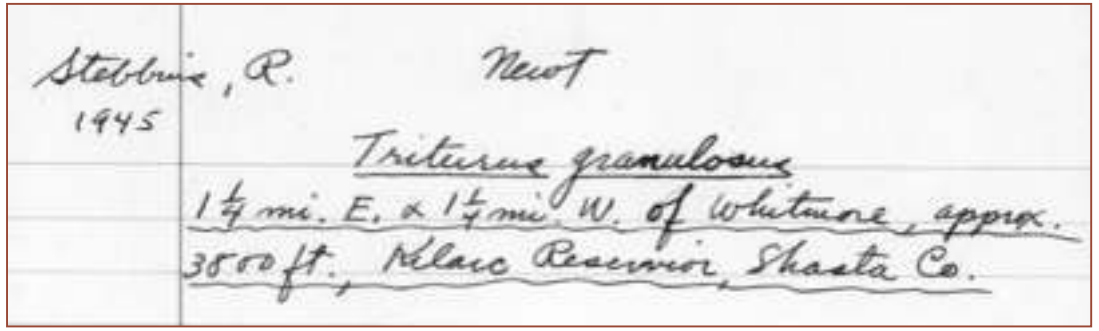
PART 1: INTRODUCTION & MAPPING TOOLS

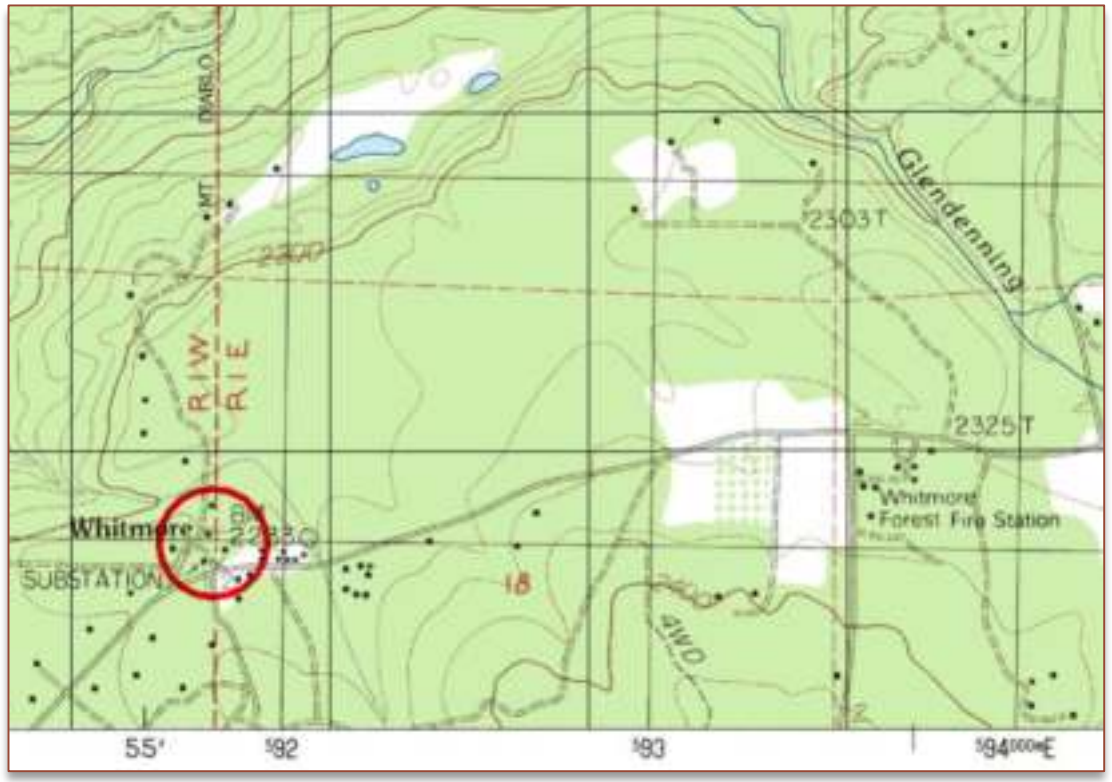
WHAT IS GEOREFERENCING?

Interpreting a written description of a locality into mappable coordinates and an uncertainty radius in accordance with community best practices

Goals:

- Find coordinates as accurately as possible
- Calculate the smallest uncertainty radius that encapsulates entire area that the collection could have been within
- Capture proper metadata so that georeferencing steps can be retraced and process is repeatable





GUIDES

We follow community agreed upon best practices for georeferencing, which include stepwise instructions based on categorization of the locality type

Georeferencing Quick Reference Guide (2020)

Georeferencing Quick Reference Guide (2012)

Best Practices Guide (2020)

MAPPING TOOLS

To capture coordinates and uncertainty radii, we mainly use:

Google Maps

GEOLocate

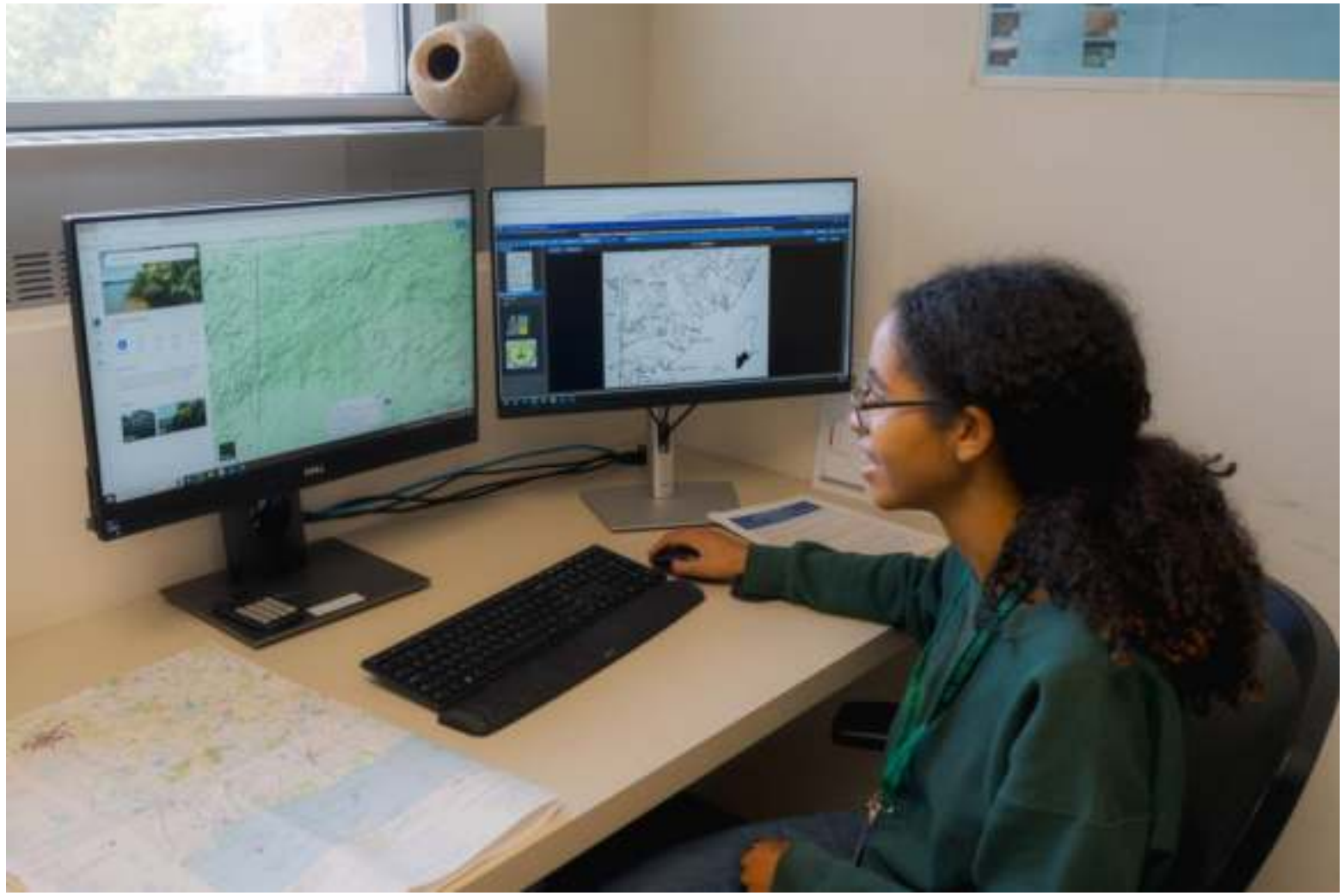
Also may be used:

