Topic 1.3
Geographic Data

Objectives and Essential Learning

1.3 Explain the geographic effects of decisions made using geographical information.

- 1.3.1 Geospatial and geographical data, including census data and satellite imagery, are used at all scales for personal, business and organizational, and governmental decision-making purposes.

United States
Census
2020

Identify different methods of geographic data collection.

Another example of fieldwork – The US Census

- Mandated by the Constitution
- Ex. of an organization (US government) doing fieldwork.

What is the point?

a. Representative Districts - voting & democracy
b. Distribution of public funding for:
    i. Schools
    ii. Law Enforcement & Fire Department
    iii. Highways & Infrastructure
c. Personal, government & business decision making.

Compare and contrast 'Saint Cloud' and 'Kissimmee' Census Data

All Topics	Kissimmee city, Florida	St. Cloud city, Florida
Population estimates, July 1, 2019, (V2019)	**72,717**	**54,579**
PEOPLE		
Population		
Population estimates, July 1, 2019, (V2019)	**72,717**	**54,579**
Population estimates base, April 1, 2010, (V2019)	59,558	37,787
Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019)	22.1%	44.4%
Population, Census, April 1, 2020	79,226	58,964
Population, Census, April 1, 2010	59,682	35,183
Age and Sex		
Persons under 5 years, percent	⚠ 7.0%	⚠ 8.1%
Persons under 18 years, percent	⚠ 24.0%	⚠ 27.8%
Persons 65 years and over, percent	⚠ 12.0%	⚠ 13.5%
Female persons, percent	⚠ 50.0%	⚠ 52.5%
Race and Hispanic Origin		

Identify different methods of geographic data collection.

1. **How is data gathered?**
    a. Fieldwork/Field Observations: The act of an individual physically visiting a location or place and recording, firsthand, information there.
        i. Examples: Written accounts, travel narratives, media reports, policy documents, interviews, photographs, landscape analysis

Identify different methods of geographic data collection.

Geospatial Technologies

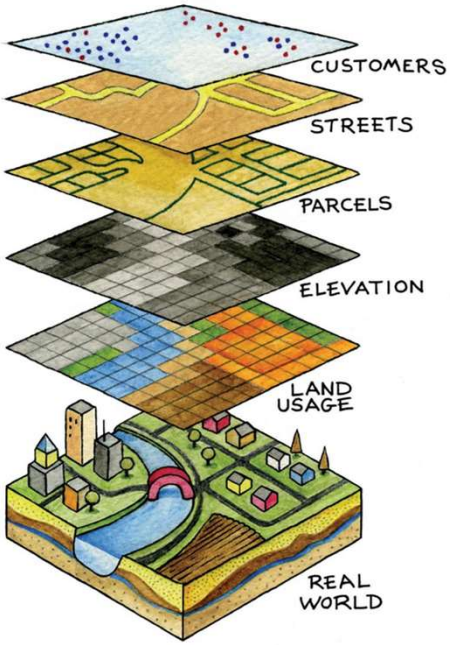
- Geographic information systems (GIS)
- Satellite navigation systems (GPS)
- Remote sensing
- Online mapping + visualizations

Geospatial technologies are utilized by businesses, organizations, individuals and government agencies to make decisions.

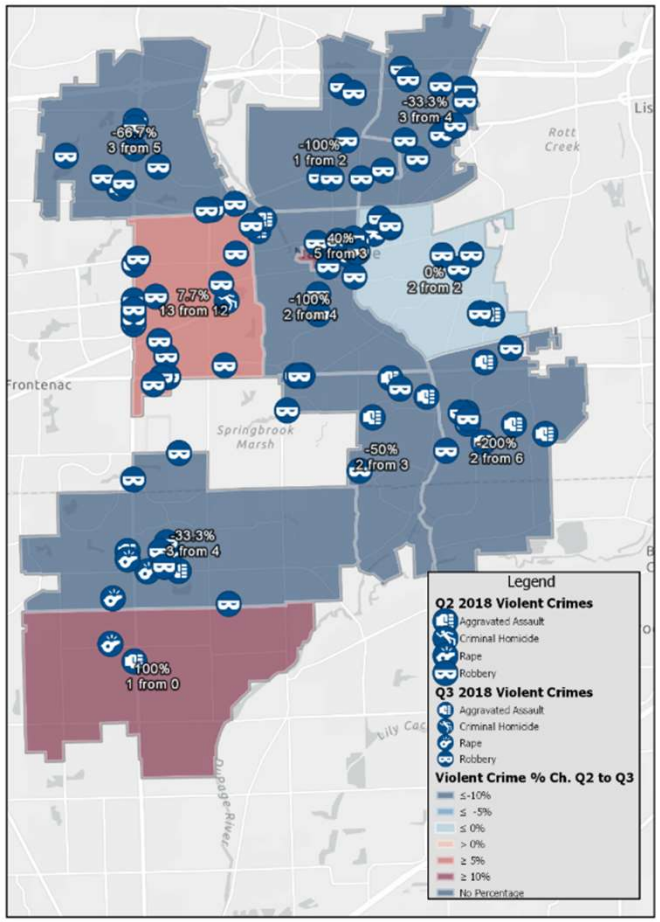
Identify different methods of geographic data collection.

