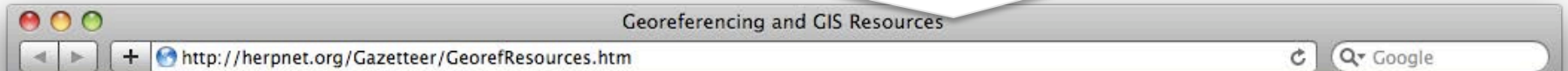
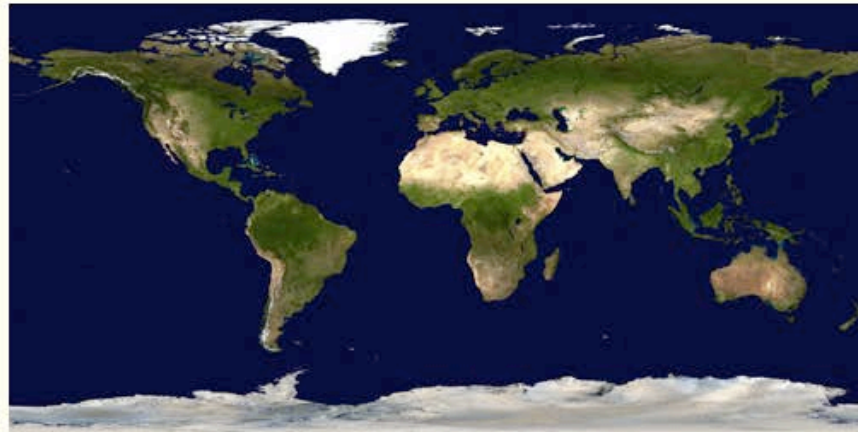


Online resources for georeferencing

<http://herpnet.org/Gazetteer/GeorefResources.htm>



 [En Español](#)



How to Georeference (Documents):

- [Georeferencing Calculator](#)
- [Guide to Best Practices for Georeferencing](#)
- [MaNIS/HerpNET/ORNIS Georeferencing Guidelines](#)
- [Georeferencing for Dummies](#) and [Georeferenciación para Dummies](#)
- [Wieczorek et al., 2004. Point-radius method for georeferencing locality descriptions and calculating associated uncertainty. International Journal of Geographical Information Science 18\(8\):745-767.](#)
- [Kristina's Quick and Dirty Georeferencing Guide](#) and [Guía de Kristina Georreferenciando Rápido y Sucio.](#)
- [Biogeomancer Workbench](#), [BioGeomancer Frequently Asked Questions for the Georeferencing Survey](#), and [Biogeomancer for Dummies for the Georeferencing Survey](#) pdf.
- Good and Bad Localities - [in Spanish](#) and [in English](#)
- How to Use Paper Maps - [in Spanish](#) and [in English](#)

Other georeferencing resources

<http://www.canadensys.net/georeferencing>

The screenshot shows the Canadensys website with the following elements:

- Header:** "Data publication - Canadensys" in the browser tab, "www.canadensys.net/publication" in the address bar, and "Canadensys data | community" in the main header.
- Navigation:** A dark menu bar with links for "about", "digitization", "data publication", "activities", and "blog".
- Main Content:**
 - Data publication** (Section Header)
 - Introduction*, *Published datasets*, *Documents* (Sub-headers)
 - Introduction** (Section Header): "Biological collections are replete with taxonomic, geographic, temporal, numerical, and historical information. This information is crucial for understanding and properly managing biodiversity and ecosystems, but is often difficult to access. Data publication is the act of making that information available online, and is the core mission of Canadensys."
 - Published datasets** (Section Header): "Since September 2011, Canadensys participants and others have started publishing their biodiversity information via the Canadensys repository. Most of the datasets contain specimen data, but checklists and observation data are present as well. All datasets are published in the biodiversity information standard Darwin Core, and you can explore, download and use them for free under an open license."
 - If you are interested in publishing your own dataset, start here.
- Right Sidebar:** A vertical menu with links: "7-step guide to data publication", "Integrated Publishing Toolkit (IPT)", "Darwin Core", and "Metadata".
- Bottom:** A legend for "Published & registered datasets since September 2011" with categories: "taxa" (blue), "specimens" (red), and "observations" (yellow). A bar chart shows data points, with a scale marker at 800,000.
- Vertical Label:** "feedback" written vertically on the right edge of the page.

LatLong Crosshairs for Google Maps

<http://www.canadensys.net/activities/development/latlong-crosshairs>

Canadensys data | community

about digitization data publication activities blog

LatLong Crosshairs for Google Maps

Introduction
How to install
How to use

Introduction

The Canadensys LatLong Crosshairs allows you to get the coordinates for any point in Google Maps and offers them separated by a tab, so you can easily paste them in your spreadsheet. It's an alternative to Google's right-click "What's here" and more precise than Google's LatLngTooltip and LatLngMarker.

