



AMERICAN MUSEUM OF NATURAL HISTORY

CENTER FOR BIODIVERSITY AND CONSERVATION

GPS, & Remote Sensing

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Where does GIS data come from?

- GIS data created many ways

- For example:

On the ground

- Handheld GPS units

From the sky

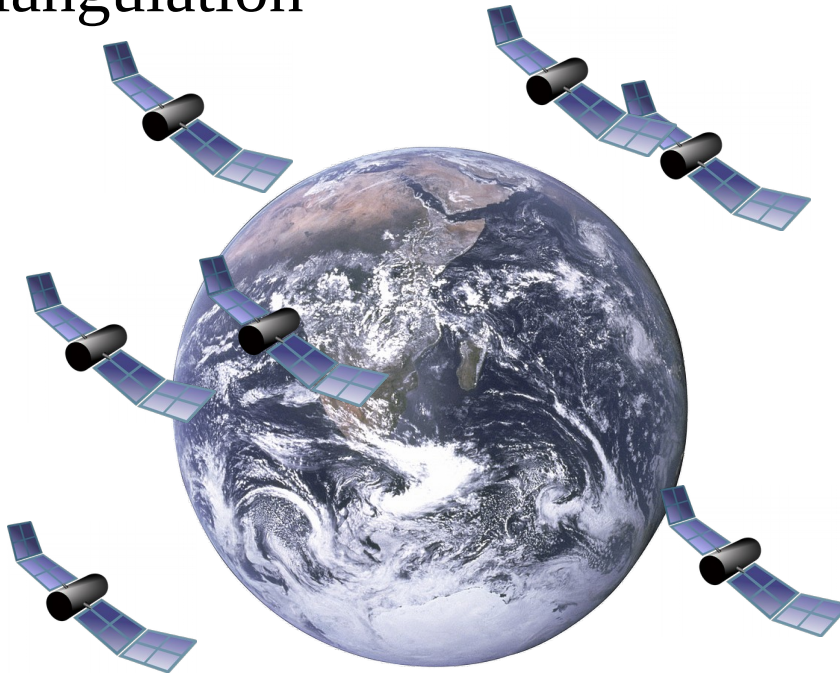
- Airplanes

- Birds

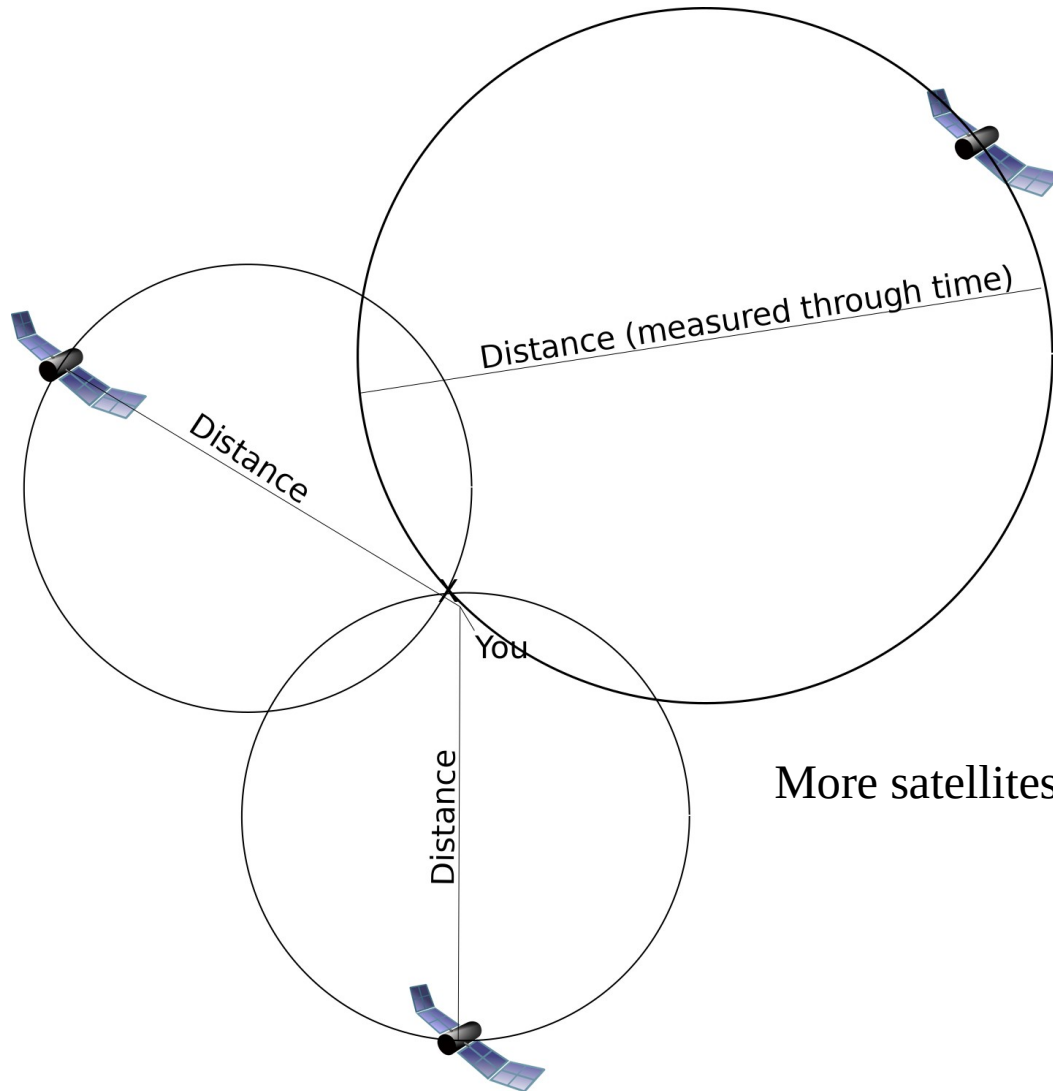
- Satellites

Where does GIS data come from?

- Global Positioning System (GPS)
 - constellation of satellites
 - Originally government military use
 - now open to anybody
- Triangulation




