



Embracing R in the Geospatial Community

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RStudio::Conf 2020

@TinaACormier 

<https://github.com/tacormier/rstudio-conf-2020> 

Geospatial Analysts are a Diverse Group



How Do We Work, and How Does R Fit in?

Questions Responses 307



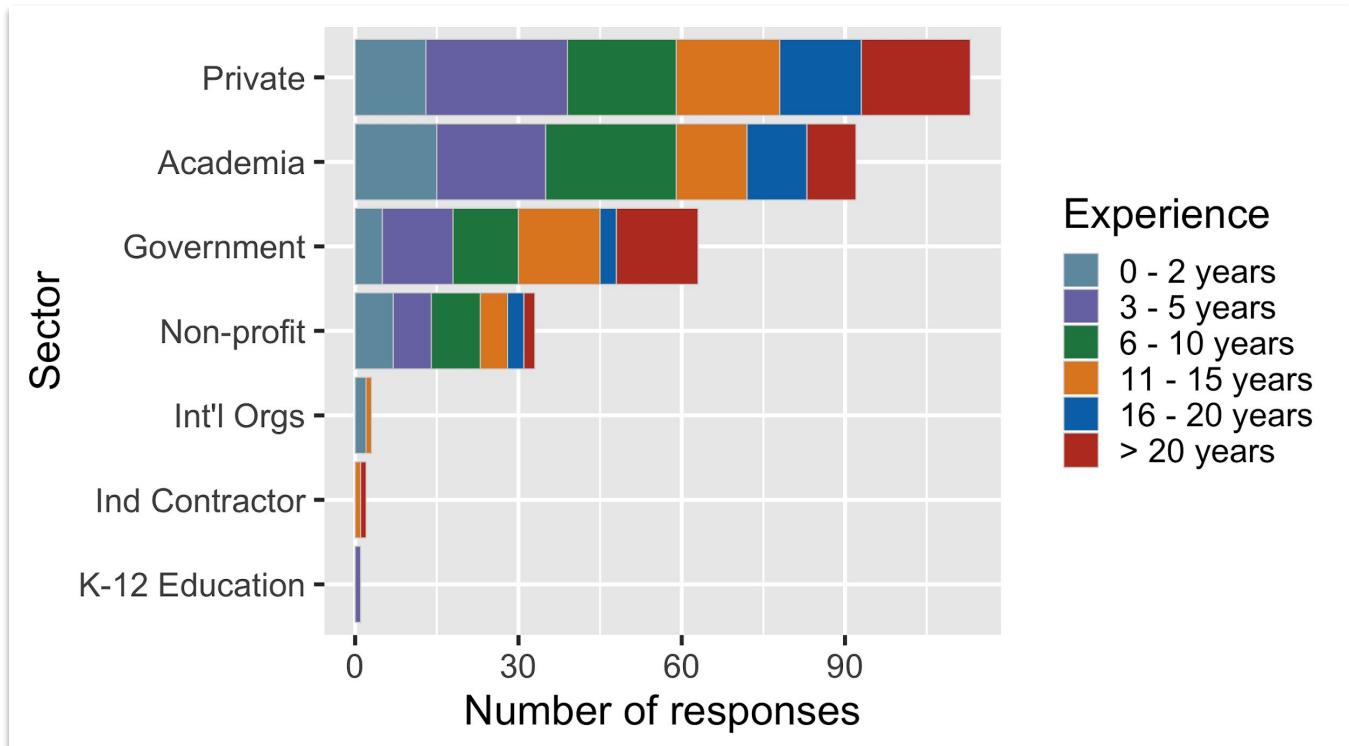
Section 1 of 5

Tools of the [Geospatial] Trade

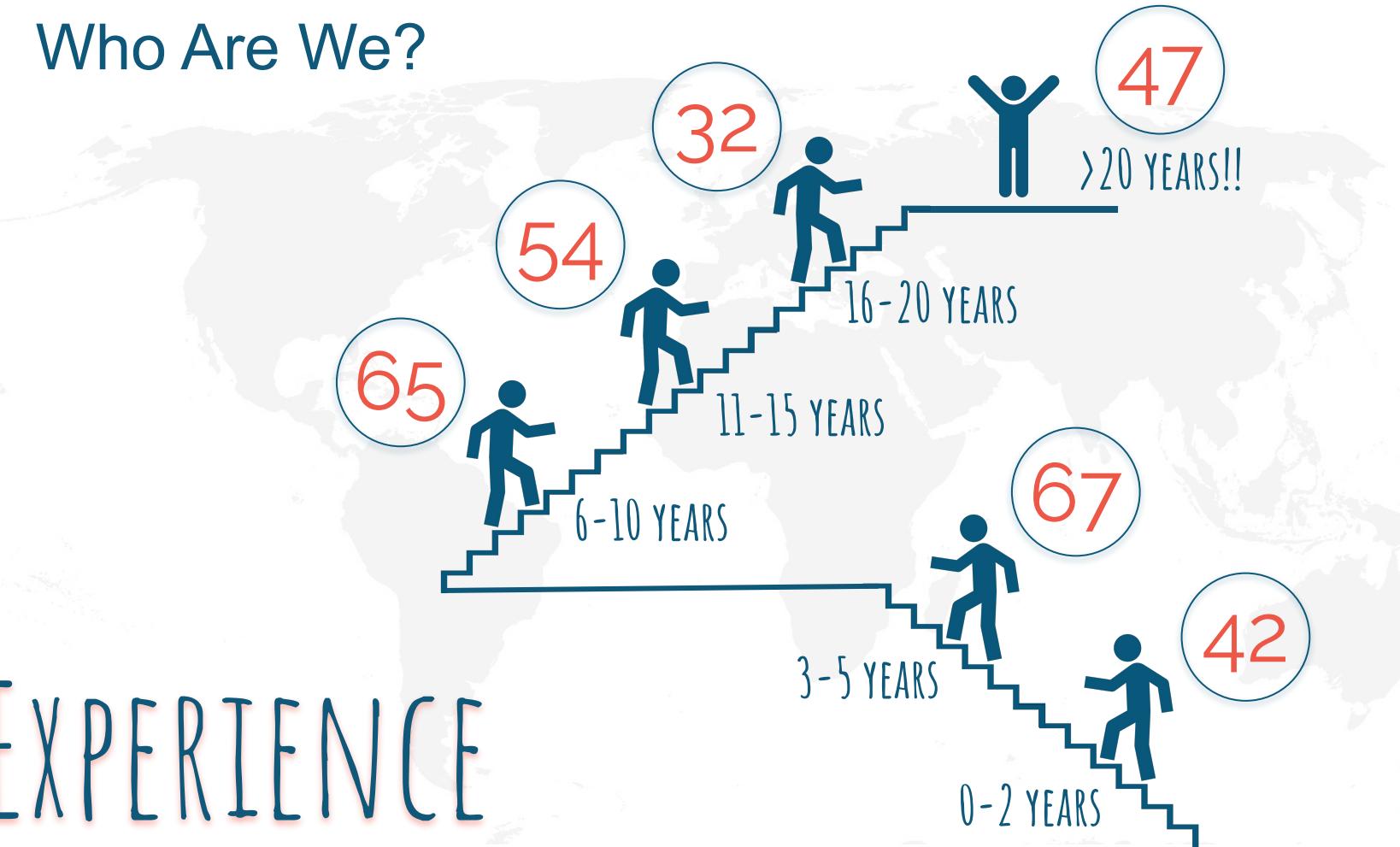
As part of a presentation to the R user community at RStudio::Conf 2020, I will be reporting on software tools used by geospatial analysts across industries and sectors. To do so, I need your help! If you work with spatial data, I am

Who Answered the Survey?

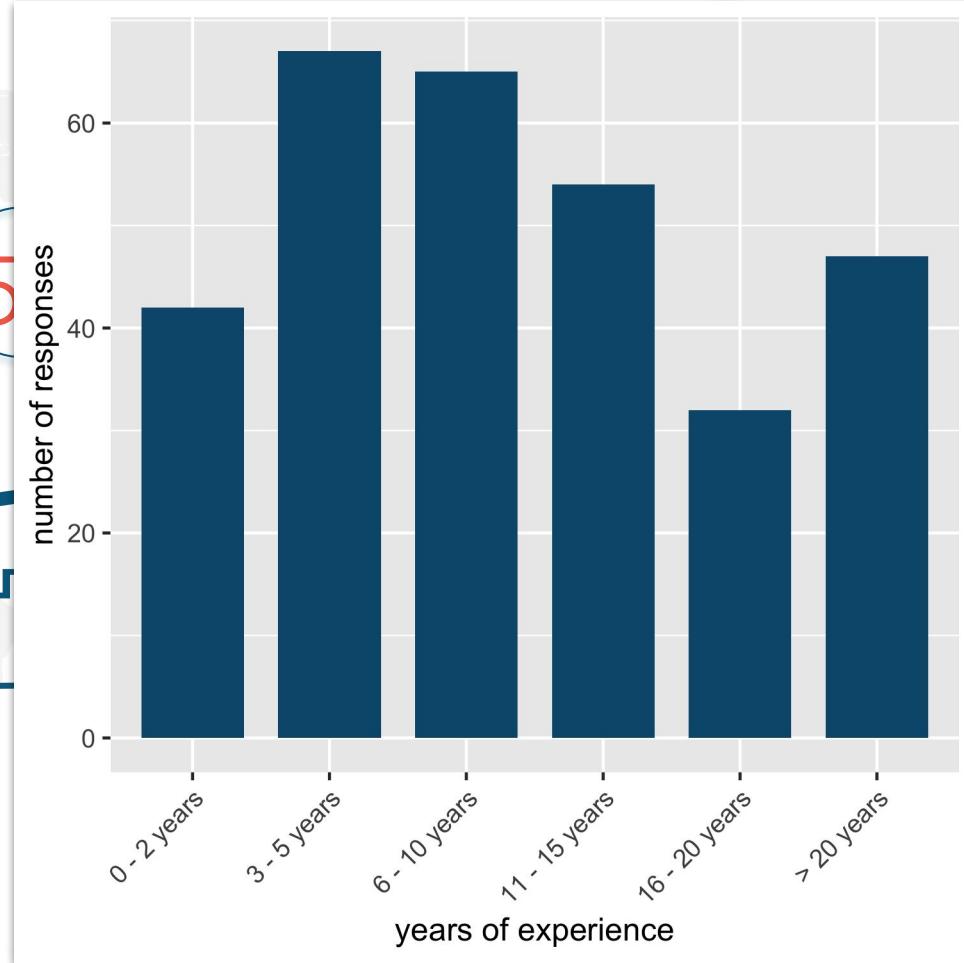
N=307
ANALYSTS FROM ACROSS
SECTORS AND EXPERIENCE
LEVELS PARTICIPATED IN
THIS INFORMAL STUDY