How to install

To install, drag this link: **LatLong Crosshairs** up to your bookmarks toolbar. The bookmarklet does not work in Internet Explorer (last time we tested).

Home > Digitization > Georeferencing > LatLong Crosshairs for Google Maps

LatLong Crosshairs for Google Maps

Text digitization
Imaging

Software development
▶ LatLong Crosshairs for Google Maps
Database of Vascular Plants of Canada (VASCAN)
Meetings
Forum

feedback

Google Maps

- <http://maps.google.com>
- Web mapping service application by Google
- Search & directions
 - Free text search, depends on **zoom level**
 - Directions for travelling by car, bike, public transport and foot
 - Data compiled from different sources
- Maps
 - Datum: WGS84
 - Views: map, satellite (= aerial photography), terrain, Google Street View + various layers of information
 - Data compiled from different sources (indicated at the bottom of each map)

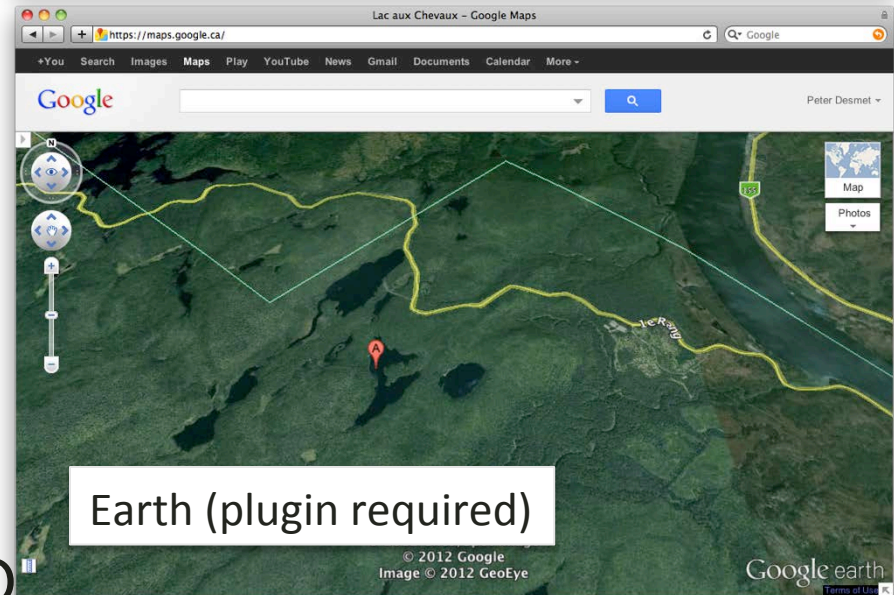
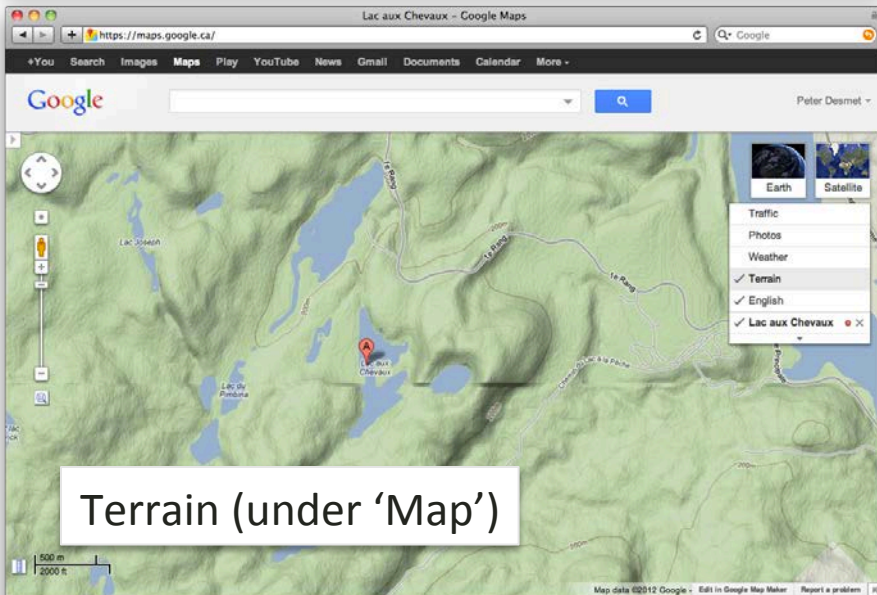
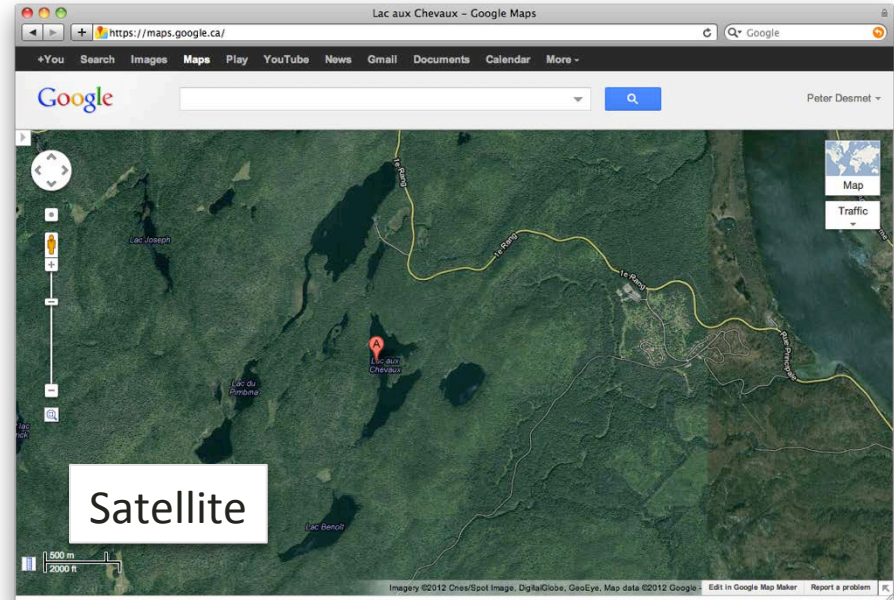
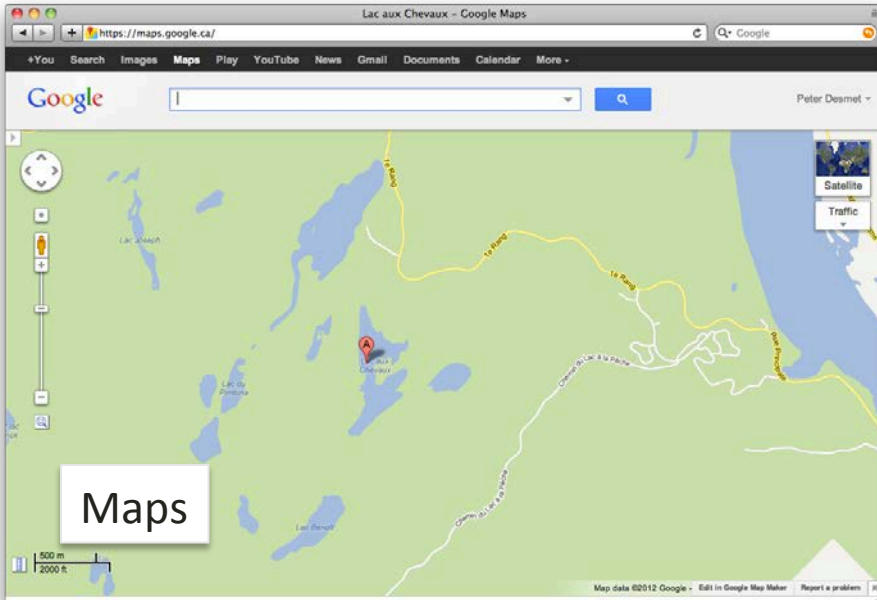
Google Maps – Search