Google Earth

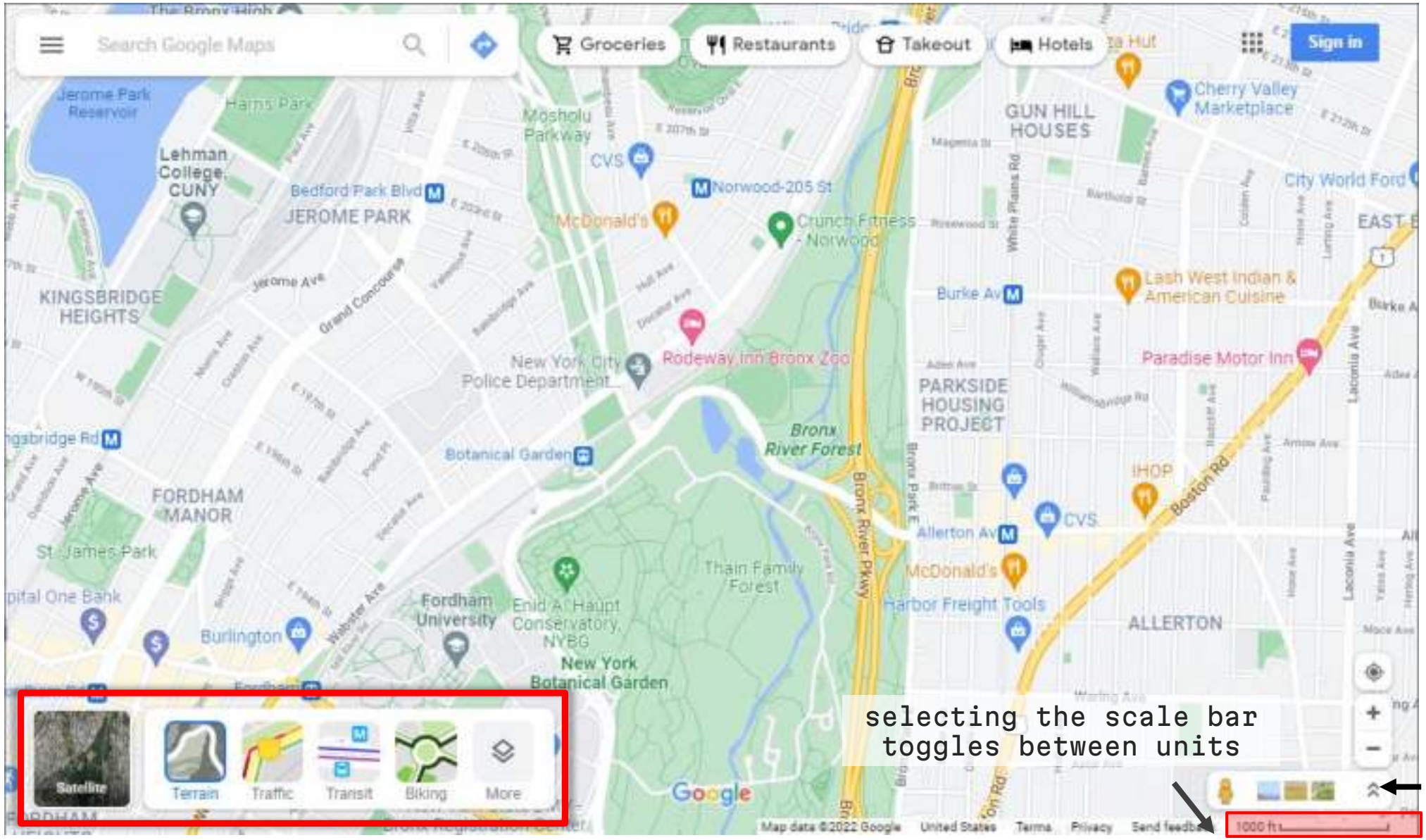
Bing Maps

ACME Mapper

GIS software



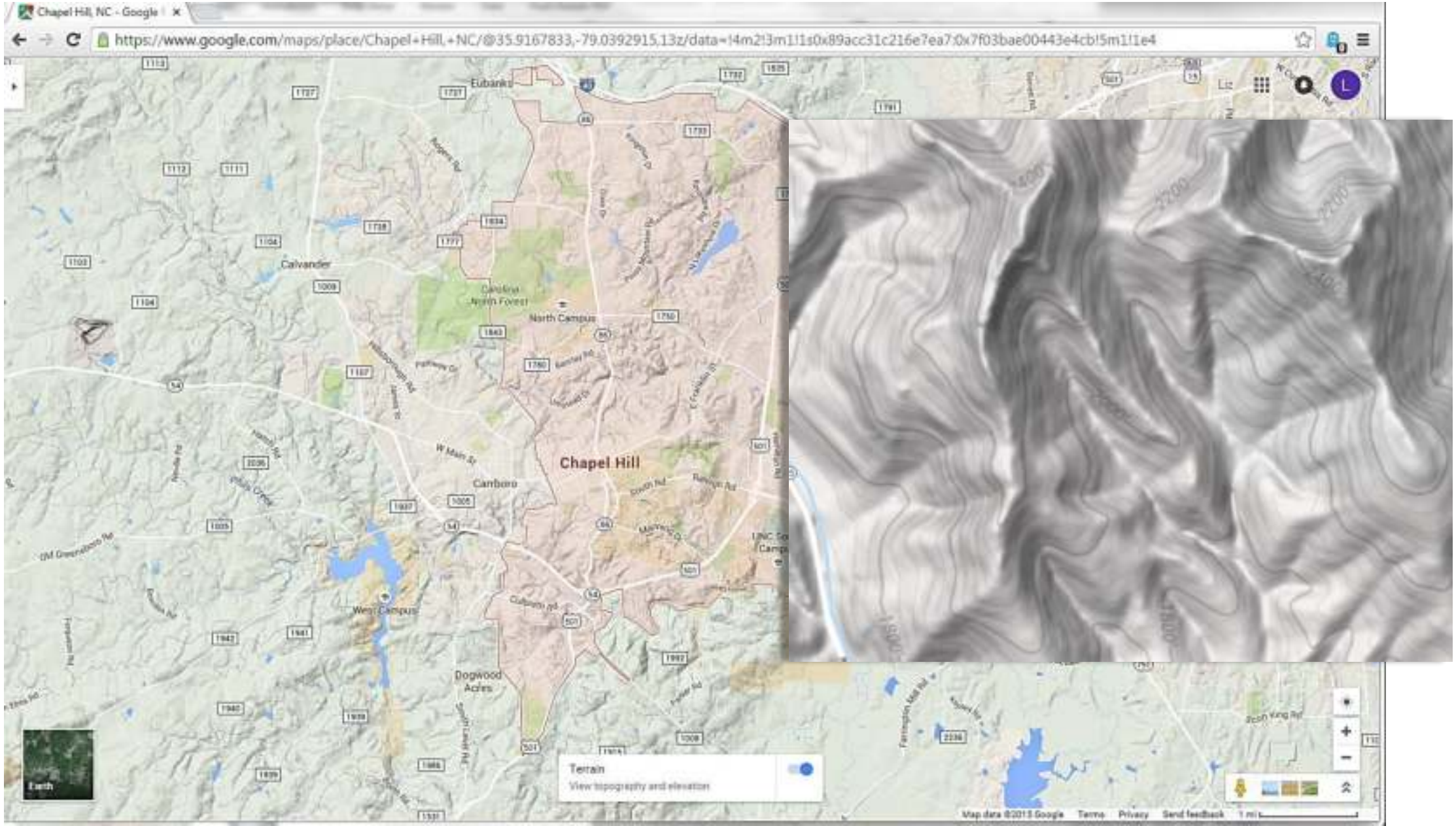
GOOGLE MAPS: MAP LAYERS



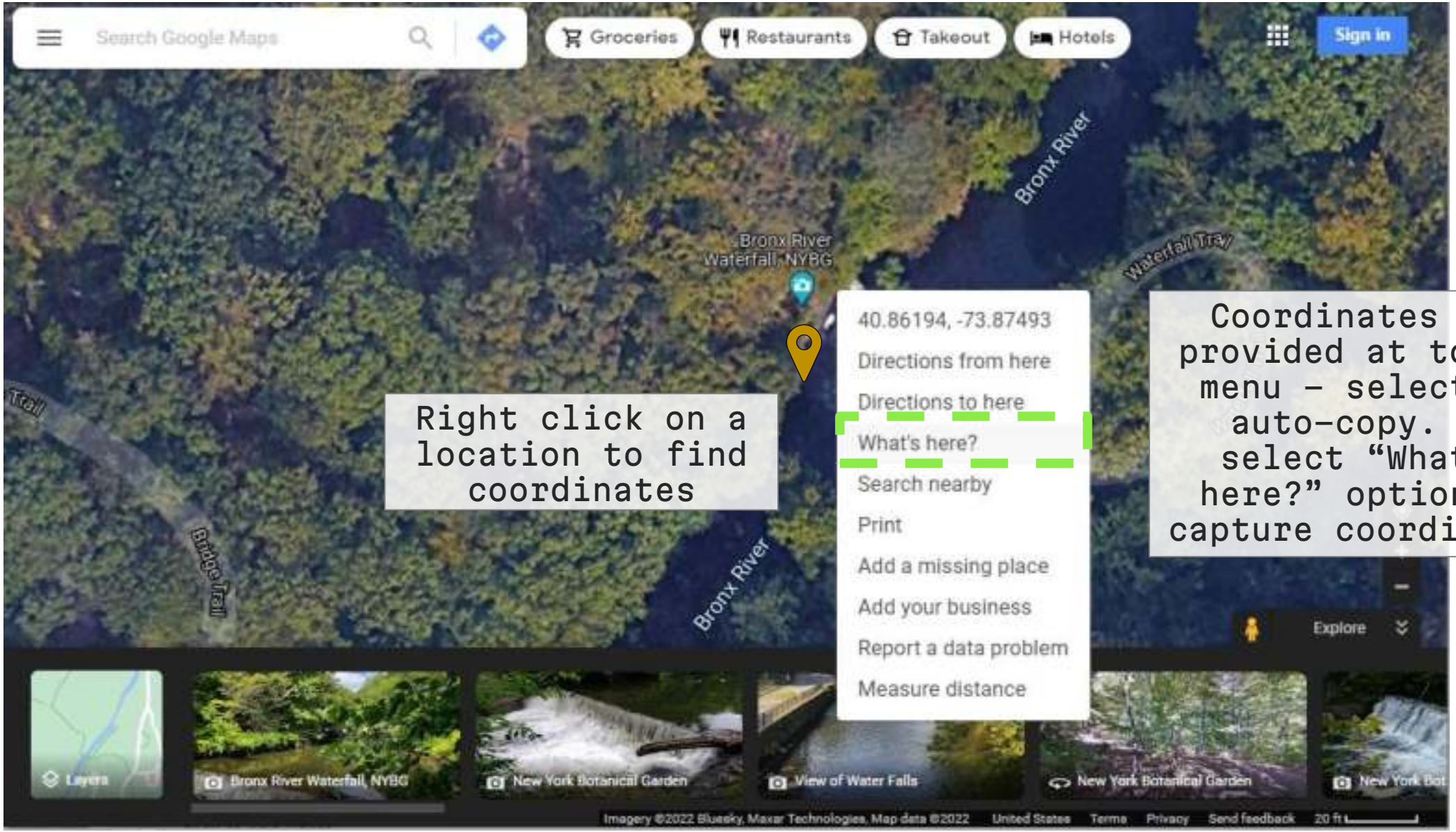
selecting the scale bar toggles between units

