Georeferencing Online Resources

UTM

- Universal Tranverse Mercator (projection system)
- Used all over the world
- Extent is default of 30 m (similar to GPS)
- First must figure out the UTM zone your are in (expressed as number and letter, e.g. 12S)
- http://www.dmap.co.uk/utmworld.htm)
- Example:Ambrosetti Pond Ranch, (1431 m): UTM 0258629 E; 4324971 N

Using Online Resources:

- National Imagery and Mapping Association - NIMA (for worldwide data)
- All data in Degrees Minutes Seconds, with precision to nearest minute
- Datum is WGS84
- Used as source for many gazetteers
- Example: Kathmandu, Nepal

Falling Rain

- Great for any locality, especially hard to find places (non-North American localities)
- Uses NIMA data
- Gives location of nearby towns in nautical miles (nm)
- Use Google to translate nm into kilometers
- Example: Benjamin Constant, Amazona, Brasil

Directory of Cities and Towns in World
http://www.fallingrain.com/world/

Fuzzy G

- Can use any named place, even if the name is not spelled exactly right
- Worldwide
- Uses NIMA data
- Can control the amount of “fuzziness”
- Example: El Tejon, Kern County, CA
- Also can find when spelled incorrectly as El Tejone

Alexandria Digital Library

- Large database for searching any feature type
- Includes old and alternative names of places
- Uses NIMA data, so in Degrees minutes seconds, with WGS84 datum
- Example: Tervuren, Belgium

Maporama

- Used for finding addresses worldwide
- Measure extent on the screen
- No datum given, so have to email Maporama for the datum
- Example: #10 Downing St., London, UK

Other Resources:

- Google Earth – download free
- Uses multiple map sources, changes often
- Datum is WGS84, change options so decimal degrees
- Enter in calculator as gazetteer
- Example: Queens Borough, New York, US

GeoLocate

- Automated georeferencing program
- Good for intersections of roads or rivers
- What the new BioGeomancer will use for finding localities
- Only for North America right now
- Can move the "correct" spot to where you think it should be and read coordinates from there
- Example: Russian River and Hwy 101, Mendocino County, CA, USA

