

## Scientist by

→ population and community dynamics, movement ecology, wildlife diseases

- **M.Sc. in *Ecology, Evolution & Nature Conservation***

*University of Potsdam 2011–2014*

- **Ph.D. in *Ecology***

*Research Training Group "BioMove" 2015–2019*

- **PostDoc in *Computational Ecology***

*Leibniz Institute for Zoo and Wildlife Research (IZW) 2019–*



## DataViz Specialist by

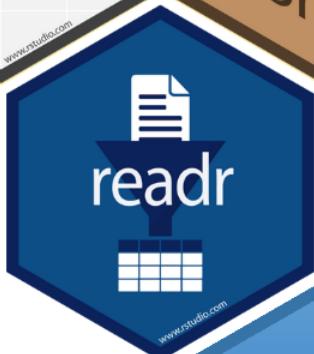
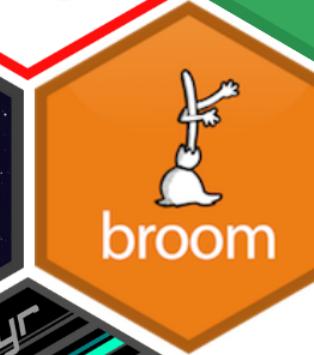
→ analyst, designer, consultant, workshop instructor

- **Freelancing Data Visualization Designer**

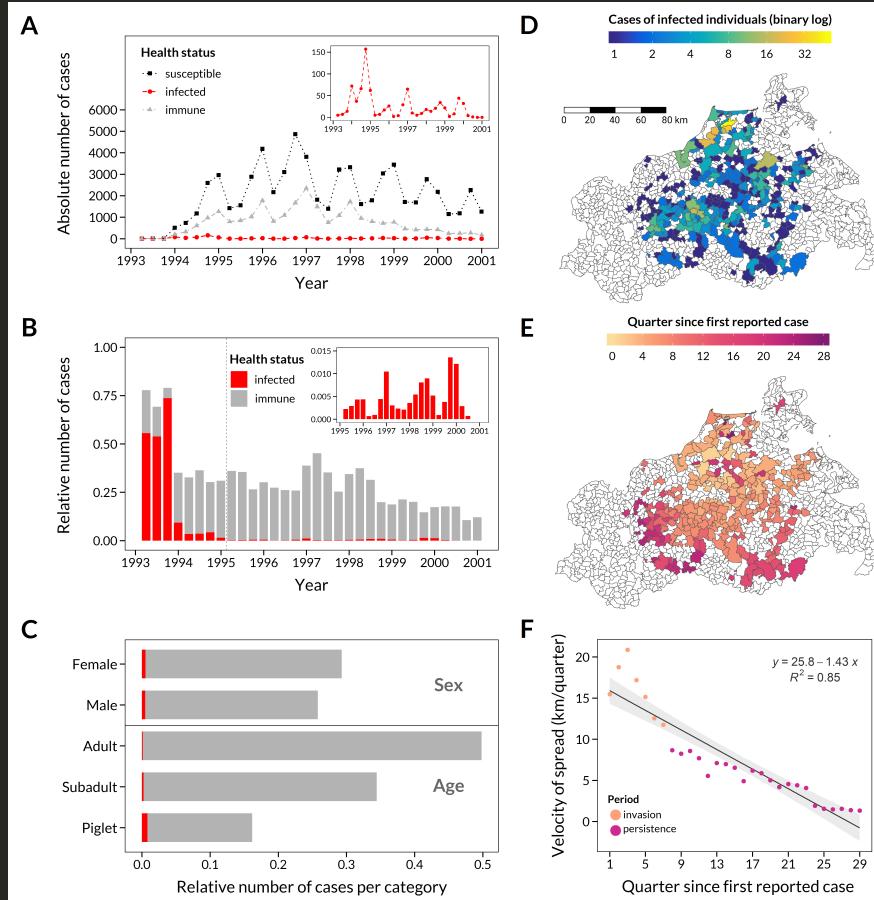
- **Data Challenges and Personal Projects**

