

Introduction to raster data



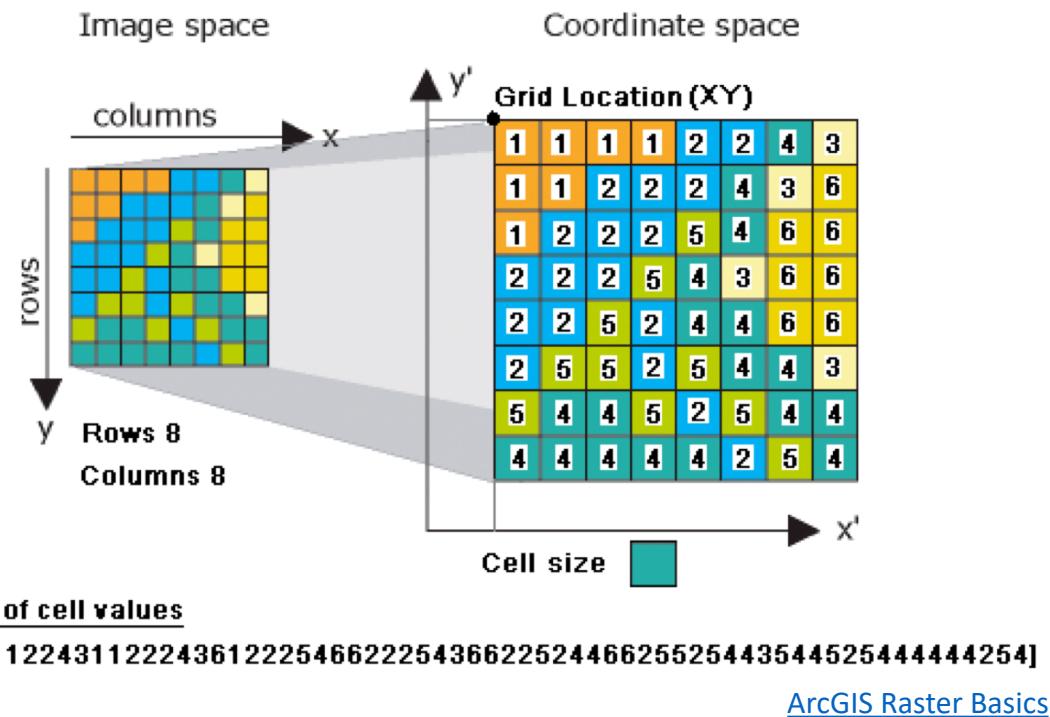
Copernicus Sentinel data for
Mariposa County, 2015-2017

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What is raster data?

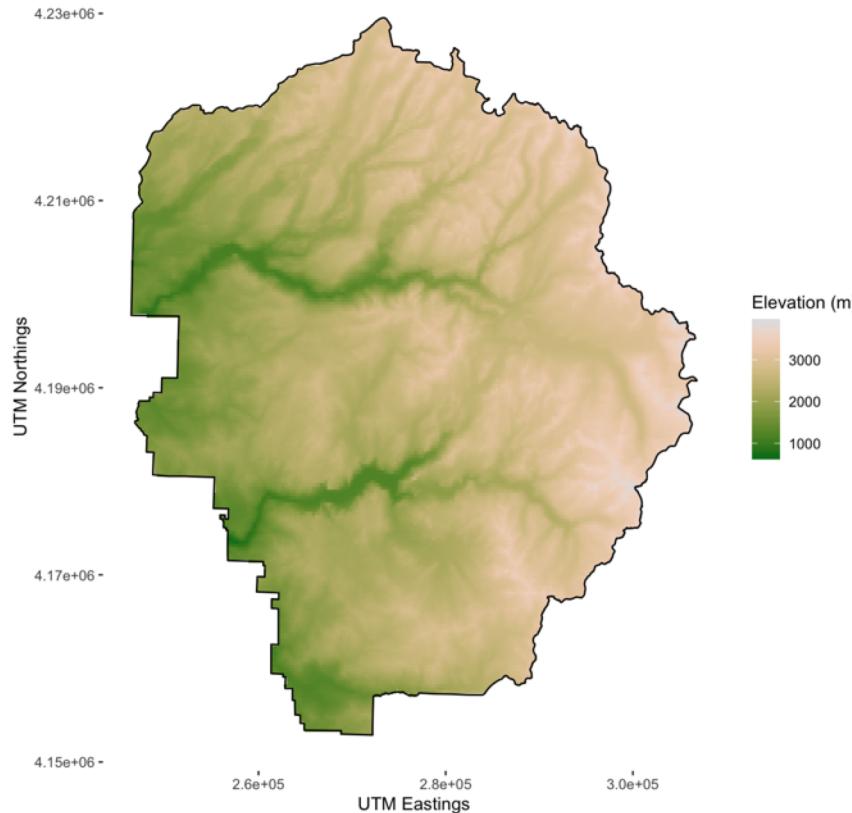
- A grid of values.



