csv,conf,v6

Revealing Room for Improvement in Accessibility within a Social Media Data Visualization Learning Community

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Who are we?

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Takeaways

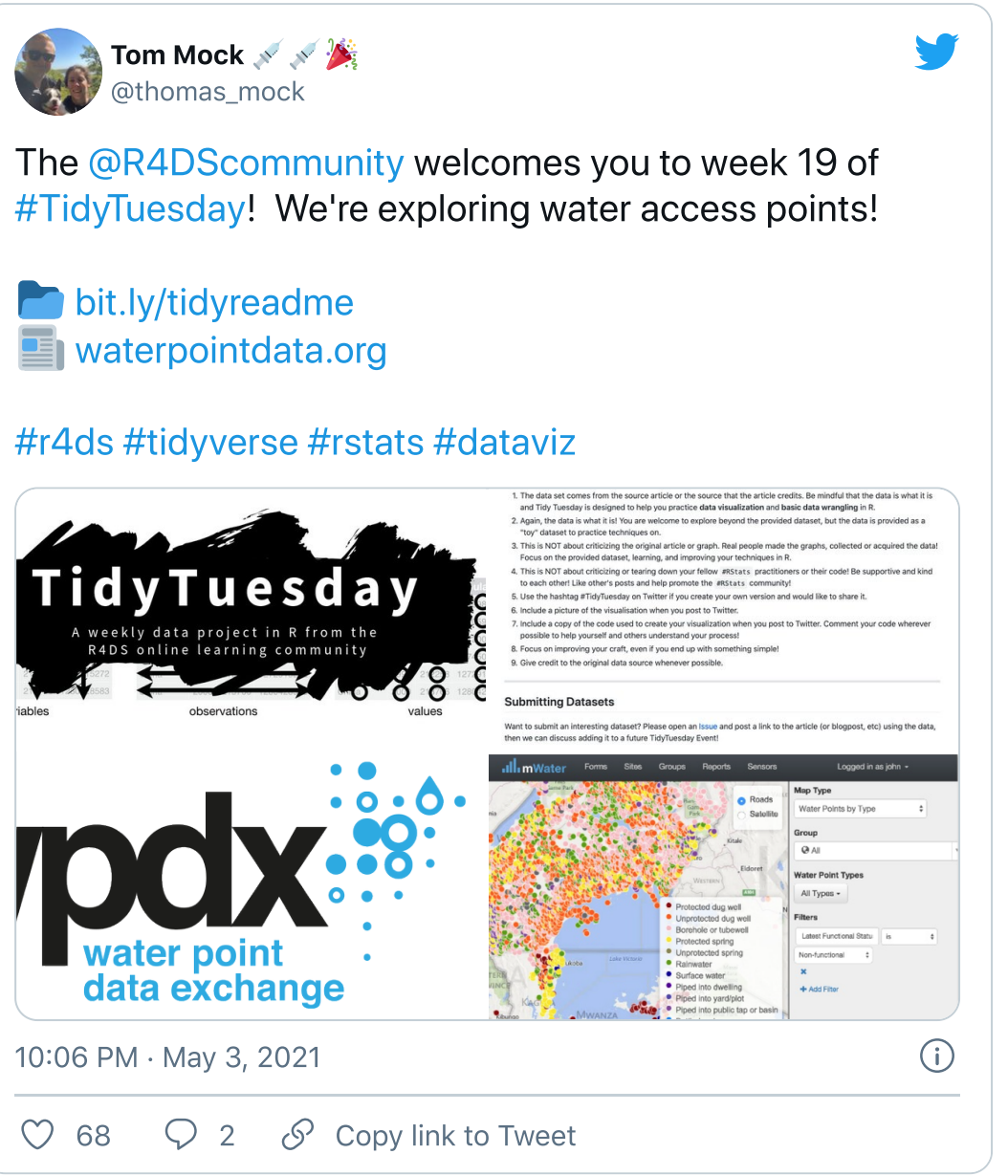
- Growth in online learning communities for data science
- TidyTuesday: Weekly social project for data visualization in R
- 3% of the data visualizations shared on Twitter had alternative text
- 84% were described by default as "Image"