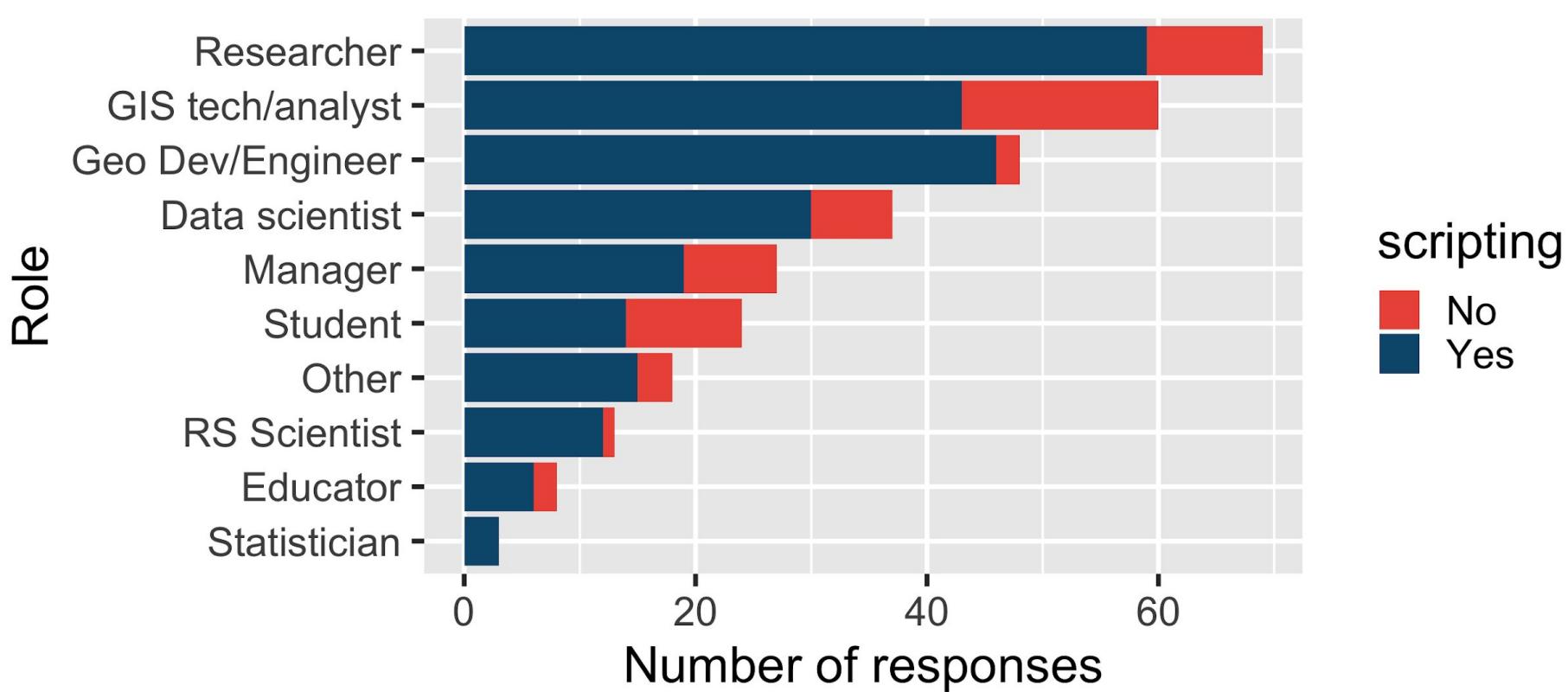
Who Are We?



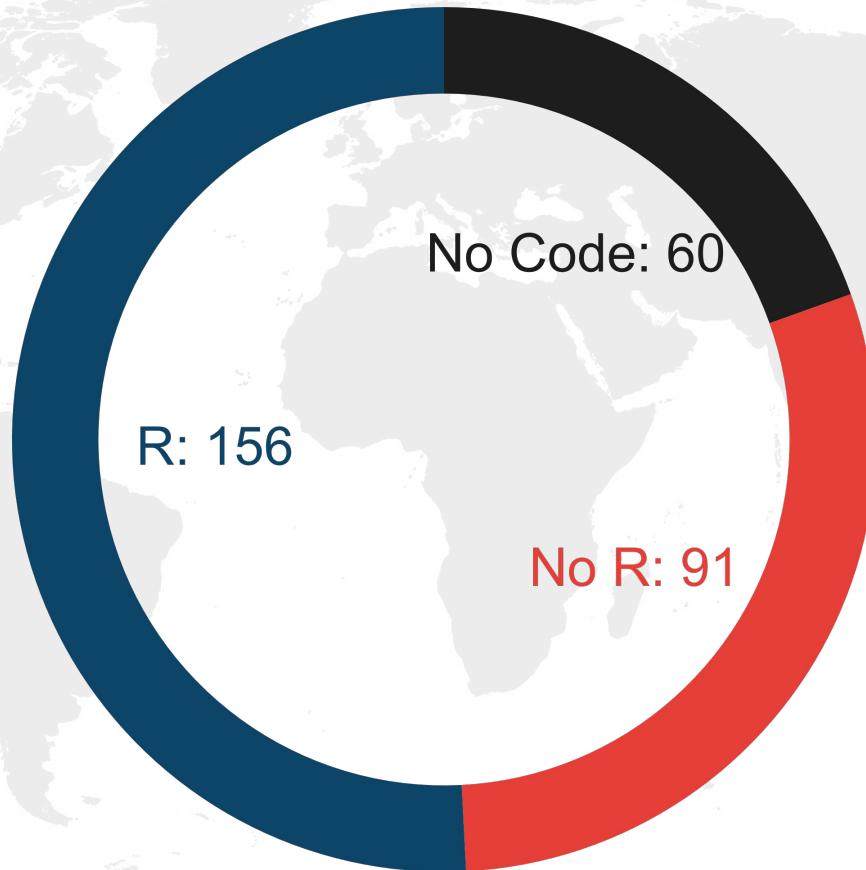
Who Are We?



Participant Roles

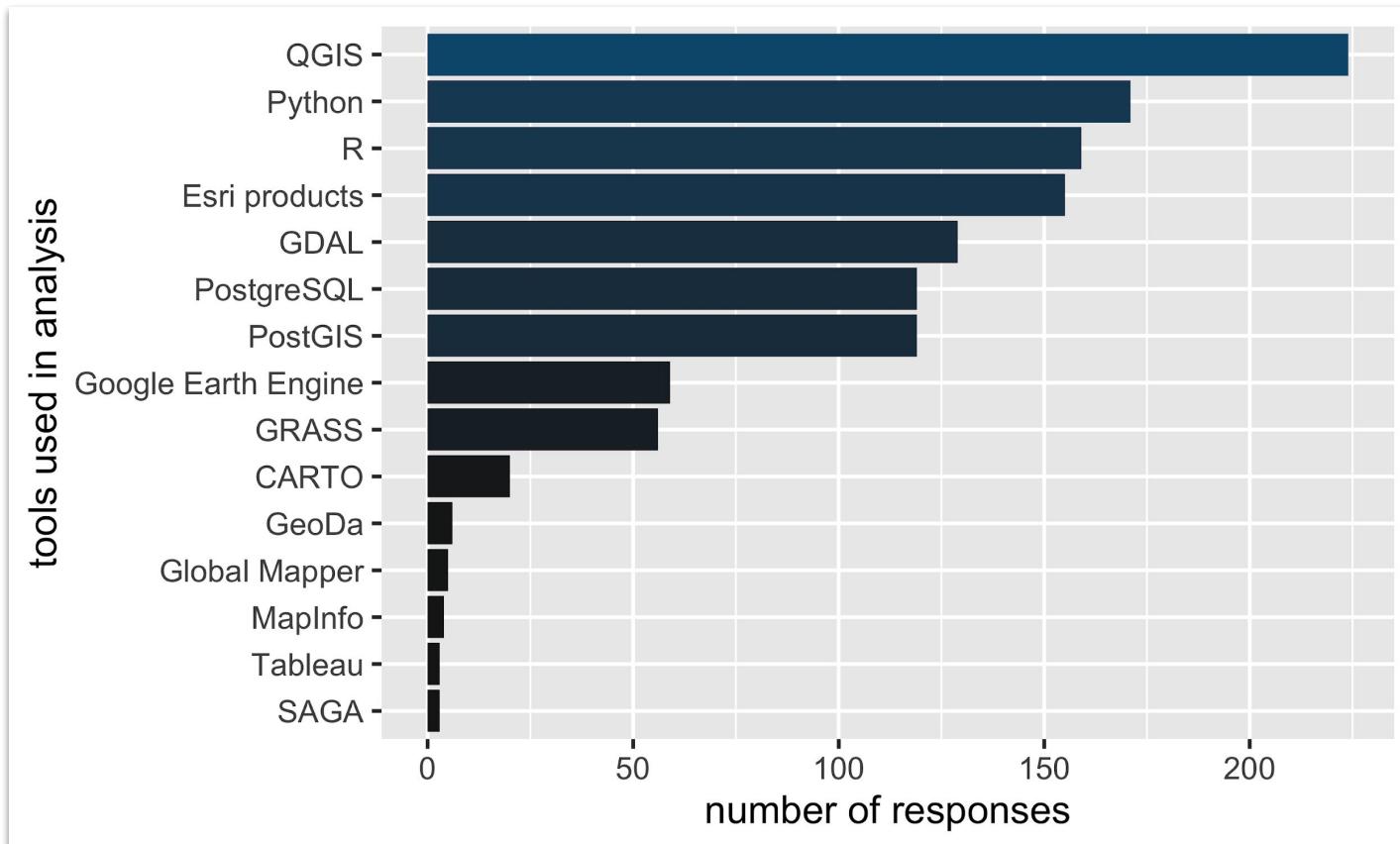


How do Participants Tackle Their Work?