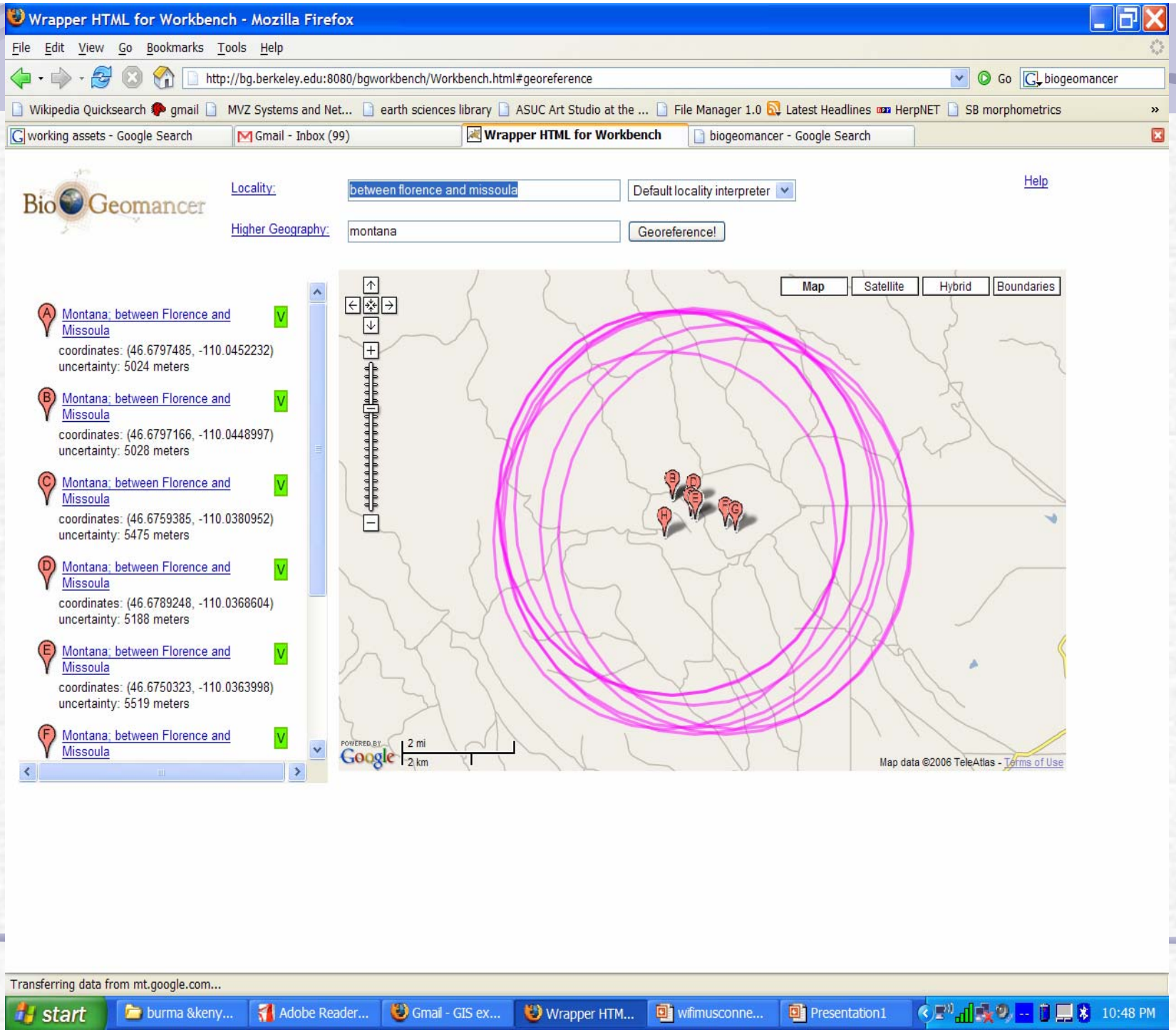
Topozone

- USGS maps, 1:24,000 and 1:100,000
- Can measure distances for extent on the screen using a ruler
- Good for checking localities in the US (UTM, GPS, etc) or in conjunction with Google Maps
- Example #1:McCool Butte, Klamath Co., Oregon, USA
- Example #2: Maklaks Creek, Klamath Co., Oregon

BioGeomancer

http://bg.berkeley.edu:8080/bgworkbench/Workbench.html

- Automated georeferencing program
- In Beta version since 1 Nov 06, complete production version ready 1 March 2007 (including batch processing)
- 2-3 time faster than the manual method
- Determines the lat/long, uncertainty for your data
- Obtains data on extent from various sources
- Use the MHO guidelines
- Will complete 30-60% of your localities
- Still have to verify them by hand afterwards


