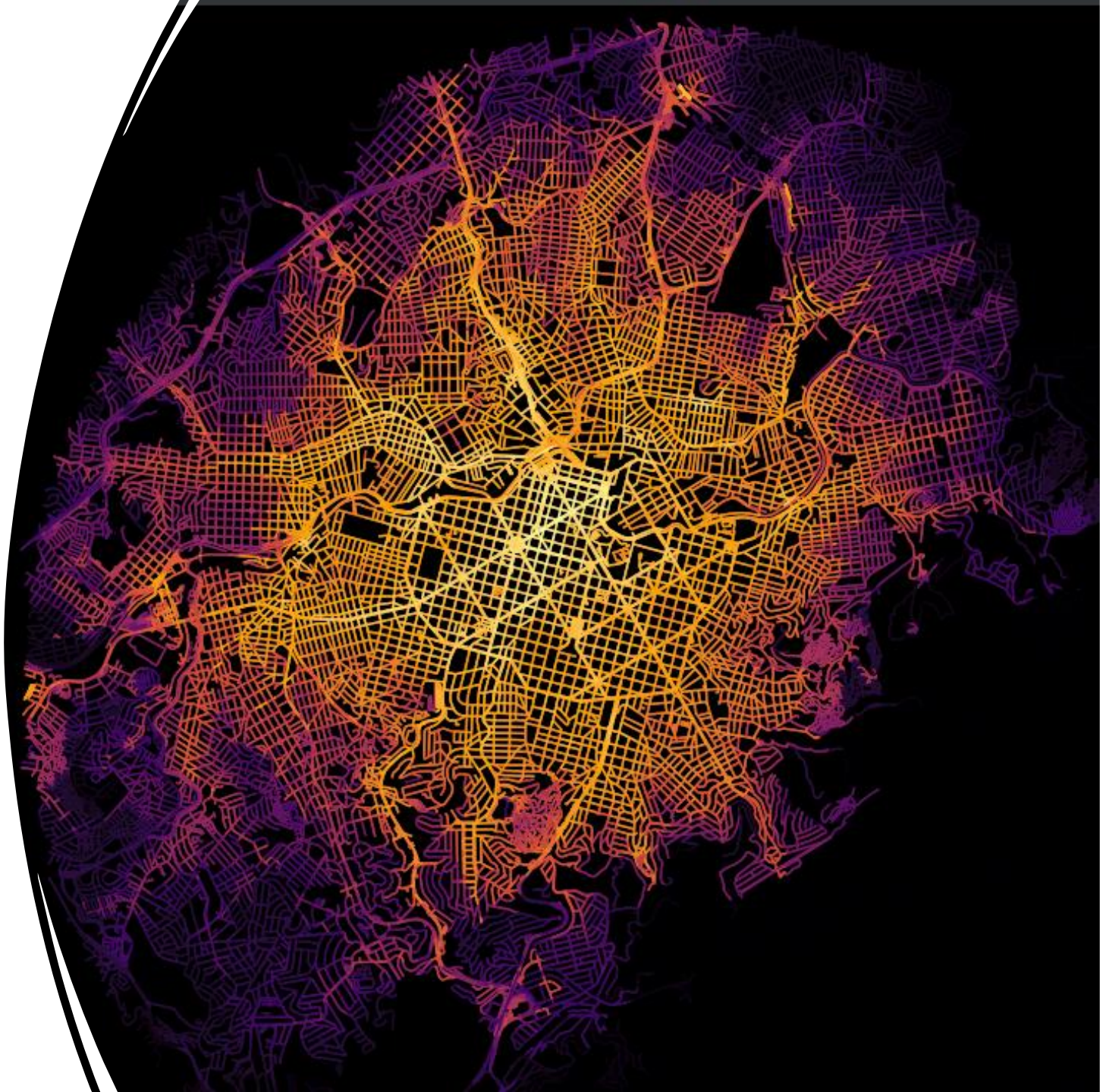
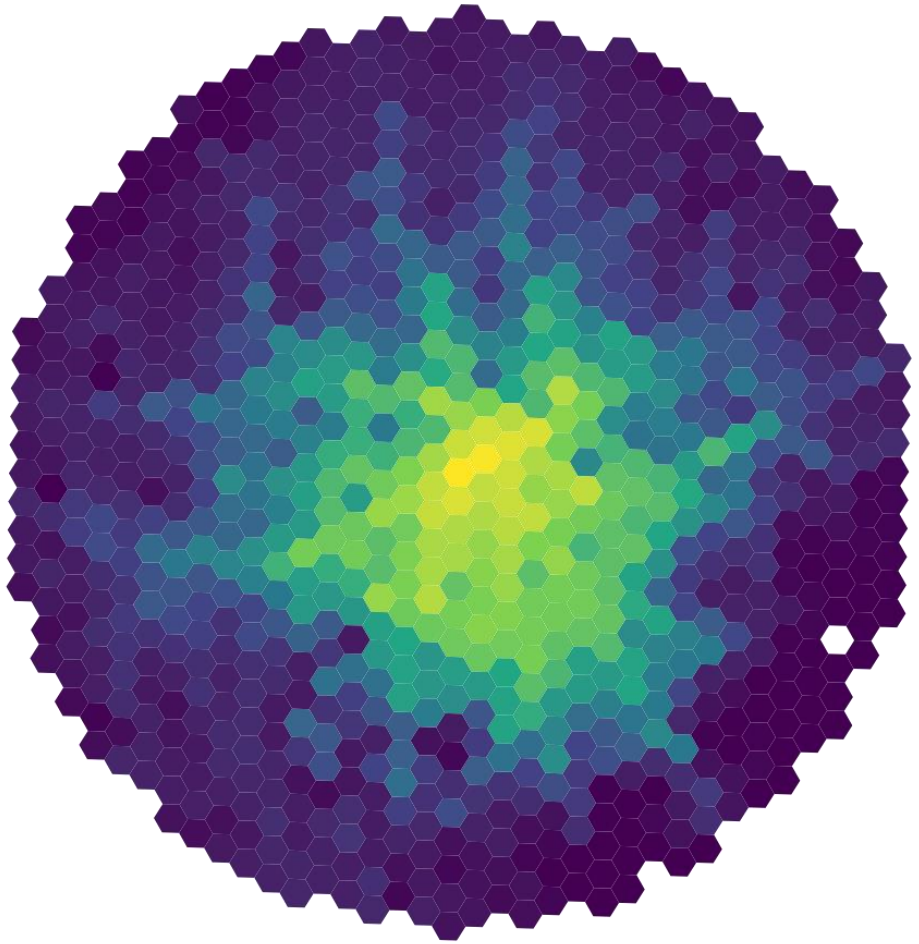
Data requirements