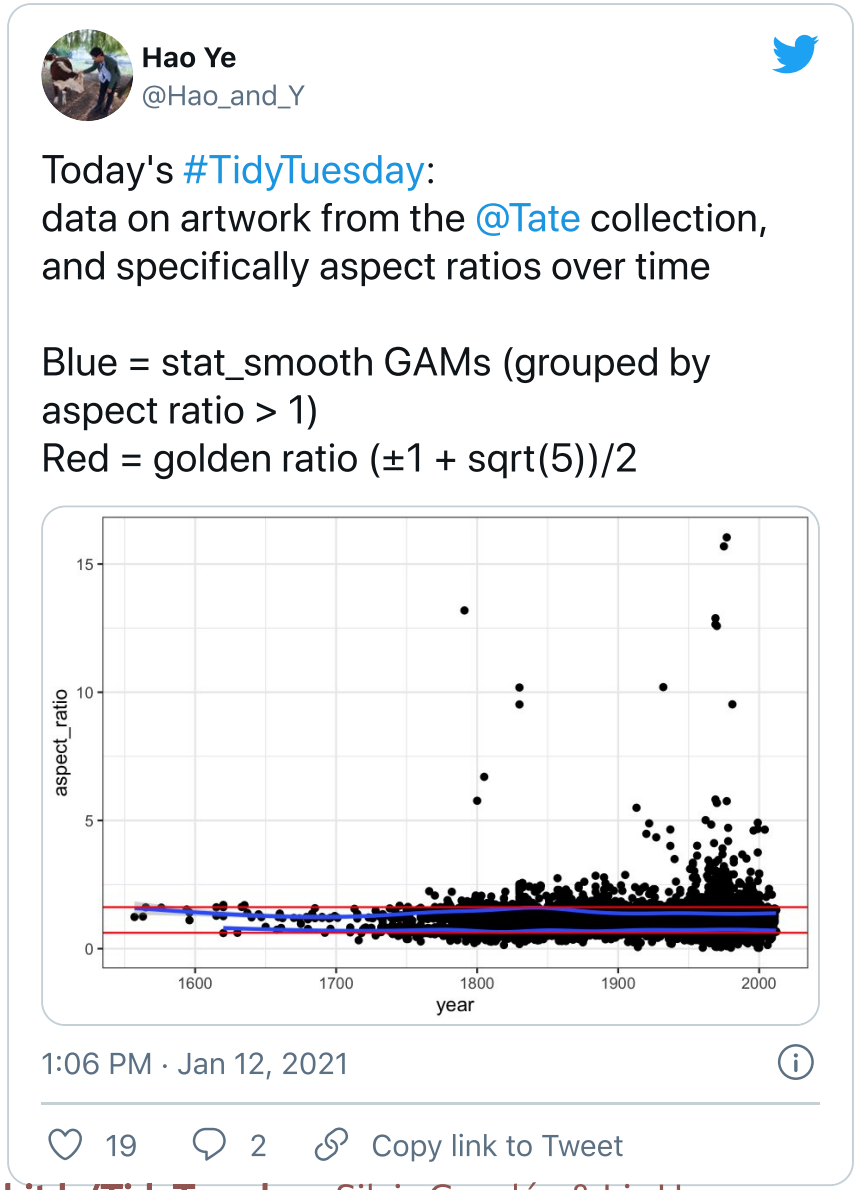
Can blind people participate in data viz learning communities?

- Why do blind people need data visualization?
  - Scientific communication
  - Election maps
  - COVID-19 incidence maps & dashboards
  - Quorum or SAS can produce readable charts, but R/RStudio cannot
- Screen readers provide voice or braille access to computer text, **not images**
- AI image descriptions **cannot adequately describe data viz**
- Can blind people participate in #TidyTuesday?

What is TidyTuesday?

- Social project providing a new tidy dataset every week
- Online data viz R learning community
- Opportunity to practice summarizing and visualizing data with modern tooling





