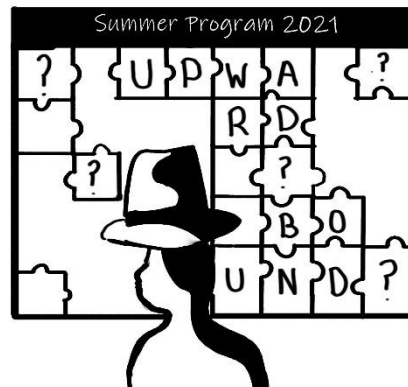


# GIS/Geospatial Technology for Beginners!

MCC Upward Bound Workshop  
July 2021 – Catherine DuBreck



# Our plan for today!

- Who am I?
- What is GIS?
- What can you do with GIS?
- Live example of using GIS



# Who am I?

- What is my background?
- What is my job during the day?
- What is my job at MCC?



# What is GIS?

## Geography... *What's in a map?*

- Geography – the study of Earth and where things are
- How do we study this? MAPS!
- **GIS** – Geospatial Information Science
- Maps use *spatial data*
  - Can you think of an example when you used spatial data or geospatial technology in your life?



# What is GIS?

## *Thinking spatially...*

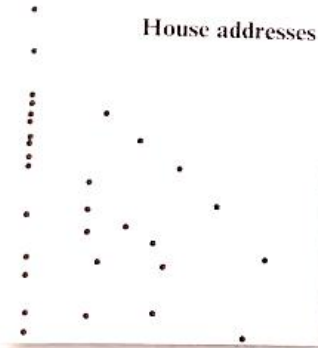
- **Emergency Response:** A 911 call came in for a person having a medical emergency. What is the fastest route to them? What is the shortest distance to the hospital?
- **National Parks:** Do wolves of one pack share the same habitat as wolves of another pack?
- **Public Health:** COVID-19 virus global outbreak begins around late 2019. To where is it spreading? Where is the highest number of cases?



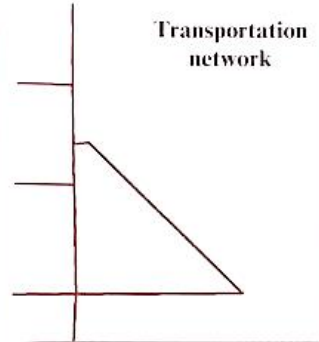
# What is GIS?

## Data categories!

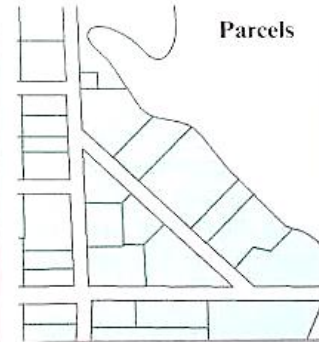
### Point, Line, and Area Discrete Features



a. Point.



b. Line.



c. Area.



d. Area.

### Continuous Geographic Features



e. Elevation.



f. Composite of d and e.



g. Color-infrared orthophoto.



h. Composite of d and g.

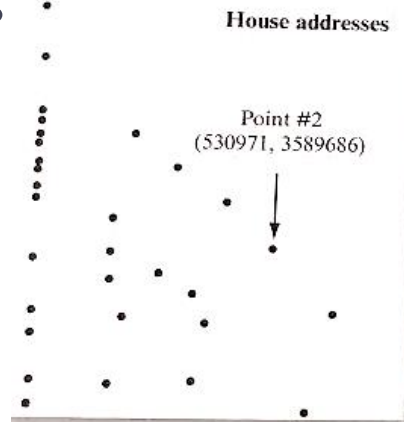
- Discrete  
Points, lines,  
polygons

- Continuous  
Exist  
continuously  
in the  
landscape  
(temperature,  
elevation, etc.)

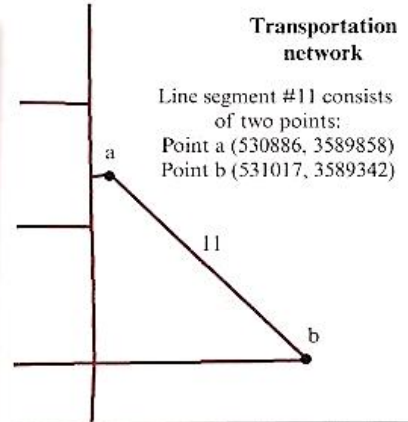
# What is GIS?

