

ANÁLISIS GEOESPACIAL

Introducción

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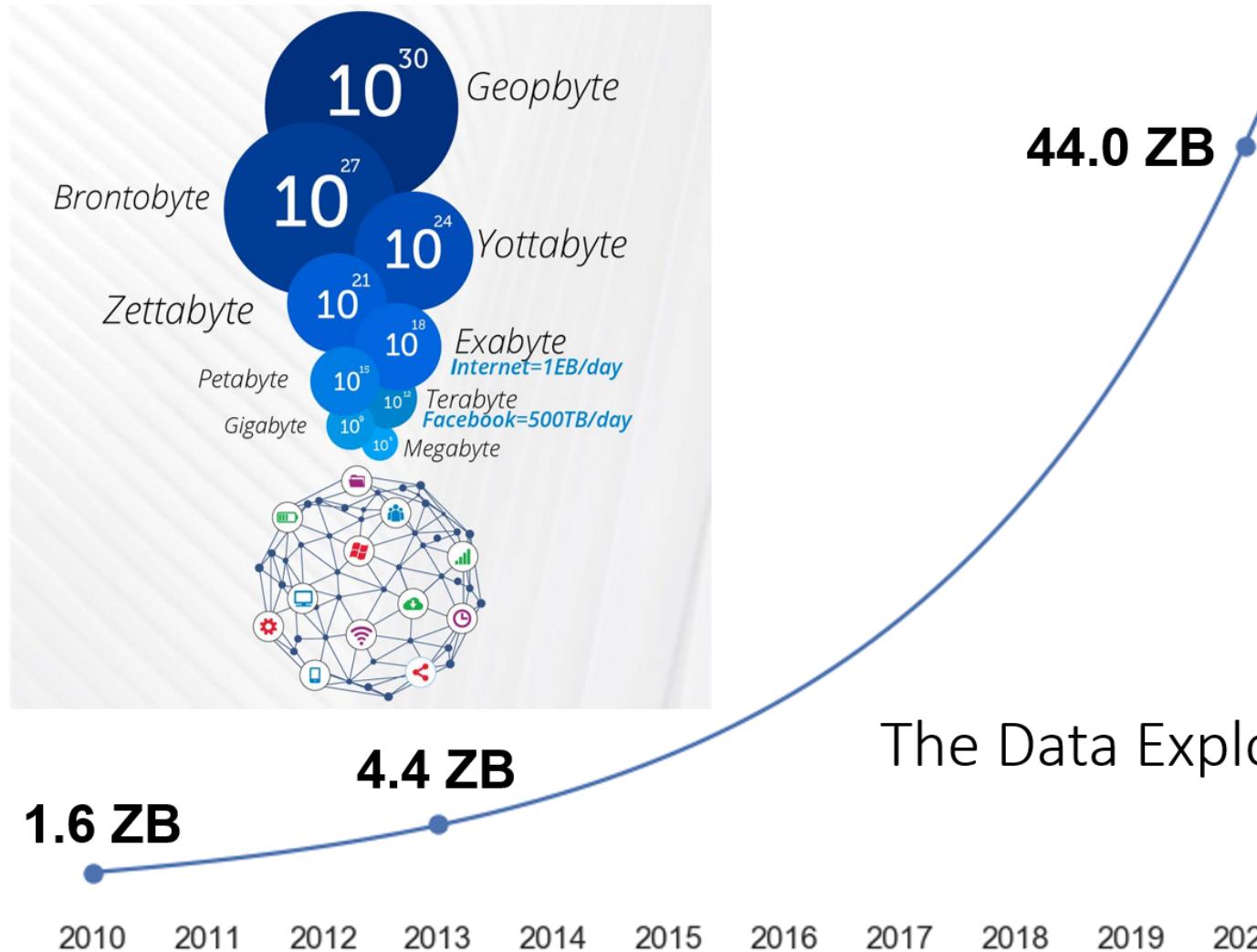
“In God we trust. All others must bring data”

W. Edwards Deming (1900–1993)

“Everything is related to everything else, but near things are more related than distant things”

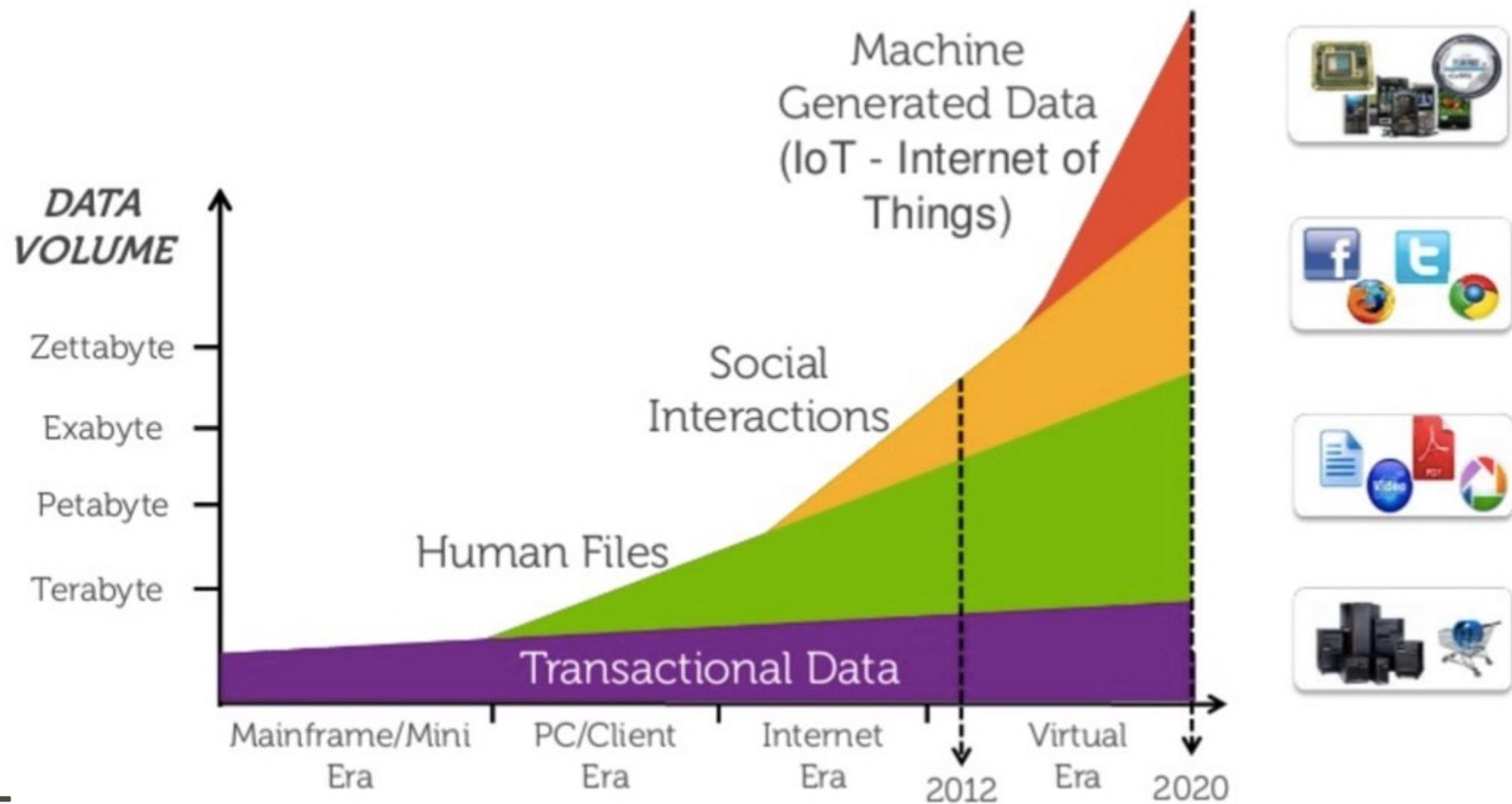
(Tobler 1970)

