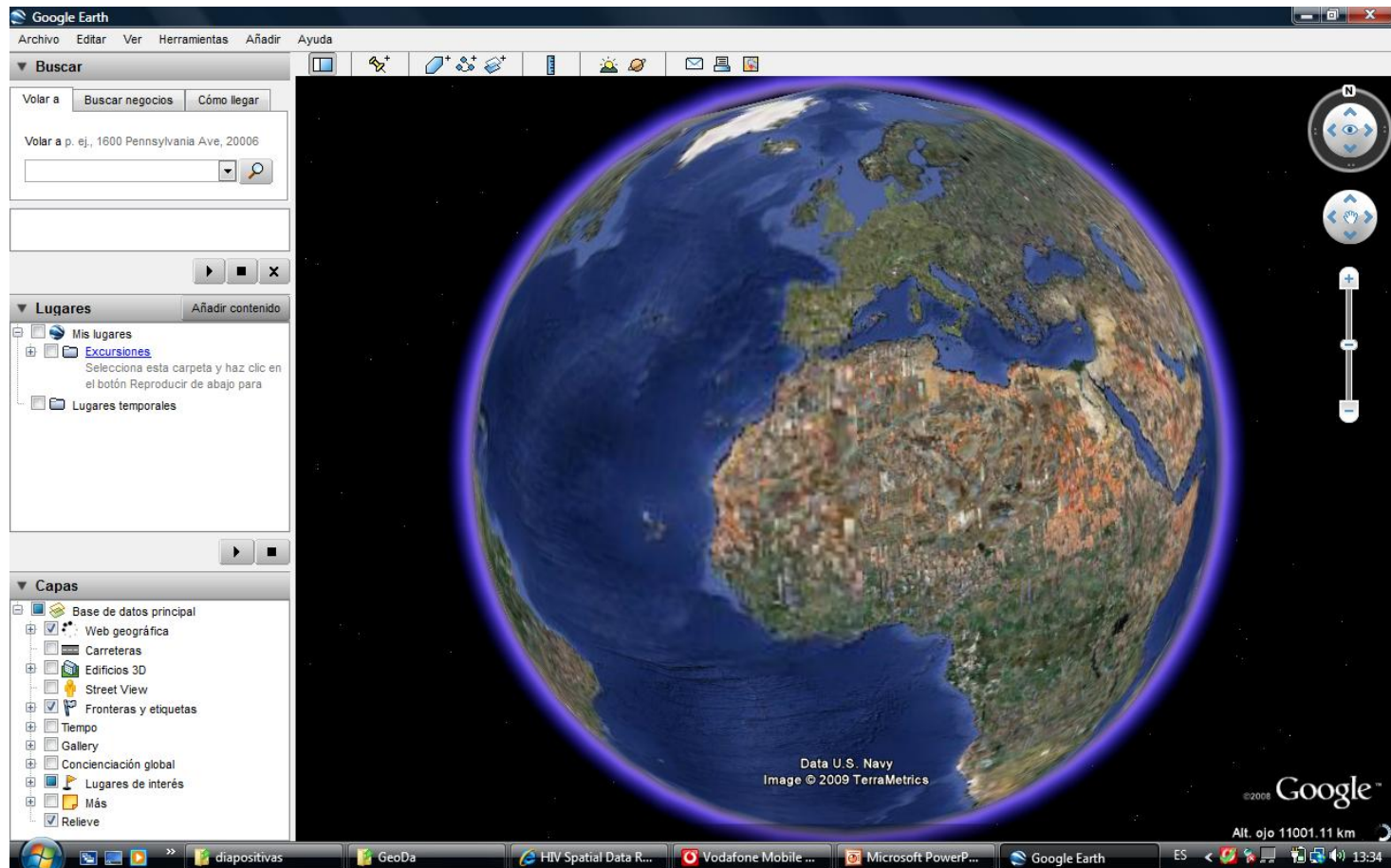
Figure 4. Spatial data developed in this study and the structure of the soil database



Spatial database

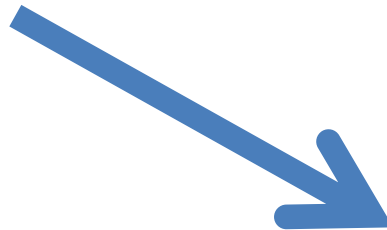


Google earth, others streetmaps





GPS



Scanning a map