Wrapper HTML for Workbench - Mozilla Firefox
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Wrapper HTML for Workbench
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BioGeomancer
Locality:
between florence and missoula
Default locality interpreter
Help
Higher Geography:
montana
Georeference!
A Montana; between Florence and Missoula
coordinates: (46.6797485, -110.0452232)
uncertainty: 5024 meters
B Montana; between Florence and Missoula
coordinates: (46.6797166, -110.0448997)
uncertainty: 5028 meters
C Montana; between Florence and Missoula
coordinates: (46.6759385, -110.0380952)
uncertainty: 5475 meters
D Montana; between Florence and Missoula
coordinates: (46.6789248, -110.0368604)
uncertainty: 5188 meters
E Montana; between Florence and Missoula
coordinates: (46.6750323, -110.0363998)
uncertainty: 5519 meters
F Montana; between Florence and Missoula
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2 km
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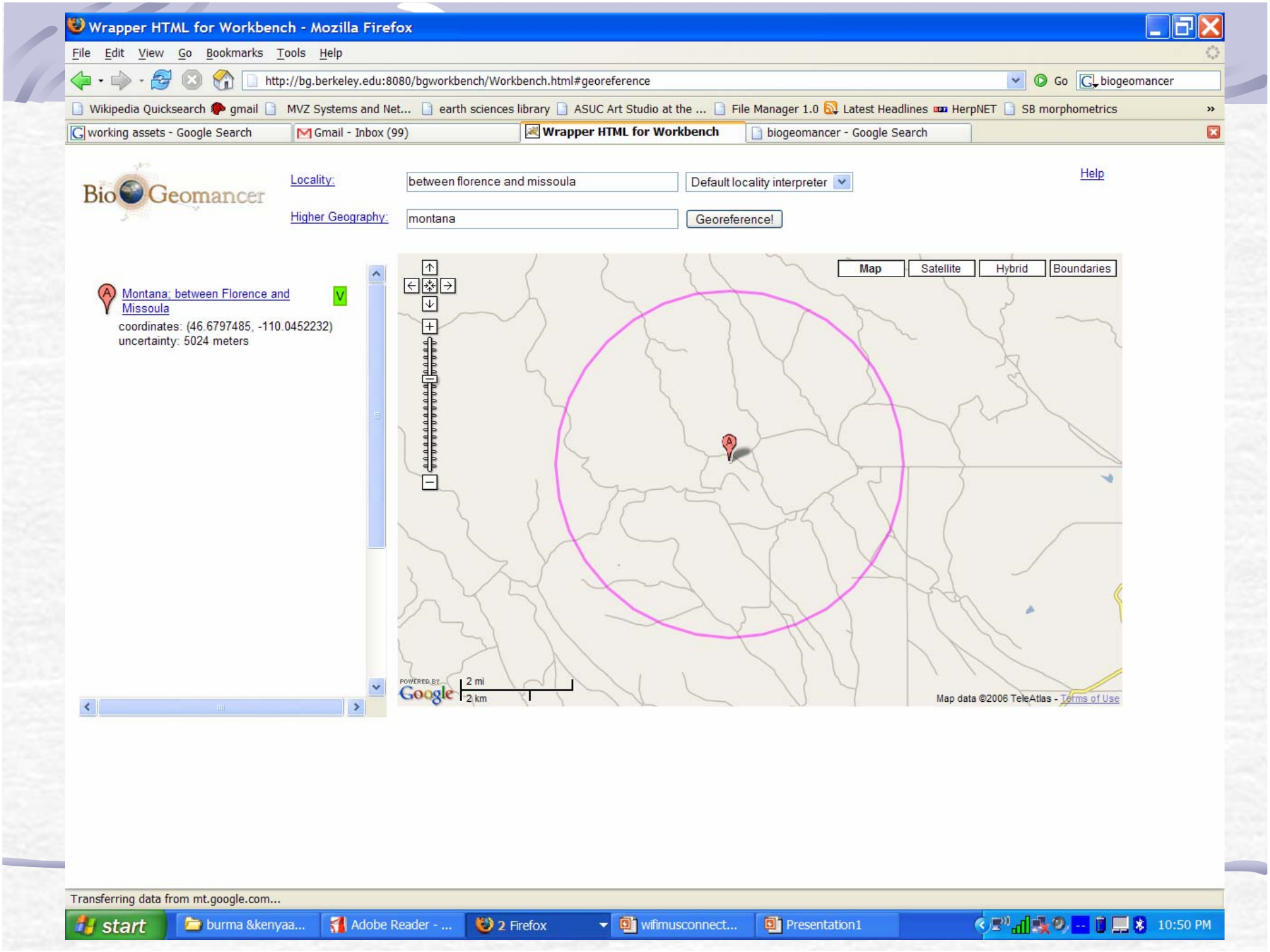
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Montana; between Florence and Missoula
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coordinates: (46.6797485, -110.0452232)
uncertainty: 5024 meters
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Go biogeomancer

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working assets - Google Search | Gmail - Inbox (99) | Wrapper HTML for Workbench | biogeomancer - Google Search