La era de los datos



La era de los datos

The Explosion of Data

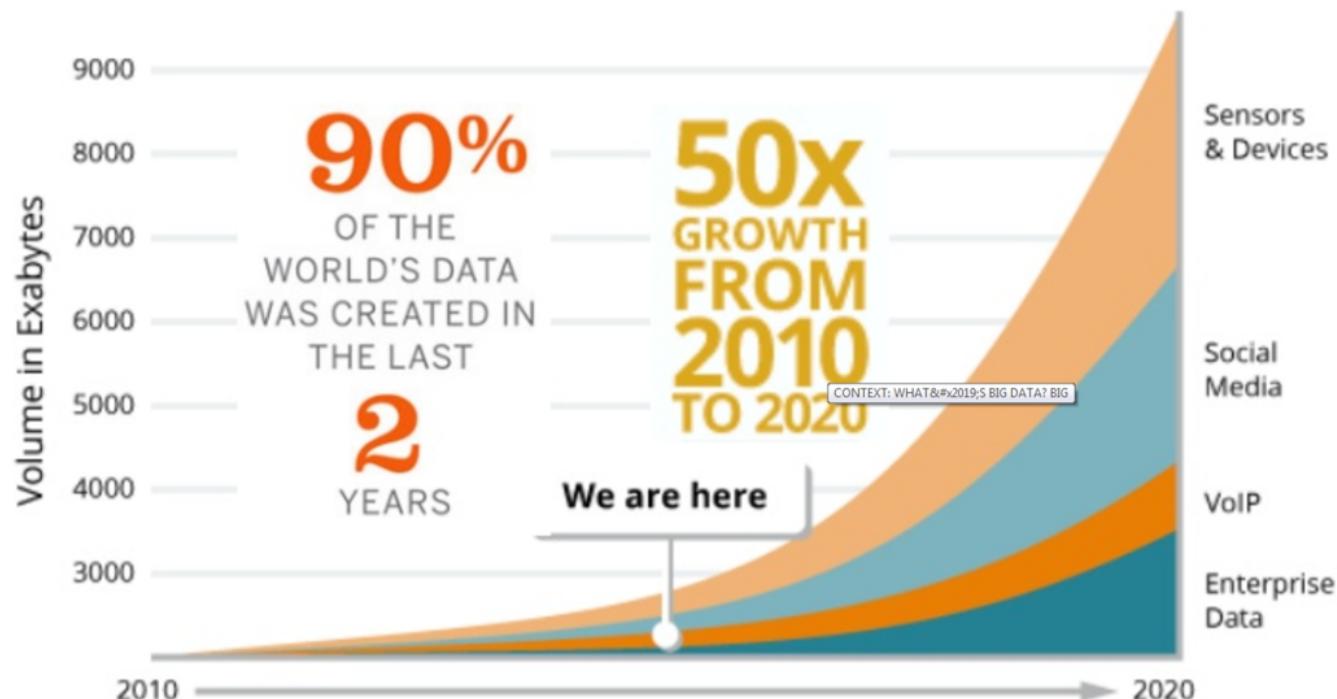




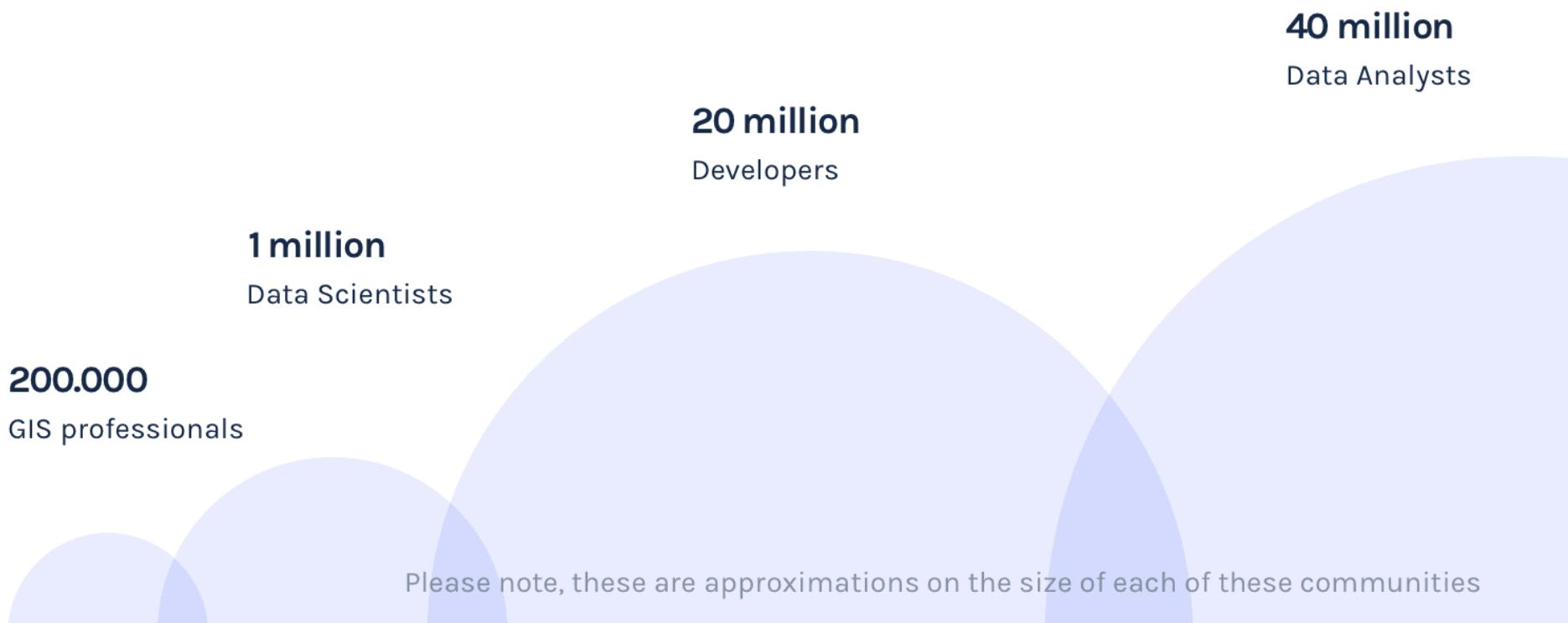
La era de los datos

BIG IN GROWTH, TOO.

1 exabyte (EB) = 1,000,000,000,000,000 bytes



Data science job



Data store



Data store

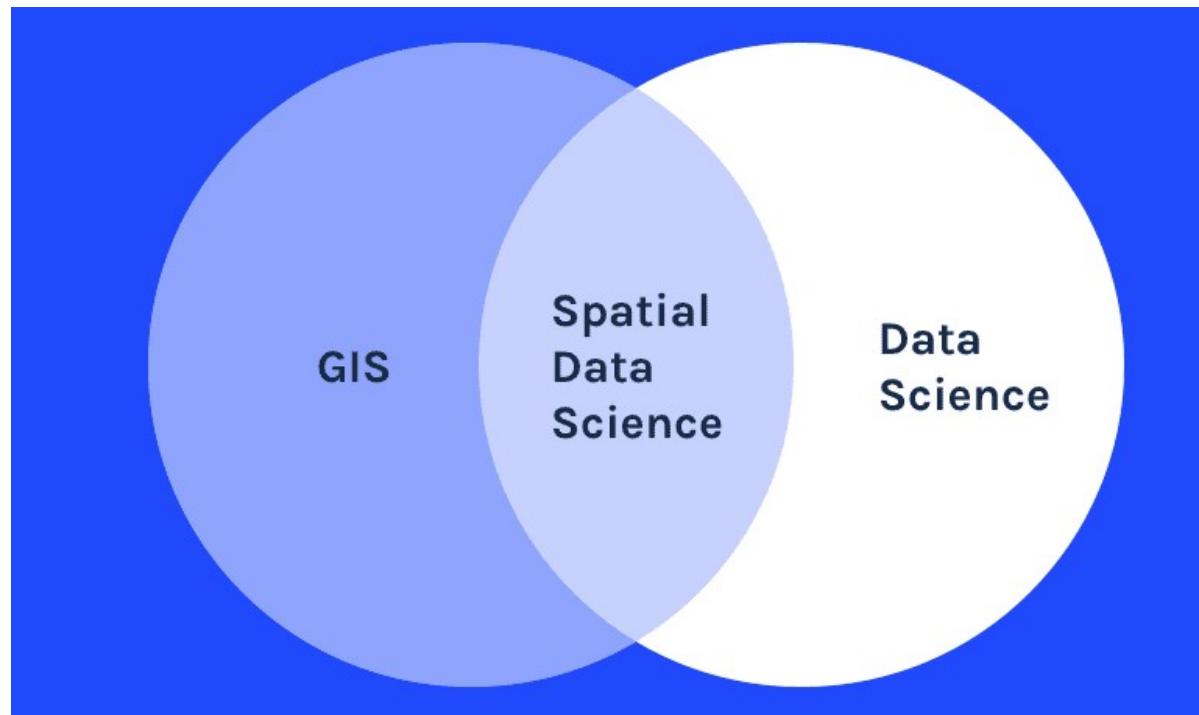
Los kilobytes eran almacenados en discos, megabytes fueron almacenados en discos duros, terabytes fueron almacenados en arreglos de discos, y petabytes son almacenados en la nube ^(Anderson, 2008).





Geospatial Data Science

Geospatial data science (GDS) is a subset of Data Science that focuses on the unique characteristics of spatial data, moving beyond simply looking at **where things happen to understand why they happen there**



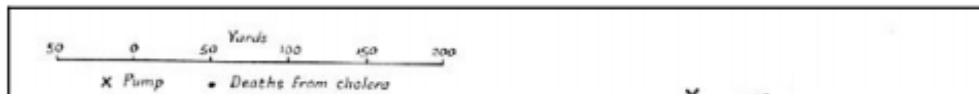
<https://carto.com/what-is-spatial-data-science/>



Análisis Geoespacial

Dr. John Snow (1854)