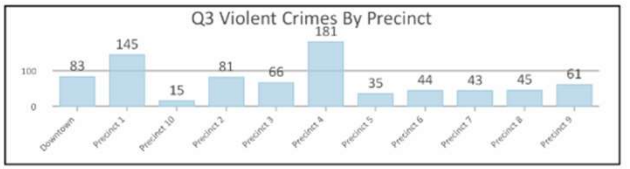
Geographic Information Systems (GIS)

- Computer system/software that stores, analyzes, and displays information from multiple digital maps or data sets.
- Examples
  - Analysis of crime data
  - Effects of pollution
  - Urban planning



Violent Crime By Precinct (Percent Change Q2-Q3)





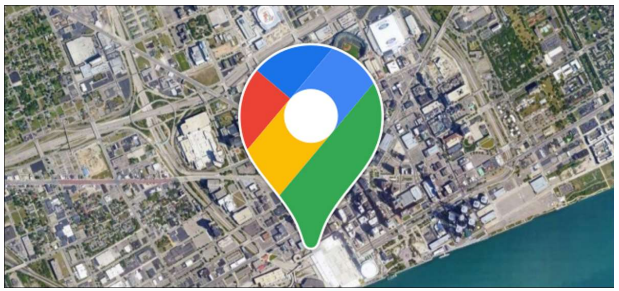
Offense ID	Reported Date	Full Address	UCR Type	Weapon	Case Status	Precinct
2010015553	9/23/2018 1:37:01 AM	1301 Monmouth Av	Aggravated Assault		Warrant Advised	Precinct 8
2010000956	9/21/2018 10:42:00 AM	2511 W 75Th St	Robbery	Firearm	Cleared	Precinct 4
2010007577	9/20/2018 7:34:01 AM	2031 Templar Dr	Robbery		Cleared	Precinct 7
2010012346	9/20/2018 6:33:01 AM	2220 83Rd St	Robbery		Cleared	Precinct 9
2010002213	9/18/2018 7:35:00 AM	892 W 75Th St	Robbery		Cleared	Precinct 7
2010010036	9/17/2018 5:12:00 AM	3032 English Rows Av	Aggravated Assault		Cleared	Precinct 10
2010003533	9/16/2018 4:51:00 AM	1295 E Ogden Av	Aggravated Assault	Firearm	Active	Precinct 3
2010001738	9/16/2018 12:05:00 AM	125 S Washington St	Robbery		Cleared	Downtown
2010002841	9/14/2018 5:17:00 PM	400 S Main St	Robbery	Firearm	Cleared	Downtown
2010010177	9/14/2018 1:12:00 PM	2775 Showplace Dr	Aggravated Assault		Warrant Advised	Precinct 9
2010001204	9/13/2018 3:00:00 PM	2780 Fitness Dr	Robbery	Knife	Unfounded	Precinct 4
2010007168	9/13/2018 4:36:00 AM	2808 Kilburne Ln	Robbery	Knife	Cleared	Precinct 9
2010011116	9/13/2018 2:05:00 AM	22 E Chicago Av	Robbery	Knife	Cleared	Downtown
2010001592	9/13/2018 1:58:00 AM	1801 N Naper Bl	Robbery		Cleared	Precinct 3
2010007184	9/12/2018 6:43:00 AM	3403 Lawrence Dr	Robbery	Knife	Active	Precinct 9
2010001870	9/11/2018 3:00:00 PM	6 W Jefferson Av	Robbery		Cleared	Downtown
2010001401	9/11/2018 12:42:00 PM	2790 Fitness Dr	Robbery	Firearm	Cleared	Precinct 4
2010008784	9/11/2018 5:08:00 AM	3199 Kingbird Ln	Rape		Cleared	Precinct 9
2010001514	9/10/2018 8:32:01 AM	680 S Route 59	Robbery	Knife	Active	Precinct 4
2011000014	9/9/2018 1:40:00 AM	117 S Eagle St	Robbery		Cleared	Downtown
2010003633	9/6/2018 10:03:00 AM	440 Aurora Av	Robbery		Cleared	Downtown
2010011333	9/6/2018 4:39:00 AM	140 N Wright St	Robbery		Cleared	Precinct 6
2010006873	9/3/2018 3:05:00 AM	952 N Loomis St	Robbery	Knife	Cleared	Precinct 2
2010011961	9/1/2018 7:19:00 AM	2855 95Th St	Rape		Cleared	Precinct 9
2010016147	8/27/2018 7:27:00 AM	552 S Route 59	Robbery	Firearm	Active	Precinct 4