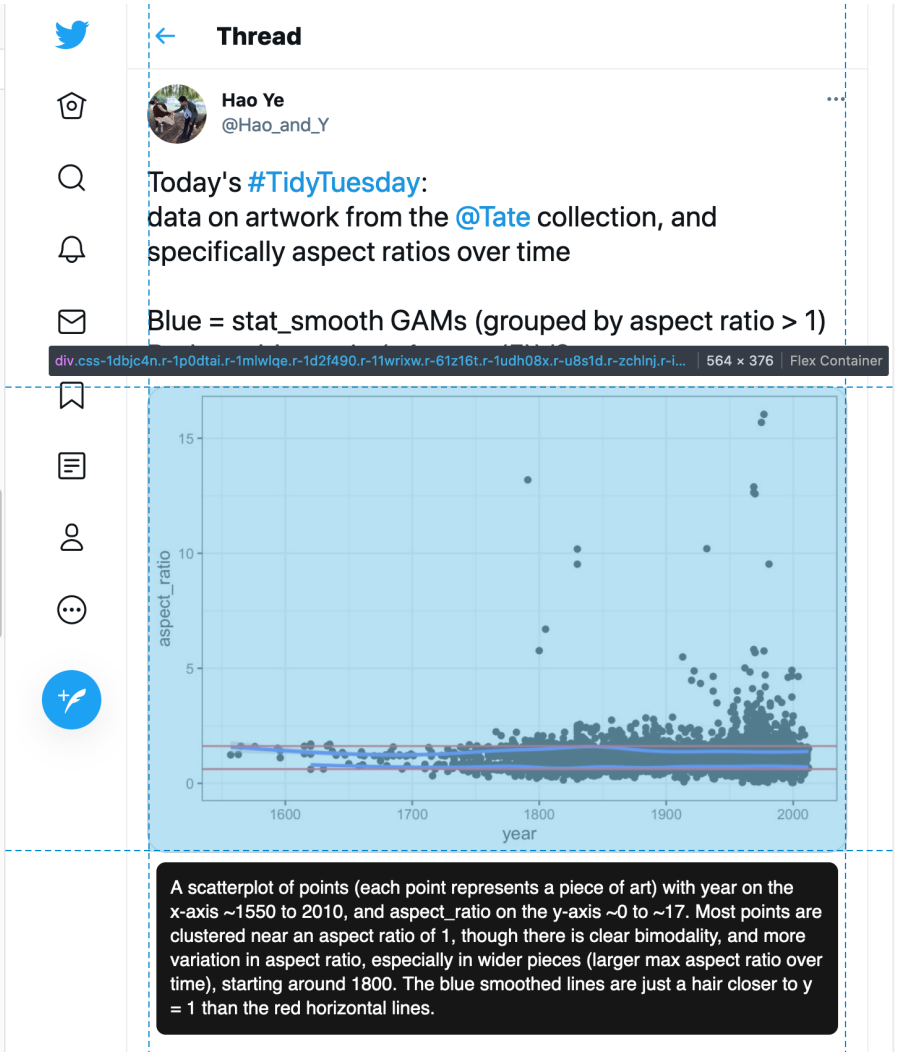
What do #TidyTuesday visualization tweets include?

- Verbal description
  - author's interest
  - learning process
  - interpretation of the data
- Link to the author's source code
- Data visualization attached as an image
- Alt-text for the image (rarely)

How were the data collected?

Tweets collected & made available by Tom Mock using {rtweet}

Alt text scraped by Silvia Canelón using {RSelenium} & available in the TidyTuesdayAltText