BioGeomancer

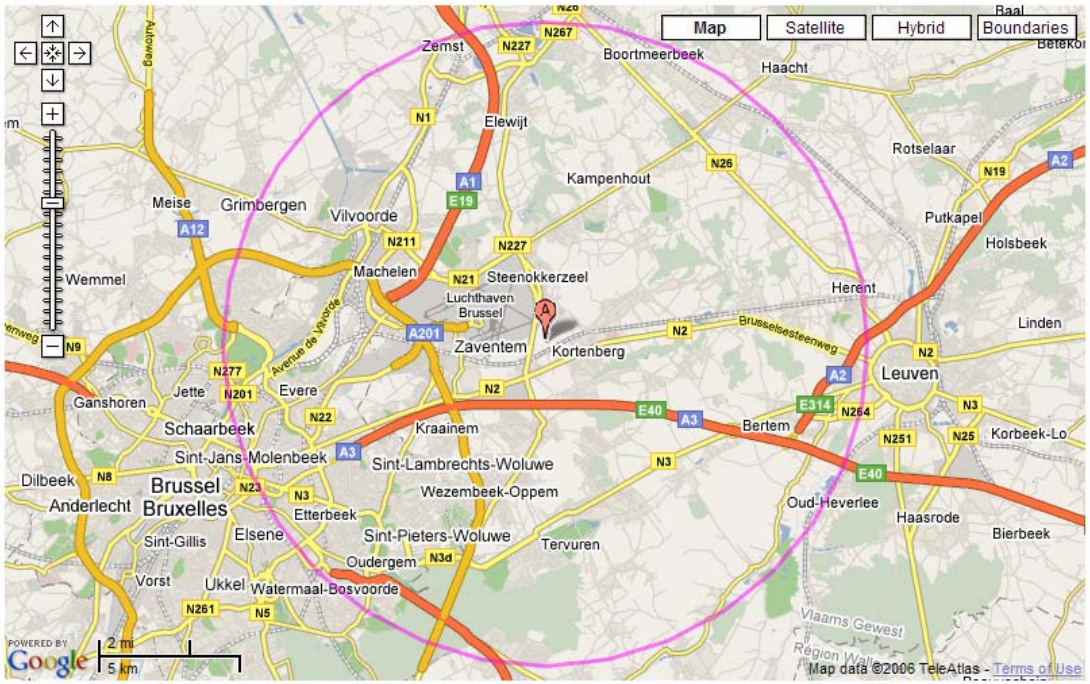
Locality: 5 miles north of tervuren Default locality interpreter

Higher Geography: Georeference!