The screenshot shows the Google Maps search interface. The search bar contains the text "Lac aux Ch". A dropdown menu displays search suggestions: "Lac aux Chevaux, Le Centre-de-la-Mauricie, QC", "Lac aux Chantiers, Saint-Alexis-des-Monts, QC", "Lac aux Chicots, Saint-Alexis-des-Monts, QC", "Lac aux Chevreuils, Chertsey, QC", and "Lac aux Chasseurs, Wentworth-Nord, QC". A callout box labeled "Search with suggestions" points to this dropdown menu. The search bar also contains a search icon and the user's name "Peter Desmet".

Below the search bar, there are buttons for "Get directions" and "My places". The main map area shows a topographic view of a region with several lakes, including "Lac du Pimbina", "Lac aux Chevaux", and "Lac Benoit". A red location pin is placed on "Lac aux Chevaux". A callout box labeled "Previous searches" points to a search history dropdown menu on the right side of the map, which lists "Lac aux Chevaux" as a previous search.

At the bottom right, a callout box labeled "Report a problem" points to a link in the footer. The footer also contains "Map data ©2012 Google - Edit in Google Map Maker" and "Report a problem".

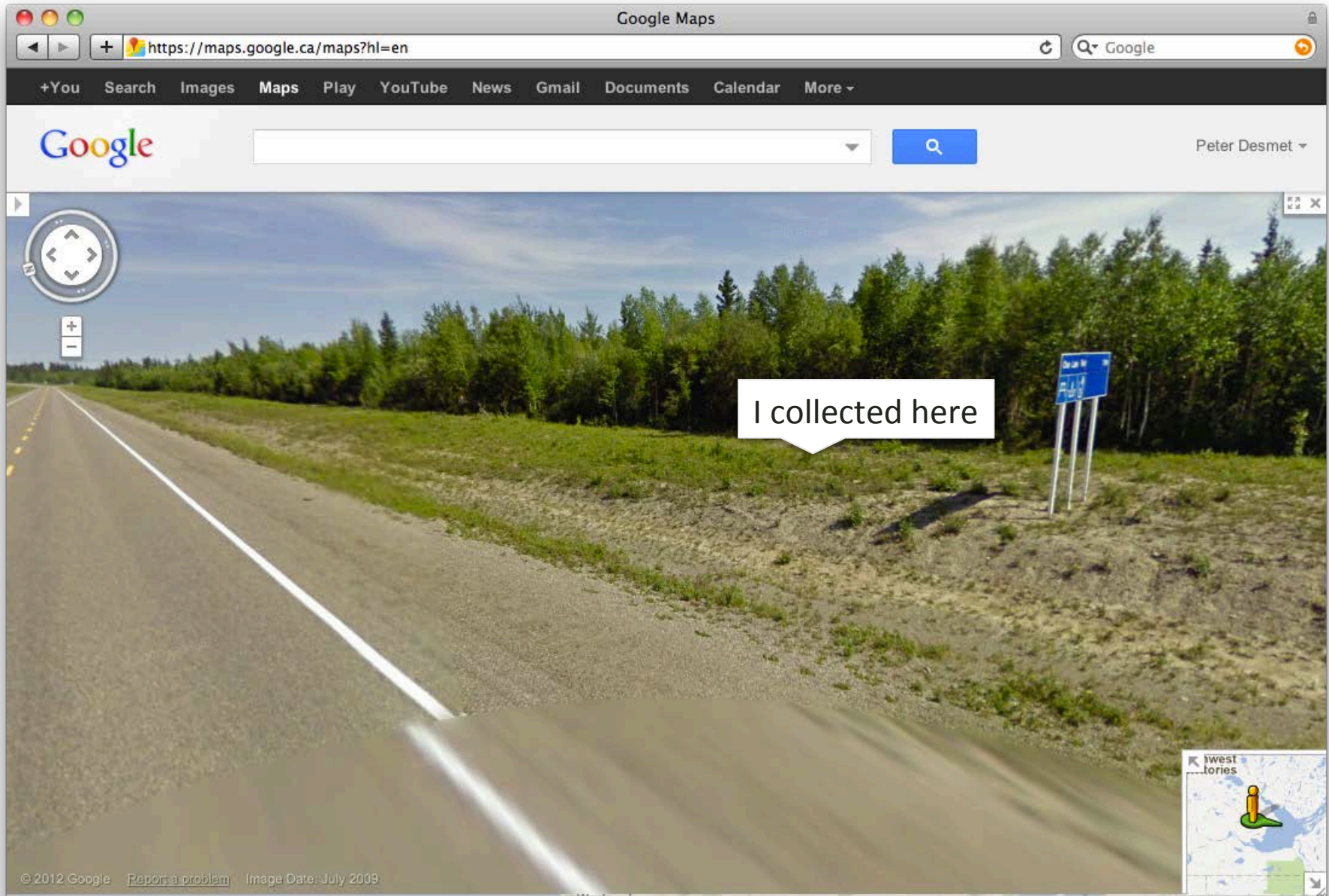
Google Maps – Views



Google Maps – Street View

The image shows a screenshot of the Google Maps website in a browser window. The browser's address bar displays the URL <https://maps.google.ca/maps?hl=en>. The navigation bar includes links for +You, Search, Images, Maps, Play, YouTube, News, Gmail, Documents, Calendar, and More. The Google logo is visible on the left, and the user's name, Peter Desmet, is on the right. The main map area shows a map of Canada with numerous blue Pegman icons indicating Street View locations. A callout box for the Mackenzie Highway in the Northwest Territories shows a Street View image of a road. A white box with the text "Street View" is overlaid on the left side of the map. The map includes labels for provinces and territories such as Yukon, Northwest Territories, Nunavut, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, British Columbia, and Newfoundland and Labrador. Major cities like Edmonton, Calgary, and Ottawa are also labeled. A scale bar at the bottom left indicates 500 km and 200 mi. The page number 7 is visible in the bottom right corner.