*#TidyTuesday, #30DayMapChallenge, #MakeoverMonday, #SWDchallenge*

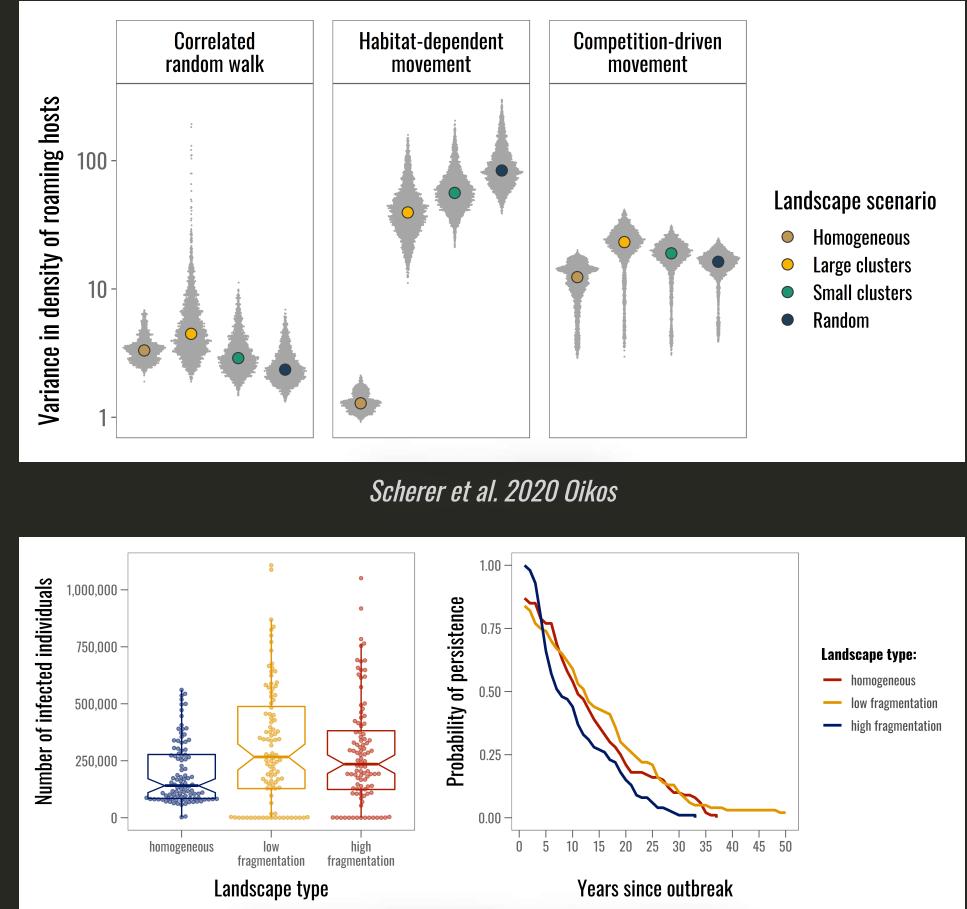
Scientist by  DataViz Specialist by 



# Data Visualizations for Scientific Publications & Talks

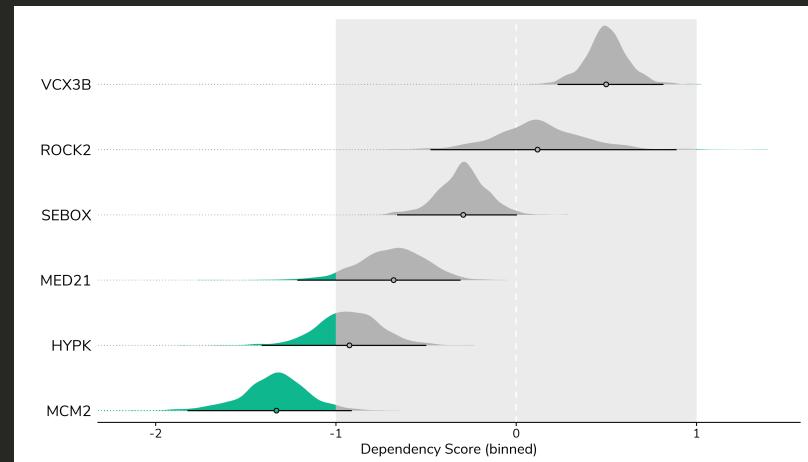
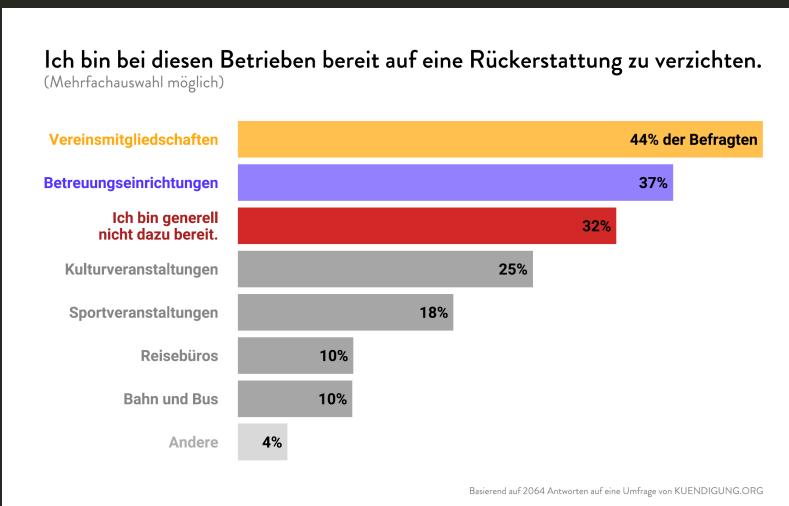
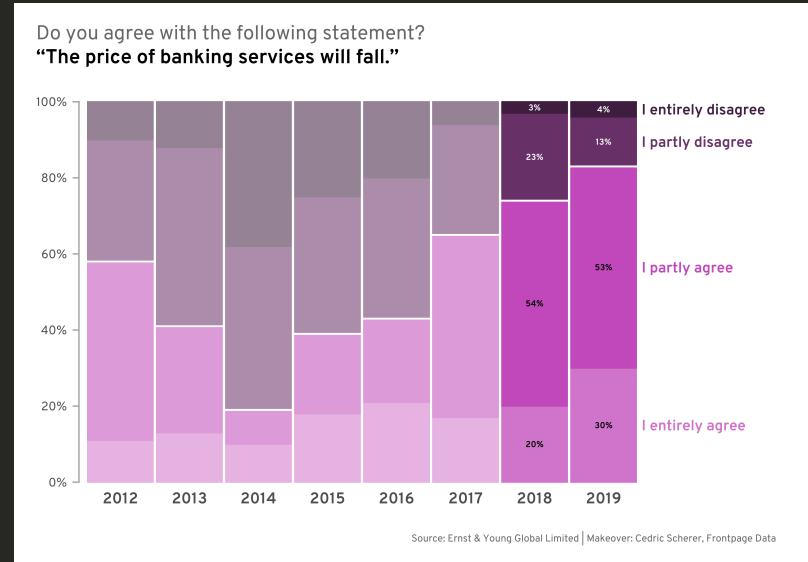
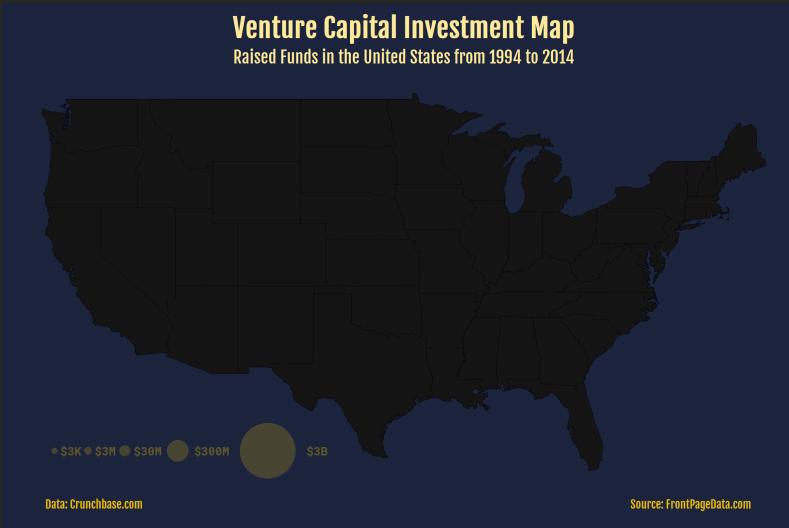


Scherer et al. 2019 *Journal of Animal Ecology*

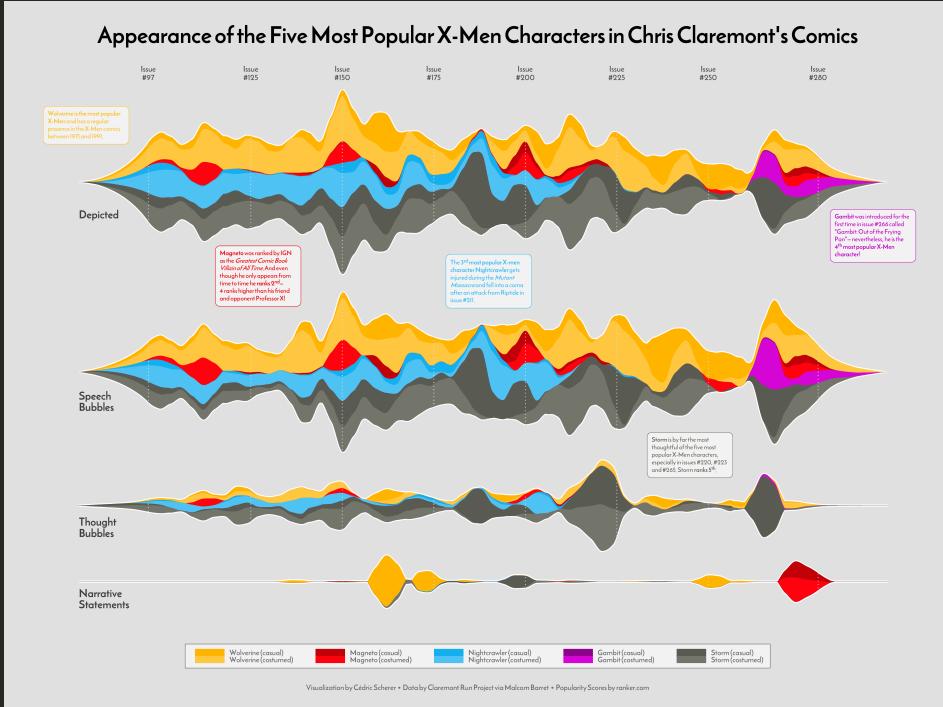


Sciaini et al. 2019 *Methods in Ecology & Evolution*

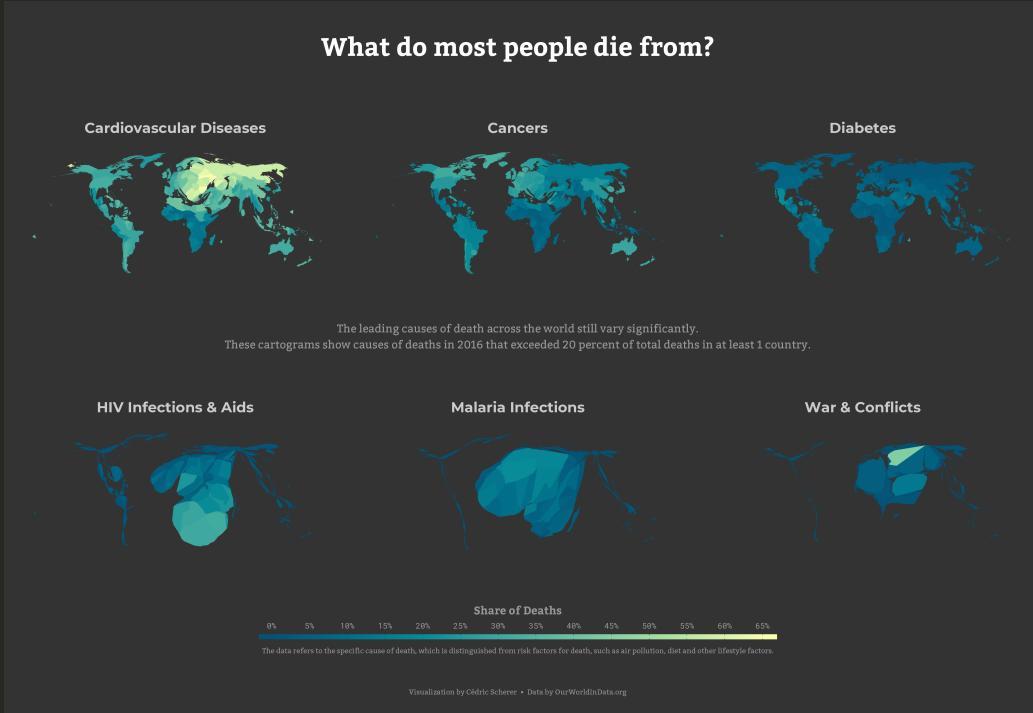
# Data Visualizations for Client Projects