Geo-tagged photos

TERRAIN VIEW



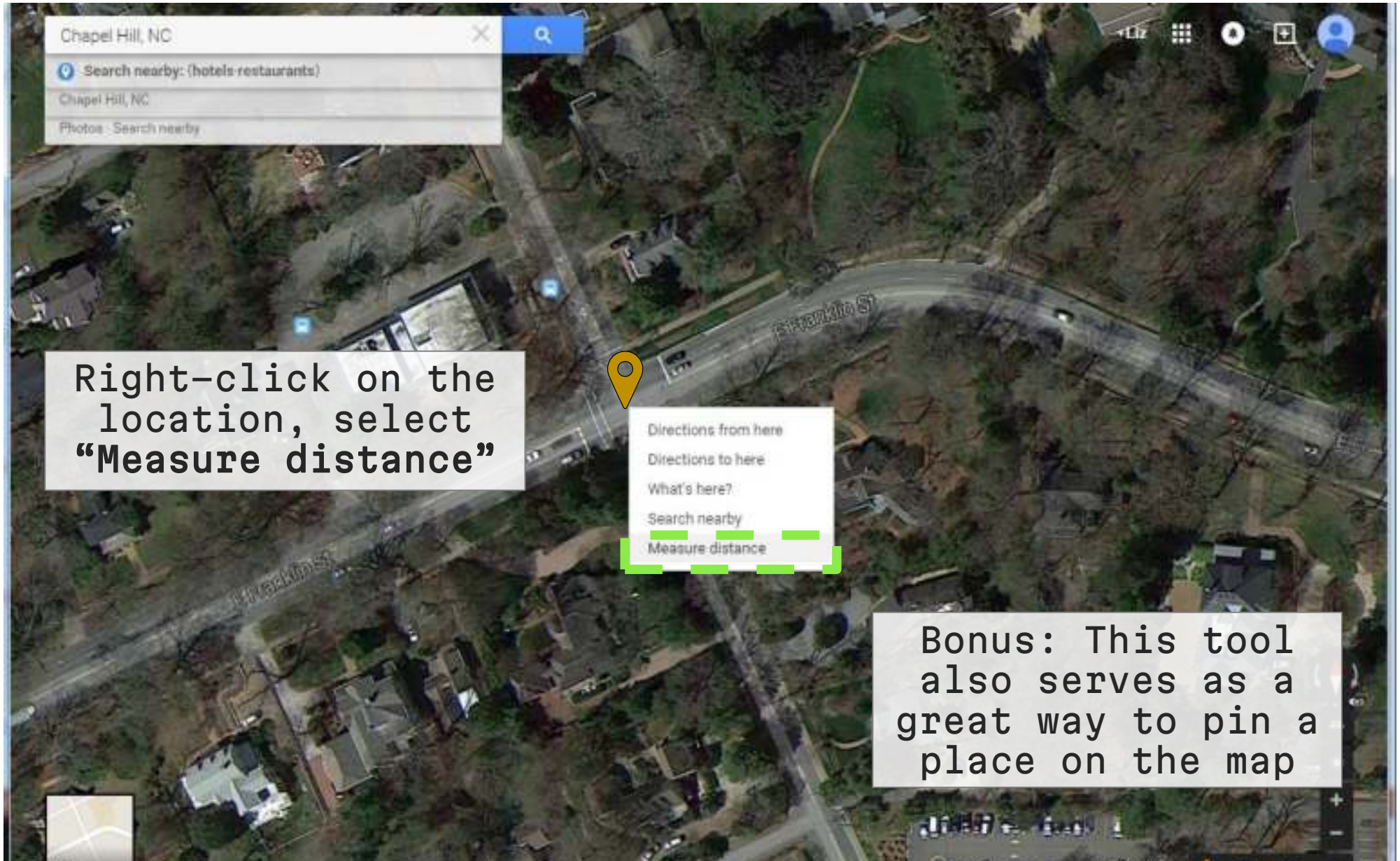
CAPTURING COORDINATES



Right click on a location to find coordinates

Coordinates are provided at top of menu – select to auto-copy. Or select “What’s here?” option to capture coordinates