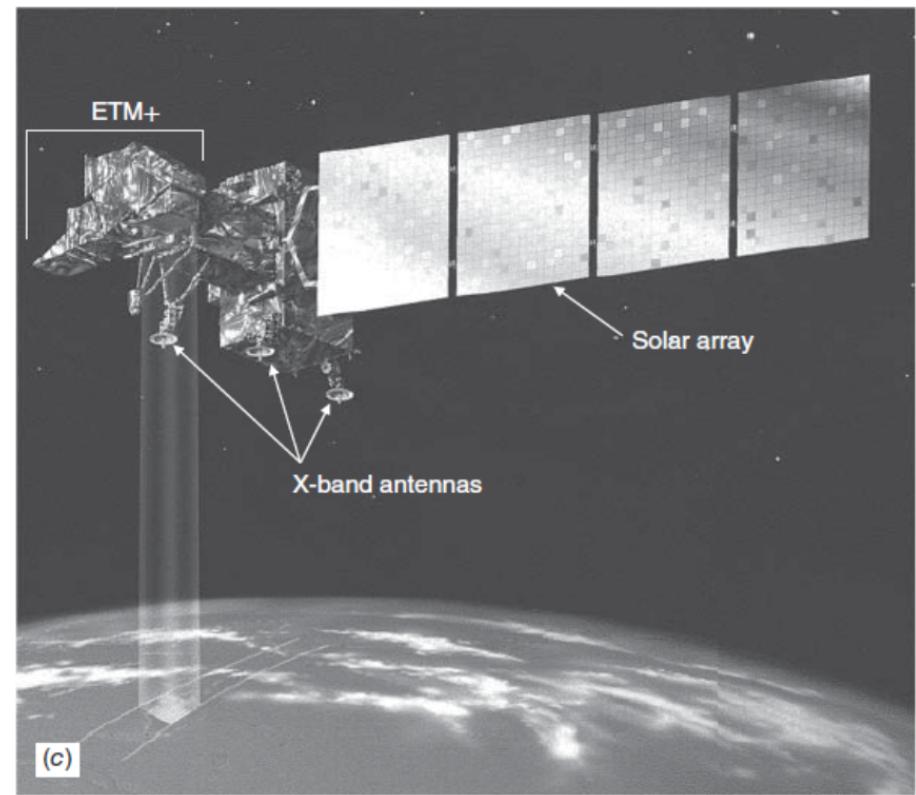
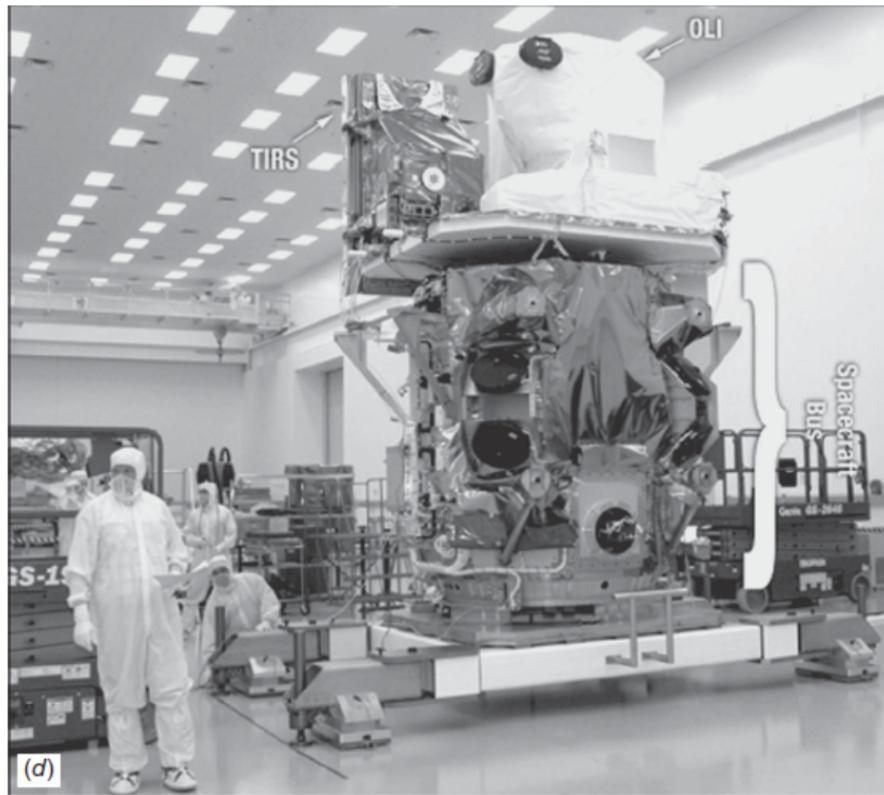