Data requirements:

1. Road network
2. Public transport network - *optional*
3. Topography - *optional*
4. Population
5. Land use



Good news !

There are open & globally available sources for most of these

ipea

OpenStreetMap

R packages

- {osmextract}
- {osmdata}

Websites

- Geofabrik
- HOT Export
- BBBike Extract Service

* saved in **.pbf** format

Image: GFDRR OpenStreetMap Africa & DALL-E

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Public transport data

R packages

- {tidytransit}

Websites

- Transitland
- TransitFeeds
- Mobility Database
- Government open data websites
  e.g. gtfs.ovapi.nl

* saved in **GTFS.zip** format

Image: GFDRR OpenStreetMap Africa & DALL-E

ipea

Topography

R packages

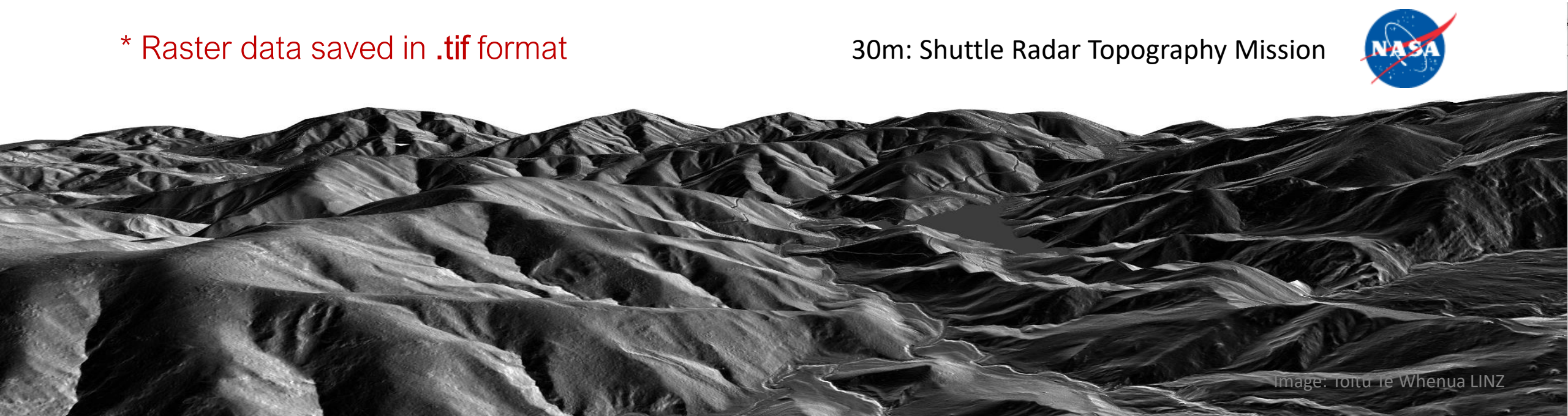
- {elevatr}
- {osmdata}

Websites

- Nasa's SRTMGL1
- NASADEM

* Raster data saved in **.tif** format

30m: Shuttle Radar Topography Mission



Population estimates

National population censuses

Gridded population estimates

- 1Km: GPW4 / Sedac
- 100m - 1Km: WorldPop
- 100m and 1Km: GHSL / European commission
- 30m: Meta Data for Good