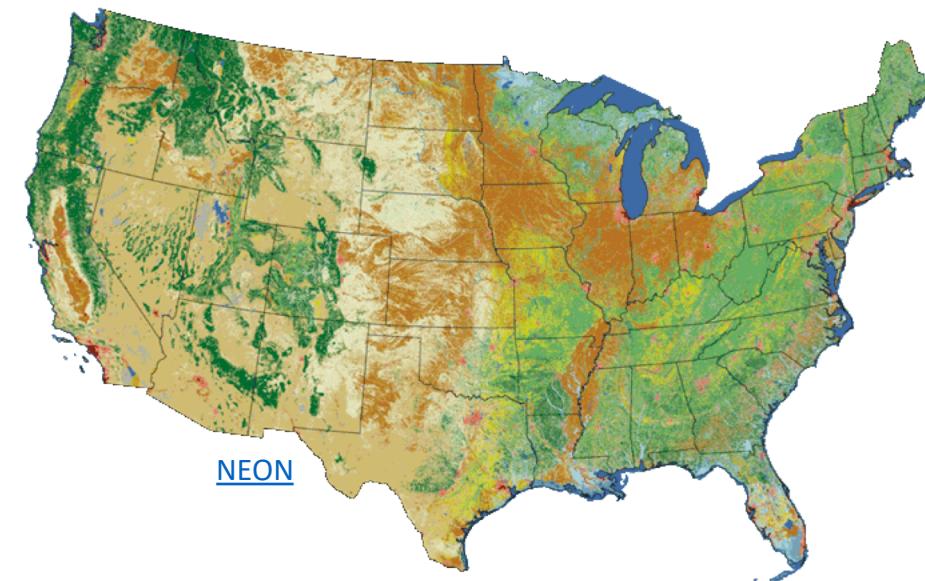
What is raster data?

- A grid of values.