Help

5 mi N of Tervuren V

coordinates: (50.8890011, 4.5166667)
uncertainty: 11495 meters



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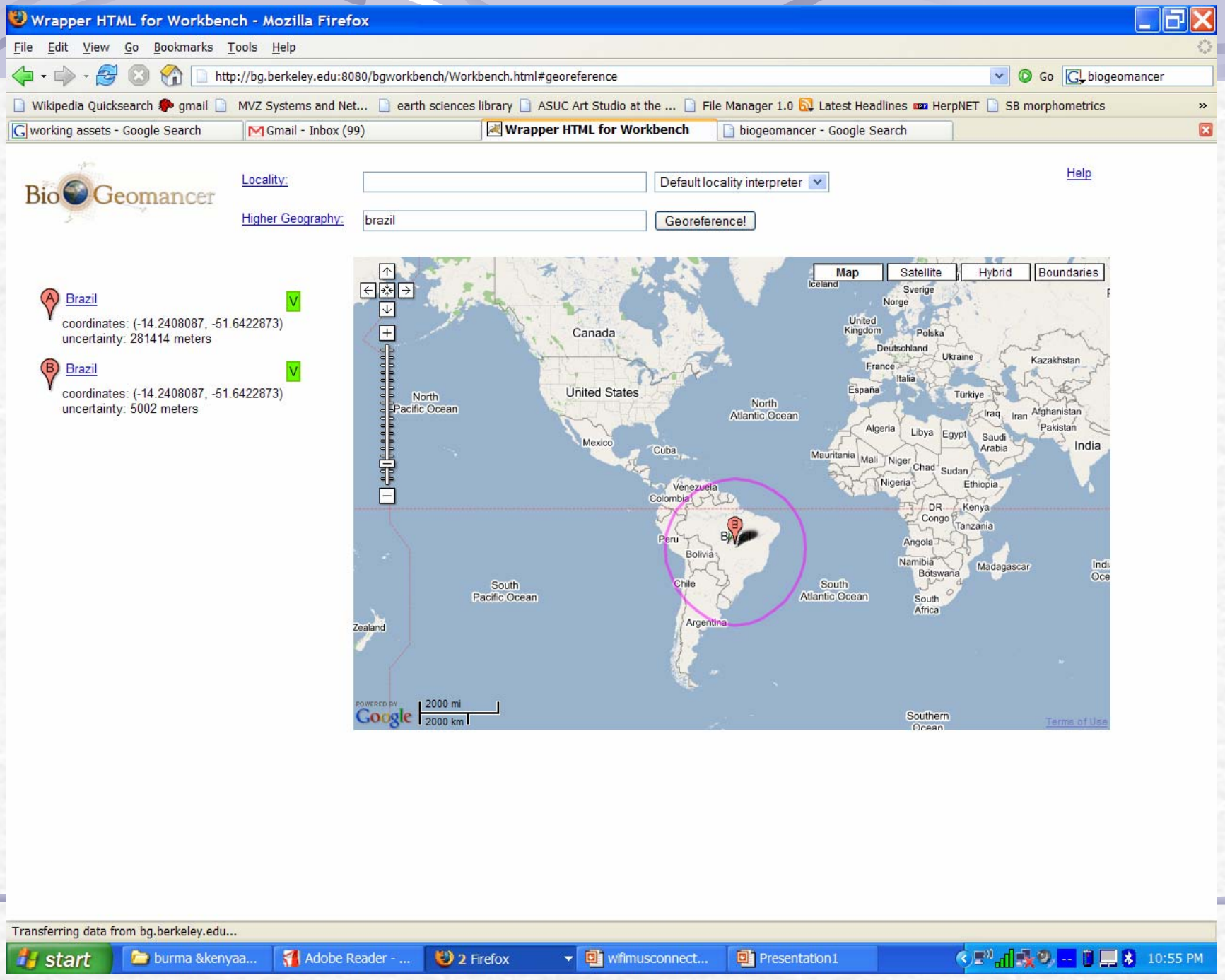
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Help
Higher Geography:
brazil
Georeference!
A Brazil
coordinates: (-14.2408087, -51.6422873)
uncertainty: 281414 meters
B Brazil
coordinates: (-14.2408087, -51.6422873)
uncertainty: 5002 meters
Map
Satellite
Hybrid
Boundaries
Canada
United States
North Pacific Ocean
North Atlantic Ocean
South Pacific Ocean
South Atlantic Ocean