Fotografía aérea (1858)



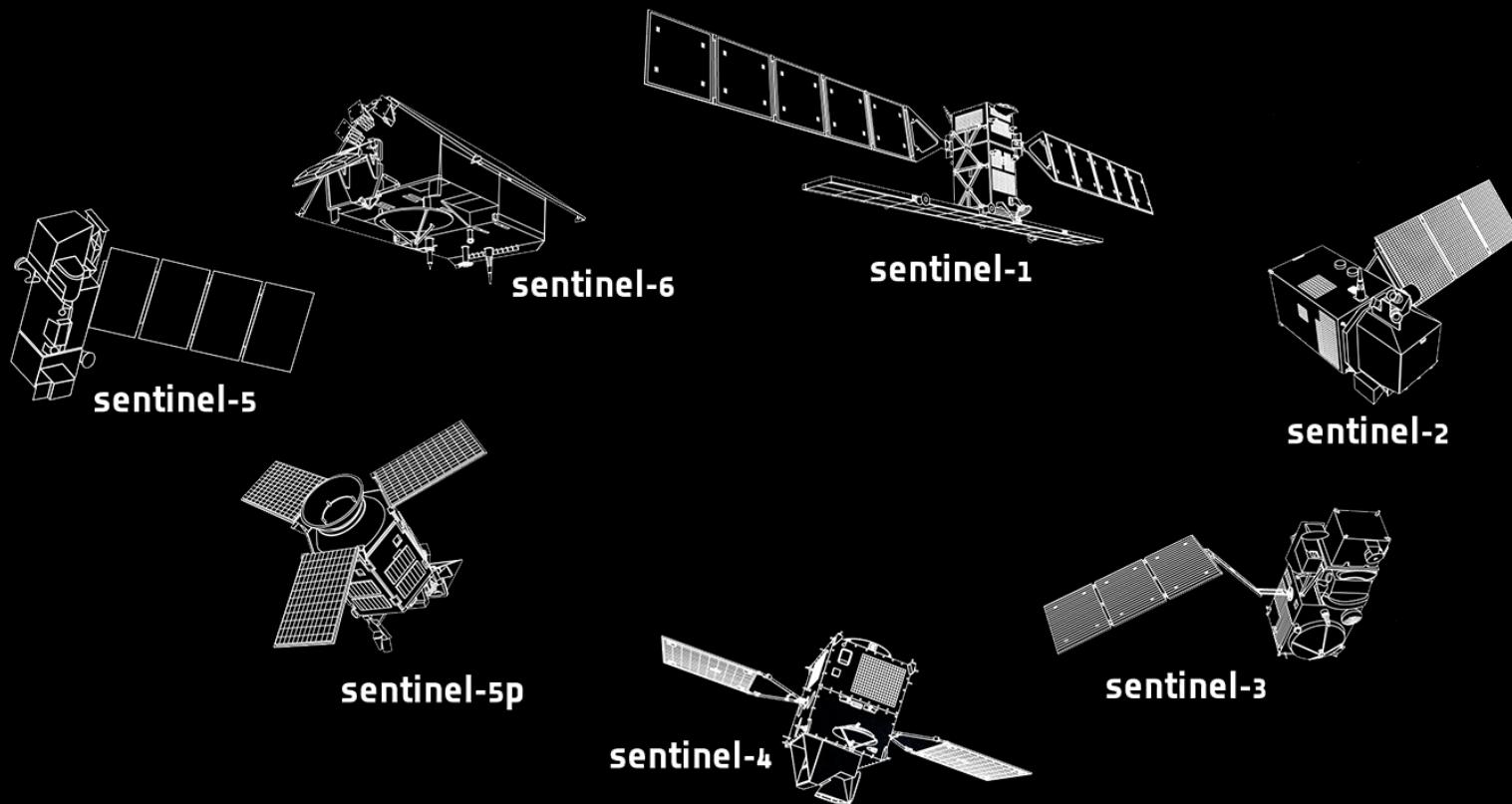
Remote sensing (1972)