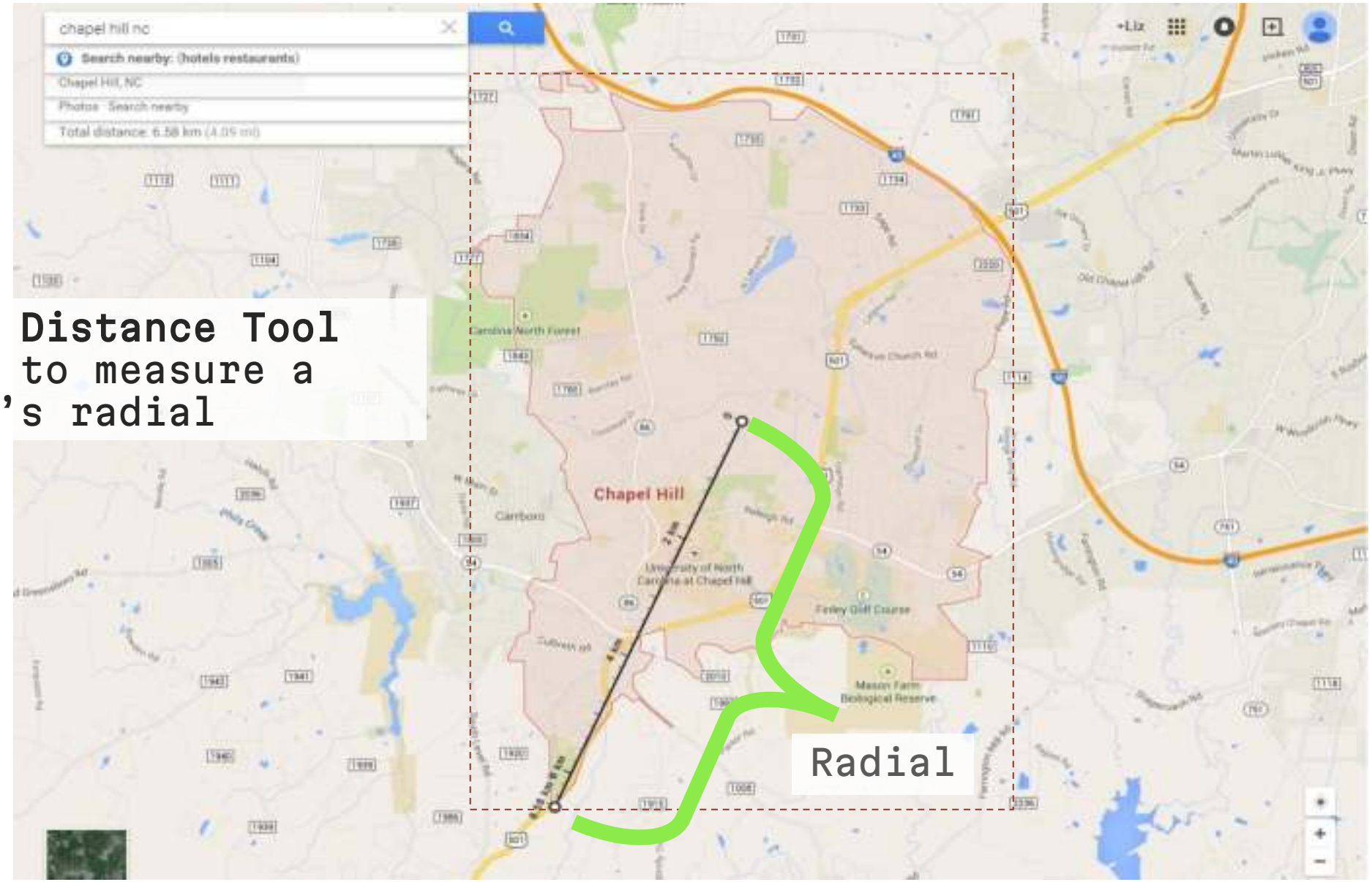
MEASURE DISTANCE



MEASURING DISTANCE

RADIAL

Measure Distance Tool is used to measure a feature's radial



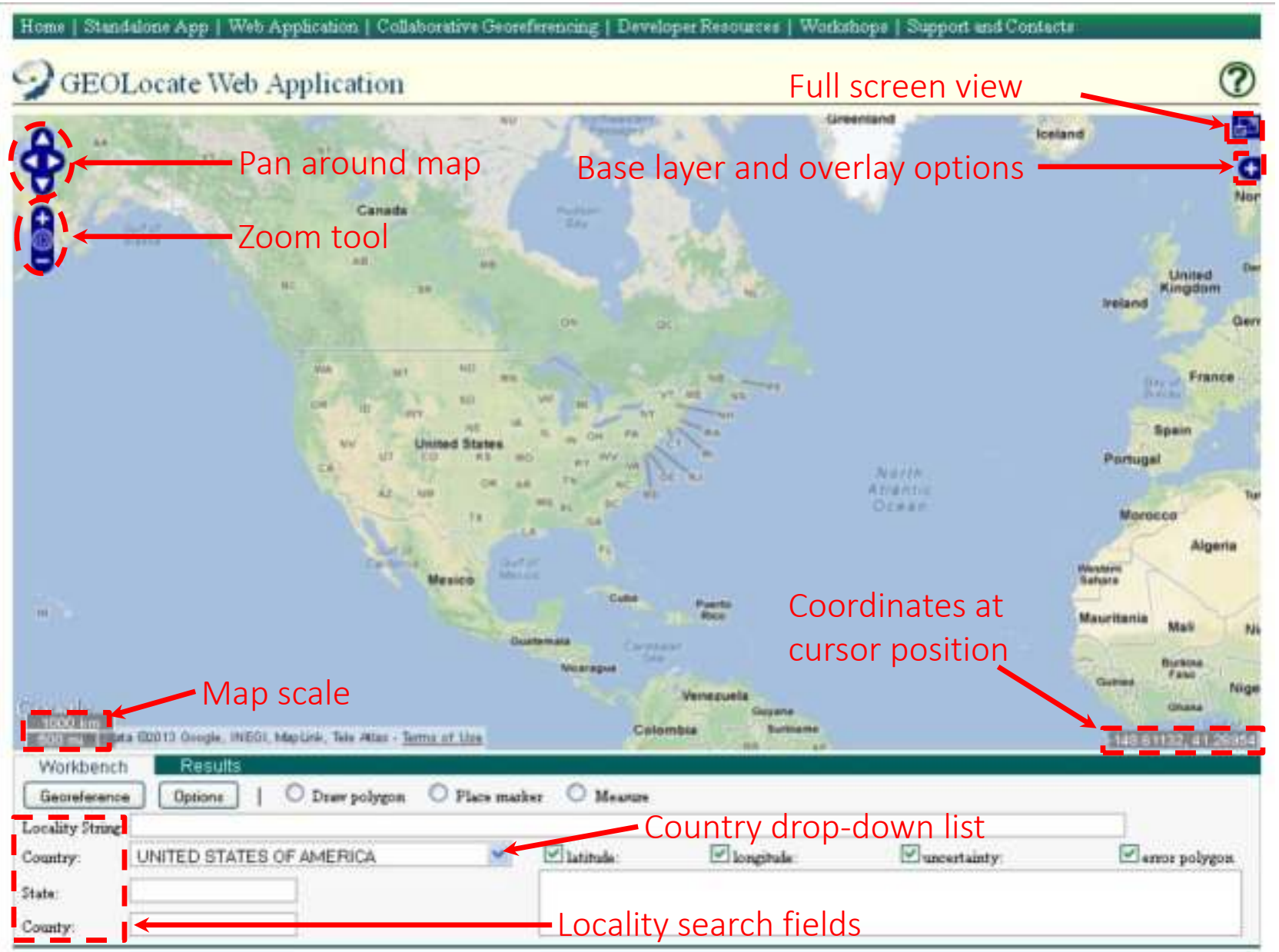
GEOLOCATE

http://museum.tulane.edu/geolocate/default.html

Works best for U.S., Canada, and Europe

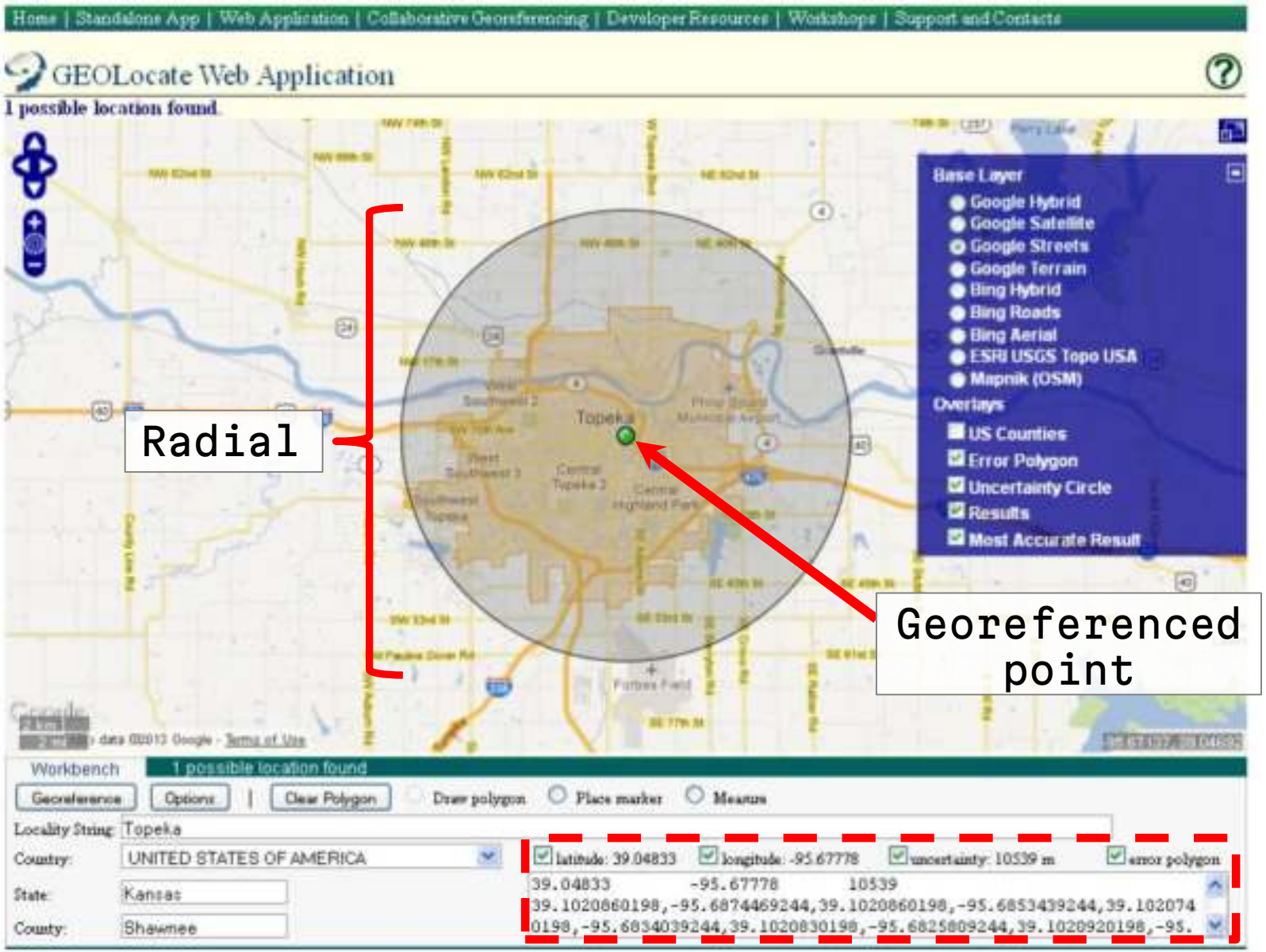