Mexico
Cuba
Venezuela
Colombia
Peru
Bolivia
Chile
Argentina
Iceland
Sverige
Norge
United Kingdom
Polska
Deutschland
France
España
Italia
Ukraine
Kazakhstan
Türkiye
Iraq
Iran
Afghanistan
Pakistan
India
Algeria
Libya
Egypt
Saudi Arabia
Mauritania
Mali
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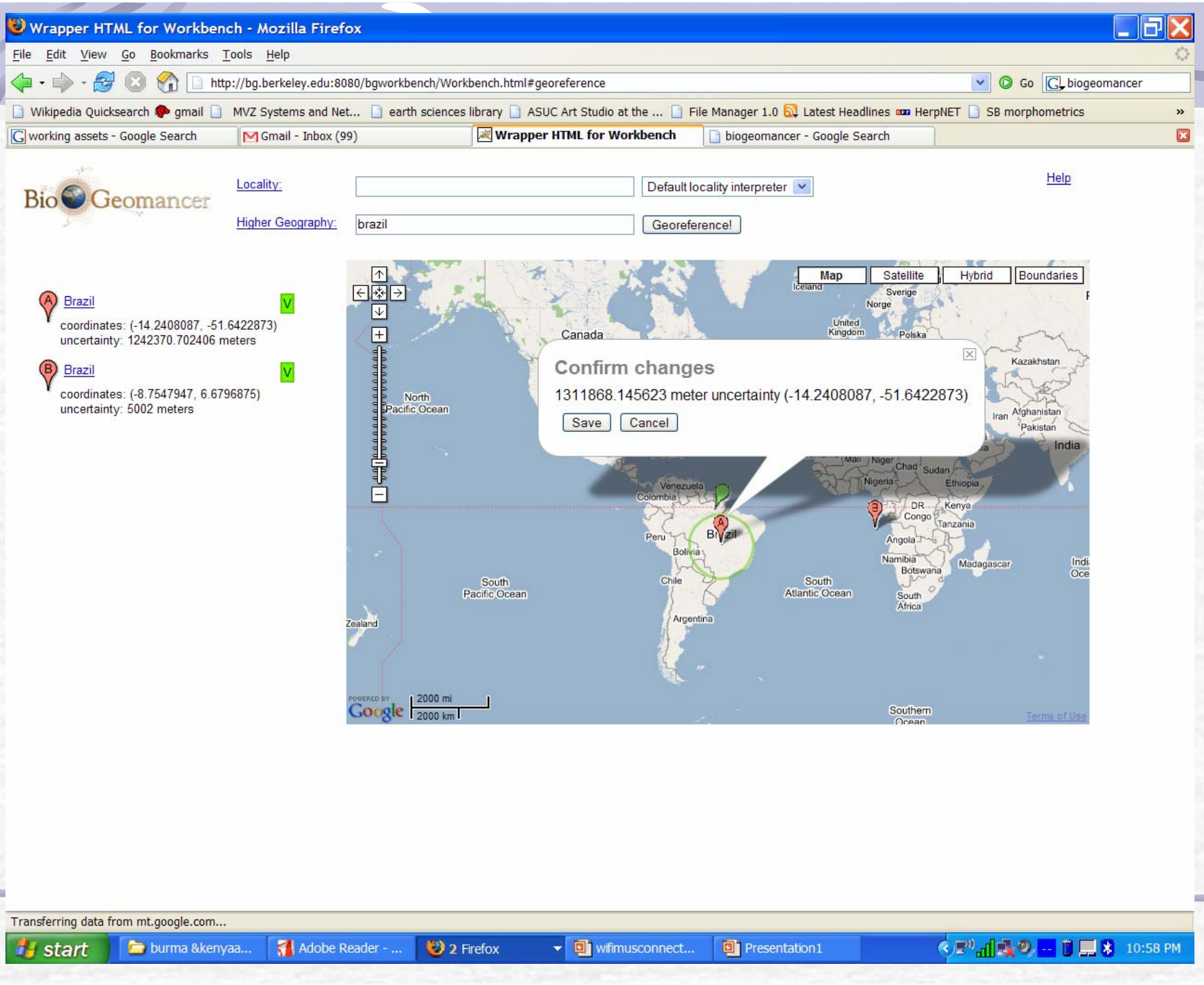
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Georeference!
A
Brazil
V
coordinates: (-14.2408087, -51.6422873)
uncertainty: 1242370.702406 meters
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coordinates: (-8.7547947, 6.6796875)