Google Maps – Street View



Google Maps – Shapes

The screenshot shows a Google Maps browser window. The address bar contains "http://maps.google.ca/". The search bar has "Regional Municipality of York, Ontario" entered. The map displays the Regional Municipality of York, Ontario, with a red shape overlaid on it. The shape is a large, irregular polygon that encompasses the area from Barrie in the north to Markham in the south, and from Caledon in the west to Uxbridge in the east. The map shows major roads like 400, 48, 7, 9, 404, and 401. A red pin labeled 'A' is located in East Gwillimbury. The left sidebar shows the search results for "Regional Municipality of York ON", including directions, photos, and places like "Canada's Wonderland" and "McMichael Canadian Art Collection".

Regional Municipality of York, Ontario - Google Maps

http://maps.google.ca/

+You Search Images Maps Play YouTube News Gmail Documents Calendar More

Google Regional Municipality of York, Ontario Sign in

Get directions My places

Regional Municipality of York ON

Directions Search nearby more

Explore this area »

Photos

Places

- Canada's Wonderland
- McMichael Canadian Art Collection
- Unionville High School

Maps Labs - Help

Google Maps - ©2012 Google - Terms of Use - Privacy

10 km
5 mi

Map data ©2012 Google - Report a problem

Google Maps – Get coordinates

- Requires widgets or additional plugins:
 - Activate **LatLng Marker** in Google Maps Labs
 - Use this page (French/English): <http://bit.ly/universimedia>
 - Use the Canadensys **LatLong Crosshairs** bookmarklet (does not work in Internet Explorer):
<http://www.canadensys.net/latlong-crosshairs>
- Use **Distance Measurement Tool** to measure extent
- Use **My places** to save markers, create maps and share with others (including kml import)

Google Maps – Get coordinates

The image shows a browser window displaying Google Maps. The browser's address bar shows the URL `https://maps.google.ca/`. The page title is "Lac aux Chevaux - Google Maps". The search bar contains "Google". The navigation menu includes links for +You, Search, Images, Maps, Play, YouTube, News, Gmail, Documents, Calendar, and More. The Google logo is visible on the left. A "My places" callout box is positioned over the "My places" button in the left sidebar. The sidebar also shows "Get directions" and "My places" buttons, a red location pin for "Lac aux Chevaux" with the address "La Mauricie National Park, Quebec G0X", and a "Google Maps Labs" callout box. Below the sidebar, there are links for "Directions", "Search nearby", "Save to map", and "more". The main map area shows a satellite view of a lake region. A red location pin is placed on the map, and a callout box displays the coordinates `46.7492, -72.8510`. A "LatLng Marker" callout box is positioned over the coordinates, containing the text: "LatLng Marker", "Right-click and 'Drop LatLng Marker'", and "(activate in 'Labs' first)". The map includes navigation controls, a "Satellite" button, and a "Traffic" button. The bottom of the map shows a scale bar for 2000 feet.

Google Maps – Get coordinates

Canadensys bookmarklet
Click to toggle

The screenshot shows the Google Maps interface. The search bar contains "Lac aux Chevaux, Le Centre-de-la-Mauricie, QC, Canada". A popup window titled "https://maps.google.com" displays "Latitude and Longitude" with the coordinates "46.7513 -72.8388834". A crosshair icon is visible on the map near the location. The left sidebar shows "Lac aux Chevaux" with a red location pin and options like "Directions", "Search nearby", and "Save to map". The bottom of the map includes a scale bar (1000 ft / 200 m) and copyright information: "Map data ©2012 Google - Edit in Google Map Maker Report a problem".

Crosshairs
Pan map to change position
Click to get coordinates

Google Maps – Measure extent

The screenshot shows a web browser window with the URL <https://maps.google.ca/>. The page title is "Lac aux Chevaux - Google Maps". The navigation bar includes links for +You, Search, Images, Maps, Play, YouTube, News, Gmail, Documents, Calendar, and More. The Google logo is on the left, and a search bar is in the center. The user's name "Peter Desmet" is visible in the top right.

On the left side, the "Distance Measurement Tool" is active. It includes the following elements:

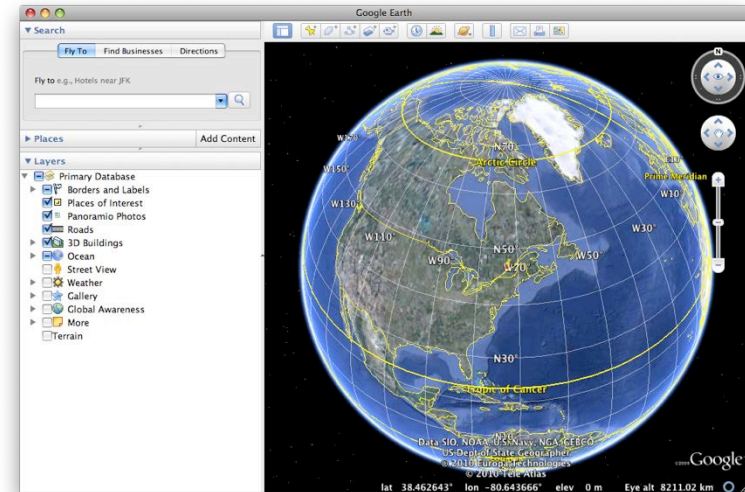
- Buttons for "Get directions" and "My places".
- Instructions: "Click on the map to trace a path you want to measure."
- Units: A dropdown menu set to "Metric" with a "less" link.
- Total distance: **461.695 m**
- Buttons for "Delete last point" and "Reset".

The map shows a topographic view of a region with green terrain and blue water. A red path is drawn on the map, starting from a red pin at the top and ending at another red pin near "Lac aux Chevaux". Other features include "Lac Solitaire" and "Chemin du Lac à la Pêche". A scale bar at the bottom left indicates 200 m and 1000 ft. Map data is attributed to ©2012 Google.

Distance Measurement Tool
(activate in 'Labs' first)

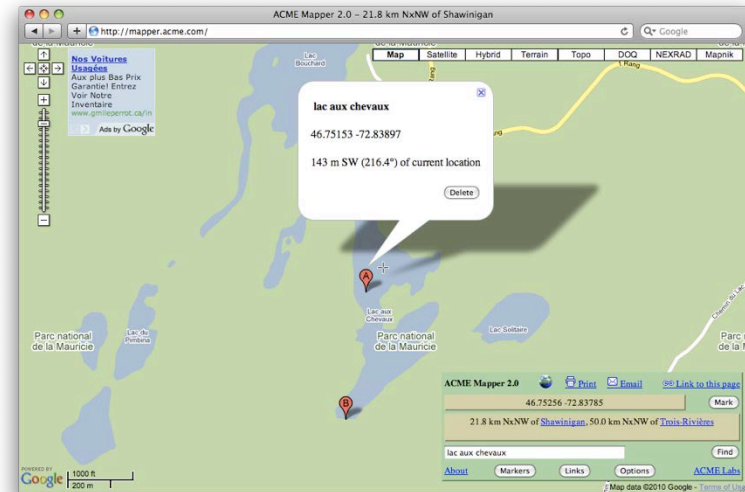
Google Earth

- <http://earth.google.com>
- 3D globe **desktop** application
- Same data as Google Maps
 - Datum: WGS84
 - No map or terrain view
- Similar functionalities as Google Maps
 - Search more limited than Google Maps (no suggestions)
 - Right-click and choose 'Get Info' for coordinates
 - Use ruler to measure extent
 - Several coordinate formats
 - Numerous information layers (format: kml)



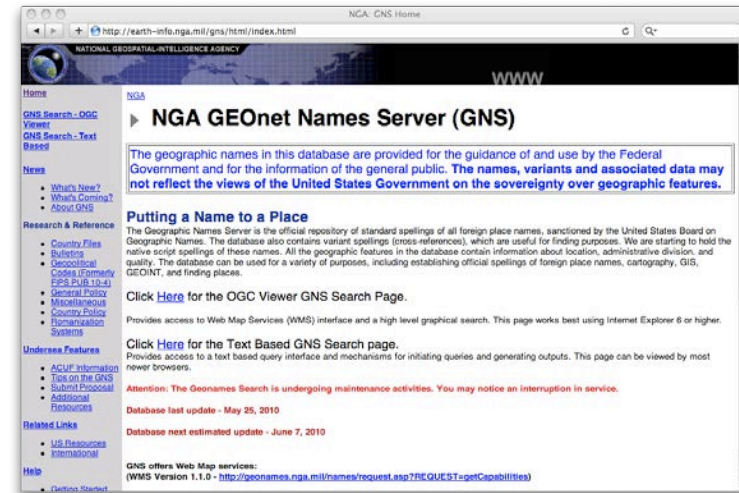
ACME Mapper

- <http://mapper.acme.com/>
- Google Maps interface
 - Datum: WGS84 (& NAD27)
 - Map, satellite, hybrid and terrain
 - Topo, DOQ, NEXRAD and Mapnik
 - Free text search **not dependent on zoom level**
 - Markers cannot be moved, but new markers can be placed at crosshairs (click 'Mark')
 - Several coordinate formats for each marker + heading and distance from crosshairs
 - Saves all markers automatically



GEOnet Names Server (GNS)