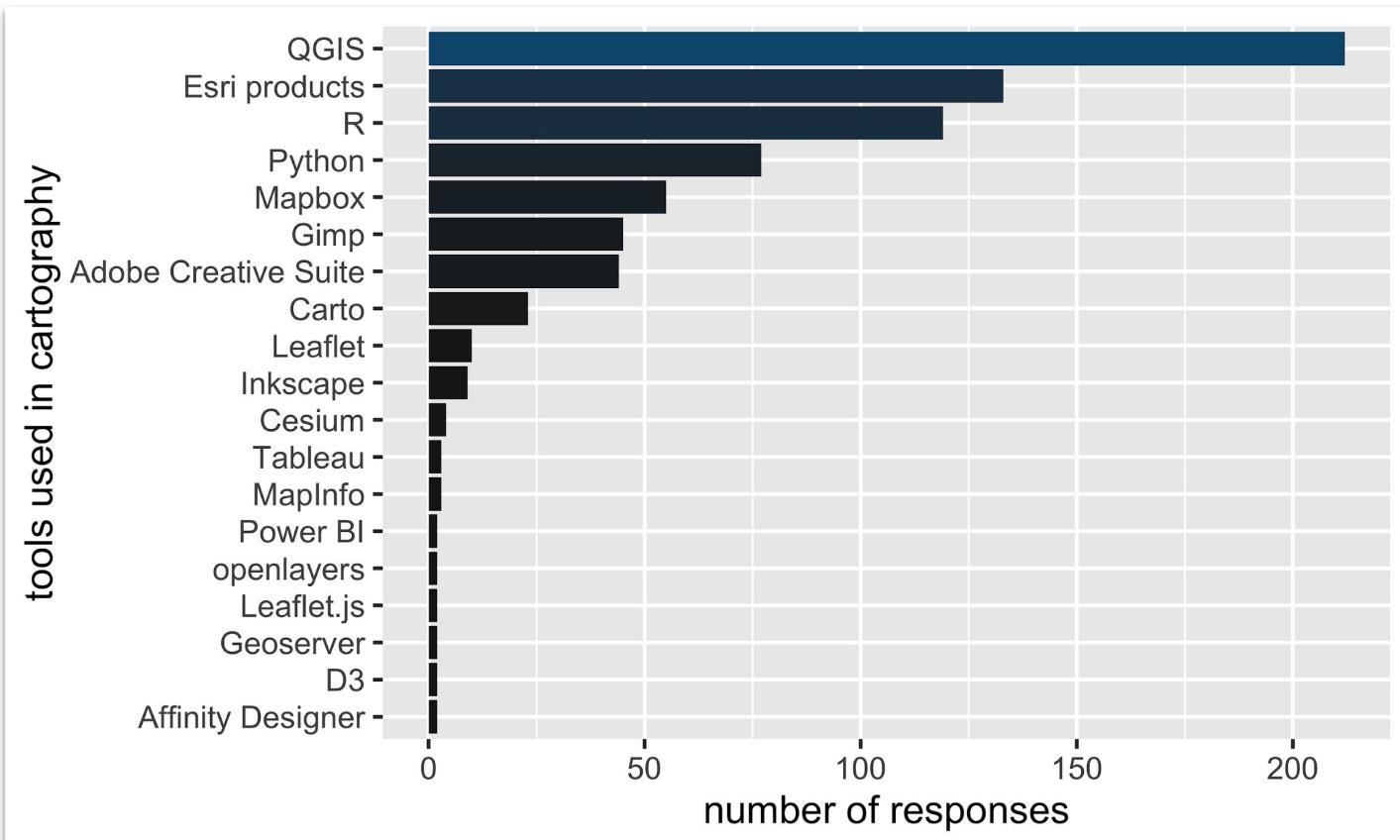
How do Participants Tackle Their Work?

ANALYSIS

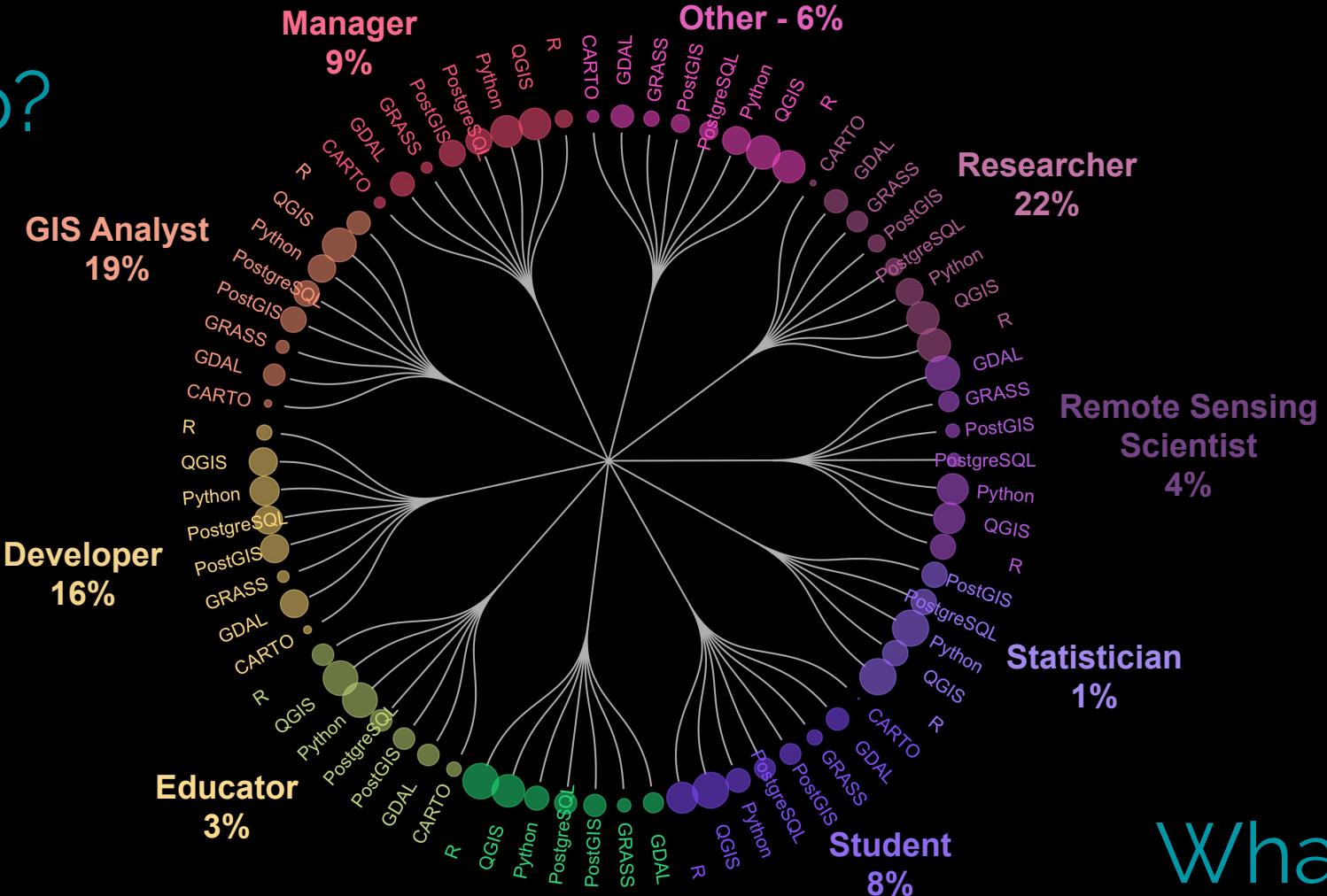


How do Participants Tackle Their Work?