uncertainty: 5002 meters
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Boundaries
Confirm changes
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Canada
North Pacific Ocean
South Pacific Ocean
South Atlantic Ocean
Venezuela
Colombia
Peru
Bolivia
Chile
Argentina
Brazil
Nigeria
Chad
Sudan
Ethiopia
DR Congo
Kenya
Tanzania
Angola
Namibia
Botswana
Madagascar
South Africa
Iceland
Sverige
Norge
United Kingdom
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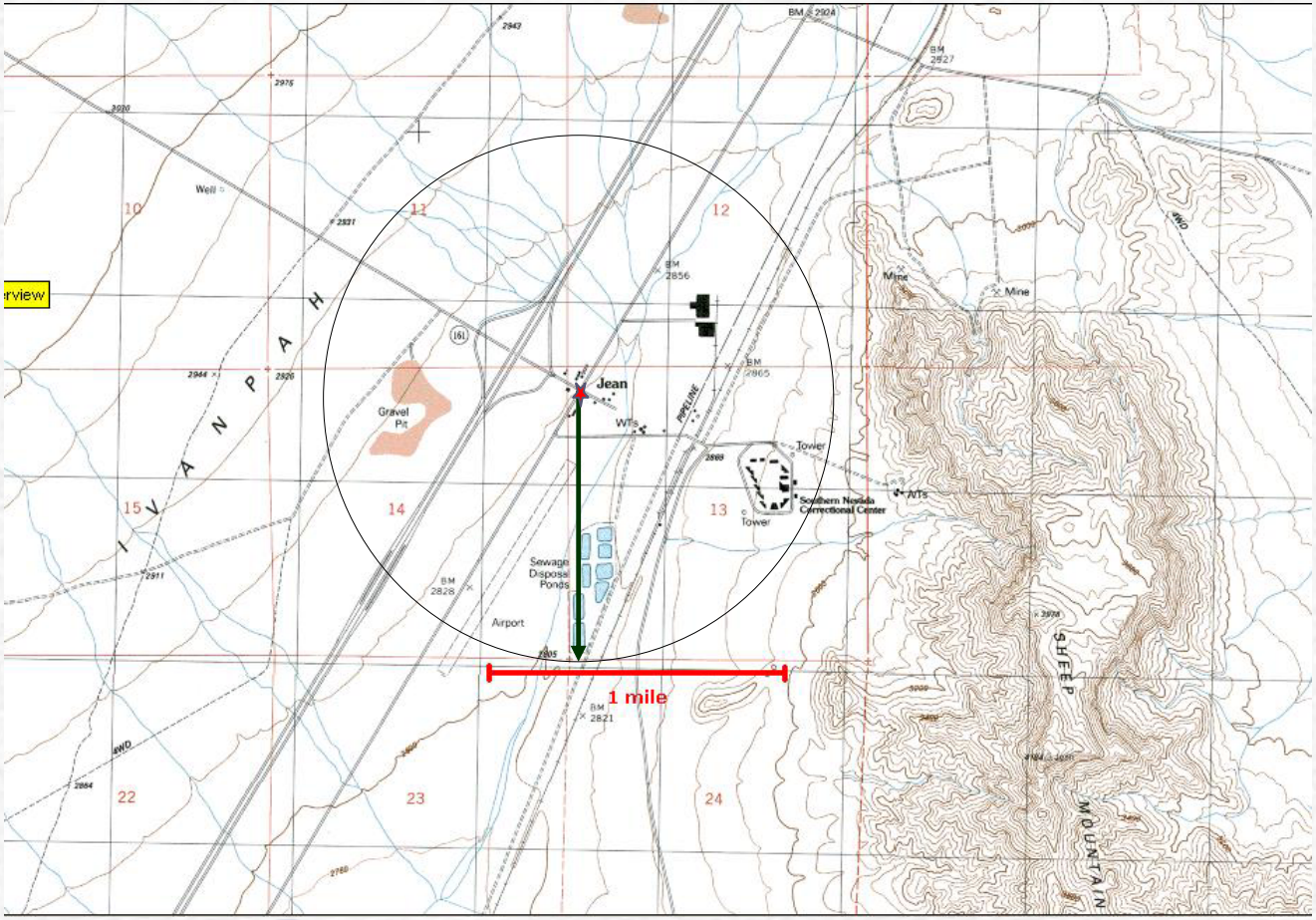
Recursos en Internet