Automates georeferencing

GEOLOCATE WEB APPLICATION

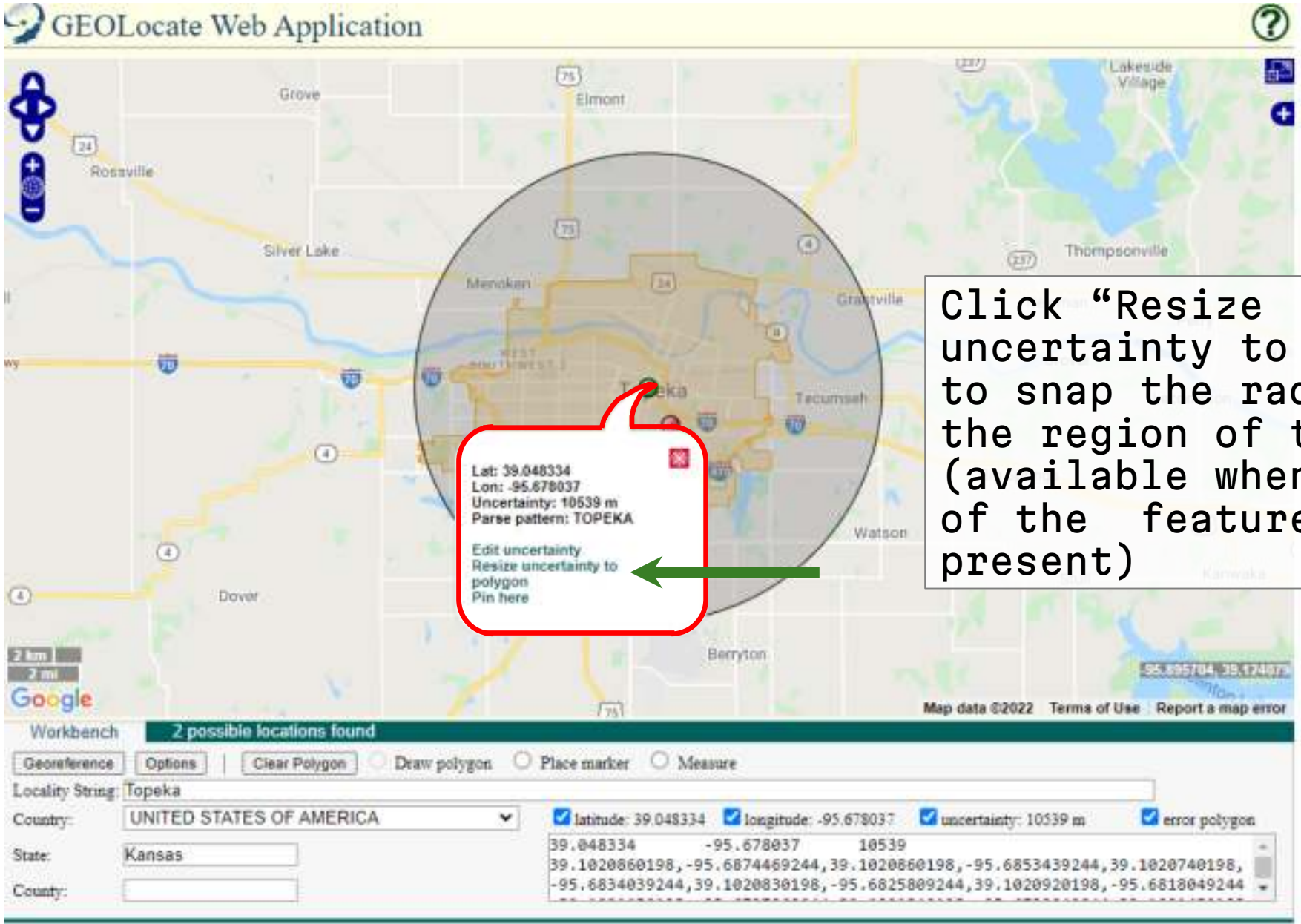


GEOLocate

GEOLOCATE WEB APPLICATION



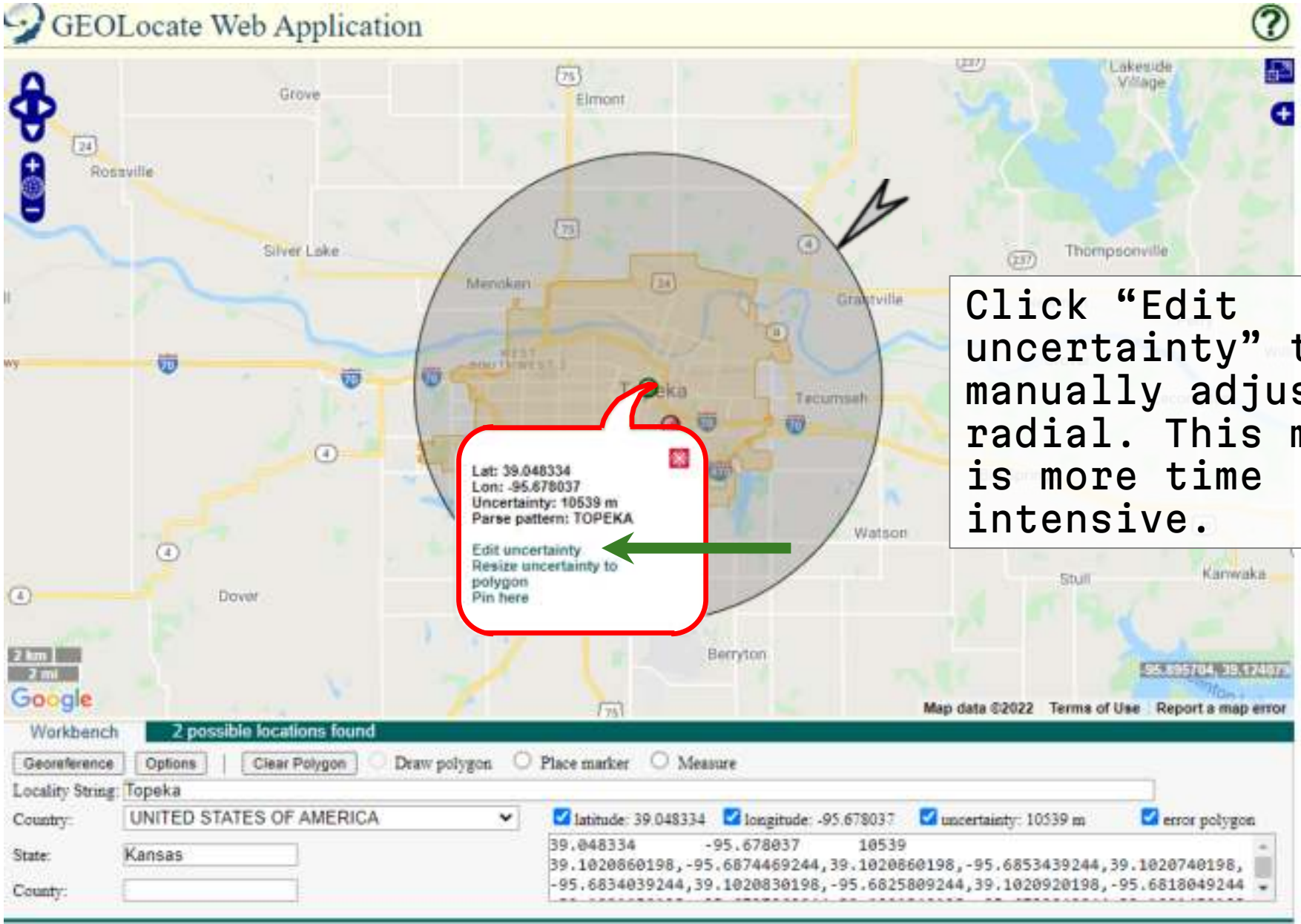
UNCERTAINTY: AUTOMATED



Click “Resize uncertainty to polygon” to snap the radial to the region of the city (available when polygon of the feature is present)