* Some spatial aggregation

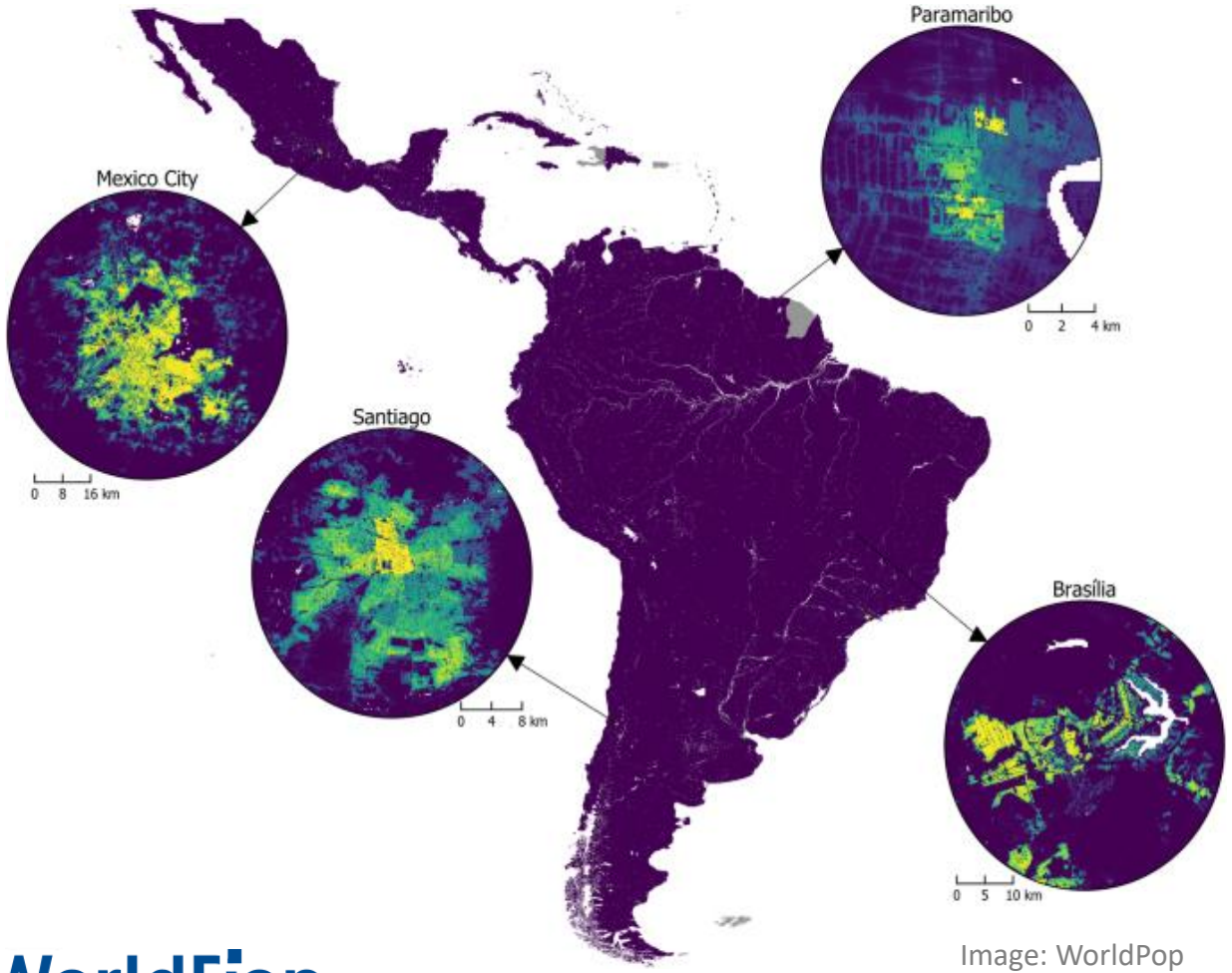


Image: WorldPop

Land use data

Scattered source:

- Household (travel) surveys
- Administrative records
- OpenStreetMap (caution)

R packages

- USA {tidycensus} and {lehdr}
- Brazil {censobr} and {aopdata}

* Some spatial aggregation

Image: TUM

A crash course on

Urban accessibility with R

Rafael H. M. Pereira

@UrbanDemog

ipea Institute for Applied Economic Research