# Data Visualizations as Challenge Contributions



*Contribution to #TidyTuesday*



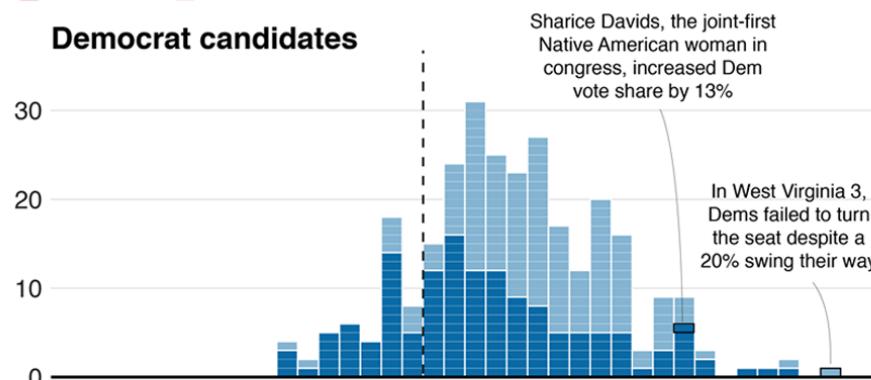
*Contribution to #30DayMapChallenge*

# The **ggplot2** Showcase

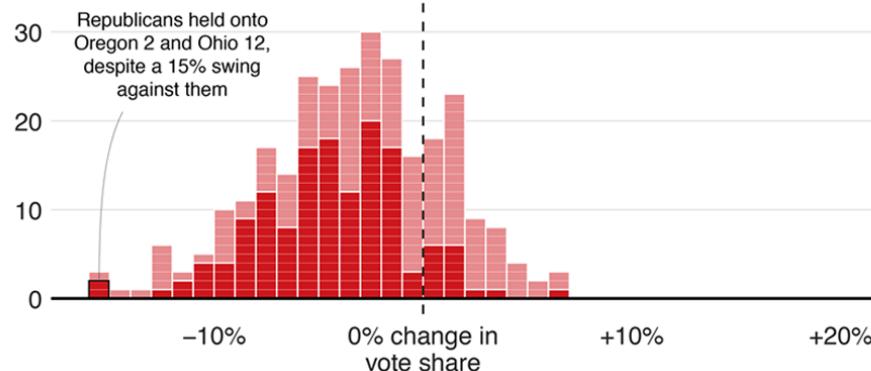
## Blue wave

■ Won seat ■ Didn't win

### Democrat candidates

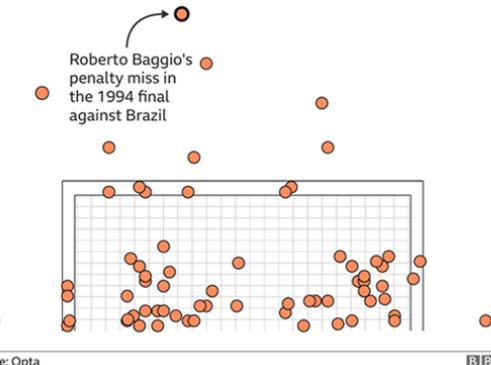


### Republican candidates



## Where penalties are saved

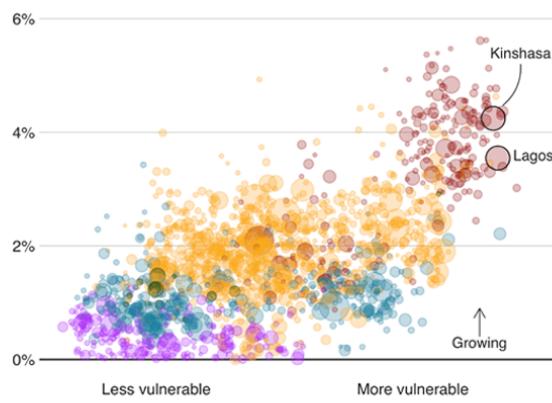
World Cup shootout misses and saves, 1982-2014



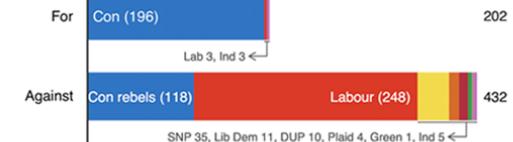
## Fast-growing cities face worse climate risks

Population growth 2018-2035 over climate change vulnerability

■ Africa ■ Asia ■ Americas ■ Europe ■ Oceania

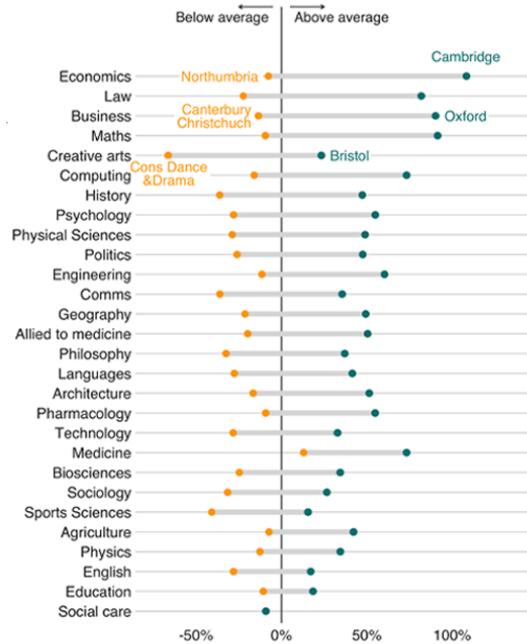


## MPs rejected Theresa May's deal by 230 votes



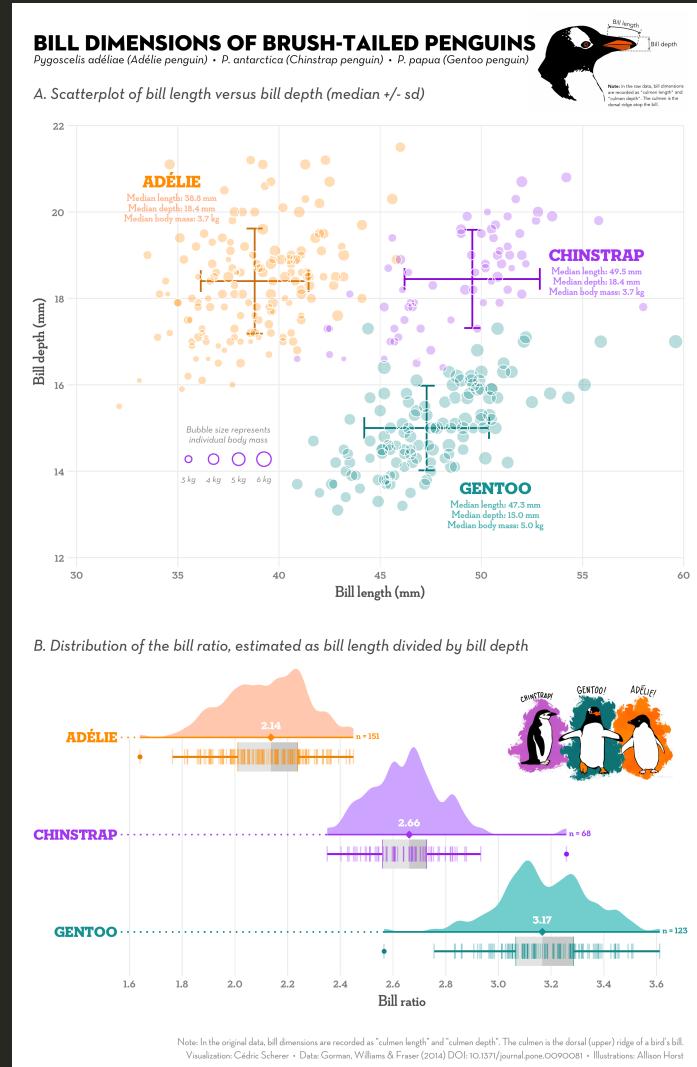
## Earnings vary across unis even within subjects