CARTOGRAPHY



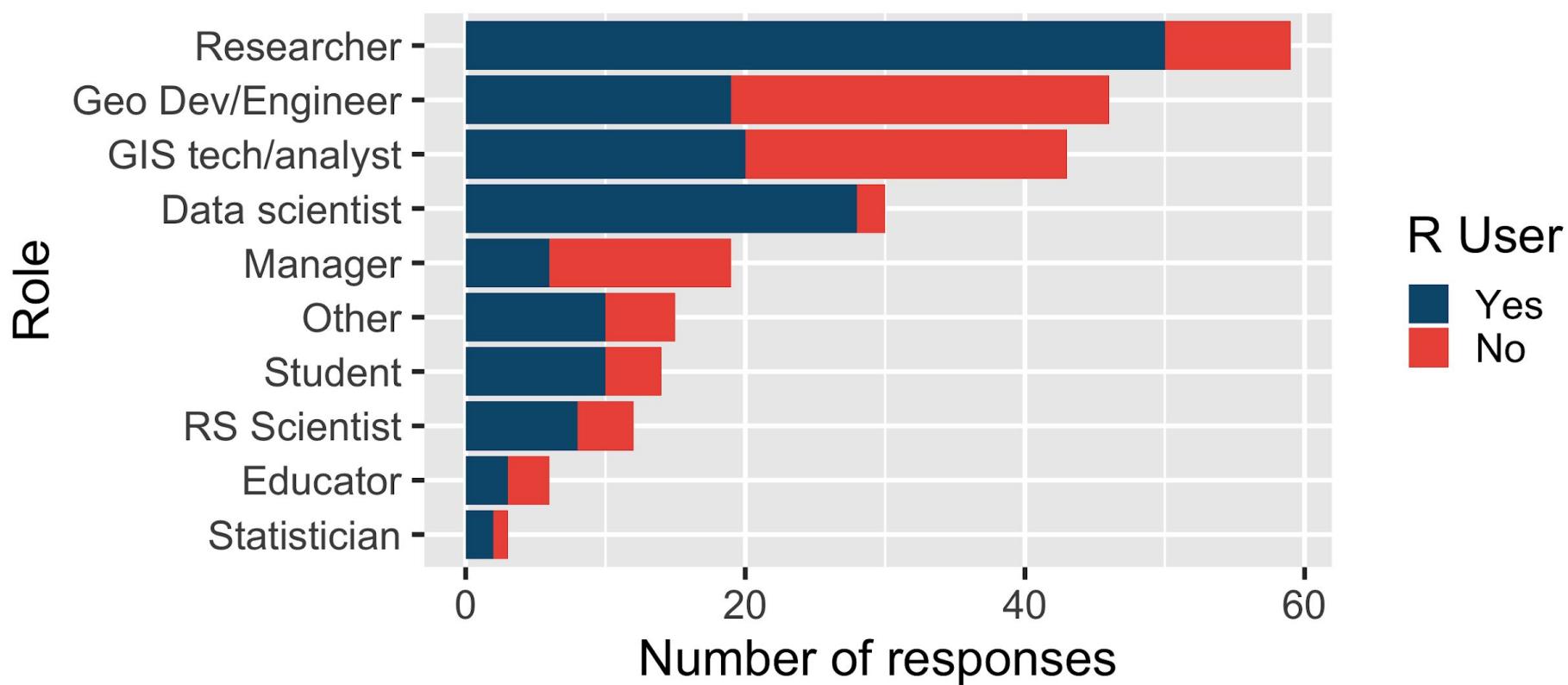
Who?



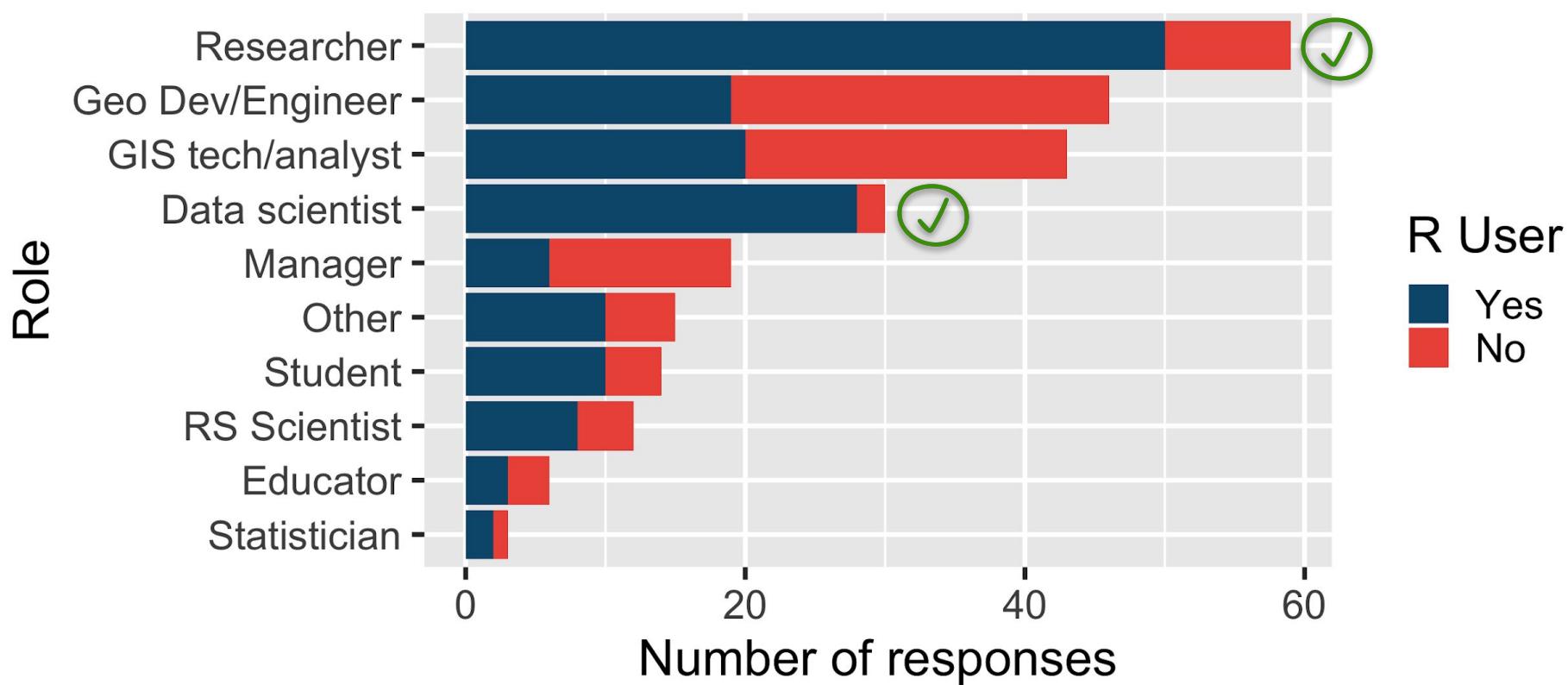
What?

DS - 12%

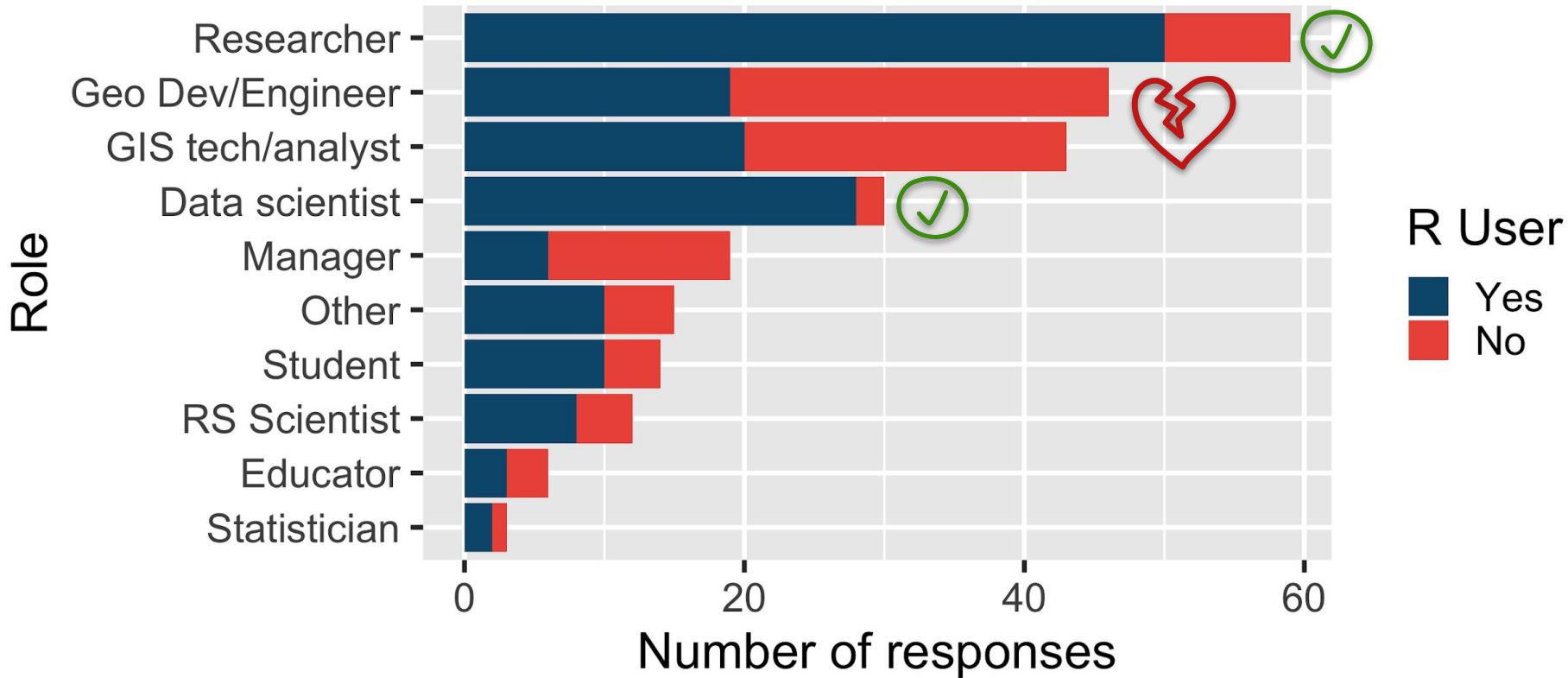
Of the Programmers, Who Uses R?