GPS

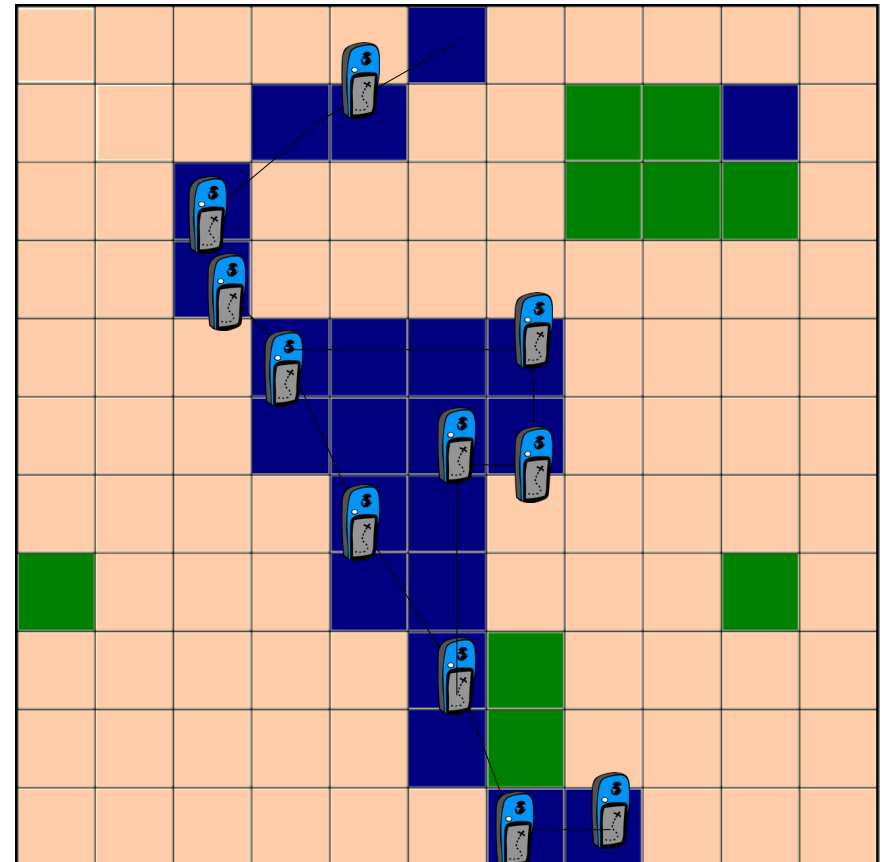


More satellites = less error

GPS

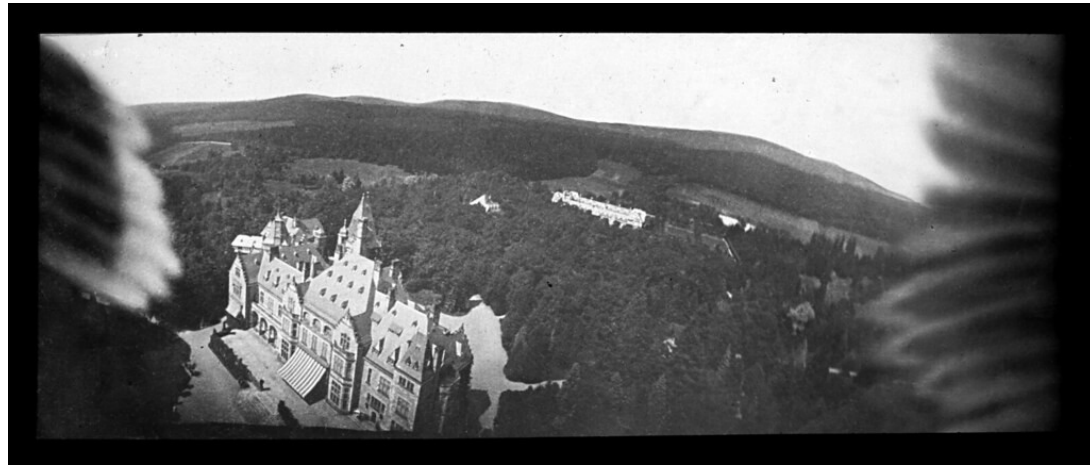
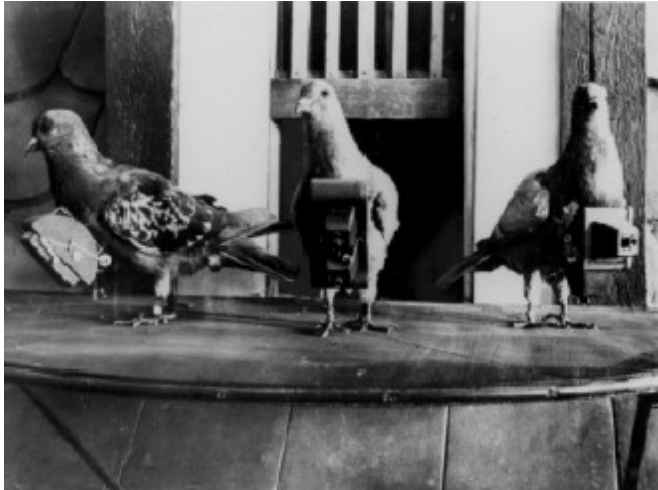
Can be used to directly generate vector data

- Point data (long, lat)
 - Tracks can be used to create lines (roads/rivers) and polygons (buildings, fields, forests)
- 



Remote Sensing

Besides balloons and kites, pigeons were used to carry cameras and could be trained to fly over targets