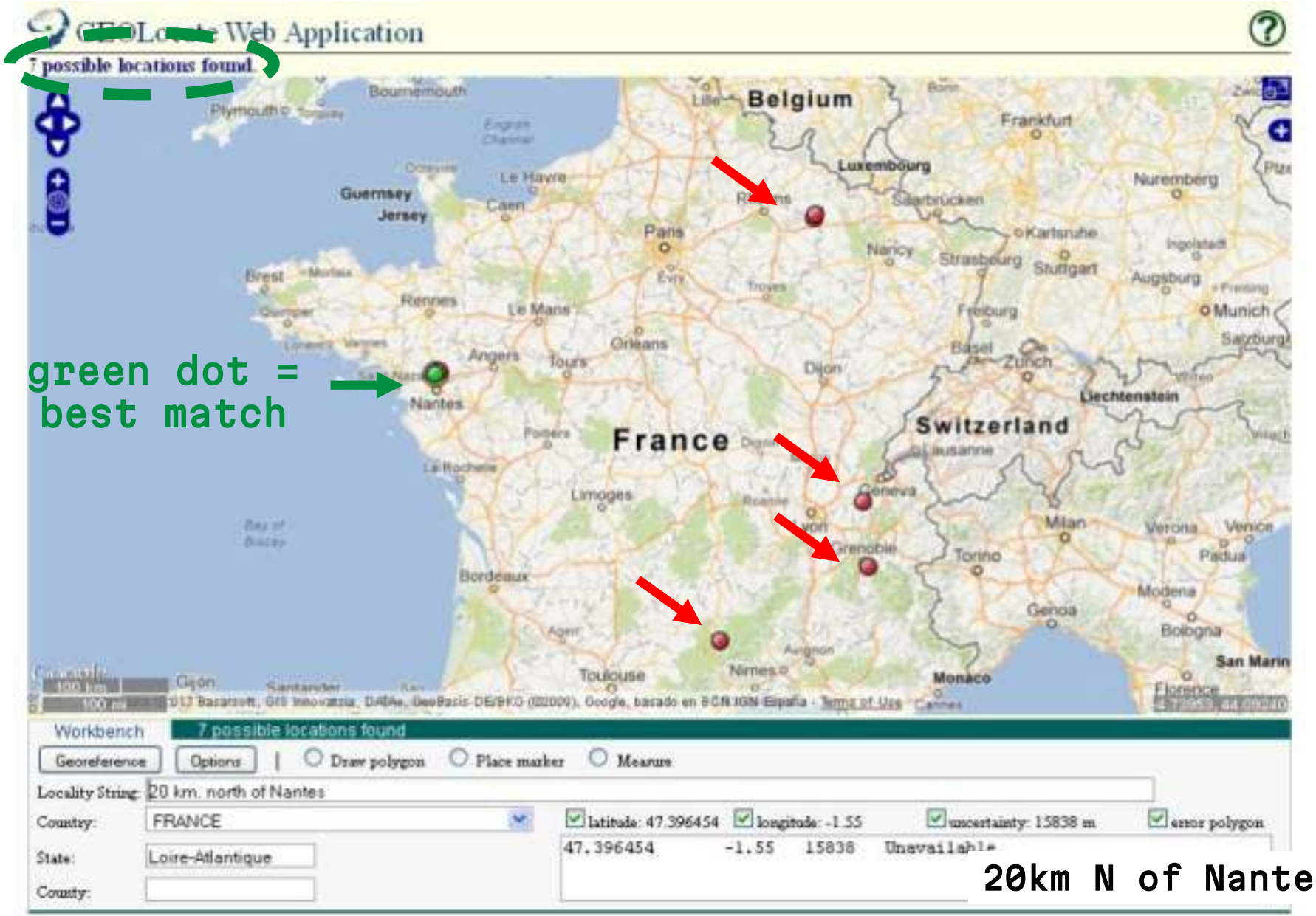
UNCERTAINTY: MANUAL

GEOLocate



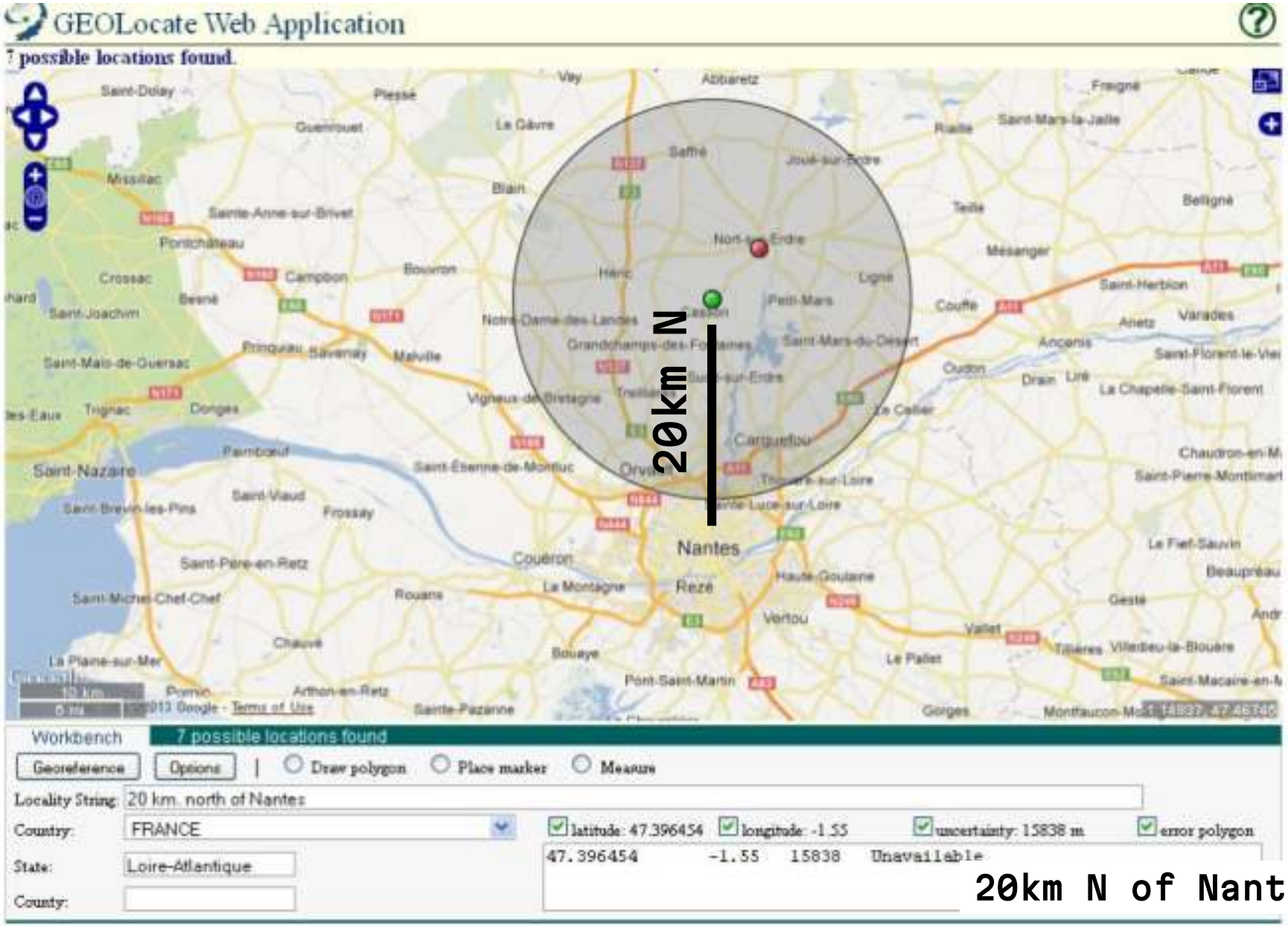
Click “Edit uncertainty” to manually adjust the radial. This method is more time intensive.