Elevation of Yosemite National Park



National land cover dataset

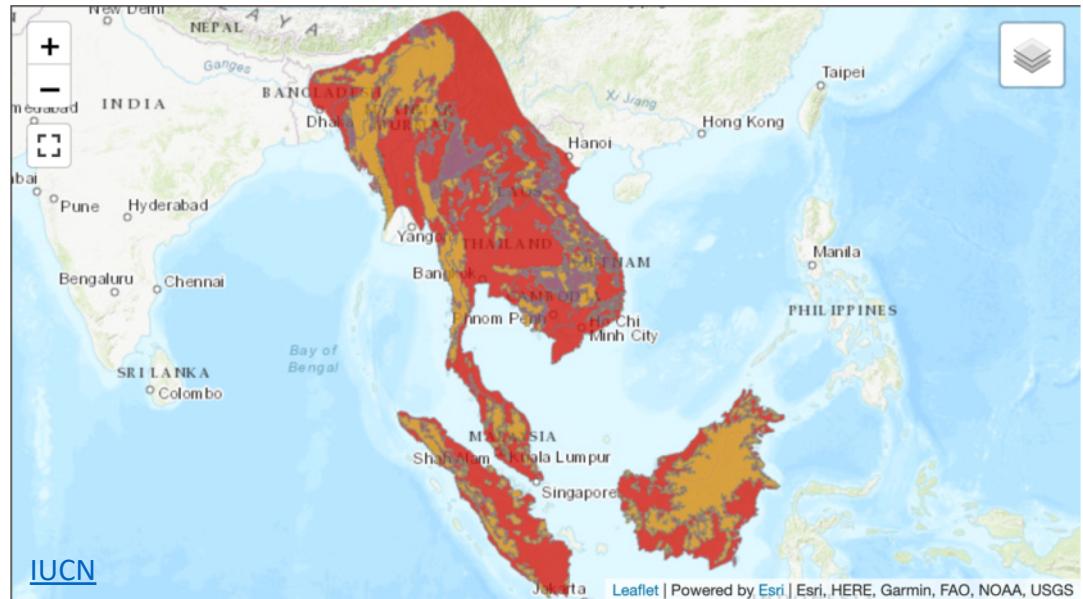


... as opposed to vector data

- Points, lines, and polygons



Geographic range of Sun Bear

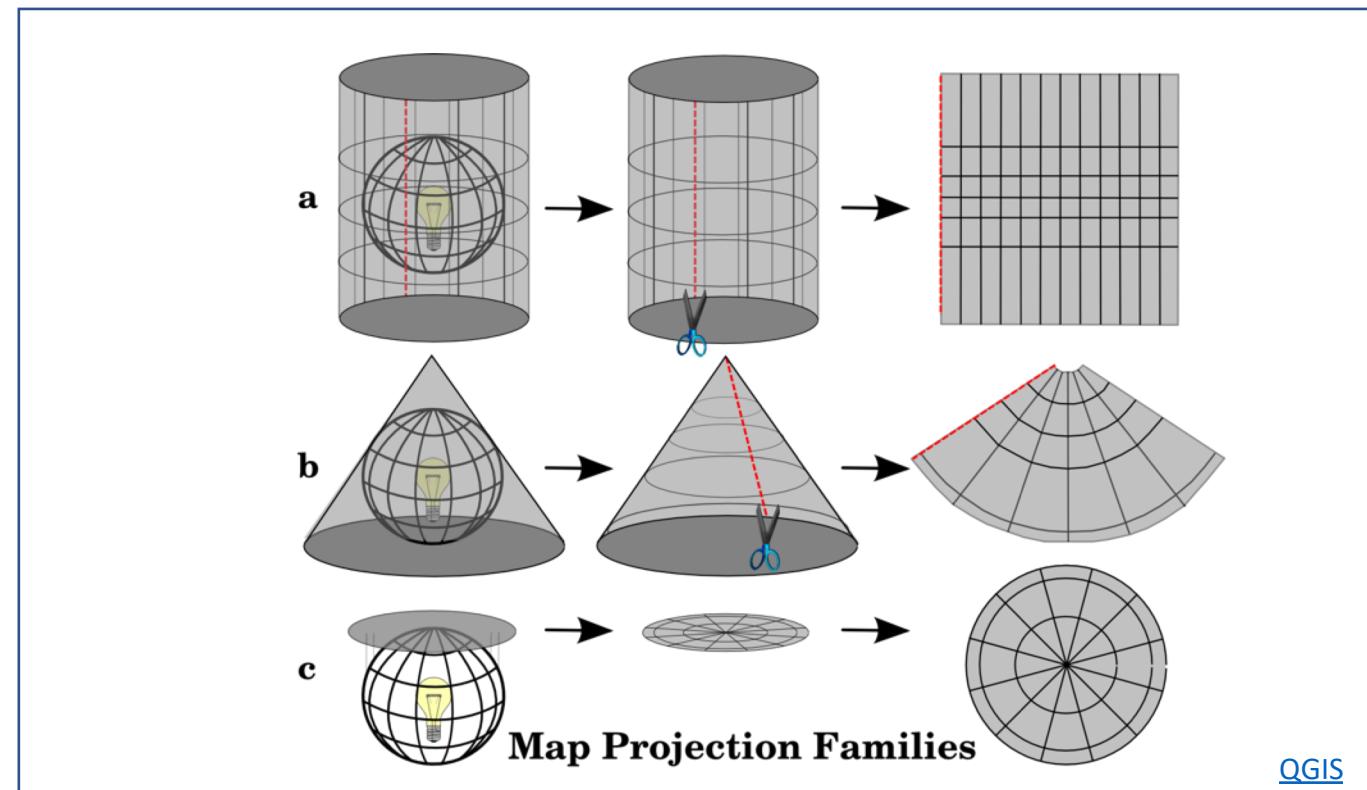


Coordinate reference system

- Mathematical “flattening” of earth’s surface to 2 dimensions
- Many ways to do this!
- Pros and cons to every way