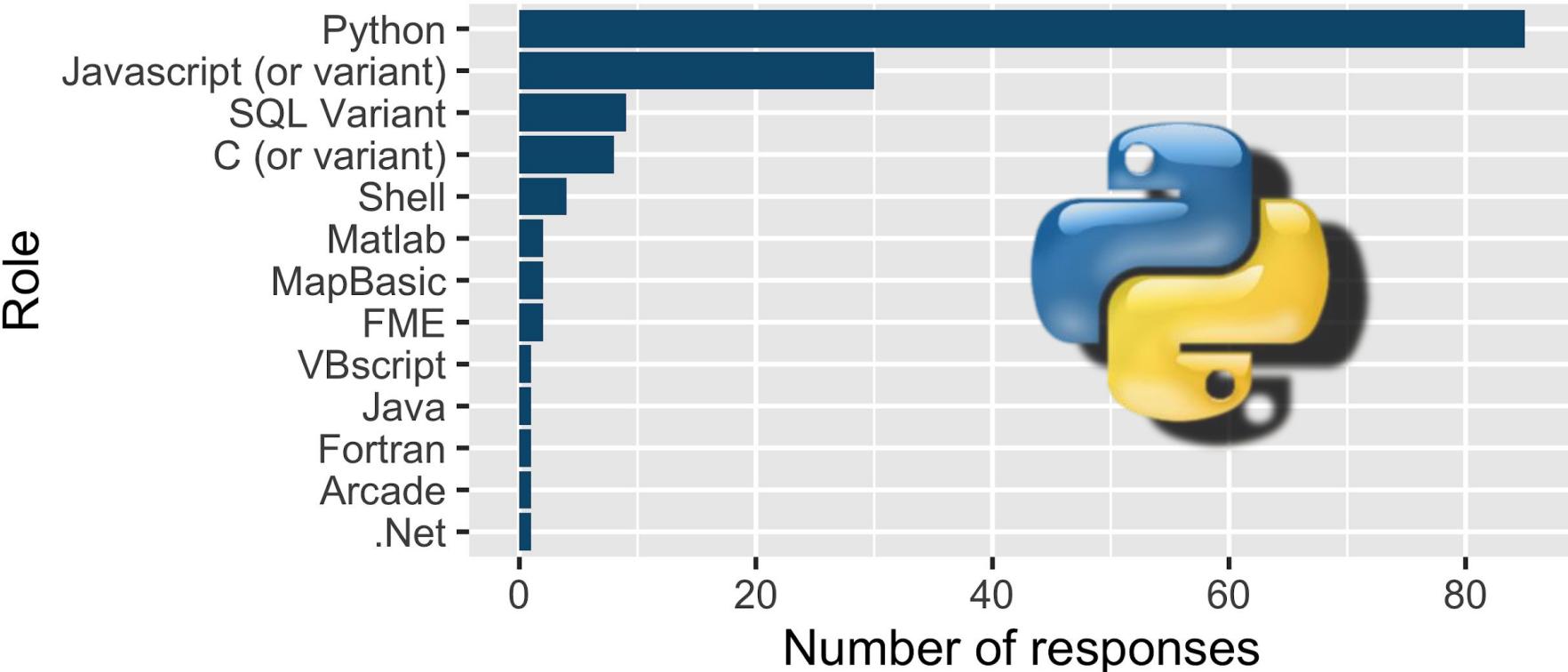
Of the Programmers, Who Uses R?



Of the Programmers, Who Uses R?



If You're NOT Using R, What are you Doing?



What's Missing for R to make a Bigger impact in Geo?



What's Missing for R to make a Bigger Impact in Geo?

“The #1 limitation is that no developers know R. Hiring good developers is already challenging - having R as a requirement makes it nearly impossible”

“Python is the golden nugget - managed to bring scientists and developers together.”

“R is a niche scripting language. Python goes more into data science than R goes into dev. “

What's Missing for R to make a Bigger Impact in Geo?

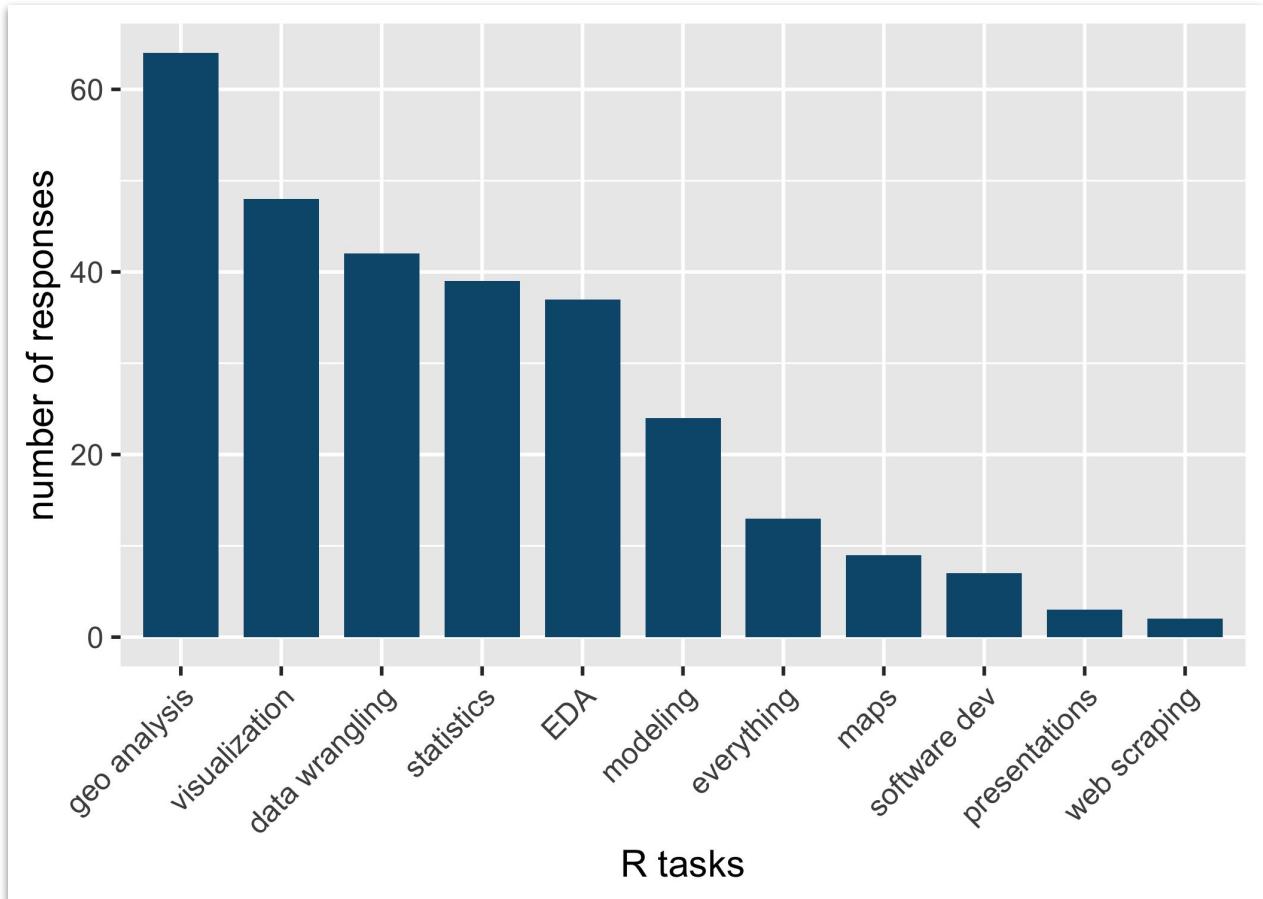
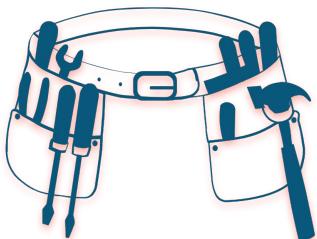
“The ability scale up while keeping resources in check is paramount. R has historically been unable to control memory.”

“R is a very good and easy way to script algorithms. But if you go with python, you get 99% of DS w/ 100% of modern dev capabilities.”

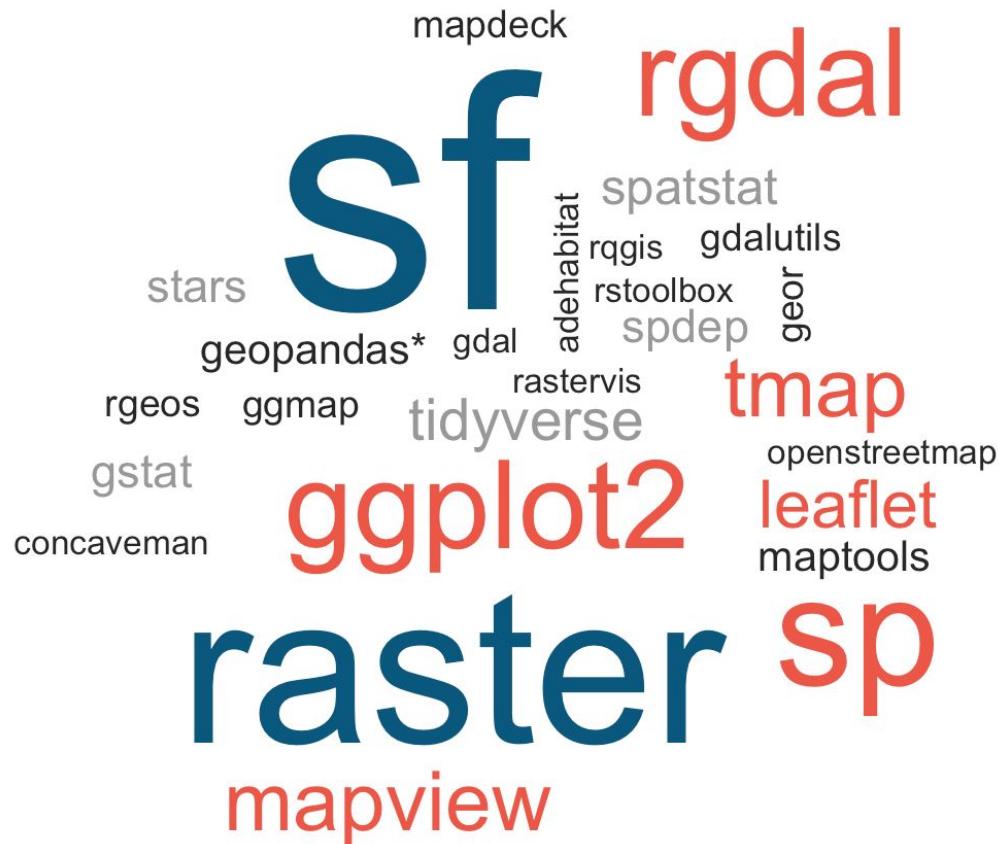
“I still think making a beautiful map is harder in R than Arc/Q + Illustrator. I prefer zooming around in Q and often have it open when I have R open.”