Impact on men's earnings relative to the average degree

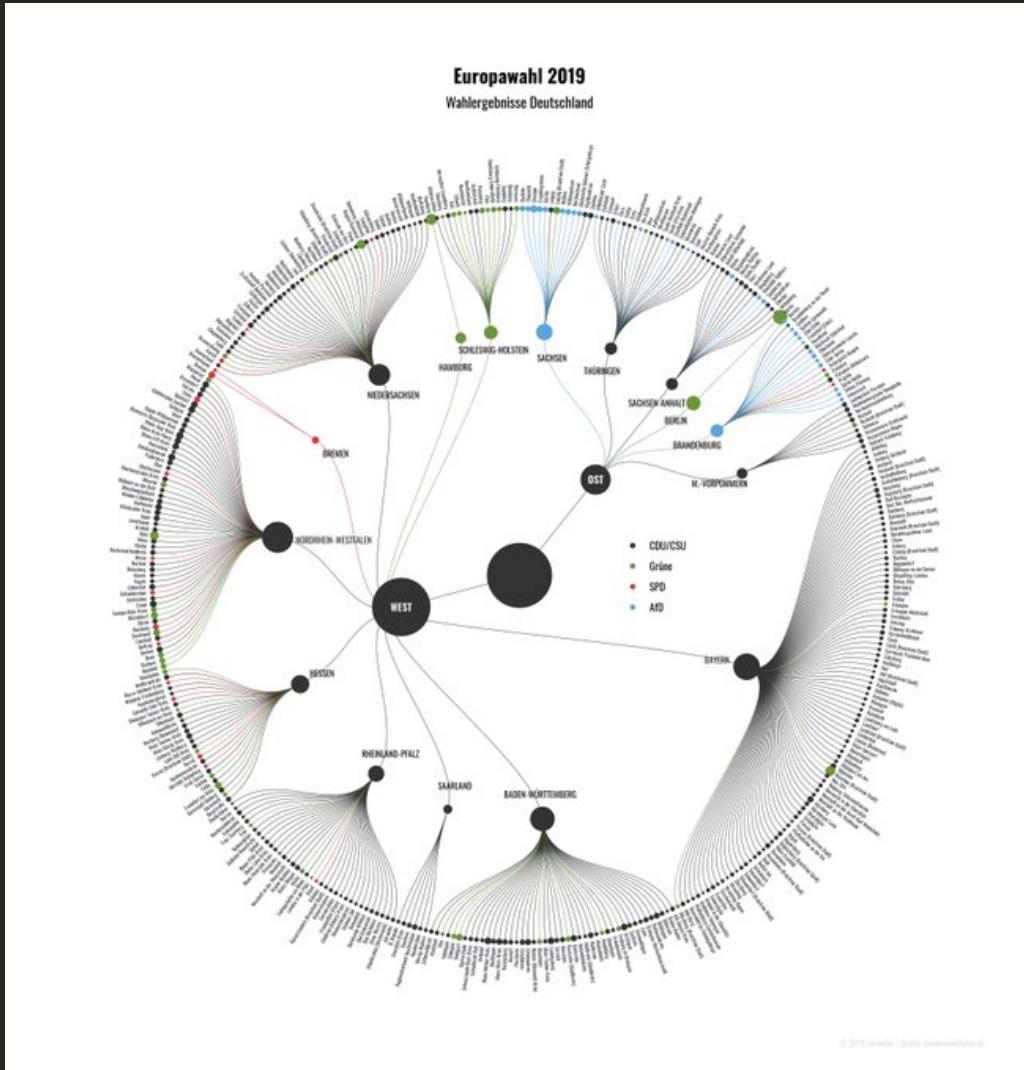


*Collection of BBC Graphics*

(modified from [bbc.github.io/rcookbook](https://bbc.github.io/rcookbook))



Contribution to #TidyTuesday 2020/31



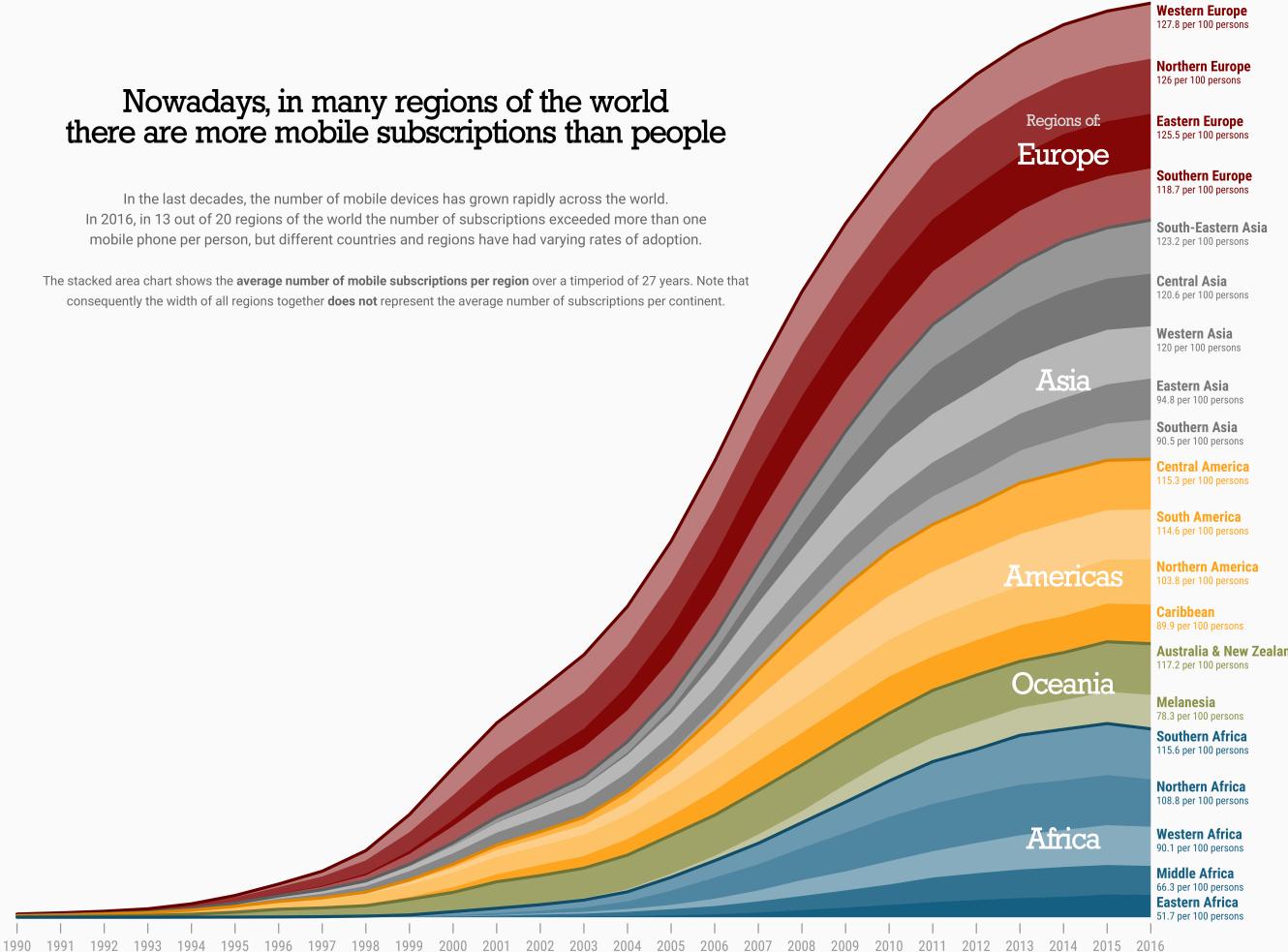
*European Elections by Torsten Sprenger*

([twitter.com/spren9er/status/1138000009306234880](https://twitter.com/spren9er/status/1138000009306234880))

## Nowadays, in many regions of the world there are more mobile subscriptions than people

In the last decades, the number of mobile devices has grown rapidly across the world.  
In 2016, in 13 out of 20 regions of the world the number of subscriptions exceeded more than one mobile phone per person, but different countries and regions have had varying rates of adoption.

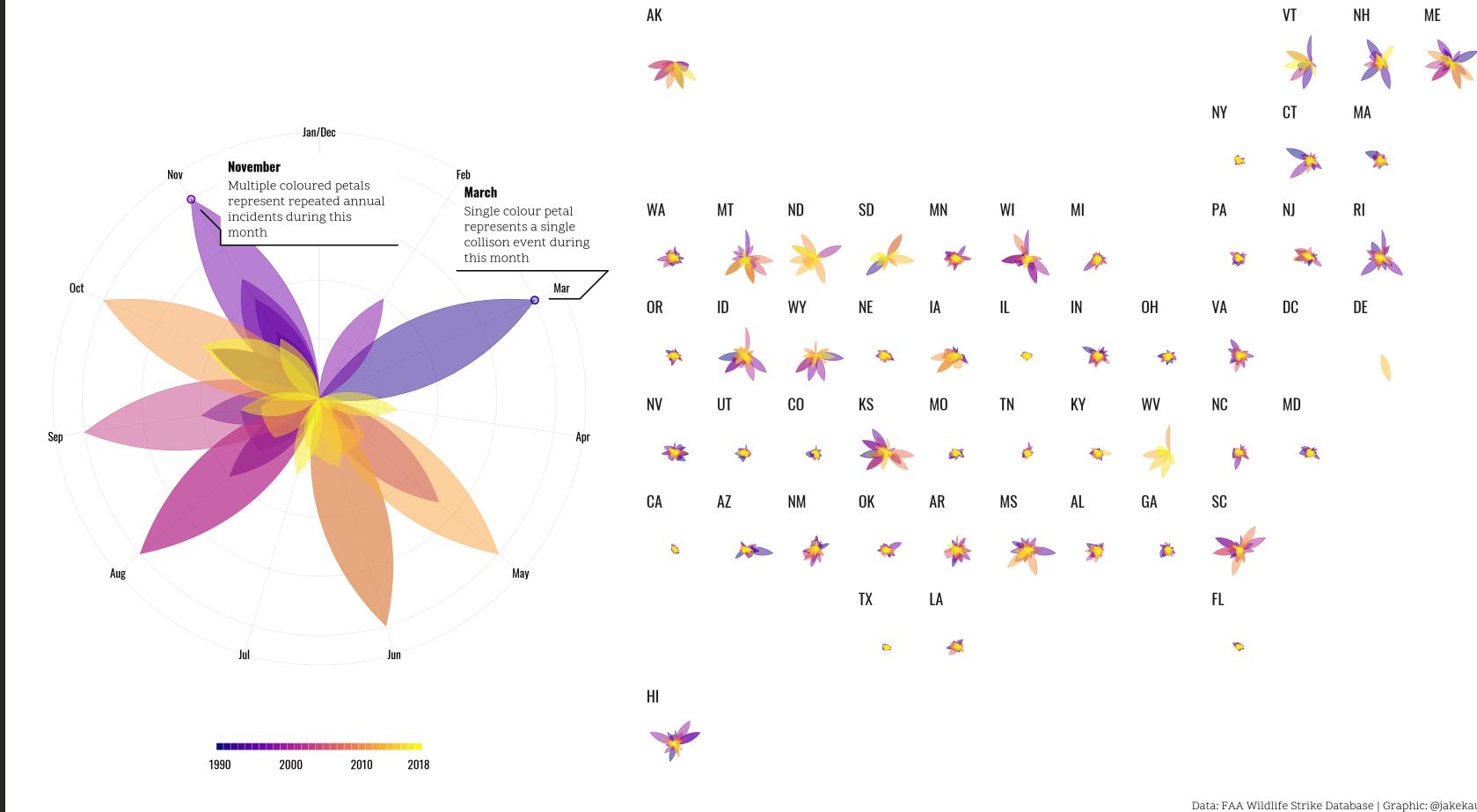
The stacked area chart shows the **average number of mobile subscriptions per region** over a timperiod of 27 years. Note that consequently the width of all regions together **does not** represent the average number of subscriptions per continent.



