



If It's Free It's For Me



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(for 31 more work days, but who's counting)

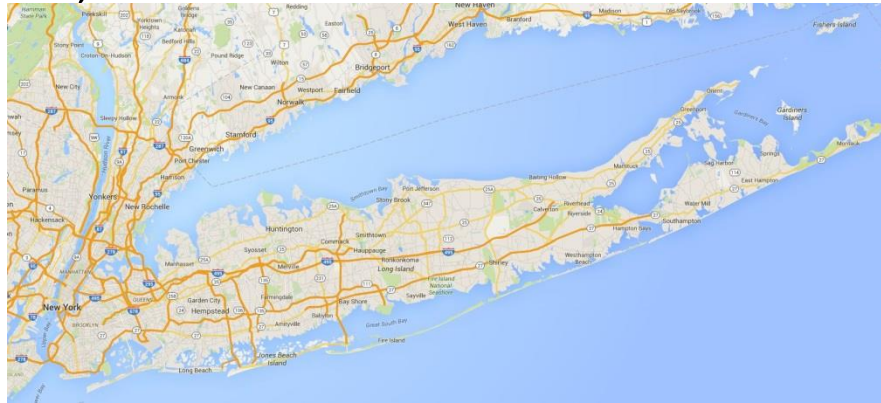
NYSGeoCon 2015 - Albany, New York

October 30, 2015



Me

- I have worked for the Town of Huntington for 32 years.
- The Town of Huntington is on the north shore of Long Island. It is 93 mi² and has about 205,000 residents



- Major use of GIS/GPS for managing major storm events like Superstorm Sandy in 2012. 540,000 yds³ of debris, over 19,000 truckloads.
- Chairman of Long Island Geographical Information Systems User Group (LIGIS) from 2007 to 2014
- I have been using open source GIS tools for about 15 years
- I will describe what I have found comfortable over the years



Description

- What I have found is that the “free” tools are quite useful for a lot of things but not all.
- Discuss scenarios for using free tools like QGIS, GeoServer, PostgreSQL/PostGIS etc.
- These products are easier to set up and use with low hardware overhead
- Some things I have learned



Free GIS

- [Open Source Geospatial Foundation](http://www.osgeo.org/)

- <http://www.osgeo.org/>



- [QGIS](http://www.qgis.org/)

- <http://www.qgis.org/>

- [GeoServer](http://geoserver.org/)

- <http://geoserver.org/>



- [PostgreSQL](http://www.postgresql.org/)

- <http://www.postgresql.org/>

- [PostGIS](http://postgis.net/)

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- [pgRouting](http://pgrouting.org/)

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- [Code for America](http://www.codeforamerica.org/)

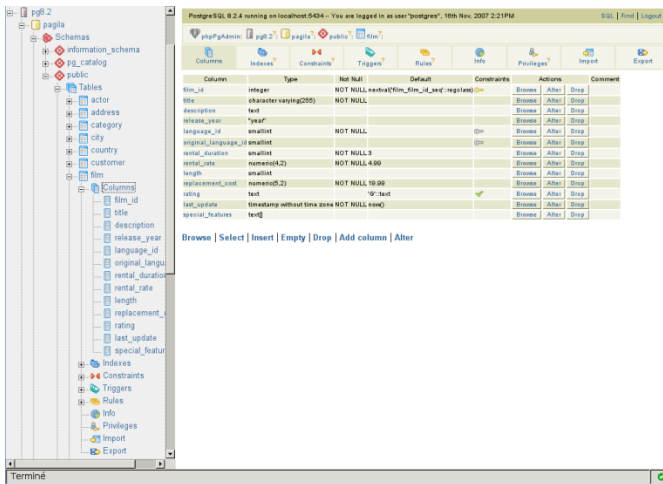
- <http://www.codeforamerica.org/>

- Installed on \$39 Pi microcomputers, tablets, smartphones etc



Windows

- The [WAPP stack](https://bitnami.com/stack/wapp) offers a simple way to install Apache, PHP, PostgreSQL and phpPgAdmin all at once on Windows.
 - <https://bitnami.com/stack/wapp>
- [Bootable DVD, Thumb Drive, etc With QGIS](http://live.osgeo.org/index.html)
 - live.osgeo.org/index.html
- [Access BIOS for Various OEM and Computer Systems](http://www.mydigitallife.info/comprehensive-list-of-how-key-to-press-to-access-bios-for-various-oem-and-computer-systems/)
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APACHE
HTTP SERVER