Where Does R Shine?

ALL OF THE
EXPECTED THINGS



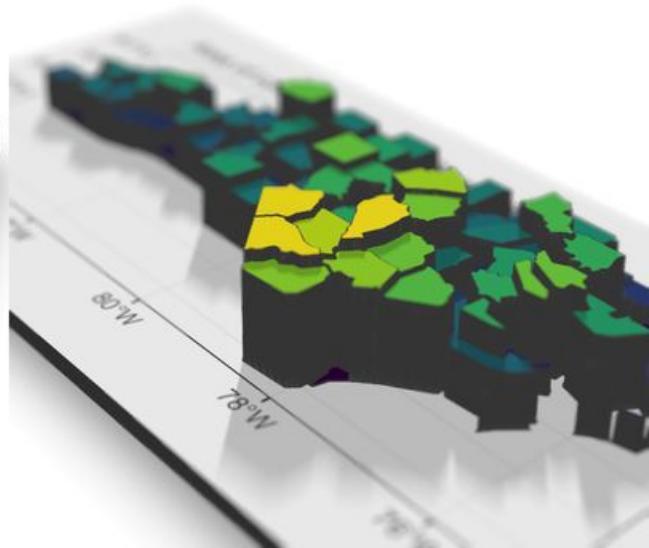
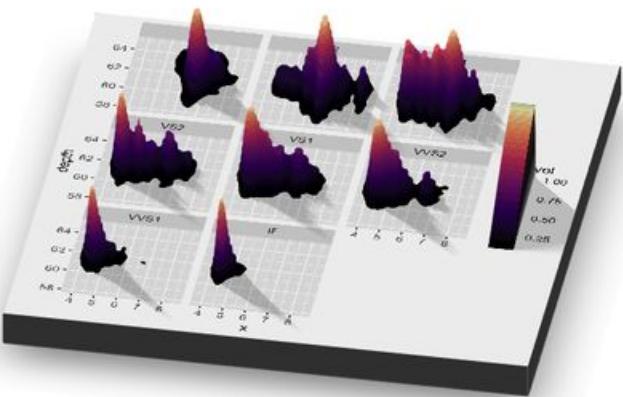
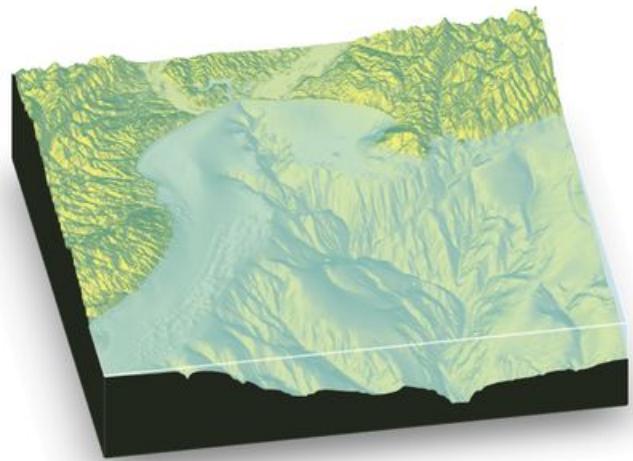
Favorite Packages for Geo



Surprises and New [to me] Packages

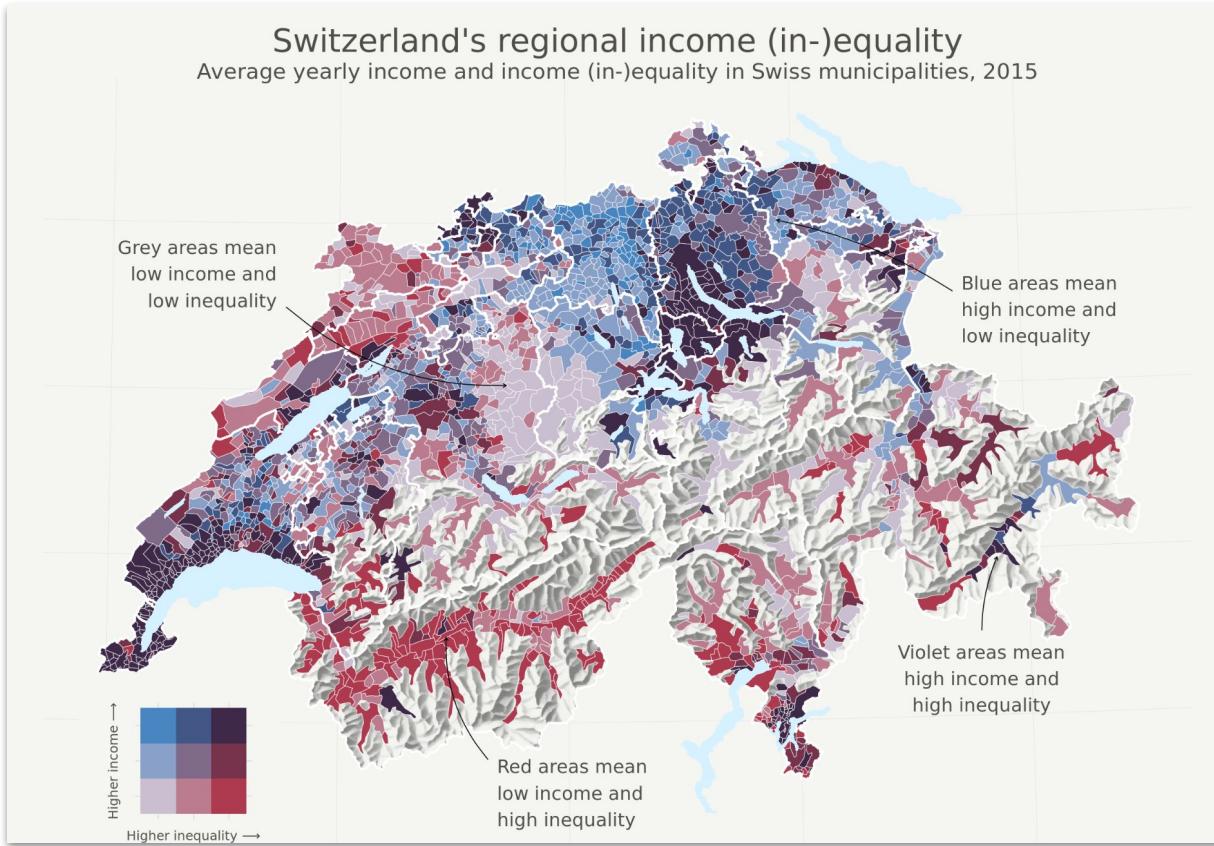
- Stars - Spatiotemporal Arrays, Raster and Vector Data Cubes
- Mapdeck - for plotting large datasets on interactive maps (mapbox, deck.gl)
- Geosphere - Spherical Trigonometry
- Rayshader - 2D and 3D interactive data visualizations

Eye Candy - Maps with R



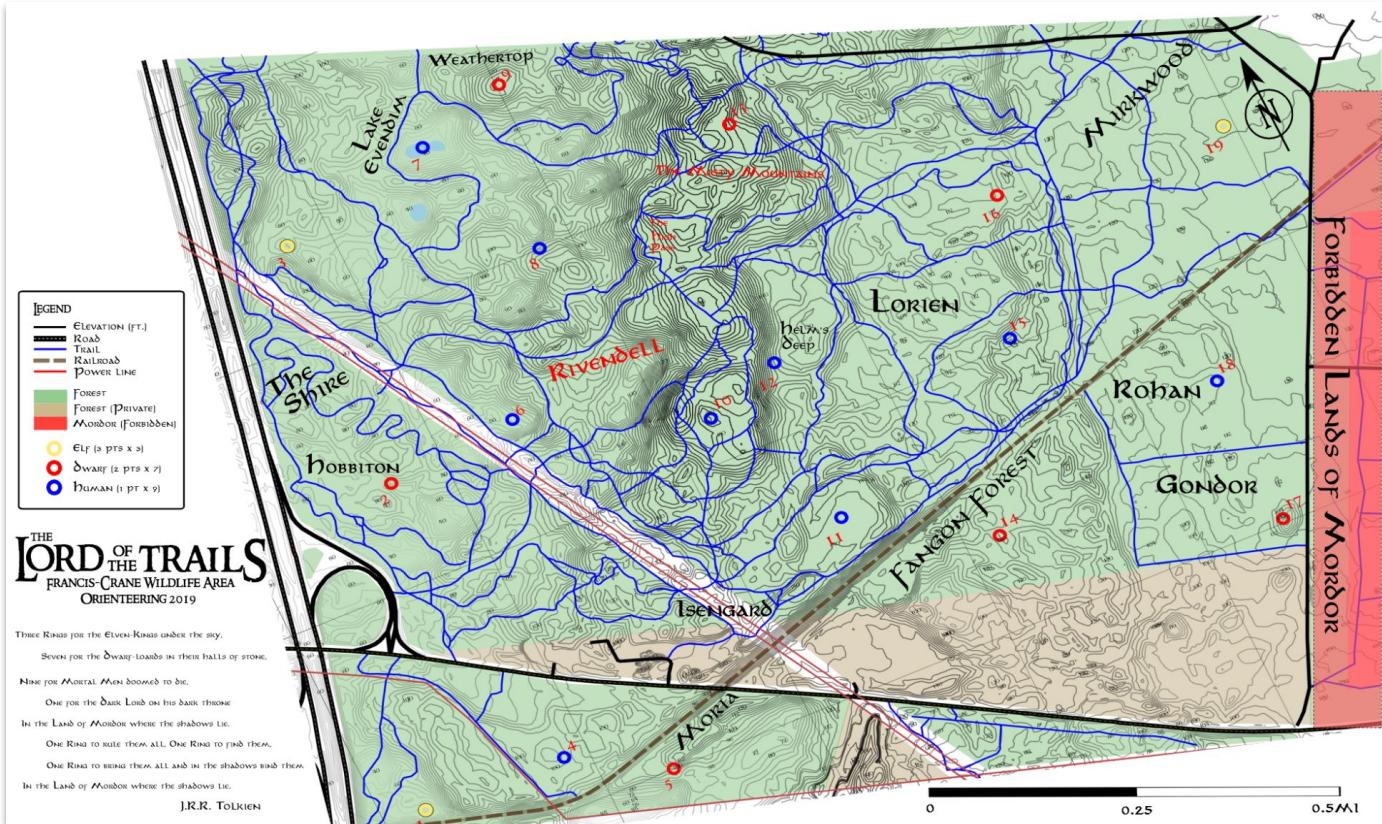
Source: Tyler Morgan-Wall <https://github.com/tylermorganwall/rayshader>