- <http://earth-info.nga.mil/gns/html/>
- **Worldwide data from NGA and US BGN**
 - NIMA = National Imagery and Mapping Agency
 - Datum: WGS84
 - Degrees minutes seconds, precision to nearest minute
 - Feature type
 - Used as a source for many gazetteers
- For **US data**, use Geographic Names Information System (GNIS): <http://geonames.usgs.gov/pls/gnispublic/>



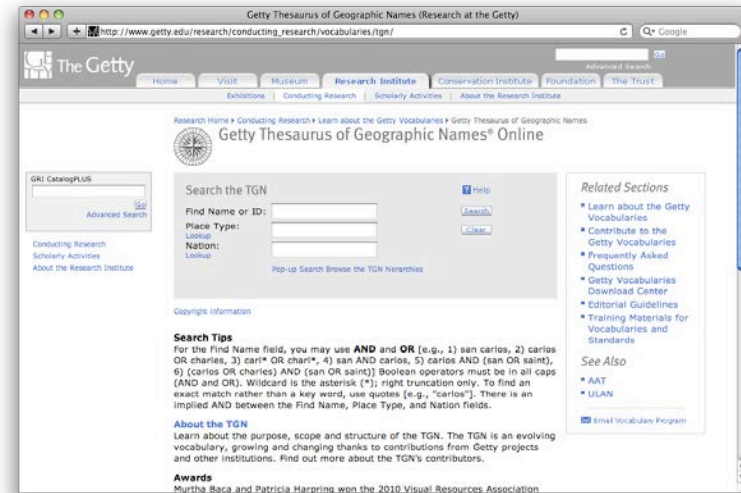
Falling Rain

- <http://www.fallingrain.com>
- Worldwide gazetteer for **cities** and **towns**
- Great for **hard to find localities**, especially outside US
 - Datum: WGS84
 - Degrees minutes (seconds), based on NIMA
 - Browse to find locality (**no search**)
 - Provides hierarchy, alternative names, topo maps, altitude, weather information and location of nearby towns in nautical miles (nm). Use Georef. Calc. to translate nm into kilometers.
- Example: Qaryeh-ye Gol`alam, Velayat-e Lowgar, AF



Getty Thesaurus of Geographic Names (TGN)

- <http://bit.ly/Getty-TGN>
- Worldwide gazetteer by The Getty
- Useful for finding **alternative** and **old names**
 - Feature types
 - Geographical hierarchy
 - Degrees minutes or **no coordinates!** Use recent name and search in Google Maps
- Example: New Amsterdam, US



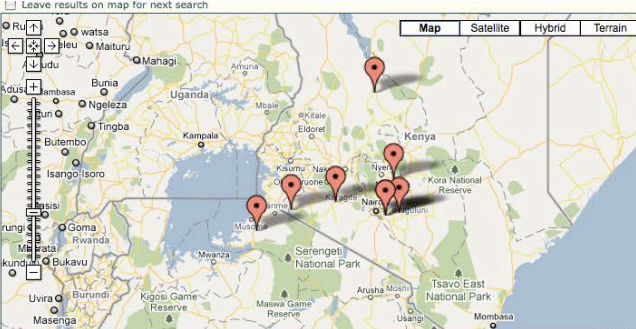
FuzzyG – JRC Fuzzy Gazetteer

- <http://dma.jrc.it/services/fuzzyg/>
- Worldwide gazetteer designed for **bad spelling**.
- Useful for finding alternative, doubtful spelling and old names
 - Feature types, by continent
 - Degrees minutes or no coordinates
 - Use recent name and then search in Google Maps
- Example: Nairobi instead of Nairobi, Africa

Results for narobi

You can interactively explore the area around a place with the map on the side. Click on 'See on map' to center the map on a place. Alternatively, you can see a place in [Google Earth](#) or in the [Digital Map Archive Explorer](#).

Open Google Earth	Nairobi, Nairobi Area, Kenya ★★★★★
See on map	capital of a political entity
See on Google map	Coordinates (lat/long): Decimal degrees: -1.2833332 / 36.8166667 Degrees, minutes, seconds: -11700 / 364900
Open Google Earth	Nairobi, Tanzania ★★★★★
See on map	populated place
See on Google map	Coordinates (lat/long): Decimal degrees: -4.9499999 / 38.9333333 Degrees, minutes, seconds: -45700 / 385600
Open Google Earth	Nabori, Ghana ★★★★★
See on map	populated place
See on Google map	Coordinates (lat/long): Decimal degrees: 9.1333333 / -1.8499999 Degrees, minutes, seconds: 90800 / -15100
Open Google Earth	Narobé, Burkina Faso ★★★★★
See on map	populated place
	Coordinates (lat/long):