OFFSET AT A HEADING



20km N of Nantes, France

OFFSET AT A HEADING



20km N of Nantes, France

REFERENCE MAP LAYERS

TRANSLATING COORDINATE SYSTEMS

- Geographic coordinates are sometimes provided on labels in various coordinate systems
- Decimal degrees format is the most convenient for mapping and is the standard format we capture in EMu (e.g., 40.866680, -73.878735)
- Coordinate systems can be converted between one another

More information on:
Township, Range, and Section (PLSS)
UTM coordinates

PUBLIC LAND SURVEY SYSTEM (TRS)

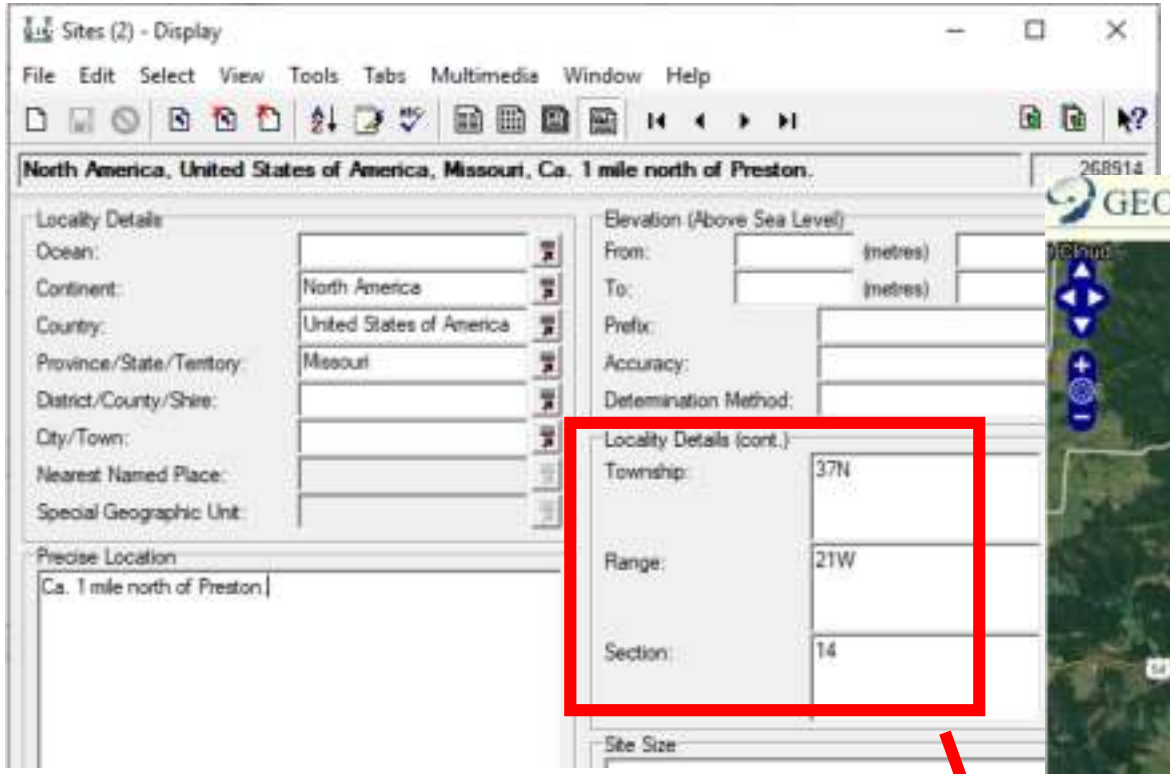
Township-Range-Section Coordinate System (TRS)

- Example: T21N, R1W, S5 = Township 21 North / Range 1 West / Section 5
- State must be specified, and sometimes a meridian if a state has more than one
- Datum: NAD27

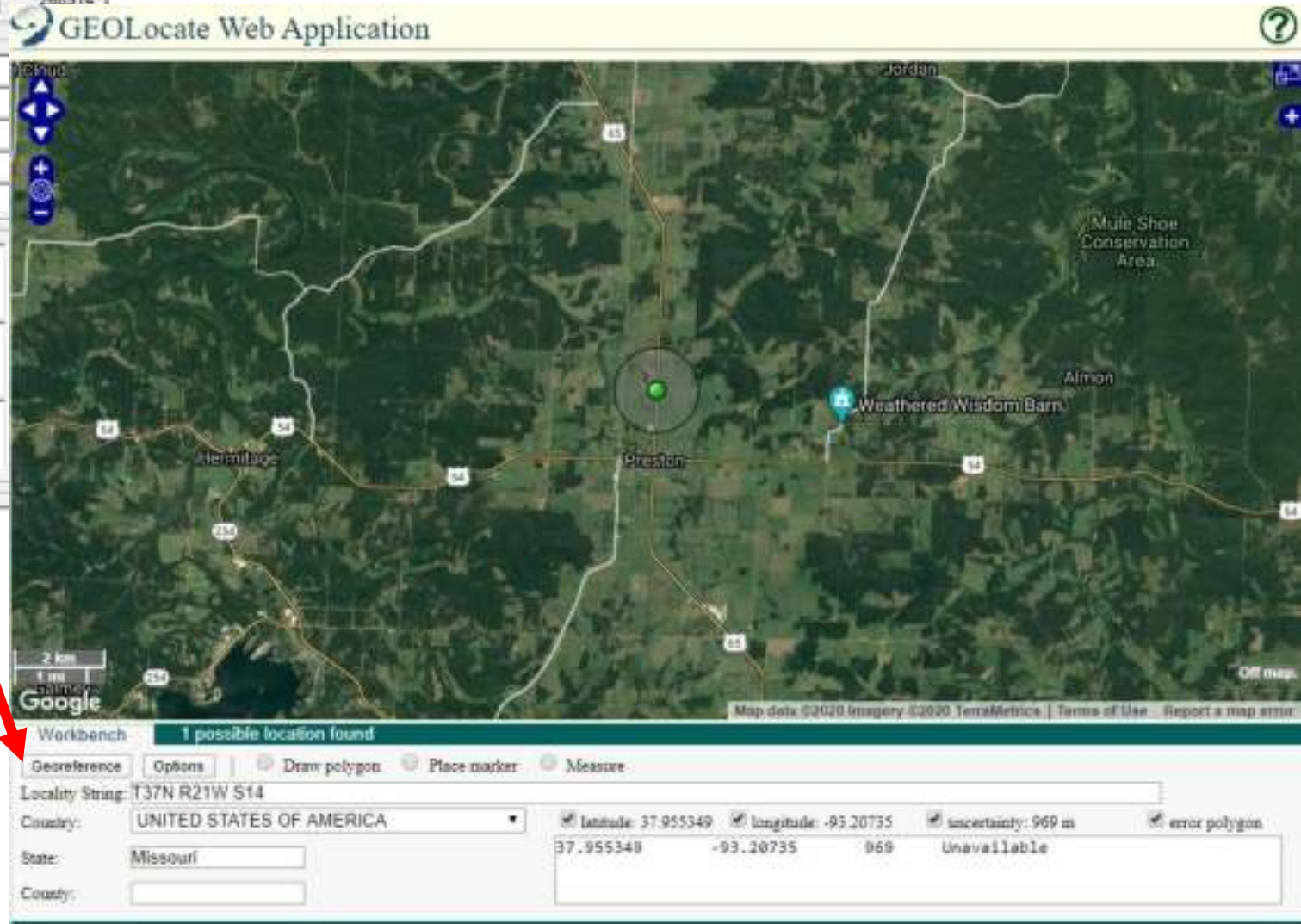
For U.S. locations only, mainly in the West, Midwest, and South

Useful tools to convert TRS to latitude and longitude coordinates: GEOLocate or TRS Conversion Calculator