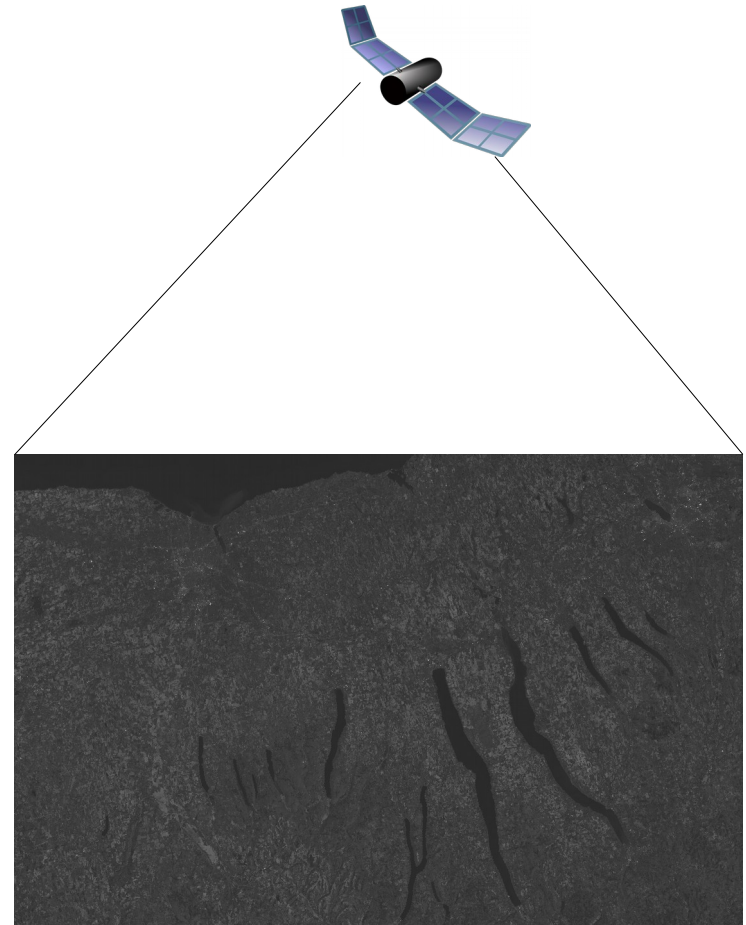


German scientist
Dr. Julius Neubronner

Remote Sensing – Past and Present



CIA's declassified Corona Program



NASA's LandSat8 satellite

GIS and Remote Sensing

- Species distributions: conservation, systematics (e.g. phylogeography)
- Global processes
- Land and sea cover and use
 - Land and environmental management
 - Protected areas
- Disaster management