PostgreSQL



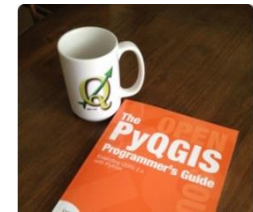
QGIS User Group

- [QGIS U.S. User Group](http://qgis.us/)
 - <http://qgis.us/>



More Training

- [QGIS Tutorials and Tips](http://www.qgistutorials.com/en/)
 - <http://www.qgistutorials.com/en/>
- [QGIS Training Manual](http://docs.qgis.org/2.8/en/docs/training_manual/index.html)
 - http://docs.qgis.org/2.8/en/docs/training_manual/index.html
- [PyQGIS Developer Cookbook](http://docs.qgis.org/testing/en/docs/pyqgis_developer_cookbook/)
 - http://docs.qgis.org/testing/en/docs/pyqgis_developer_cookbook/



QGIS Tutorials and Tips

- Overview
 - *Introduction*
- Quickstart
 - *Making a Map*
 - *Working with Attributes*
 - *Importing Spreadsheets or CSV files*
 - *Using Plugins*
 - *Searching and Downloading OpenStreetMap Data*
- Basics GIS operations
 - *Basic Vector Styling*
 - *Calculating Line Lengths and Statistics*
 - *Basic Raster Styling and Analysis*
 - *Raster Mosaicing and Clipping*
 - *Working with Terrain Data*
 - *Working with WMS Data*
 - *Georeferencing Topo Sheets and Scanned Maps*
 - *Georeferencing Aerial Imagery*
 - *Digitizing Map Data*
- Intermediate GIS operations

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- USER GUIDE/MANUAL.PDF'S
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- 3. Module: Creating a Basic Map
- 4. Module: Classifying Vector Data
- 5. Module: Creating Maps
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- 9. Module: Completing the Analysis
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QGIS Training Manual

- 1. Course Introduction
 - 1.1. Foreword
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Free Street Level View, Aerials, 3D

- [Bing Streetside](https://www.bing.com/mapspreview?FORM=Z9LH2)
 - <https://www.bing.com/mapspreview?FORM=Z9LH2>
- [Google Streetview](https://www.google.com/maps/)
 - <https://www.google.com/maps/>



Free Databases and Storage

- [Amazon Web Service – Free](#)
 - <http://aws.amazon.com/free/>
- [Using PostGIS on Amazon RDS](#)
 - <http://boundlessgeo.com/2013/12/postgis-amazon-rds/>
- [Connect to Your Linux Instance](#)
 - <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AccessingInstances.html>



(Almost) Free Online Mapping

- CartoDB
 - <https://cartodb.com/>
- Leaflet - Open-source JavaScript library for mobile-friendly interactive maps
 - <http://leafletjs.com/>
 - Wordpress website
- Mapbox
 - <https://www.mapbox.com/>
- Open Street Map
 - <https://www.openstreetmap.org/>
- ArcGIS (and extensions), ArcGIS Online \$100 for home use. One year license
 - http://store.esri.com/esri/showdetl.cfm?SID=2&Product_ID=1315&Category_ID=121



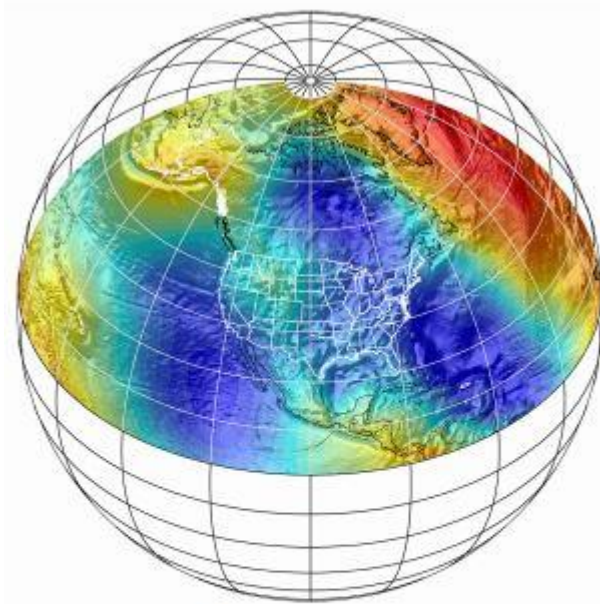
Mobile Mapping

- Fulcrum - 30 Day Free Trial
 - <http://www.fulcrumapp.com/>
- GIS Cloud
 - <http://www.giscloud.com/>
- Open Data Kit
 - <https://opendatakit.org/>
- GeoJot
 - <http://www.geospatialexperts.com/GeoJot/>



P.S.

- [New Datums for 2022](#)
 - <http://geodesy.noaa.gov/INFO/OnePagers/NewDatumsOnePager.pdf>



The new datums will extend across CONUS and U.S. territories. The geometric datum replacing NAD 83 will be consistent with geocentric global reference frames defining latitude and longitude. The geopotential datum replacing NAVD 88 will be based on a gravimetric geoid model, enhanced by data from NGS' Gravity for the Redefinition of the American Vertical Datum (GRAV-D) Project.



Thanks for listening
Questions or comments?





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