Visualization by Cédric Scherer • Data by OurWorldInData.org

## Seasonality of Wildlife-Aircraft Collisions by State

Presented below is a petal chart of wildlife collisions with aircraft, with an inset legend showing assisting interpretation. Wildlife collisions by state are presented as small multiples, geographically arranged. Smaller compact flowers illustrate states with collisions occurring year round, while the bigger flowers tend to see single or concentrated spikes of collision activity. Flowers with diverse colours indicate repeated annual collisions while the single-hued flowers illustrate more sparse or isolated annual events.



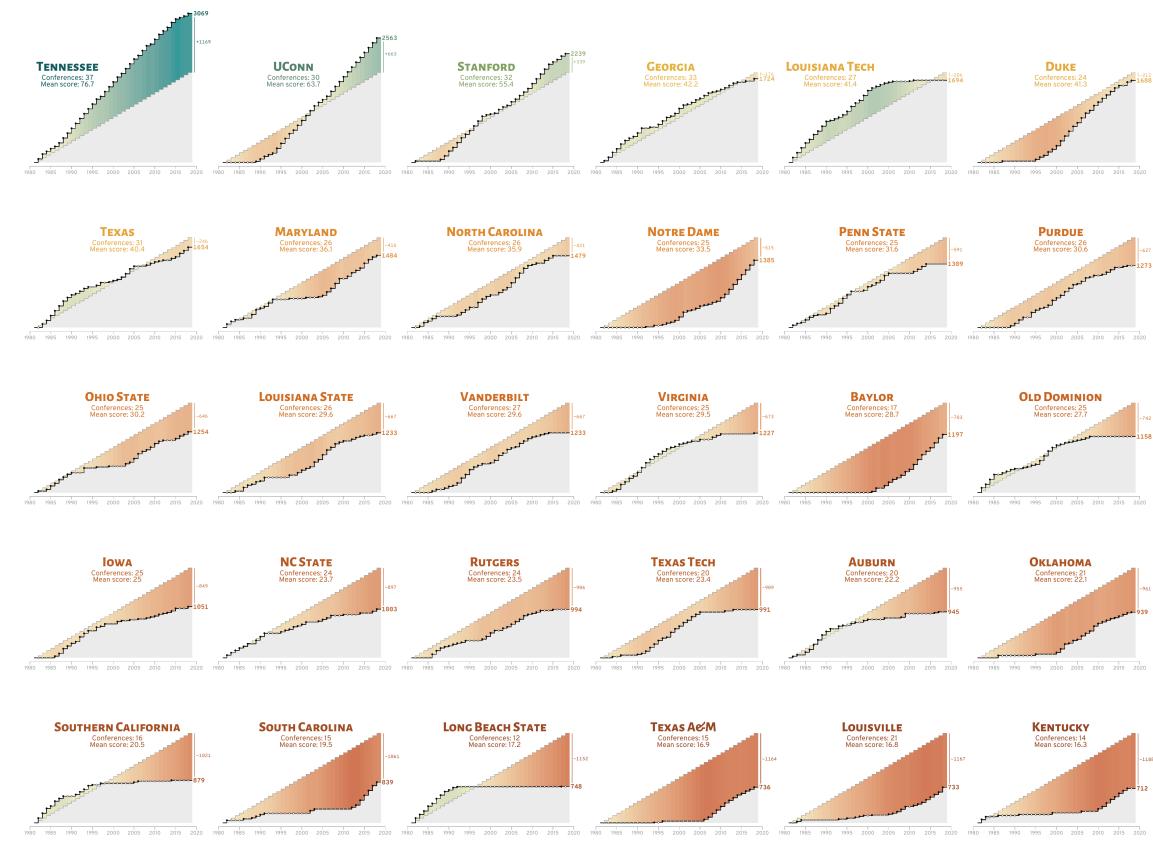
#TidyTuesday Contribution by Jake Kaupp

([github.com/jkaupp/tidytuesdays](https://github.com/jkaupp/tidytuesdays))

## — THE RISE & FALL OF WOMEN'S COLLEGE BASKETBALL DYNASTIES —

A number of teams that were the titans of the early NCAA women's basketball tournament have struggled in recent decades. And in their place, a new ruling class of schools has emerged to become the defining programs of the modern age. FiveThirtyEight estimated the team strength over time based on NCAA Tournament seeds as a proxy in the absence of game-level data. To measure this, FiveThirtyEight awarded "seed points" in proportion to a given seed number's expected wins in the tournament, calibrated to a 100-point scale where the No. 1 seed gets 100 points, No. 2 gets 70 points, and so forth.

The visualization shows the cumulative sum of awarded seed points on a 100-point scale from the very first women's NCAA basketball tournaments in 1982 until 2018 in comparison to a hypothetical team that participated in all of the 37 conferences and gained half of the points each time (grey line). The curves highlight the fall of yesterday's women's basketball powerhouses such as **Louisiana Tech**, **Long Beach State**, **Southern California**, and **Old Dominion** that have been very good throughout the history of the women's tournament but have experienced big drop-offs in seed points over the last years. At the same time, schools such as **UConn**, **Stanford**, **Notre Dame**, **Baylor**, and **Duke** started slow but picked up steam into the present day. Some teams, such as **Tennessee**, have been relatively consistent throughout the NCAA era gathering always more seed points than an average team. Shown are the top 30 college teams that participated in at least ten conferences between 1982 and 2018, sorted by the cumulative sum of seed points.



# Not my cup of coffee...

Each dot depicts one coffee bean rated by Coffee Quality Institute's trained reviewers. In addition, the multiple interval stripes show where 25%, 50%, 95%, and 100% of the beans fall along the rating gradient from 0 to 100 points. The rated coffee beans range from 59.8 points (Guatemala) to 89.9 (Ethiopia). Only countries of origin with 25 or more tested beans are shown. The red empty triangle marks the minimum rating, the black filled triangle indicates each country's median score.

Visualization by Cédric Scherer

60 POINTS

70 POINTS

## GUATEMALA

△ 59.8 POINTS

The coffee bean with the lowest rating has its origin in Guatemala.



One bean from Nicaragua got a bad rating, too.