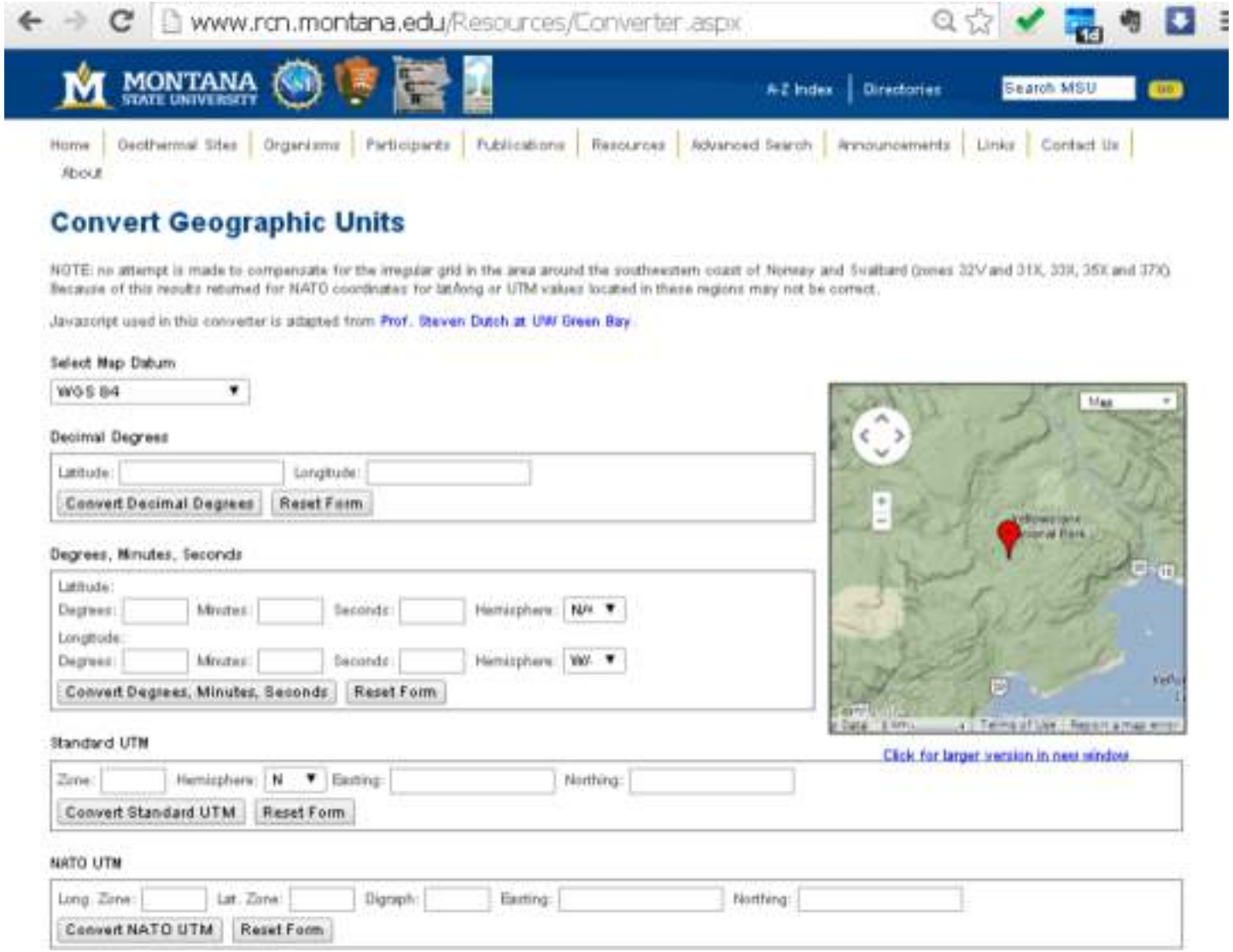
GEOLOCATE TO CONVERT TRS



GEOLocate can translate TRS into decimal degrees if entered as: T(value direction) R(value direction) S(value), example: T37N R21W S14



UTM CALCULATOR

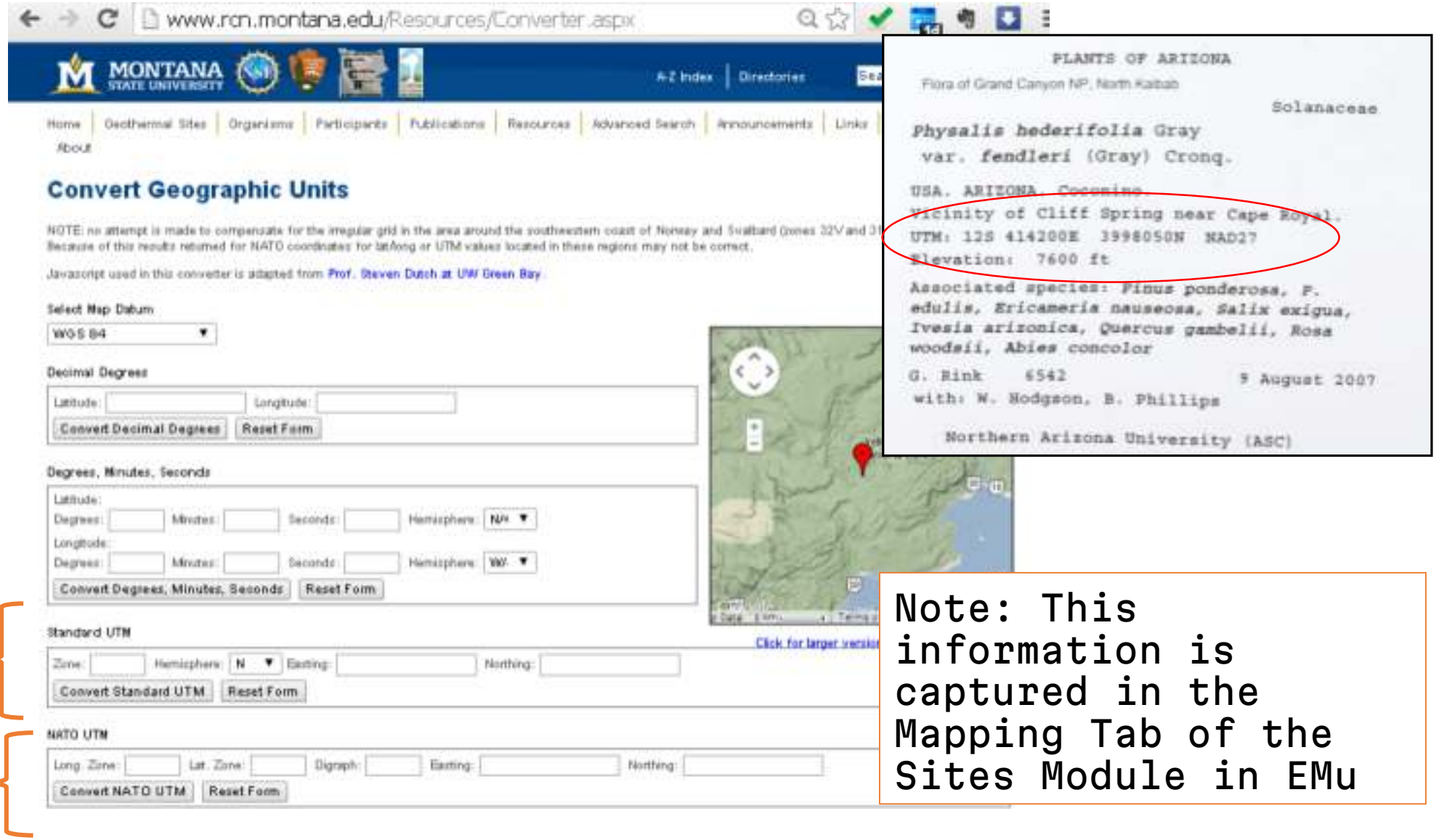


To use when coordinates provided on label in UTM format

What is UTM? Universal Transverse Mercator coordinate reference system

[Conversion Website]

UTM CALCULATOR



Search fields

Standard UTM coordinates

NATO/Military Grid Reference System UTM

Note: This information is captured in the Mapping Tab of the Sites Module in EMu

Conversion Website

DIGITAL RESOURCES

Often necessary to reference gazetteers or other sources

- Historical places or ghost towns
- Remote areas
- Natural/geological features
- Spelling/translation variations

Example: [Merced Falls, California]

DIGITAL RESOURCES

GeoNames: geographical database, crowdsourced

Wikimapia: online editable map, crowdsourced

OpenStreetMap: open geographic database updated and maintained by volunteers, crowdsourced

Mapcarta: an open map that uses data from OSM, Wikipedia, and other sources

Statoids: current/past administrative area names (generally up-to-date as of 2015)

Peakery: sometimes useful for mountains, crowdsourced

Traveling Luck: World Index, crowdsourced

Geographic Names Info. System (US data): maintains uniform geographic name usage U.S.

Getty Thesaurus of Geographic Names: a comprehensive vocabulary of place names

Falling Rain: Global Gazetteer

Digitized Perry-Castañeda Library (PCL) Map Collection digitized paper map collection

Also **Google Web and Image Search** and **digitized historical maps**