## Data types!

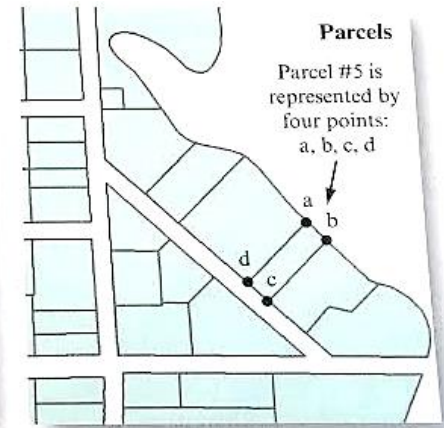
- **Vector** – points, lines, polygons based on x,y coordinates
- **Raster** – matrix/grid, pixels, good for continuous data



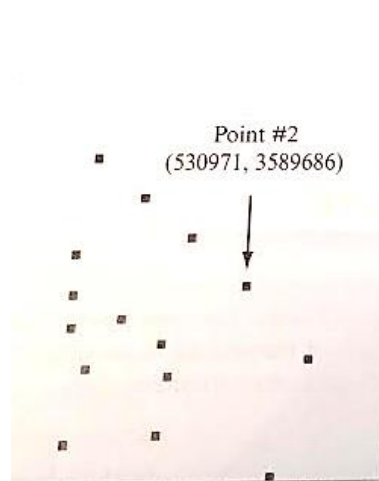
a. Point (Vector).



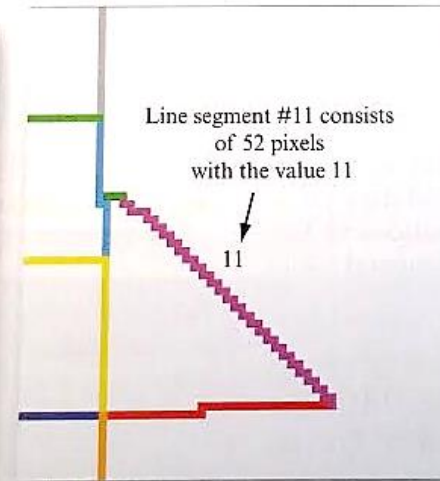
b. Line (Vector).



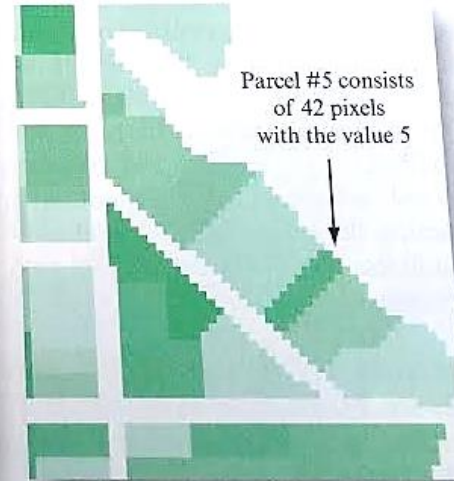
c. Area (Vector).



d. Point (Raster).



e. Line (Raster).



f. Area (Raster).

# What is GIS?





# What can you do with GIS?

## College!

- MCC GIST

- 1 year GIST
- 2 year GIST
- Transfer after



- University of Buffalo

- SUNY Cortland

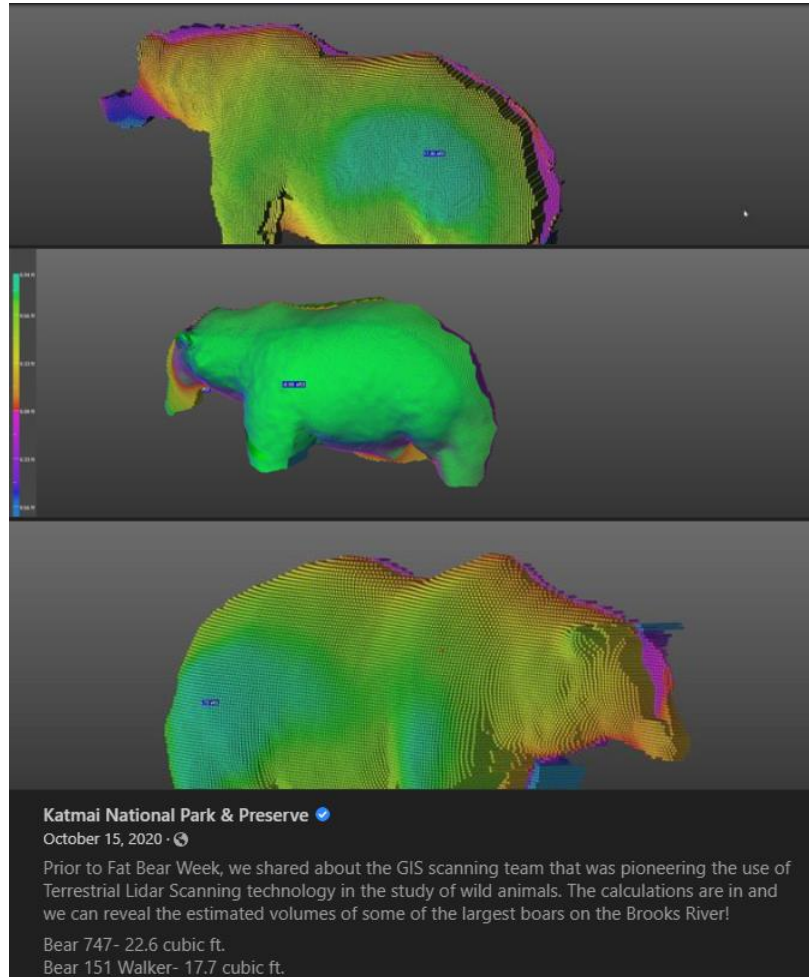
- & so many more!