2010000774	8/26/2018 3:00:00 PM	605 W Jefferson Av	Robbery		Cleared	Precinct 5
2010014170	8/26/2018 5:03:01 AM	2815 Mistflower Ln	Rape		Warrant Advised	Precinct 10
2010001396	8/25/2018 5:55:00 AM	1532 North Aurora Rd	Robbery		Cleared	Precinct 1
2010006645	8/24/2018 3:07:01 PM	726 E Bauer Rd	Robbery		Cleared	Precinct 3
2010006936	8/24/2018 7:00:00 AM	14 Jackson Av	Robbery	Firearm	Cleared	Downtown
2010006777	8/19/2018 10:08:01 AM	2780 Fitness Dr	Robbery		Cleared	Precinct 4
2010007386	8/19/2018 8:42:00 AM	30 N Brainard St	Robbery		Cleared	Precinct 6
2010011585	8/19/2018 2:23:00 AM	22 E Chicago Av	Robbery	Firearm	Cleared	Downtown
2010007763	8/18/2018 7:24:00 AM	1620 N Route 59	Robbery	Knife	Cleared	Precinct 1
2010011820	8/17/2018 10:08:01 AM	1320 S Route 59	Robbery		Active	Precinct 9
2010010773	8/17/2018 12:23:01 AM	126 N Wright St	Robbery		Cleared	Precinct 6
2010016344	8/12/2018 2:59:00 AM	22 E Chicago Av	Robbery		Cleared	Downtown
2010007950	8/8/2018 8:36:00 AM	794 Inland Cr	Aggravated Assault	Firearm	Warrant Advised	Precinct 1
2010013126	8/4/2018 11:44:00 PM	2780 Fitness Dr	Aggravated Assault		Cleared	Precinct 4
2010016263	7/30/2018 5:45:00 AM	950 E Ogden Av	Robbery		Cleared	Precinct 3
2010001787	7/29/2018 3:00:00 PM	1437 N Eagle St	Robbery		Active	Precinct 2
2010007402	7/25/2018 4:49:00 AM	1408 W Jefferson Av	Robbery		Cleared	Precinct 4
2010011079	7/23/2018 8:17:00 AM	1163 E Ogden Av	Robbery	Knife	Cleared	Precinct 3
2010009892	7/16/2018 2:03:01 AM	1119 Estes Ct	Robbery	Knife	Cleared	Precinct 4
2010001505	7/15/2018 3:00:00 PM	735 S West St	Robbery		Cleared	Precinct 5
2010010658	7/15/2018 10:34:01 AM	424 E Bailey Rd	Robbery		Cleared	Precinct 8
2010007786	7/12/2018 8:21:00 AM	858 Shandrew Dr	Robbery		Cleared	Precinct 4
2010010794	7/11/2018 8:47:00 AM	2707 Aurora Av	Robbery		Cleared	Precinct 4
2010005600	7/6/2018 11:48:01 AM	860 W 75Th St	Aggravated Assault		Warrant Advised	Precinct 7
2010002695	7/6/2018 8:58:00 AM	121 S Washington St	Aggravated Assault	Firearm	Cleared	Downtown
2010000087	7/5/2018 7:52:00 AM	1528 Riparian Dr	Aggravated Assault	Blunt Object	Warrant Advised	Precinct 7
2010000038	7/2/2018 2:14:00 PM	1951 W Jefferson Av	Robbery		Cleared	Precinct 4
2010000787	7/2/2018 12:55:00 AM	654 S Route 59	Robbery	Firearm	Cleared	Precinct 4
2010014574	7/1/2018 6:14:00 AM	2360 95Th St	Aggravated Assault		Cleared	Precinct 9

Prepared by Chris Delaney on 10/2/18 for CompStat period 24.
Geocoding Rate 99% (Q2 n= 135, Q3 n = 121).

Identify different methods of geographic data collection.

