Introduction to Using GIS in the Classrooms

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GIS – Geographic Information Systems

- A system designed to collect, manipulate, analyze, and output spatial information.
- An abstraction of reality used to communicate information and relationships.

Components of GIS:
- Where
- What
- When
Why Using GIS for Teaching?

- Understanding the concept from spatial perspective.
- Enhance a study topic.
- Relate events to social background.
- Promote community involvement and a sense of place.
- The spatial turn in history.
Using historic maps to study history
Identify Patterns

Protest Meeting and Event Locations

Counter-Protest Meeting and Event Locations

Protest and counter-protest meeting/event locations in Ferguson, Missouri 2014-2015

From: Jacqueline Henke's ANTH 592 Final GIS project
Identify Patterns

Figure 11: Percent Black by Neighborhood

Figure 12: Property Values (in thousands)

From: Jacqueline Henke’s ANTH 592 Final GIS project
Relate spatial factors

Example:

- How presidential elections are impacted by a 100 million year old coastline
GIS in Classrooms

Dr. Amy Hillier – The Ward

This study seeks to present the results of an inquiry into the condition of the forty thousand or more Negro people of Negro blood now living in this city of Philadelphia.

Racial/ethnic composition in Old Seventh Ward, 1900

http://worldmap.harvard.edu/maps/seventhward
GIS in Classrooms

- Telling story about what happened in different places.
GIS in Classrooms

- GIS Day at Purdue
Learning Objectives

- Understanding spatial information
- Working with online maps
- Collecting spatial information
- Creating online maps
- Plan a GIS presentation
Tools you will learn

- ArcGIS Online
  - A online mapping tool with free sign-up
  - More advanced membership via free statewide license
    http://www.arcgis.com/apps/MapSeries/index.html?appid=c369c6d9bb6d4232bb3ad066cd5b9280

- ArcGIS Collector – mobile app

- Resources
  - Geomentors program
  - ESRI T3G Institute
  - Online training: Teaching with GIS: Introduction to Using GIS in the Classroom
Maps use layers of “like things”
GIS Feature Types

Three types of GIS features:

- Point
- Line
- Polygon
Hands-on: Creating your spatial information

Layers:
- Your school
- Places interested to share: such as your hometown, cities you have traveled, stayed, dreamed of, anything interesting.
Hands-on: Creating your spatial information

http://mapsdev.lib.purdue.edu/neh2/intro.html

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Review: Your map

- http://arcg.is/29tOjwv
Getting ready for Wednesday’s GIS session

- Setting up your iPad mini
- Wireless connection
- Apps:
  - Clio - Your Guide to History
  - ArcGIS Collector