

Welcome to **instats**

The Session Will Begin Shortly

START

Spatial Data Analysis and Visualization in R

Session 13: Creating Cartograms with the R package
`tmap.cartogram`

instats

Creating Cartograms with R

- Learn how to create cartograms using **tmap.cartogram**
- Explore different cartogram types: contiguous, non-contiguous, and Dorling
- Understand how to integrate cartograms into thematic maps with **tmap**

Required Packages

```
library(sf)  
library(tmap)  
library(tmap.cartogram)  
  
Africa = World[World$continent == "Africa", ]
```

Contiguous Cartogram

- Distorts regions proportionally to a variable (e.g., population)
- Maintains geographic contiguity

```
tm_shape(Africa) +  
  tm_cartogram(size = "pop_est")
```

Non-Contiguous Cartogram

- Scales regions independently based on a variable
- Preserves shapes but allows gaps between regions

```
tm_shape(Africa) +  
  tm_cartogram_ncont(size = "pop_est")
```


Dorling Cartogram

- Represents regions as non-overlapping circles
- Circle size corresponds to a variable (e.g., population)

```
tm_shape(Africa) +  
  tm_cartogram_dorling(size = "pop_est")
```

Animation

Put an `*` before the variable name

```
tm_shape(Africa) +  
  tm_cartogram(fill = "HPI",  
               fill.scale = tm_scale_continuous(values = "pu_gn"),  
               size = "*pop_est")
```

Practice Task

1. Load a spatial dataset of your choice
2. Create each type of cartogram using a relevant variable
3. Customize the appearance using **tmap** functions

Resources

- **tmap.cartogram** documentation: <https://r-tmap.github.io/tmap.cartogram/>
- **tmap** package: <https://cran.r-project.org/package=tmap>

Recap

- **tmap.cartogram** extends **tmap** to create various cartogram types
- Cartograms provide alternative ways to visualize spatial data
- Integrate cartograms into thematic maps for insightful representations

STOP