Satellite Navigation Systems/Global Positioning System (GPS)

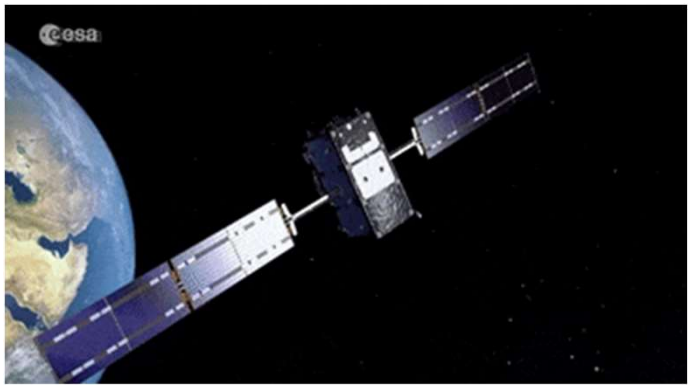
- Satellites orbit the earth and communicate locational information to GPS receivers.
- Example:
  - Navigation -> ships, cars, aircraft



Identify different methods of geographic data collection.

Remote Sensing

- The use of cameras or other sensors mounted on aircraft or satellites which orbit the earth above the atmosphere to collect digital images of the earth's surface.
- Examples:
  - Monitoring environmental changes
  - Weather



Example of Remote Sensing: North Korean Prison Camps

"We worked in the farms (at kwanliso 15) from 7am to 8pm. We cultivated corn. We were divided to work in units comprising 10-15 people each. We were given a daily production target that we had to meet. If the unit did not meet the daily target, the unit-members were punished collectively. During the course of our three-year detention, often we did not meet our targets because we were always hungry and weak. We were punished with beatings and also reductions in our food quota. In addition to that, in the Ideology Struggle Sessions that were held after work, those who did not meet the target were severely criticized and beaten by other inmates."

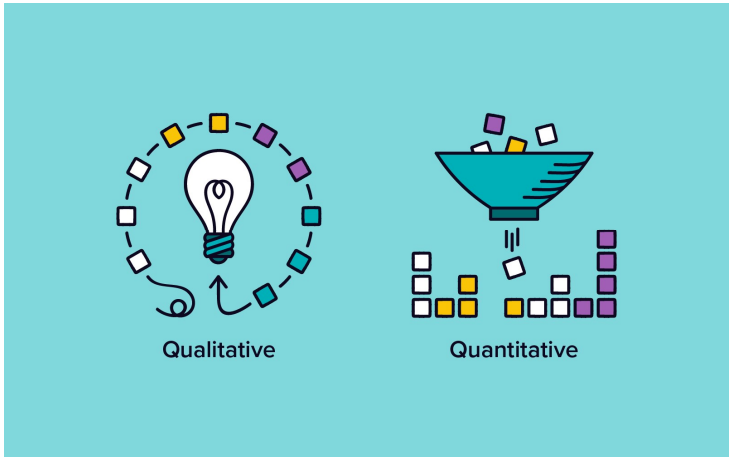
DigitalGlobe Natural Color Imagery, June 11, 2010, 41.261302°, 129.375145°

In order to circumvent the unwillingness of the North Korean authorities to allow human rights investigators access, Amnesty International and others have used remote sensing tools, such as satellite imagery, to provide more information about the human rights situation in North Korea. Previous satellite image analysis released by Amnesty International suggests the use and expansion of North Korea's notorious political prison camps, and the blurring of the boundary between kwanliso 14 and surrounding villages.

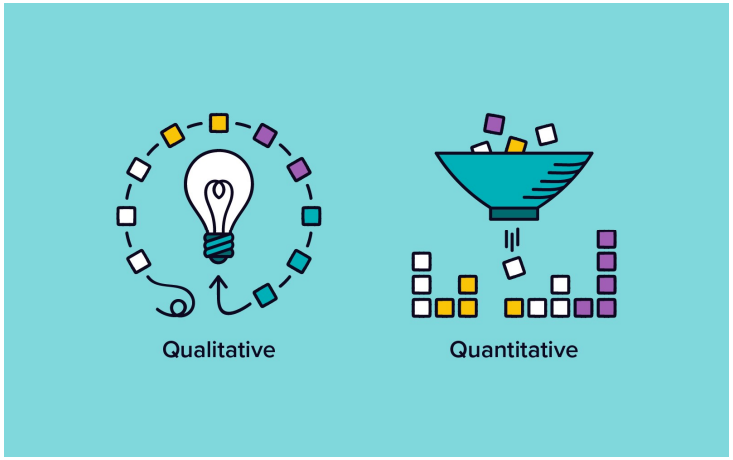
Research Methods

Qualitative Research

- Describes, characterizes, approximates, descriptions, based off **opinions**
- Examples:
  - Surveys, Interviews, Observations



Research Methods

Quantitative Research

- Defines, tells you a quantity, numbers, hard data
- Examples: Tables, Charts, Graphs (such as census data)