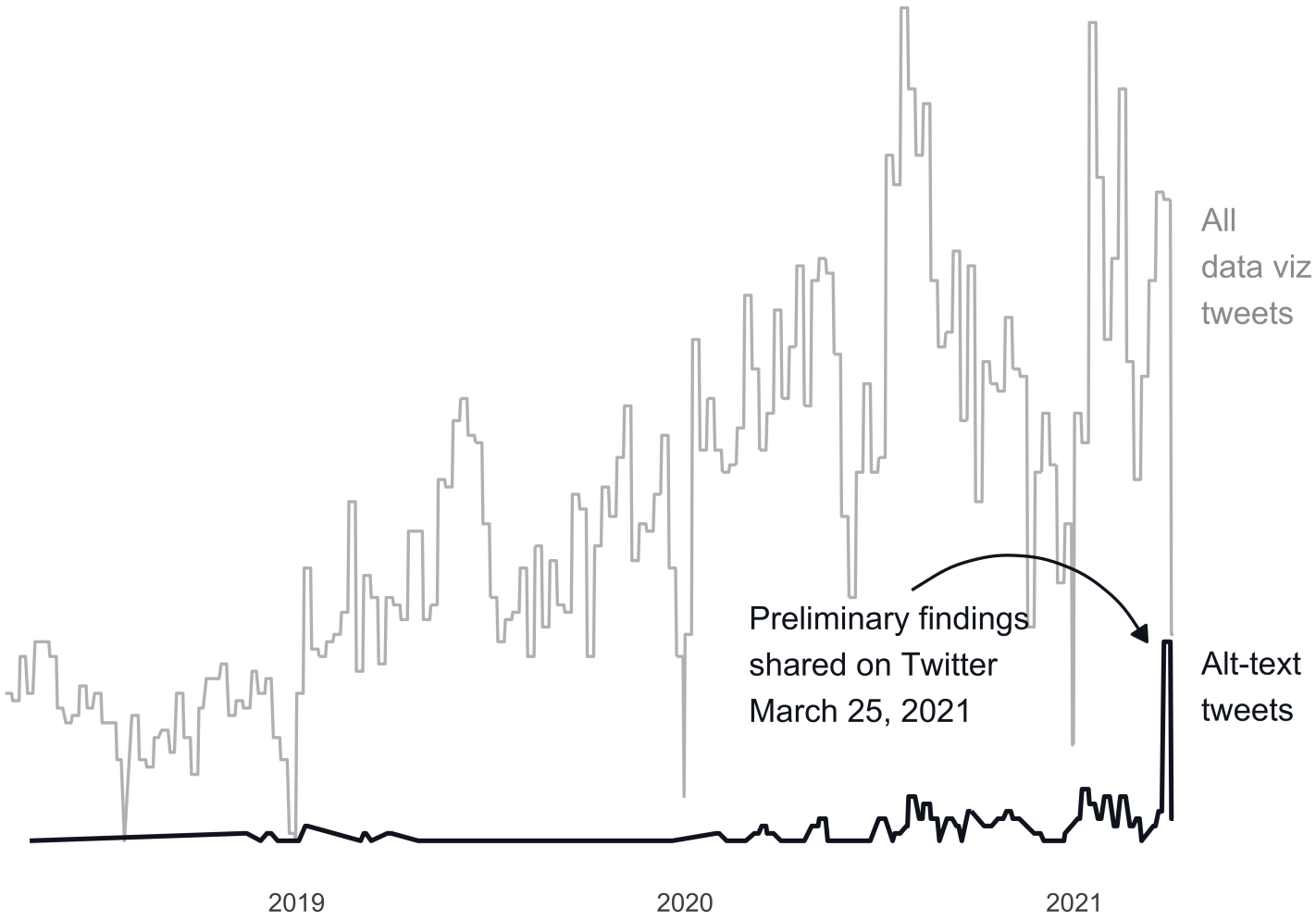


What did we find?

> Over the 3 years of TidyTuesday, there were 7,136 data viz tweets and **only 215 (3%) of them had alt-text**
>
> Summary of these findings

Participation in TidyTuesday has increased over time but **use of alt-text is recent and remains low**

The conversation on Twitter



Where else is alt-text missing?

- R books made available freely online
- R books made available digitally to people with print disabilities by Bookshare
- R package documentation
- R blogs

This shows up at the individual-level and at the corporate-level (e.g. RStudio R Markdown documentation)

What makes good alt-text?

There were 196 data visualization tweets with relevant alt-text

	Alt-text Feature	
1	Description conveys meaning in the data	34%
2	Variables included on the axes	28%
3	Scale described within the description	12%
4	Type of plot is described	56%

Has the tide started shifting?

- Conversations are happening
  - Within R: useR!2021, MiR, TidyTuesday
  - More broadly: Data Visualization Society, a11y conferences/meetups
- Tooling is slowly receiving updates
  - New alt text code chunk option for R Markdown
- Changes are just starting and slow

What can you do?

- **Make your data visualizations accessible everywhere you can**
- **Add alt-text** to websites, journalism, scientific publishing, social media
- **Find ways to describe your visualizations** in words when alt-text isn't available in your documents or platforms

Data visualization alt-text resources

- Writing alt-text for data visualization
- Chartability Data Viz Audit Workbook
- a11y Data Viz Accessibility Resources

Tools for Twitter

- How to make images accessible for people
- Show alt-text for tweets: Firefox
- Twitter reminder to add alt-text: Firefox

Thanks!

Analysis repo & resources

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This presentation was made using the xaringan, and xaringanExtra R packages.