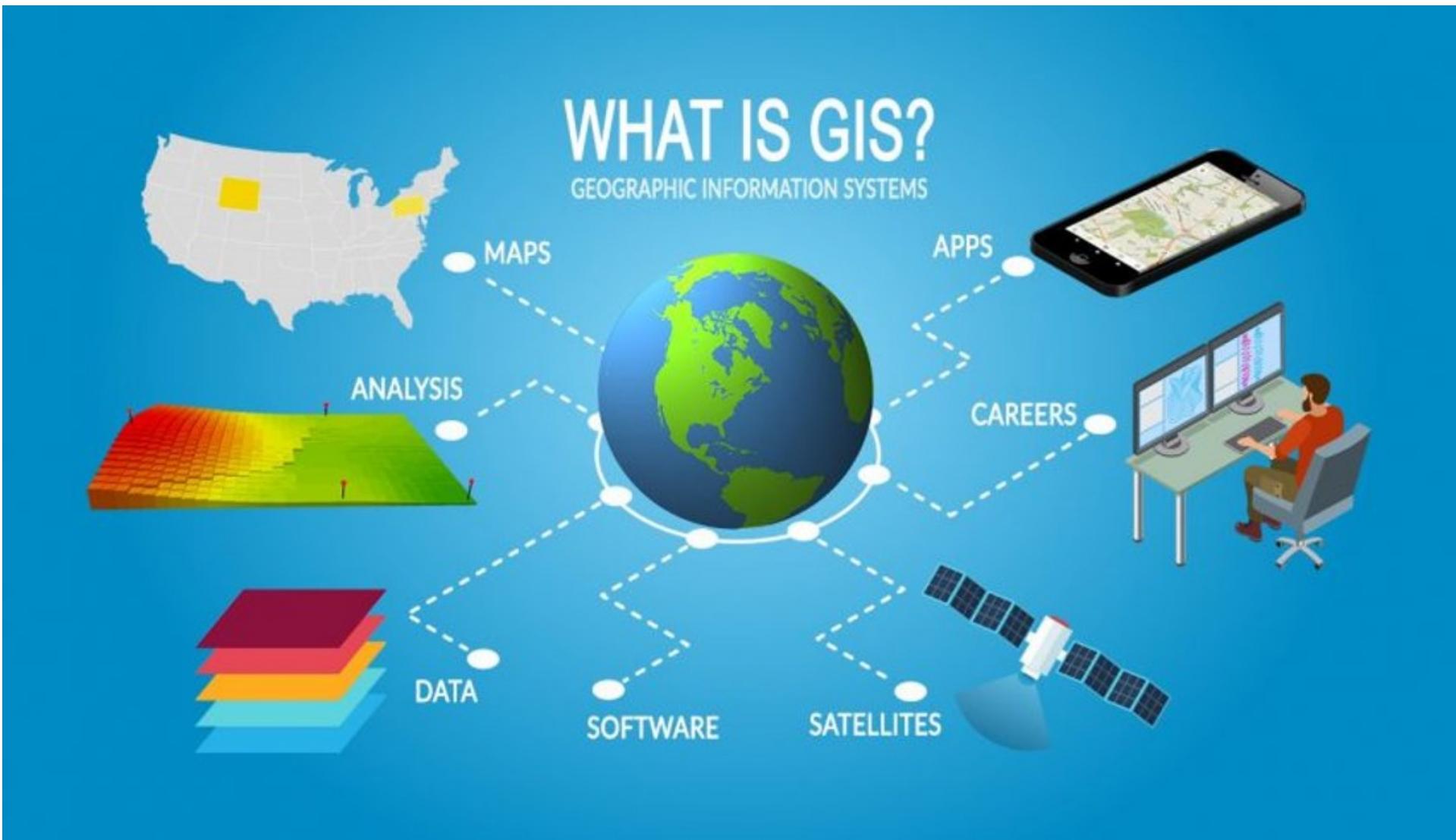


Remote sensing

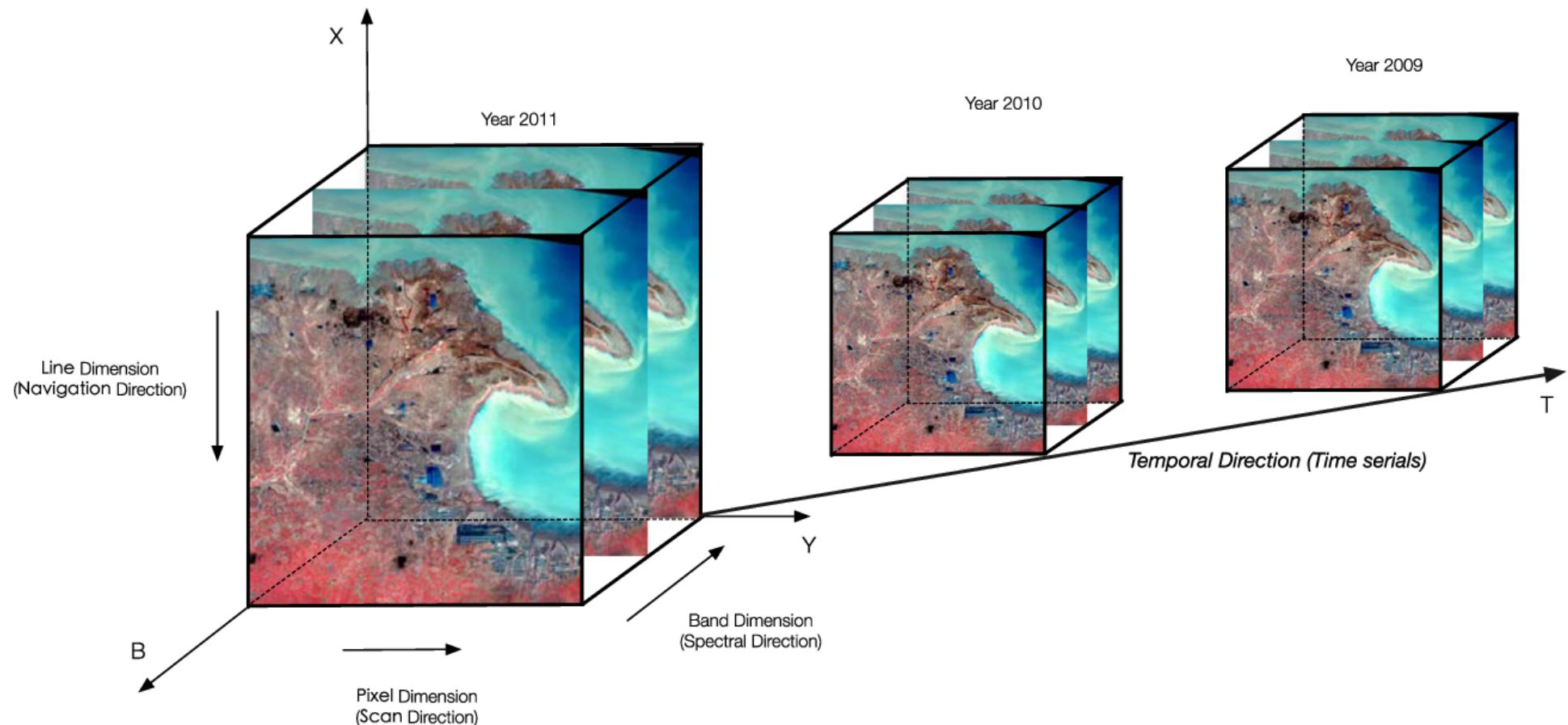


Remote sensing





Big Data



Source: Ma et al. (2015)

