

GEO 309 – Intro to GIS

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Topics

- Finding and creating data
 - Data Sources
 - Local
 - Kentucky
 - National
 - GPS tools
 - Fieldwork
 - Data Collecting
- Project Updates

Data Sources

- Local
 - Lexington's Open Data Portal >
 - Lexington GIS >
 - Louisville GeoSpatial Data >

Data Sources

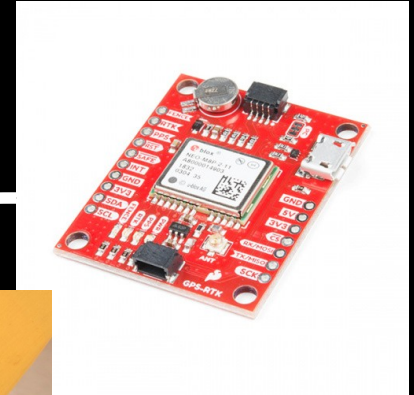
- Kentucky
 - Kentucky Geological Survey >
 - Kentucky Geography Network >
 - KyGeoportal >
 - Kentucky Open GIS Data >
 - Kentucky Martian >

Data Sources

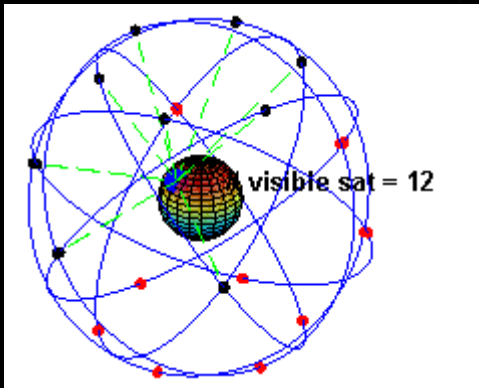
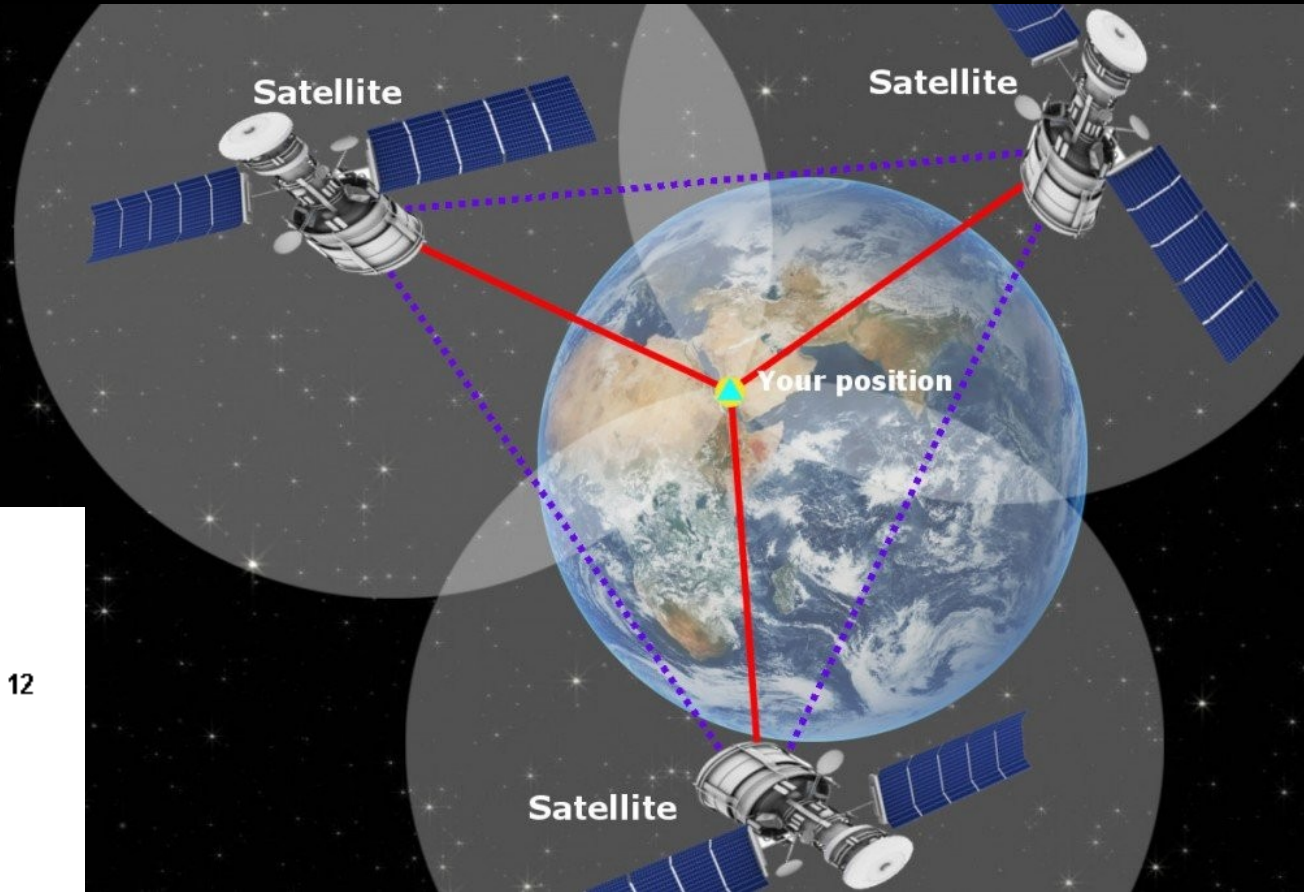
- National
 - Government agencies
 - US Census Bureau & many others
 - Data.gov >
 - USGS >
 - NASA >
 - Earthdata >
 - Geonames >
 - Natural Earth >