wikimedia



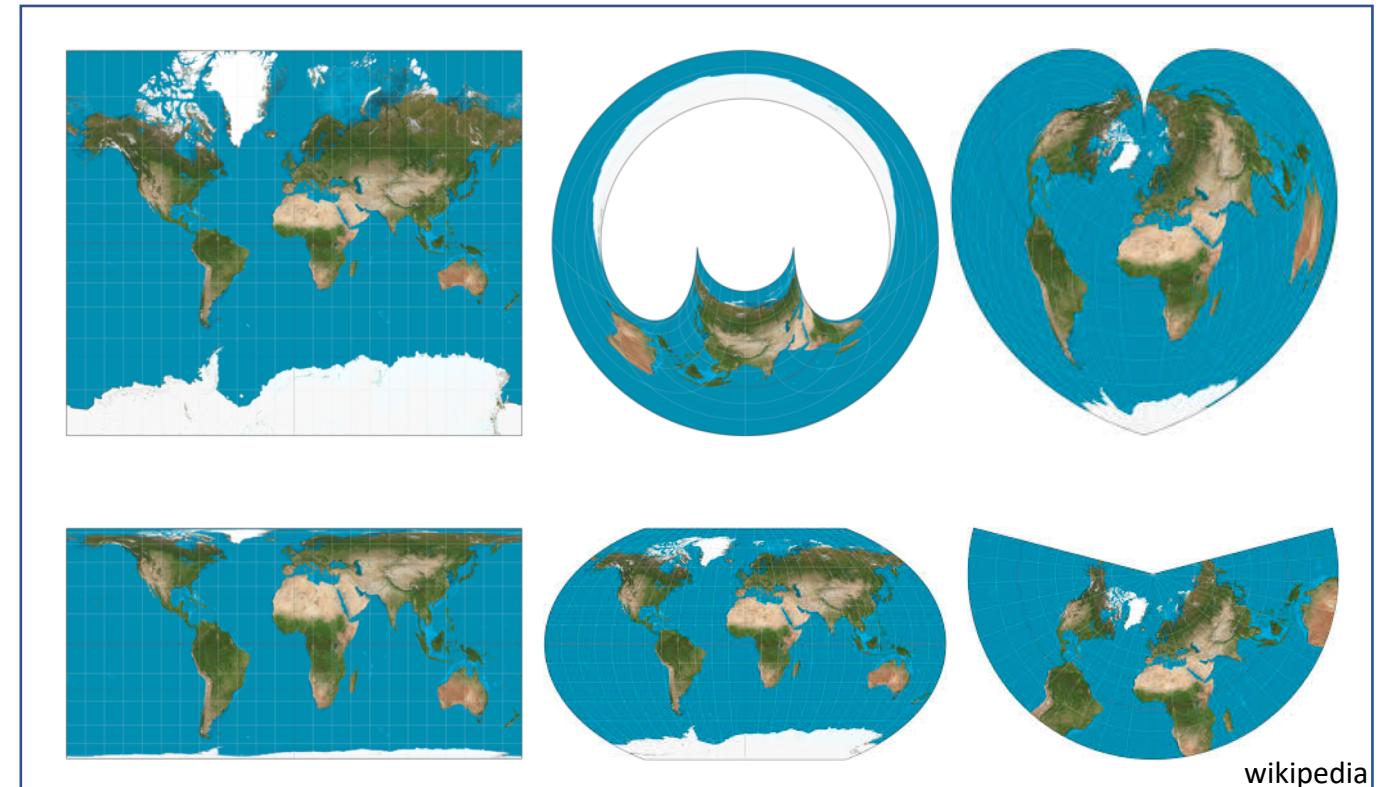
QGIS