## NICARAGUA

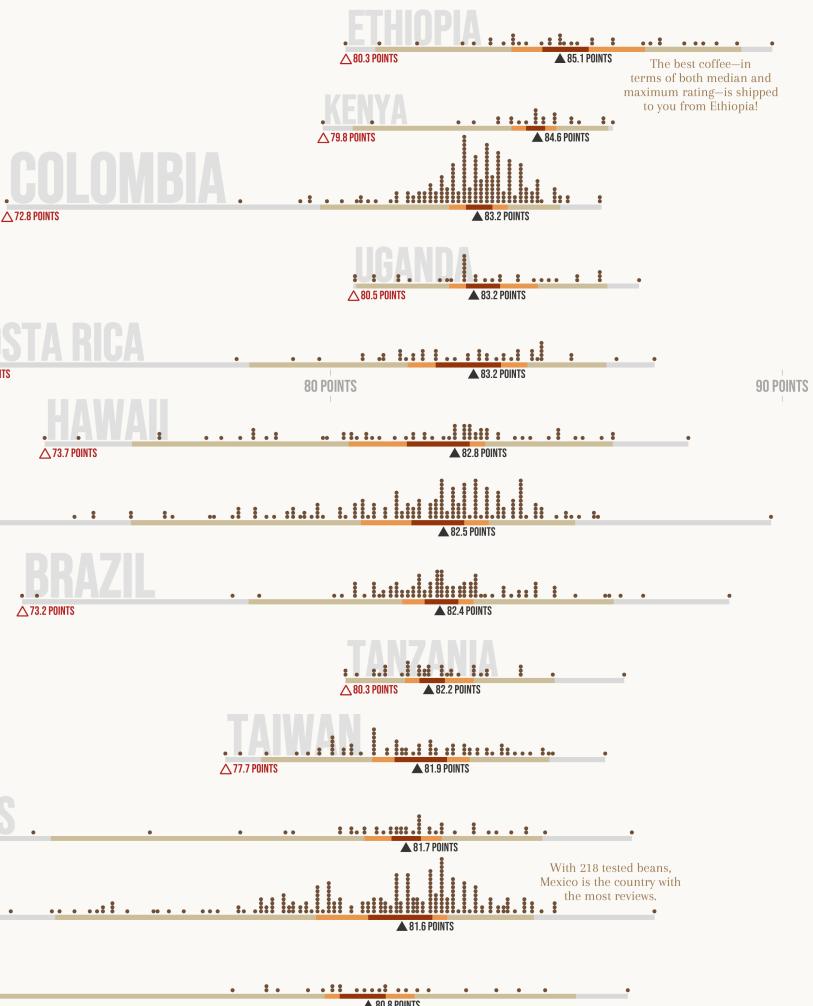
△ 63.1 POINTS

## HONDURAS MEXICO

△ 69.2 POINTS

△ 68.3 POINTS

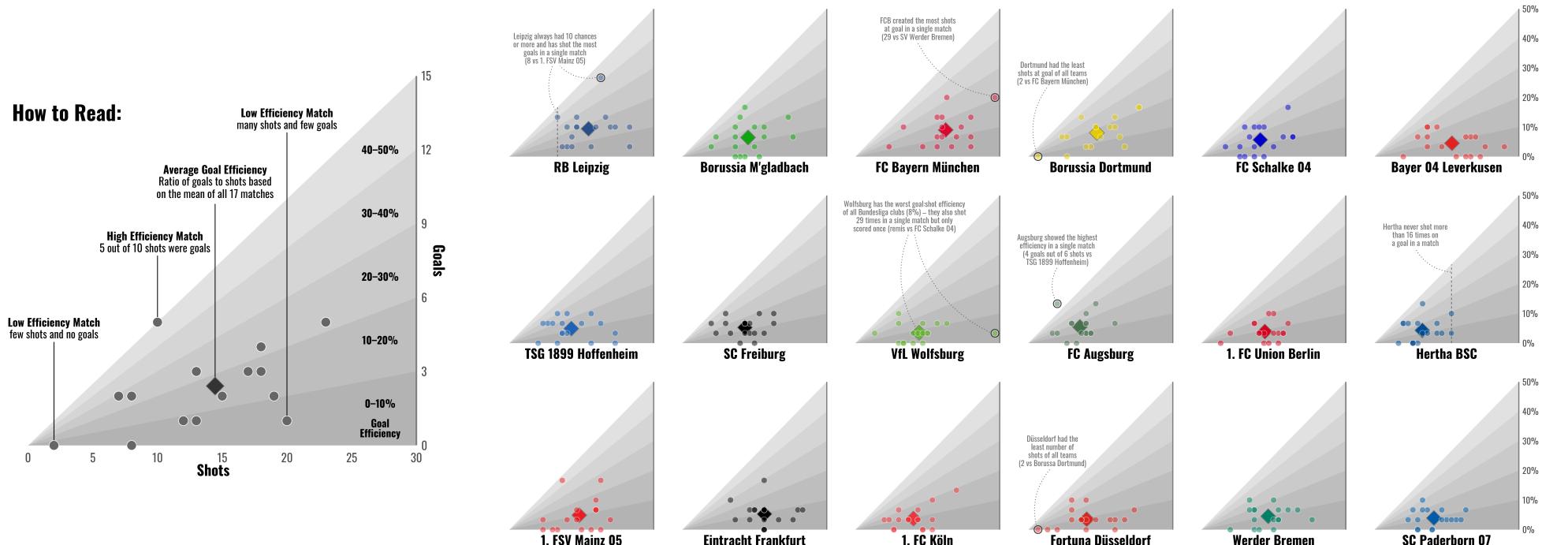
Contribution to #TidyTuesday 2020/28



## RB Leipzig and Borussia Dortmund Make the Most of Their Opportunities

The small multiples show each club's goal:shot efficiency in the first season 2019/2020 of the 1. Bundesliga. However, while Borussia Dortmund also had very bad matches with only 2 chances, the Autumn champion RB Leipzig always scored minimum one goal and shot at least ten times on the opponent's goal in all 17 matches! Of all Bundesliga clubs, RB Leipzig also shot the most goals – 8 against Mainz.

### How to Read:



Visualization by Cédric Scherer

Contribution to #SWDchallenge

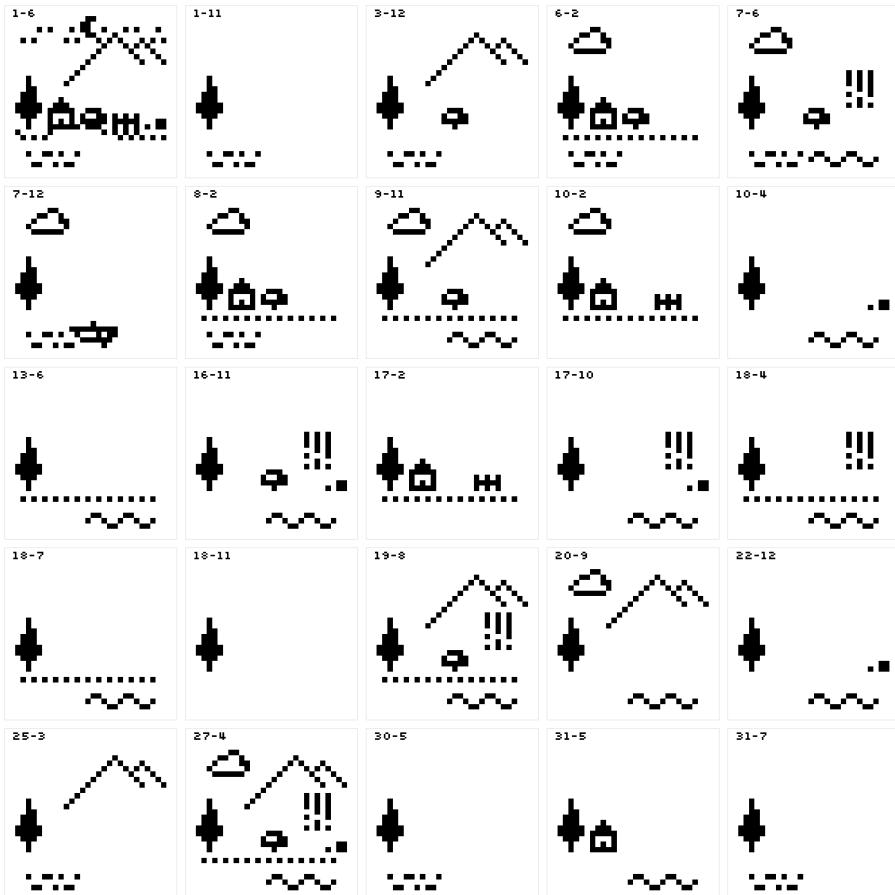
## BOB ROSS - PAINTING BY THE ELEMENTS

GRAPHIC REPRESENTATIONS OF BOB ROSS' PAINTINGS WITH ELEMENTS IDENTIFIED IN THEM BY WALT HICKEY (FIVETHIRTYEIGHT). EACH ELEMENT REPRESENTS ONE OR MORE OCCURRENCES IN THE PAINTING. ONLY THE ELEMENTS IN THE LEGEND BELOW ARE DRAWN. TO THE RIGHT THERE ARE 25 RANDOM PAINTINGS THAT BOB PAINTED IN 'THE JOY OF PAINTING', WITH THE SEASON AND EPISODE NUMBER.



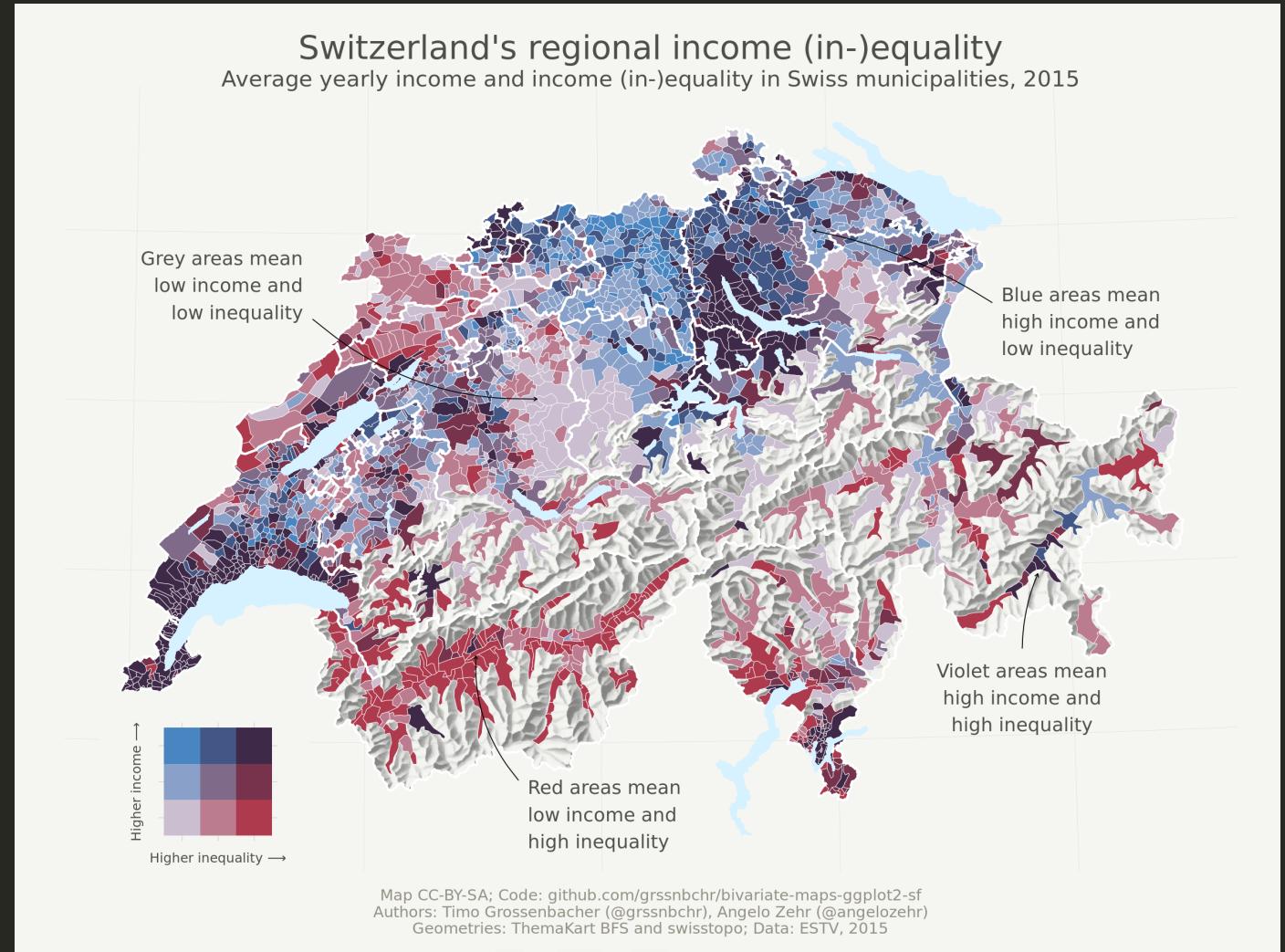
CLOUD (CIRRUS, CUMULUS), MOON, NIGHT, PALM TREE, SUN, MOUNTAIN (HILLS), CACTUS, LIGHTHOUSE, ROCKS, TREE (DECIDUOUS, CONIFER), BEACH, BOAT, CABIN (BARN, BUILDING, FARM), SEA (OCEAN, WAVES), BUSHES, FENCE, GRASS, WATERFALL, LAKE, RIVER