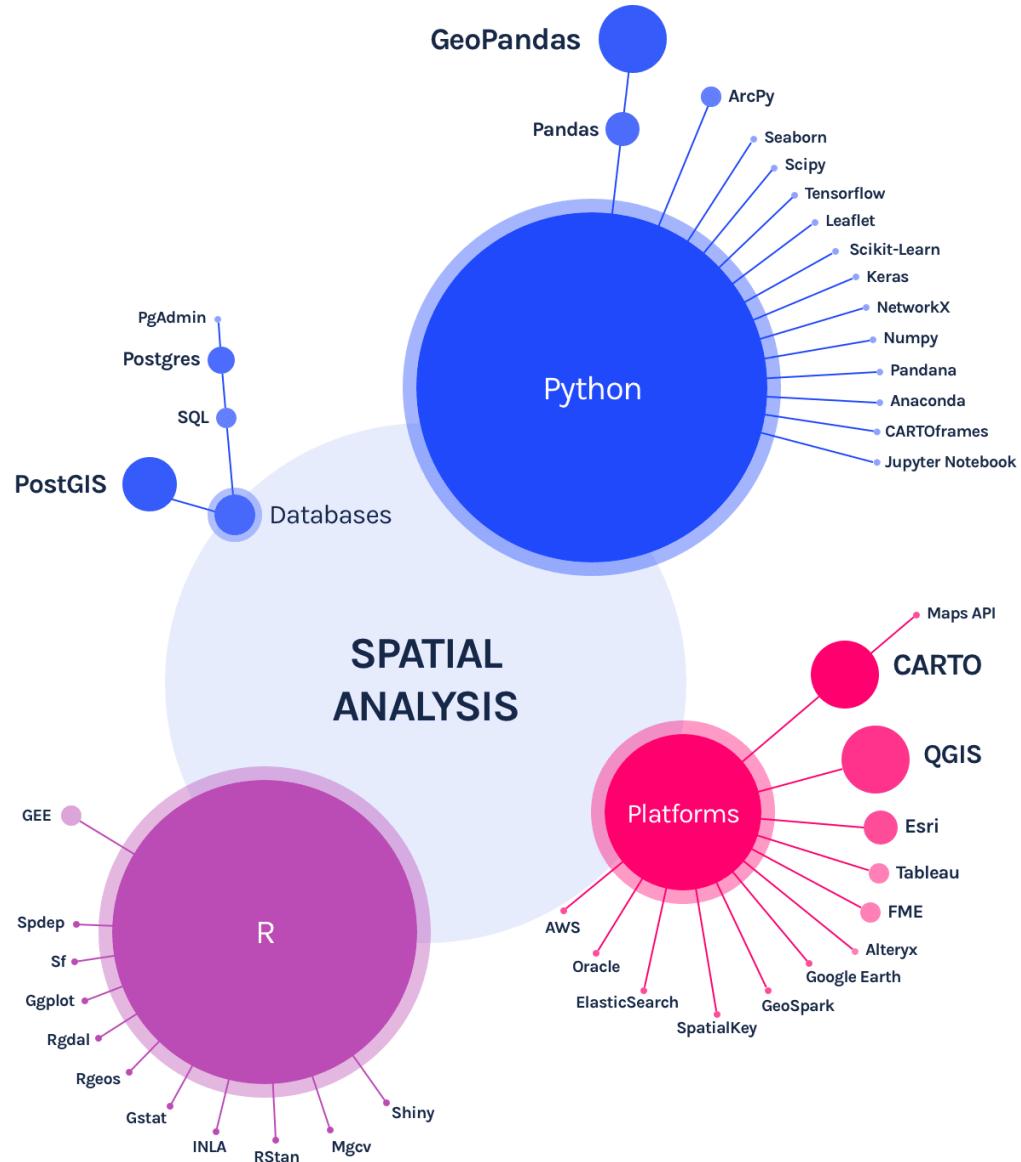


Spatial analysis

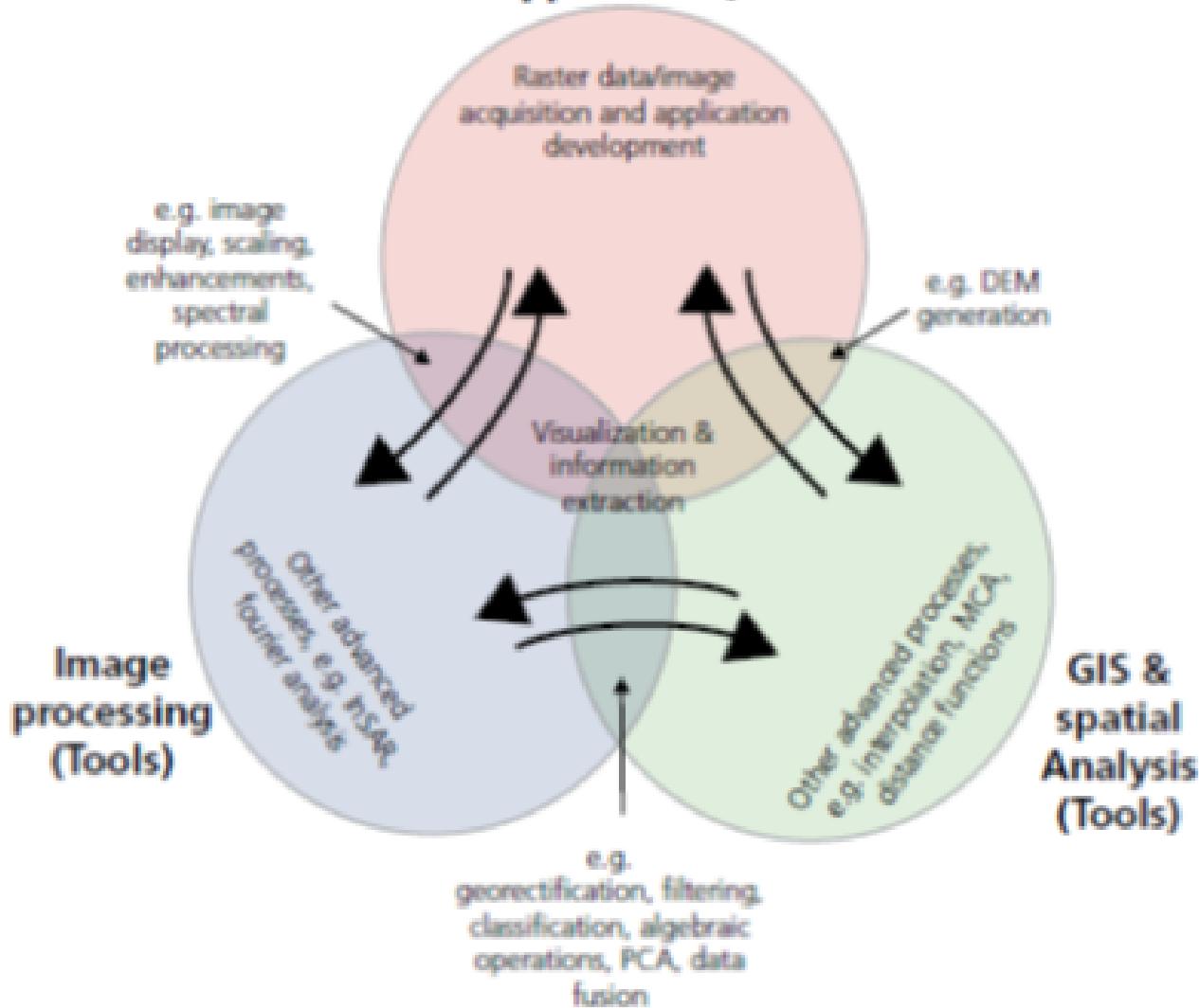
It is a broad term that includes

- Spatial data manipulation through geographical information systems (GIS),
- Spatial data analysis in a descriptive and exploratory way,
- Spatial statistics that employ statistical procedures to investigate if inferences can be made and
- Spatial modeling which involves the construction of models to identify relationships and predict outcomes in a spatial context (O' Sullivan & Unwin 2010 p. 2).