Eye Candy - Maps with R



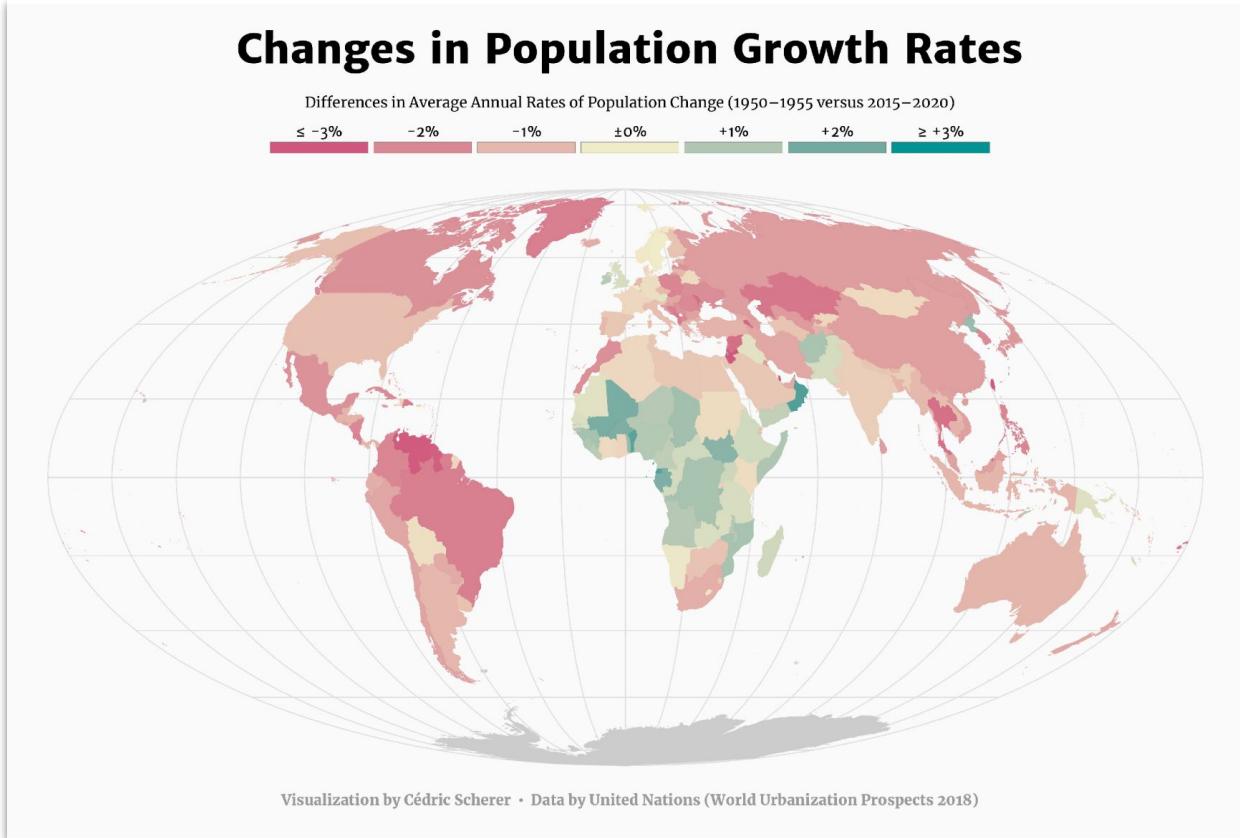
Source: Timo Grossenbacher <https://timogrossenbacher.ch/2019/04/bivariate-maps-with-ggplot2-and-sf/>

Eye Candy - Maps with R



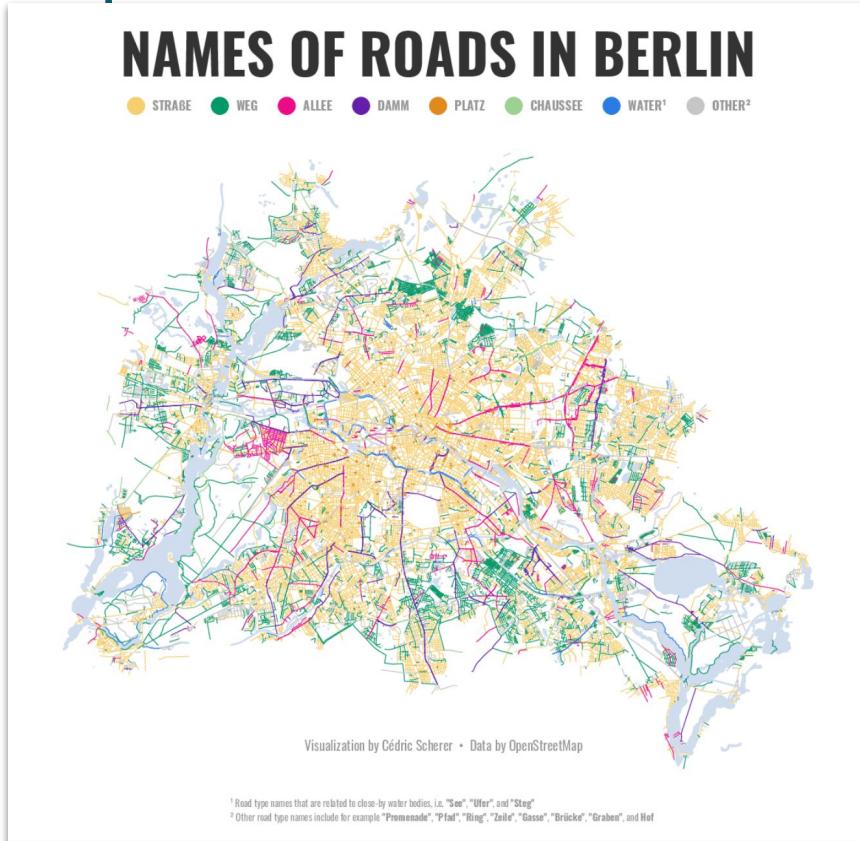
Source: Sean Hardison <https://github.com/seanhardison1/orienteering/tree/master/R>

Eye Candy - Maps with R



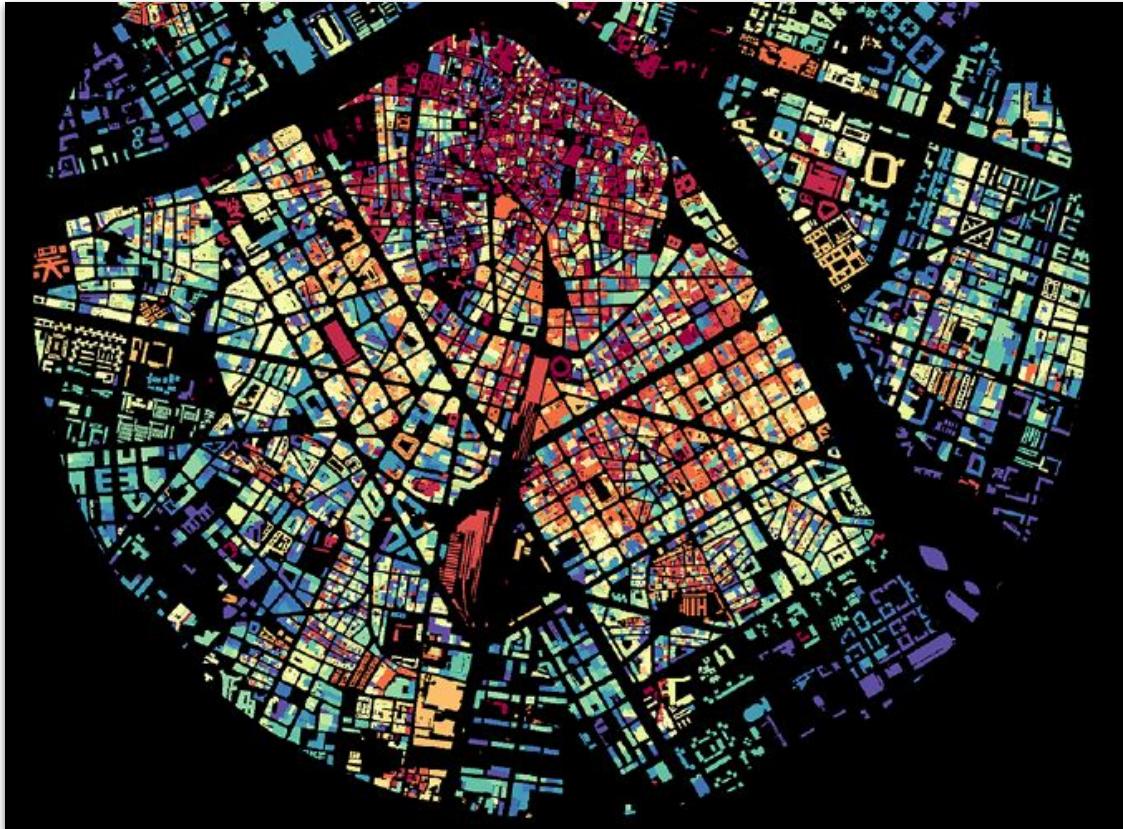
Source: Cédric Scherer <https://github.com/Z3tt/30DayMapChallenge>