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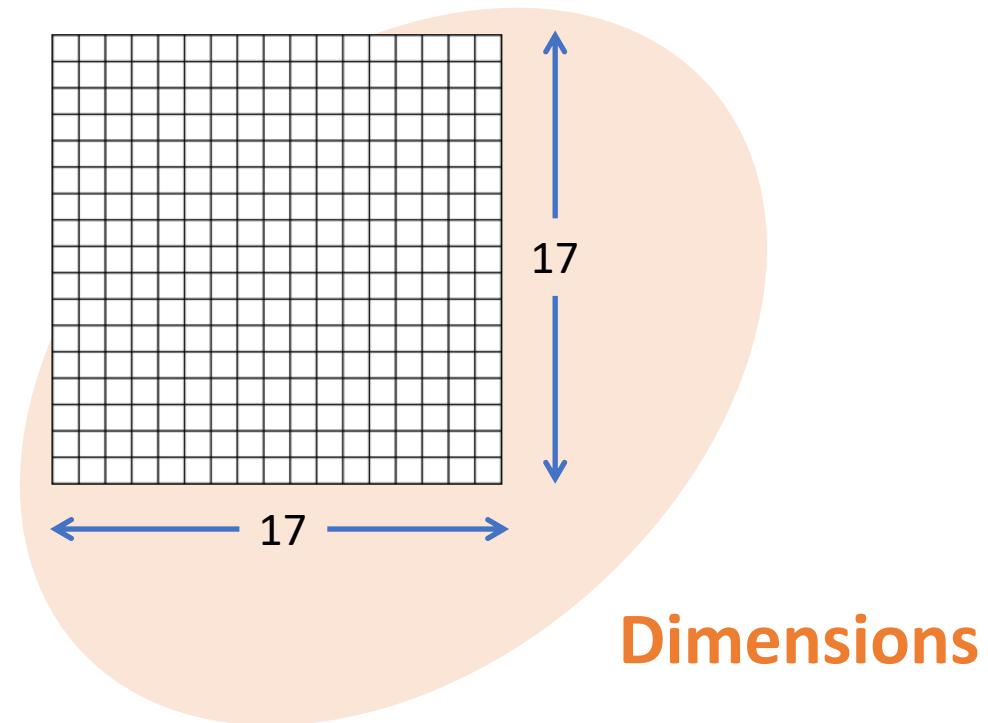