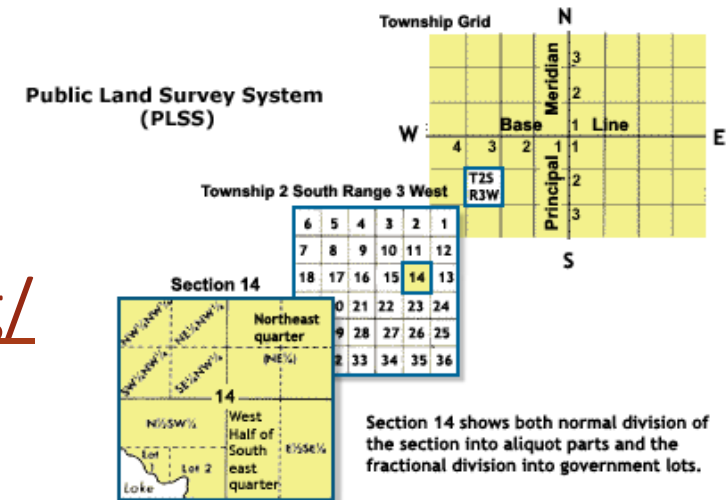


UTM & MTM

- UTM = Universal Transverse Mercator
 - Divides earth in 60 UTM zones = 6 degrees per zone
 - Datum: WGS84 and others
 - Notation: Zone Easting Northing = 17N 630084 4833438
 - Zone includes hemisphere (17N) or latitude band (17T): MGRS
 - Default extent: 30m (if recorded with GPS receiver)
 - <http://www.dmap.co.uk/utmworld.htm>
 - UTM Calculator: <http://bit.ly/bdxn37>
- MTM = Modified Transverse Mercator
 - Used in **Canada**: zones are 3 degrees, different codes, false easting and scale, etc.
 - UTM/MTM Calculator: <http://bit.ly/utmmtm>

Public Land Survey System (PLSS)

- Mainly used in the West, Midwest and some Southern states in the US
- Uses **Township-Range-Section (TRS)**:
T13N-R14E-S15, Arizona, Coconino County
- Graphical Locator: <http://www.esg.montana.edu/gl/>
 - Translates TRS in decimal degrees
 - Datum: NAD27
- Determine state and meridian: <http://bit.ly/bSouTw>
- For extents: <http://manisnet.org/GeorefGuide.html>

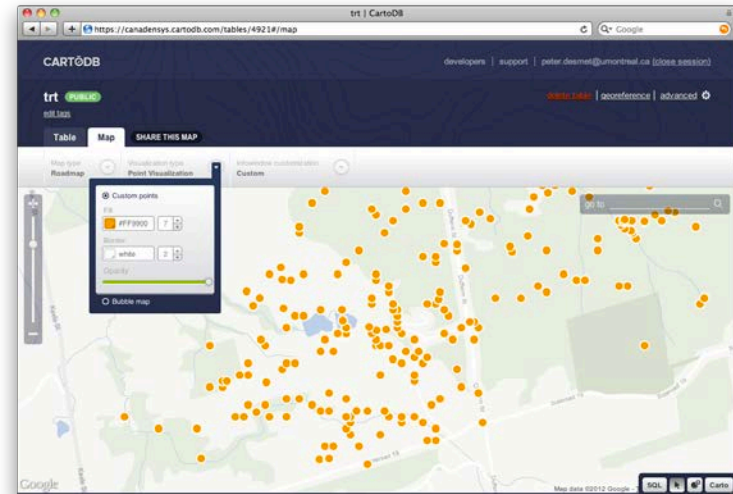


Other tools

- [Wikimedia Commons Atlas of the World](#) –
 - An organized and commented collection of geographical, political, and historical maps
- Statoids: <http://www.statoids.com/>
 - Information about administrative divisions (provinces, counties) and their history, area, population, codes, etc.
 - No coordinates!
 - Similar: CIA World Factbook <http://bit.ly/dDtT1i>
- GPS Visualizer: <http://www.gpsvisualizer.com/>
 - Use to translate a file with coordinates into kml or a picture
 - Similar: <http://www.simplemapppr.net/> for publications
- See <http://bit.ly/herpnet-georef-resources> for more...

Other tools: CartoDB

- <http://cartodb.com>
- Online geospatial database by Vizzuality
- Useful for visualizing your data
 - Drag and drop CSV upload
 - Easy customization of your map
 - Share and embed your map
 - Powerful development tools
- Free account = 5 tables / 5MB of data



Links

- Google Maps: maps.google.com
- LatLong crosshairs: www.canadensys.net/latlong-crosshairs
- Hard to find localities: www.fallingrain.com
- Old & alt. names: bit.ly/Getty-TGN
- UTM map: www.dmap.co.uk/utmworld.htm
- UTM calculator: bit.ly/bdxn37
- Other tools: bit.ly/herpnet-georef-resources