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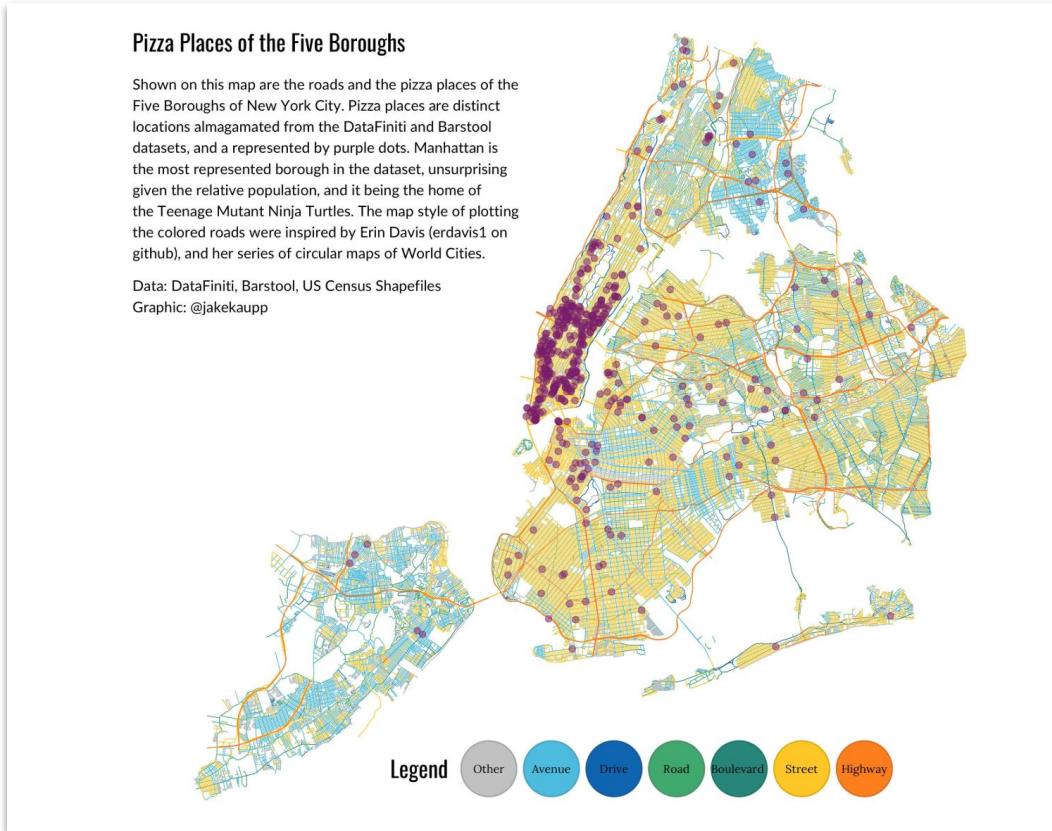
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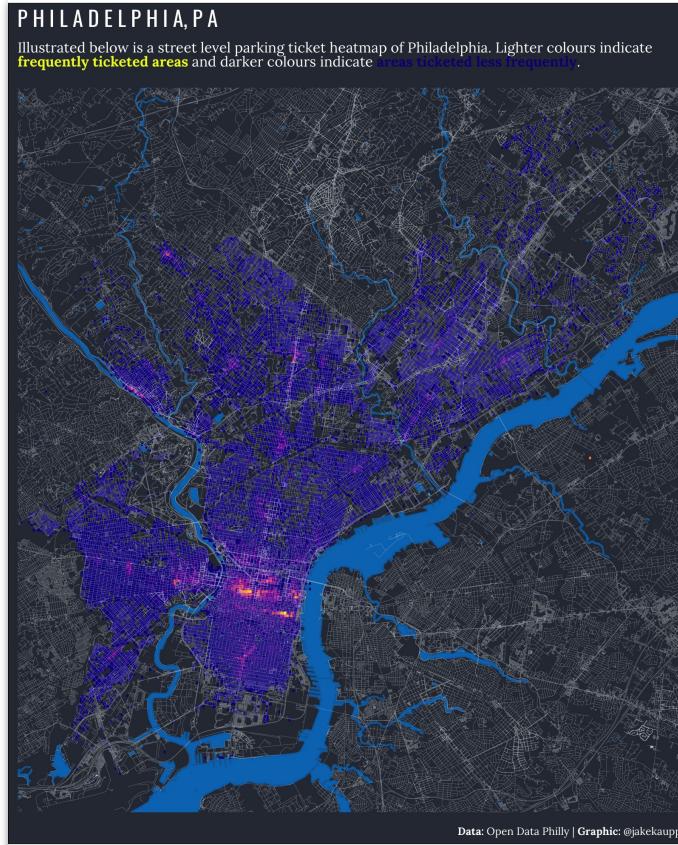
Source: Dominic Royé <https://dominicroye.github.io/en/2019/visualize-urban-growth/>

Eye Candy - Maps with R



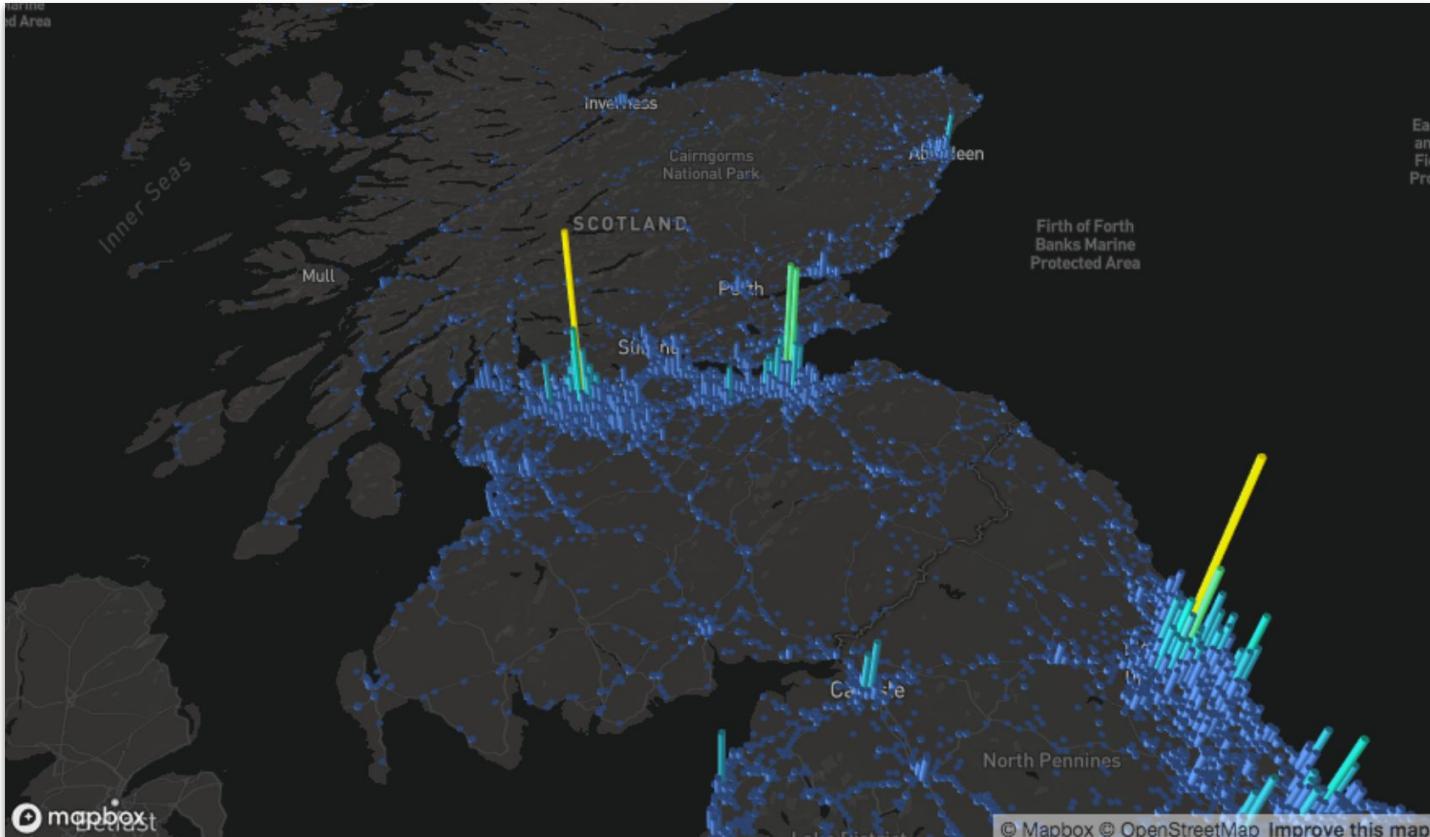
Source: Jake Kaupp <https://github.com/jkaupp/tidytuesdays/blob/master/2019/week40/R/analysis.R>

Eye Candy - Maps with R



Source: Jake Kaupp <https://github.com/jkaupp/tidytuesdays/blob/master/2019/week49/R/analysis.R>

Eye Candy - Maps with R



Source: David Cooley <https://symbolixau.github.io/mapdeck/articles/layers.html#arcs>

Questions?