wikimedia

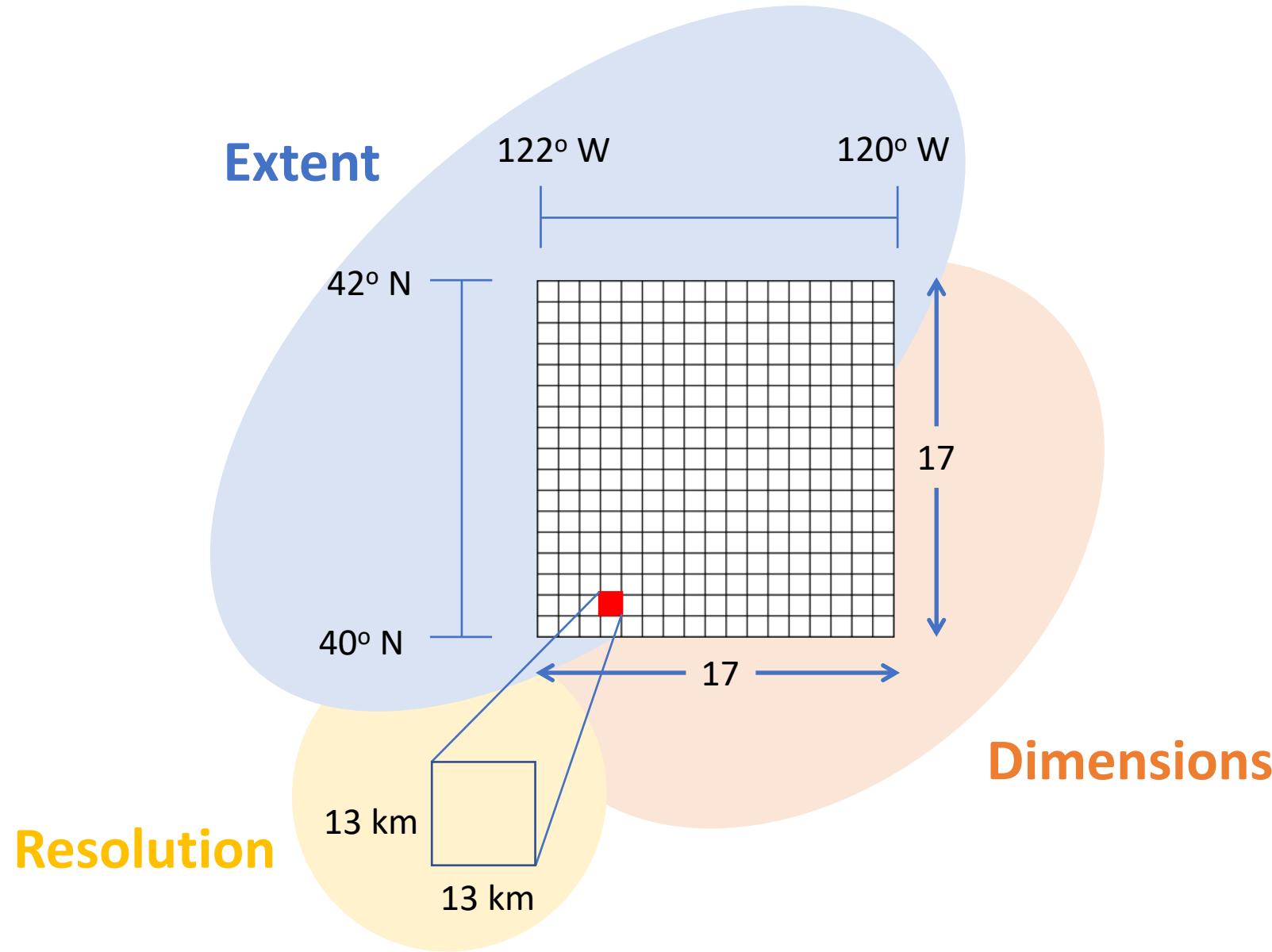


wikipedia

Properties of a raster dataset

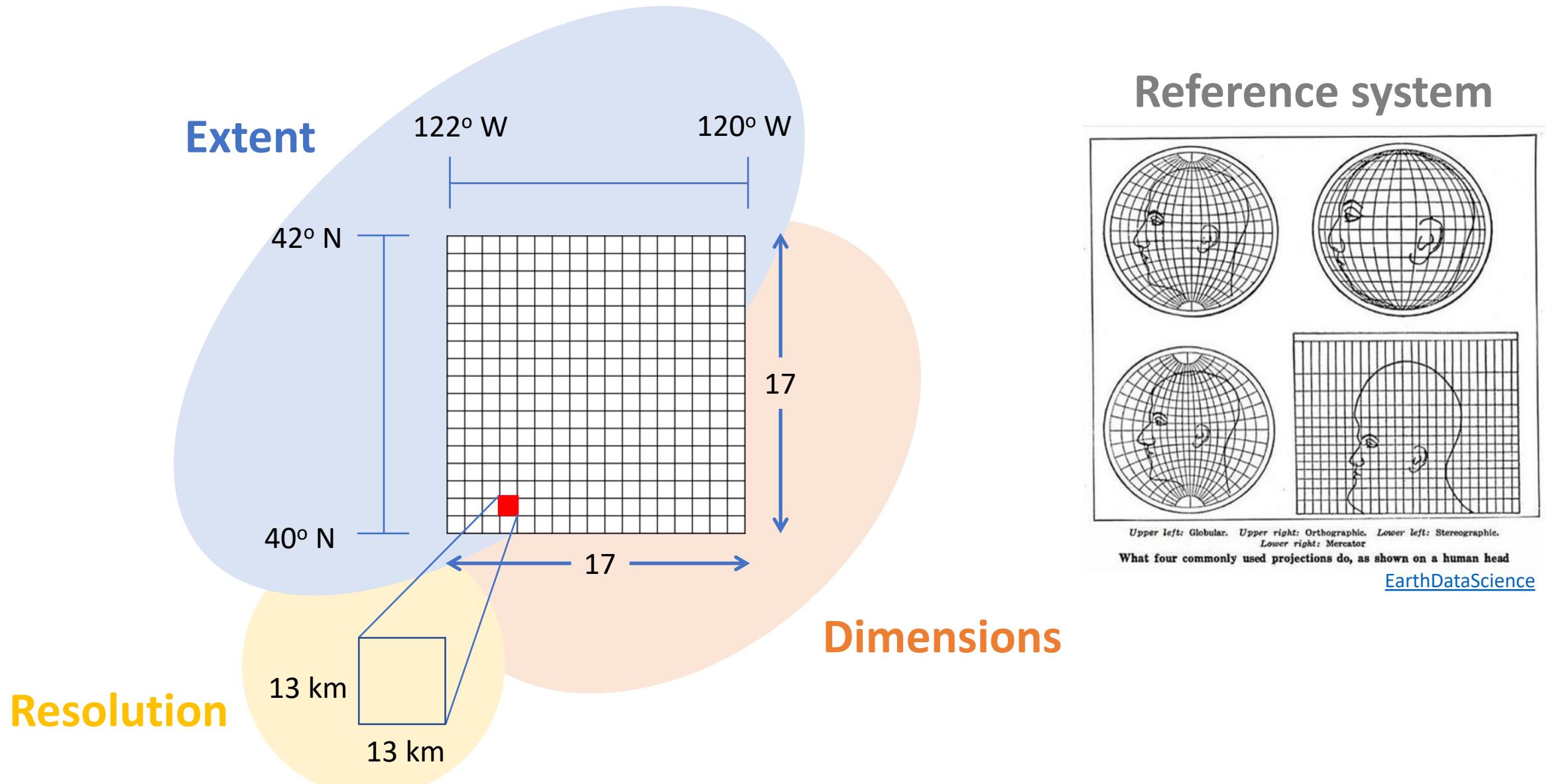


Properties of a raster dataset



*With any two of these, you can calculate the 3rd.

Properties of a raster dataset



Today we'll learn to:

- Import raster into R
- Identify raster components
- Perform basic raster operations
- Visualize raster data

Working with raster data from
[WorldClim](#)

and vector data from
[California's open data portal](#)

Resources

- [Coordinate reference system and spatial projection](#)
- [Geographic coordinate systems](#)
- [Projected coordinate systems](#)
- [CRS formats](#)
- [What is raster data?](#)
- [Raster basics](#)
- [Raster package documentation](#)
- And you can always reach out to me:

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