- Visor SIG-PAC
  - http://sigpac.mapa.es/fega/visor/
- Nomenclátor IGN
  - http://www.idee.es/

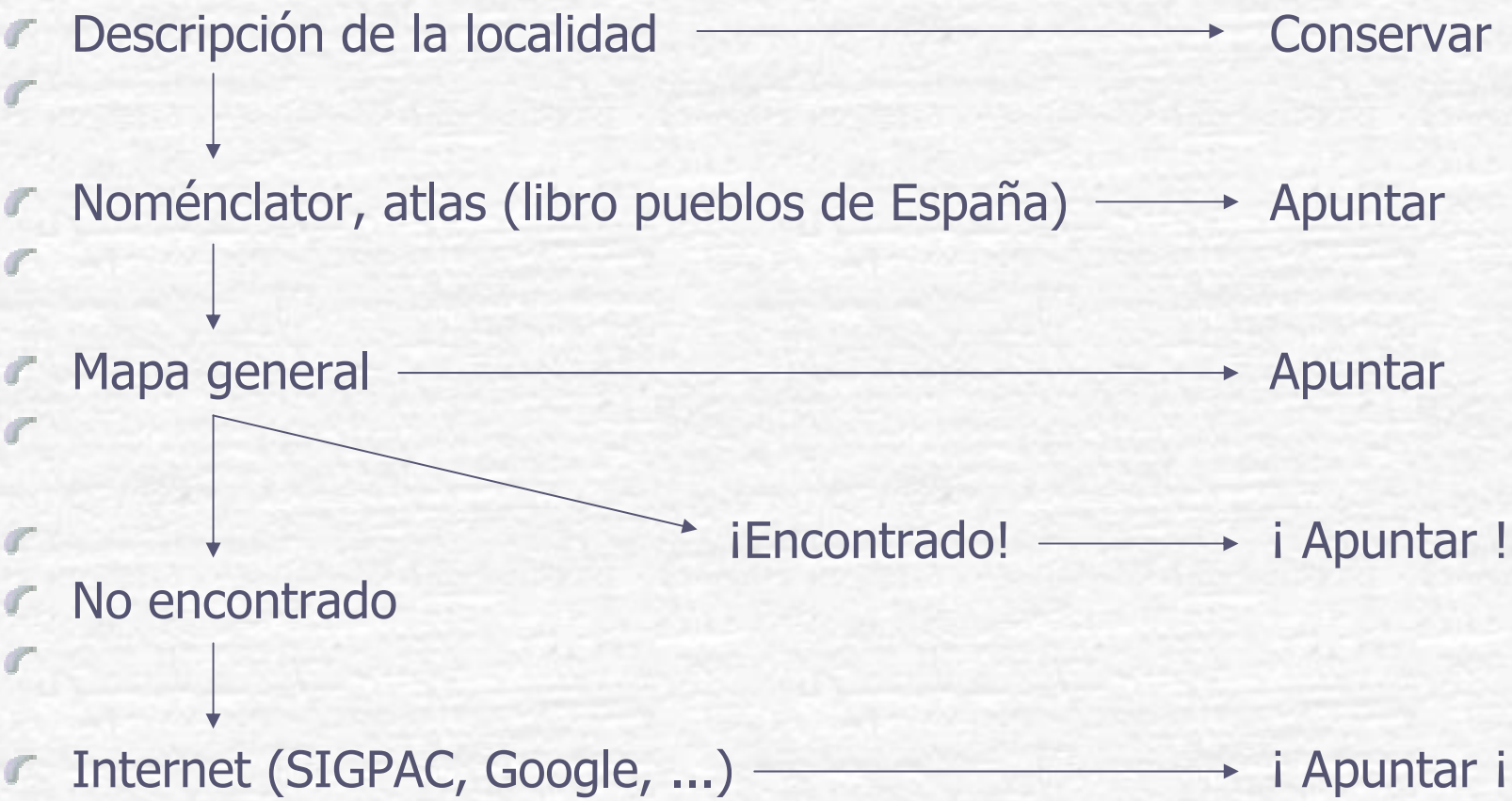
Georeferencing – Step by Step & Online Resources

Georeferencing – An Example

- Jean, Nevada (using USGS – Terrain Navigator)

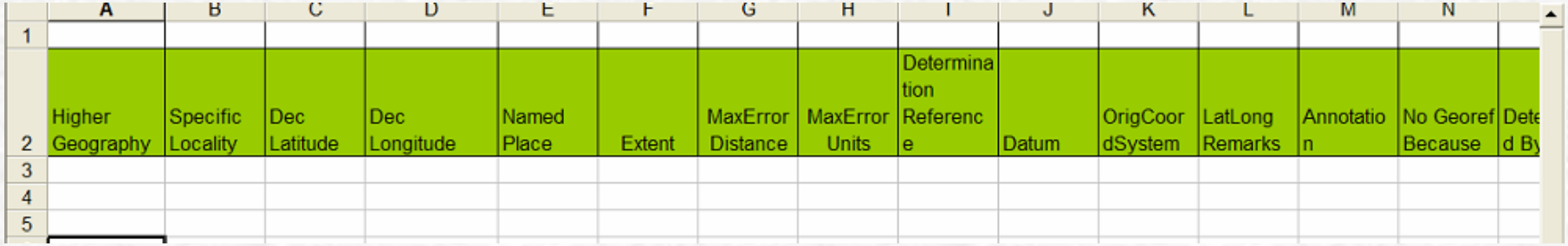


Process of Georeferencing



Georeferencing – Step by Step

- Use an Excel sheet or Access database with formatted columns



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
1															
2	Higher Geography	Specific Locality	Dec Latitude	Dec Longitude	Named Place	Extent	MaxError Distance	MaxError Units	Determination Reference	Datum	OrigCoordSystem	LatLong Remarks	Annotation	No Georef Because	Dete d By
3															
4															
5															

- Use the error calculator to determine uncertainty

Referencias geográficas

- Nominales
- Numerales (coordenadas, precisión)
    - Mapas en papel
    - Recursos en Internet

Ejercicios 3