SOURCE: FIVETHIRTYEIGHT | PLOT: GEORGIOS KARAMANIS



#TidyTuesday Contribution by Georgios Karamanis

([github.com/gkaramanis/tidytuesday](https://github.com/gkaramanis/tidytuesday))

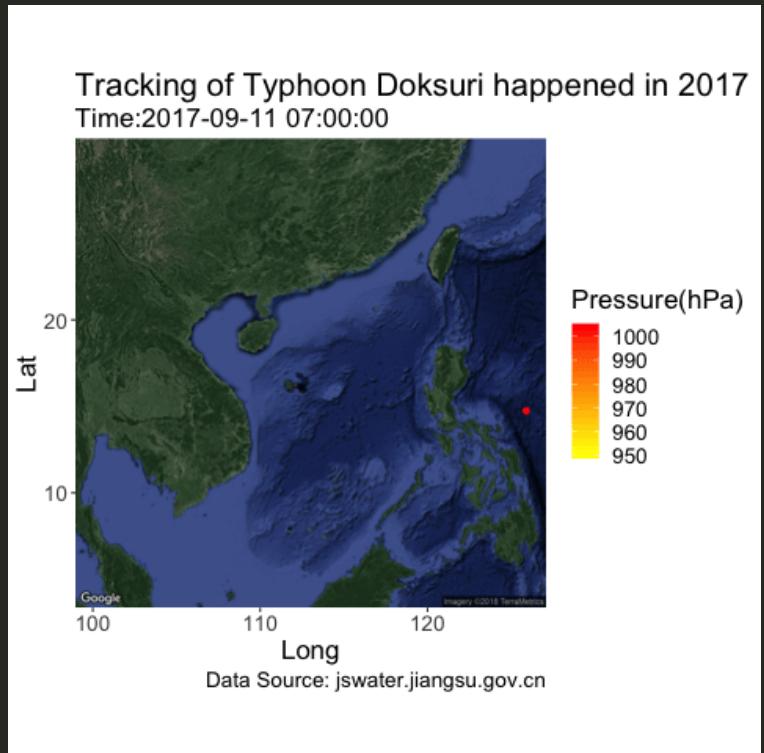


*Bivariate Map by Timo Grossenbacher*

([timogrossenbacher.ch/2019/04/bivariate-maps-with-ggplot2-and-sf](https://timogrossenbacher.ch/2019/04/bivariate-maps-with-ggplot2-and-sf))

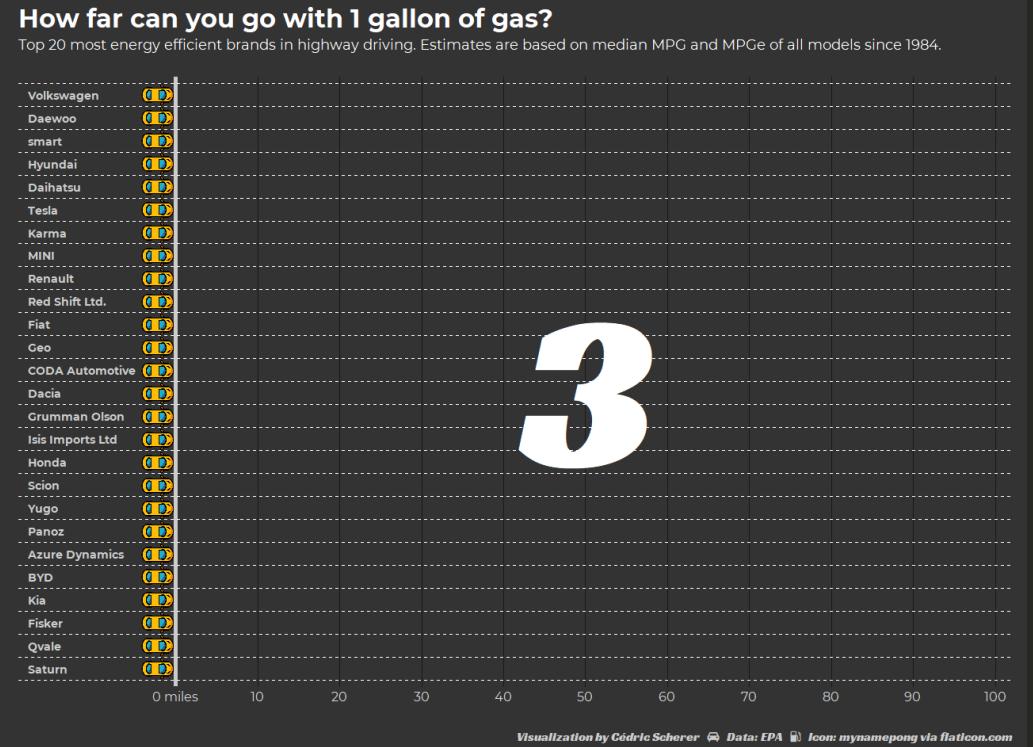


*Contribution to the #30DayMapChallenge*



*Example of the {gganimate} Package*

([github.com/thomasp85/gganimate/wiki](https://github.com/thomasp85/gganimate/wiki))



*Contribution to #TidyTuesday*

The screenshot shows the homepage of the website. At the top, there is a dark header bar with the name "CÉDRIC SCHERER" on the left and navigation links for "BLOG", "ABOUT ME", "PUBLICATIONS", "VISUALIZATIONS", and "LINKS" on the right. Below the header is a large, bold title "CÉDRIC SCHERER" in white, with the subtitle "Computational Ecology & Data Visualization" in a smaller, italicized font underneath. The background of the main content area features a photograph of a rugged, snow-capped mountain range under a dark, star-filled sky. On the left side of the page, there are three blog posts listed:

- THE WORST DAYS OF THE CORONAVIRUS PANDEMIC SO FAR**  
Coronavirus SARS-CoV-2, COVID-19 or simply Corona—what started as an epidemic in China's has become a global pandemic. I created an animated timeseries of daily deaths relative to each country's worst day so far to visualize the first wave of COVID-19.  
POSTED BY CÉDRIC TUESDAY, MARCH 31, 2020
- COMPARING THE EXTENT OF THE AUSTRALIAN BUSHFIRES 2019/20**  
The massive bushfires in Australia are in the news worldwide. The incredible extent of burnt land and plume of smoke is hard to imagine so I have compared the areas to countries in Europe and worldwide.  
POSTED BY CÉDRIC THURSDAY, JANUARY 9, 2020
- BEST TIDYTUESDAY 2019**  
Here are my favorite visualizations of the #TidyTuesday challenge in 2019 (from those I've seen and which I remember). I present my personal top 3 in terms of design and storytelling.  
POSTED BY CÉDRIC MONDAY, DECEMBER 30, 2019

On the right side of the page, there is a circular profile picture of a man with a beard, identified as "ABOUT ME". Below the profile picture, the bio reads: "Computational Ecologist • Data Visualization Designer • Proud Dad". Underneath this bio are four social media icons: an envelope for email, a bird for Twitter, a speech bubble for Facebook, and a linked circle for LinkedIn. At the bottom right, there is a section titled "FEATURED TAGS" with several small, rounded rectangular tags containing words like "BERLIN", "DATAVIZ", "R", "TIDYTUESDAY", "ANIMATIONS", "GGPLOT2", "MAPS", "TOYVERSE", "TUTORIAL", and "WEATHER".