!)  
gram

# What can you do with GIS?

## Jobs!

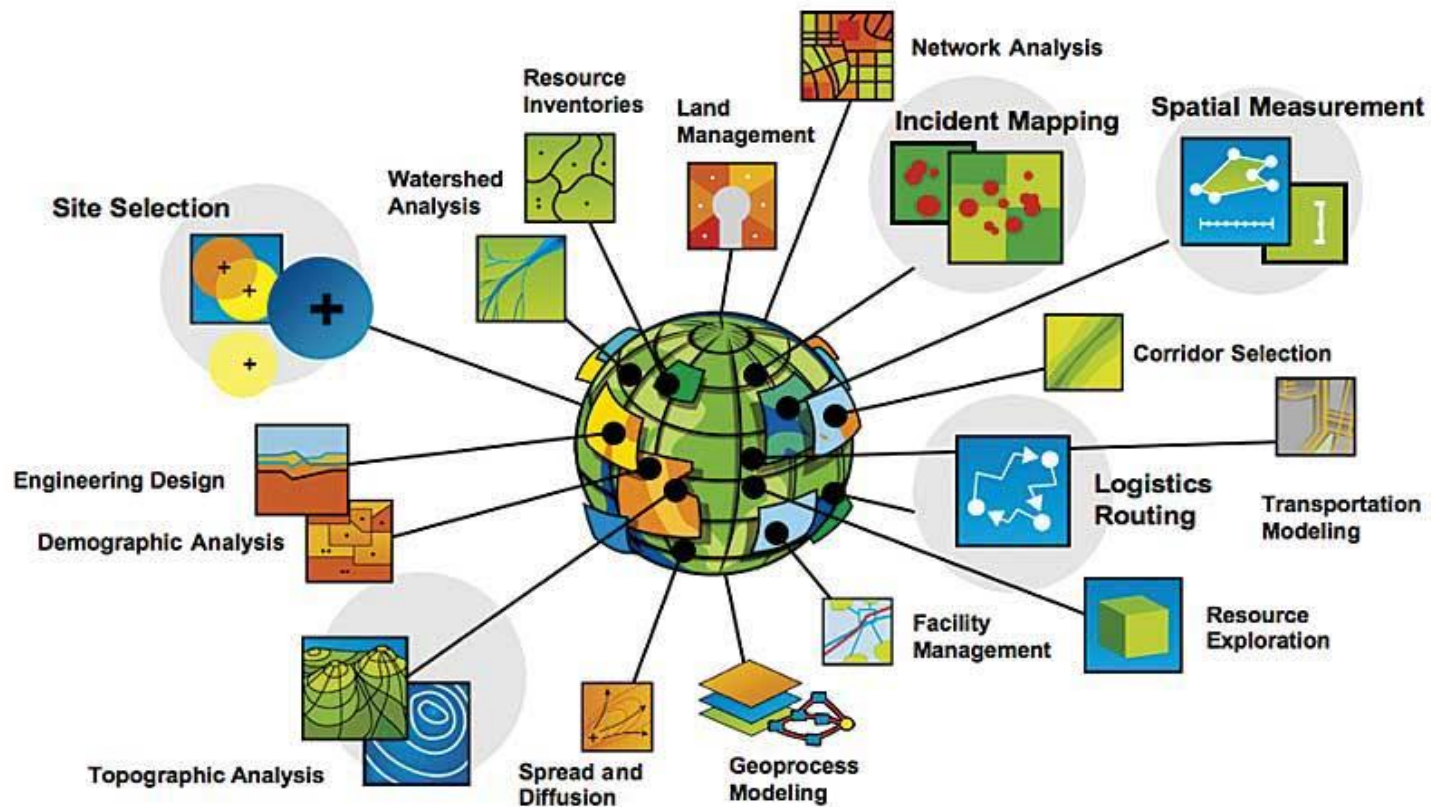
- Corporate
- Government
  - Federal
  - County
  - City
- Volunteering
  - HOT
- Teaching!
  - High school
  - College



# What can you do with GIS?

## GIS Is Being Applied Around the World

*Across Many Disciplines, Professions, and Organizations*



*Becoming an Instrument of Evolution*

# Live example of using GIS

You are an intern with the City of Rochester GIS Department. They have asked you to make a map of the El Camino Trail using *open source* GIS.

How would you do this?