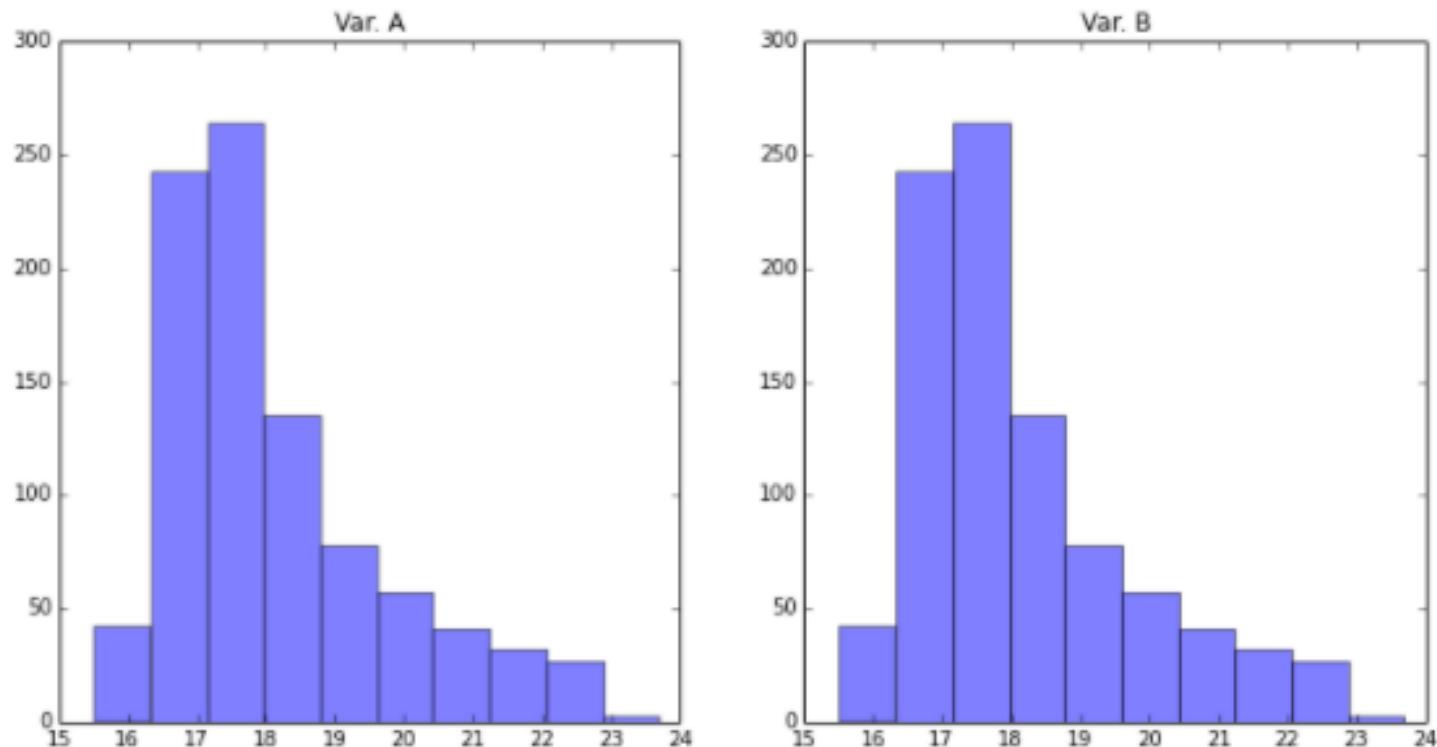




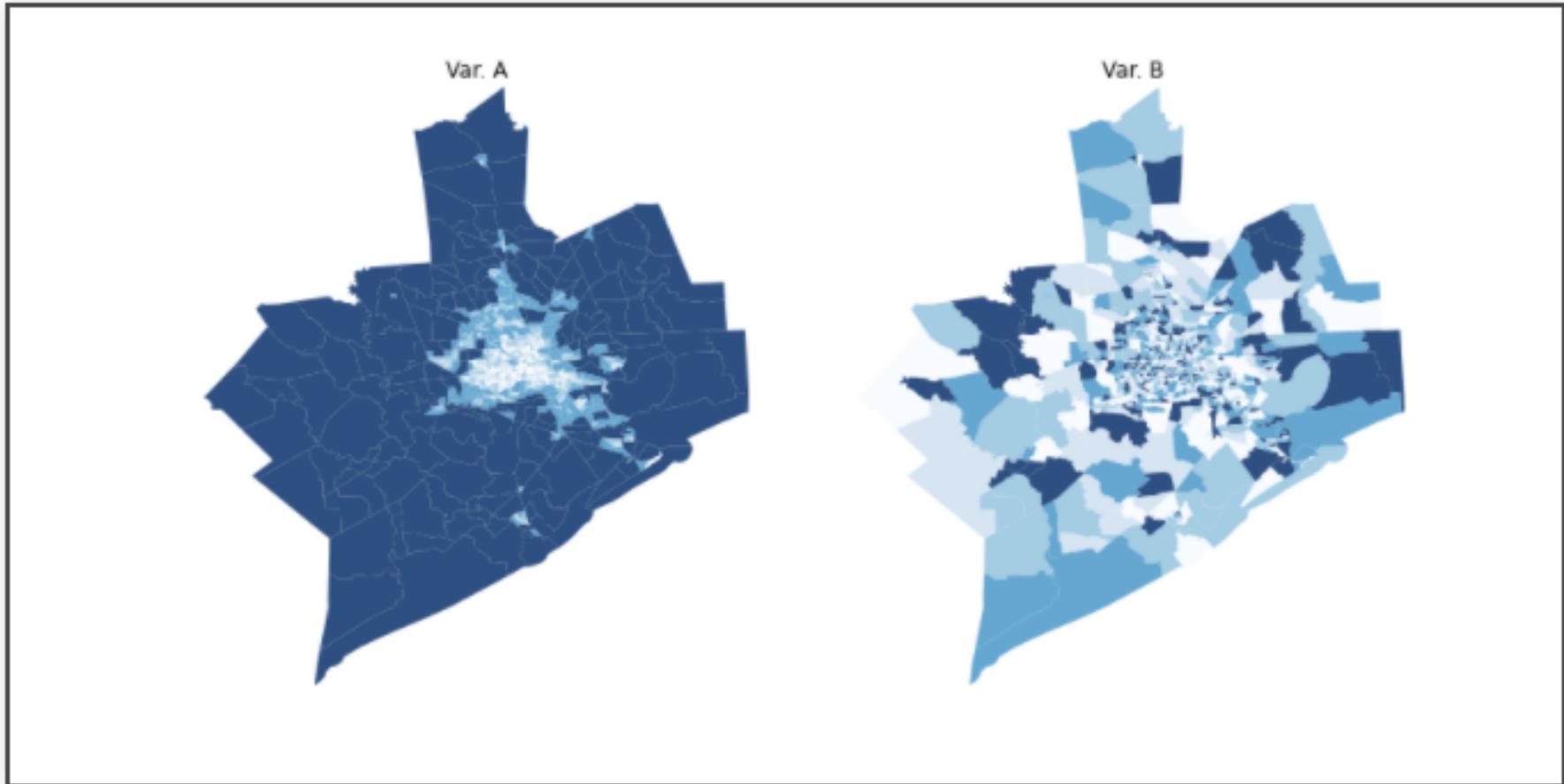
Remote sensing (Data & applications)



Why spatial is special?



Why spatial is special?



Curso Análisis Geoespacial

El curso **Análisis Geoespacial** está orientado para estudiantes de posgrados que deseen adquirir conocimientos sobre análisis de datos geoespaciales en un contexto ambiental, utilizando herramientas tipo Sistemas de Información Geográfica (SIG), Google Earth Engine (GEE), Big Data, y programación.

El curso es teórico - práctico. Se dictarán clases teóricas con las técnicas y modelos a utilizar, y clases prácticas donde se utilizarán las herramientas de análisis. El curso se evaluará a través de un trabajo individual durante todo el curso, donde el estudiante implementará en una área de su elección las herramientas de análisis presentadas en el curso.

Las herramientas de procesamiento serán:

- Lenguaje de programación Python en Jupyter Notebook, Google Coaborative & QGIS
- Lenguaje de programación Javascript en GEE & Sentinel Hub & MongoDB
- SQL, HTML & CSS en web mapping



Curso Análisis Geoespacial

classroom.google.com/c/Njl1NzExOTU0MzBa

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