GPS Tools

- GPS Units
 - Manufacturers (e.g., Garmin, Magellan, TomTom, Trimble)
 - Features
 - GNSS (Global Navigation Satellite System)
 - GPS + Galileo + GLONASS
 - BeiDou & QZSS
 - Data formats
 - GPX
 - Imagery
 - Datums
 - WGS-84, State plane, Other



GPS Tools



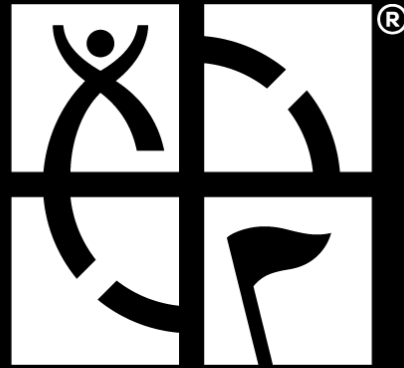
GPS Tools

- Android and iOS
 - ESRI Apps
 - OSMAnd
 - Google Maps/Earth
 - Waze
 - GPS Kit
 - MotionX



GPS Tools

- Geocaching
 - GPS-enabled treasure map



GEOCACHING

Fieldwork

- General
 - Battery life
 - Project dictates...
 - Equipment used
 - Environmental factors
 - Infrastructure
 - Movement
 - Safety measures



Fieldwork

- Planning
 - Project Definition
 - Objectives, Survey area
 - Management Plan
 - Logistics
 - Communications
 - Data plan
 - Safety
- Paper back-ups
 - For orientation
 - For collection
 - Field papers
 - CaerusGeo
- Compass back-up
 - Navigation

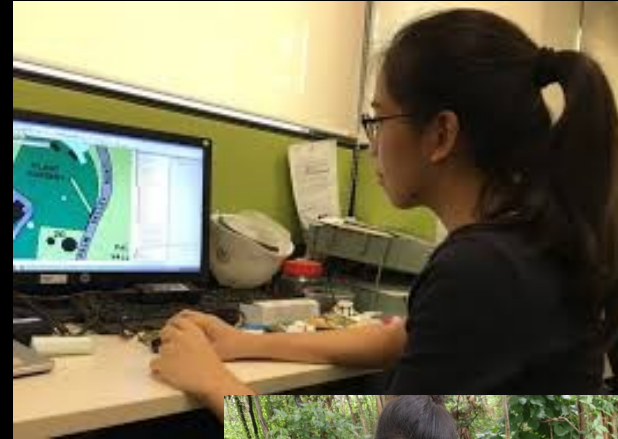
Fieldwork

- Preparation
 - Reverse planning based on final vision
 - Setup and test equipment
 - Identify and gather resources
 - Equipment, supplies, transportation
 - Develop data collection schema
 - Data type and attributes



Fieldwork

- Training
 - Review device functionality
 - Load and test data
 - Review the project
 - purpose and objectives
 - Movement
 - through collection environment
 - Training exercises
 - SAFETY TRAINING!



Fieldwork

- Collection
 - Check before collection
 - Training completed?
 - Supplies and logistics in place?
 - During collection
 - Observe safety measures
 - Follow the collection plan
 - Communicate frequently/as needed



Fieldwork

- Wrap-up
 - Review data set prior to leaving collection site
 - Take inventory of personnel and equipment
 - Back-up data
 - Observe safety protocols



Fieldwork

Questions?