DATAVIZ TUTORIAL R TIDYVERSE GGPLOT2

# A GGPLOT2 TUTORIAL FOR BEAUTIFUL PLOTTING IN R

POSTED BY CÉDRIC ON MONDAY, AUGUST 5, 2019

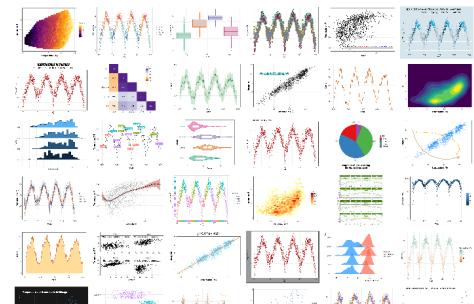
Last update: 2020-12-07

## INTRODUCTORY WORDS

[I don't care, just show me the content!](#)

Back in 2016, I had to prepare my PhD introductory talk and I started using `ggplot2` to visualize my data. I never liked the syntax and style of base plots in R, so I was quickly in love with ggplot. Especially useful was its faceting utility. But because I was short on time, I plotted these figures by trial and error and with the help of lots of googling. The resource I came always back to was a blog entry called [Beautiful plotting in R: A ggplot2 cheatsheet](#) by Zev Ross, updated last in January 2016. After giving the talk which contained some decent plots thanks to the blog post, I decided to go through this tutorial step-by-step. I learned so much from it and directly started modifying the codes and over the time I added additional code snippets, chart types and resources.

Since the blog entry by Zev Ross was not updated for some years and step by step this became a unique version of a tutorial, I decided to host the updated version on my GitHub. Now it finds its proper place on this homepage! (Plus I added a ton of other updates—just to name a few: The fantastic `(patchwork)`, `(ggttext)` and `(ggforce)` packages. How to deal with custom fonts and colors. A collection of R packages tailored to create interactive charts. And several other chart types including pie charts because everyone looooves pie charts!)

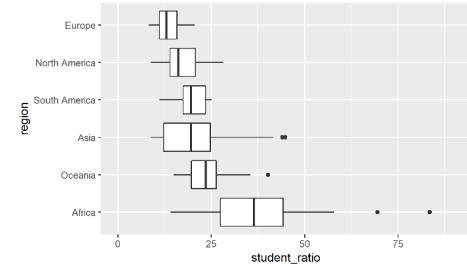


DATAVIZ TUTORIAL ANIMATIONS GGPLOT EVOLUTION R GGPLOT2 TIDYVERSE TIDYTUESDAY

# THE EVOLUTION OF A GGPLOT (EP. I)

POSTED BY CÉDRIC ON FRIDAY, MAY 17, 2019

## The Evolution of a ggplot

Data: UNESCO Instituto for Statistics  
Visualization by Cédric Scherer

- Aim of this Tutorial
- Data Preparation
- The Default Boxplot
- Sort Your Data!
- Let Your Plot Shine—Get Rid of the Default Settings
- The Choice of the Chart Type
- More Geoms, More Fun, More Info!
- Add Text Boxes to Let The Plot Speak for Itself
- Bonus: Add a Tile Map as Legend
- The Final Evolved Visualization
- Complete Code for Final Plot
- Post Scriptum: Mean versus Median

## AIM OF THIS TUTORIAL

In this series of blog posts, I aim to show you how to turn a default ggplot into a plot that visualizes information in an appealing and easily understandable way. The goal of each blog post is to provide a step-by-step tutorial explaining how my visualization have evolved from a typical basic ggplot. All plots are going to be created with 100% `ggplot2` and 0% Inkscape.

In the first episode, I transform a basic boxplot into a colorful and self-explanatory combination of a jittered dot strip plot and a lollipop plot. I am going to use `data` provided by the UNESCO on global student to teacher ratios that was selected as data for the #TidyTuesday challenge 19 of 2019.

Search or jump to... / Pull requests Issues Marketplace Explore

Overview Repositories 51 Projects 1 Packages

Z3tt / README.md Send feedback 🖊

## Hi, I'm Cédric! 🤝

Blog Email Twitter Behance LinkedIn

I am a computational ecologist by training and a data visualization designer by heart with more than 9 years of hypothesis-driven research experience and strong skills in data wrangling, statistical analysis, model development and data visualization.

I am working as a scientific researcher (PostDoc) in the Department "Ecological Dynamics" at the Leibniz Institute for Zoo and Wildlife Research (IZW) in Berlin, Germany. Since the beginning of the year I have also been working successfully as a self-employed designer, consultant and instructor in the fields of data visualization and reproducible analysis. My favorite tool for all data-related tasks is R, an open source, highly extensible language for statistical computing and graphics techniques. To visualize data I mainly utilize the package `ggplot2` from the `(tidyverse)` package collection including many more that I use on a daily basis for all kinds of data preparation and analysis.



### Data Visualization

My passion for data, design and coding is a perfect combination not only for scientific but all types of data visualization. By contributing to challenges such as `TidyTuesday`, `MakeoverMonday`, `Storytelling with Data` and the `30 Day Map Challenge`, I am constantly strengthening my skills in design and reproducible data visualization with `(ggplot2)`. Thanks to frequent contributions as well as several personal and client projects, my portfolio now includes visualizations for various purposes and is covering a wide range of topics and chart types.

→ Have a look at my [dataviz portfolio](#)

### Computational Ecology

As a computational scientist, I apply analytical and mechanistic modeling approaches to answer questions related to the movement ecology of animals and the dynamics of populations, communities and diseases in space and time. By using empirical and simulated data, I investigate how disease dynamics are influenced by movement behavior, landscape structure and seasonality, how disturbances affect stability measures of ecological communities and how birds respond to global change. In 2019, I was awarded my Ph.D. degree in Ecology (Dr. rer. nat.) at the University of Potsdam as part of the `BioMove` research training group.

→ Have a look at my [publications and talks](#)

Pinned

TidyTuesday My contributions to the #TidyTuesday challenge HTML 368 72

30DayMapChallenge My contributions to the #30DayMapChallenge 2019 QML 106 19

Customize your pins

# github.com/Z3tt/TidyTuesday

The screenshot shows the GitHub repository page for `Z3tt/TidyTuesday`. The repository has 49 stars, 368 forks, and 72 open issues. The code tab is selected, showing a list of files and their commit history. The `master` branch contains 1 branch and 0 tags. The commit history shows 501 commits from 2019/17 to 48360c1 (20 days ago). The `README.md` file contains a section titled "#TidyTuesday Contributions" with links to various posts on platforms like Blog, Email, Twitter, Behance, and LinkedIn. It also includes a disclaimer about no harm to illustrations or Photoshop. Below this, there's a section for "Contributions in chronological order" with a tree view of challenges from 2018 to 2019. The repository page also features sections for About, Releases, Packages, Contributors, and Languages.

**About**

My contributions to the #TidyTuesday challenge

**Releases**

No releases published  
Create a new release

**Packages**

No packages published  
Publish your first package

**Contributors** 2

Z3tt Cédric Scherer  
gkaramanis Georgios Karamanis

**Languages**

HTML 97.5% R 2.5%

**#TidyTuesday Contributions**

Blog | Email | Twitter | Behance | LinkedIn

My contributions to the #TidyTuesday challenge, a weekly social data project that focusses on understanding how to summarize and arrange data to make meaningful and/or beautiful charts with `(ggplot2)`, `{tidyverse}`, `{dplyr}` and other tools that are part of the `(tidyverse)` ecosystem. The project was founded in 2018 by Thomas Mock and organized by the RADS ("R for Data Science") online learning community. The intent is to provide a safe and supportive forum to practice their wrangling and data visualization skills.

**DISCLAIMER:**  
✖ no Illustrator or Photoshop was harmed during the making of these visualizations.  
✖ certified ggplot quality.

Feedback is very welcome via [Twitter](#) or [mail](#).

▼ Contributions in chronological order (click to expand)

- Challenges 2018
  - 2018/03 🌎 Global Mortality
  - 2018/33 🌈 Malaria
- Challenges 2019
  - 2019/14 🚴 Seattle Bike Traffic
  - 2019/16 📊 The Economists' Data Viz Mistakes
  - 2019/17 🎨 Anime Data
  - 2019/18 🐦 Chicago Bird Collisions
  - 2019/19 🎯 Global Student to Teachers Ratios
  - 2019/20 🏆 Nobel Prize Winners
  - 2019/21 🌍 Global Plastic Waste
  - 2019/22 🍷 Wine Ratings
  - 2019/24 🛰 Meteorites
  - 2019/25 🎅 Christmas Bird Counts
  - 2019/27 💳 Media Franchise Revenues
  - 2019/28 ⚽ FIFA Women's World Cup
  - 2019/33 🏴 Roman Emperors
  - 2019/34 🌎 Nuclear Explosions

[github.com/Z3tt/TidyTuesday/R/...](https://github.com/Z3tt/TidyTuesday/R/)

# ggplot2: Build a data MASTERpiece



Illustration by **Allison Horst**