

Data Visualization

EXAMPLES (2)

Tea Tušar, Data Science and Scientific Computing, Information retrieval and data visualization

Good visualization design is

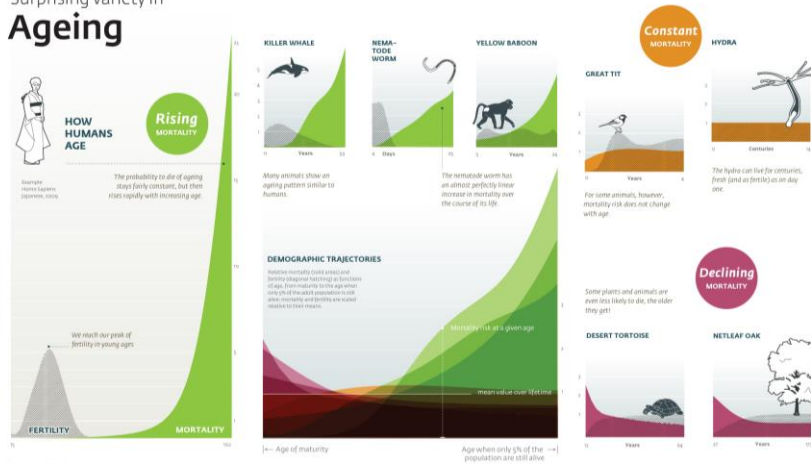
1. Trustworthy
2. Accessible
3. Elegant

A. Kirk. *Data Visualization*, SAGE Publications, 2016.

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Diversity of ageing (redesign)

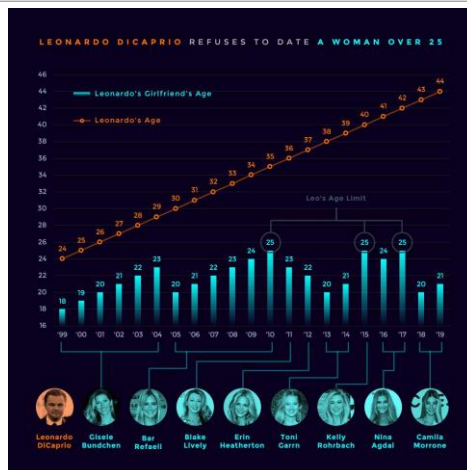
Surprising variety in Ageing



<http://truth-and-beauty.net/projects/mpg-graphics>

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Leonardo DiCaprio's girlfriends



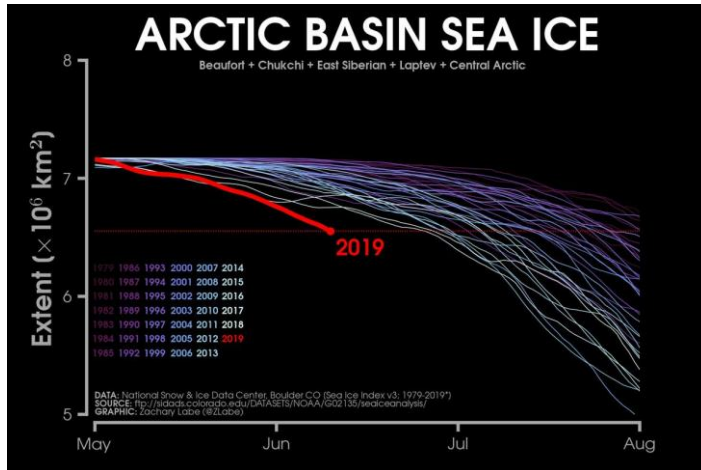
Made in MS Excel!

See <https://simplexct.com/chart-s-in-excel> for nice excel charts examples

https://www.reddit.com/r/dataisbeautiful/comments/azjt7/leonardo_dicaprio_refuses_to_date_a_woman_over_25/

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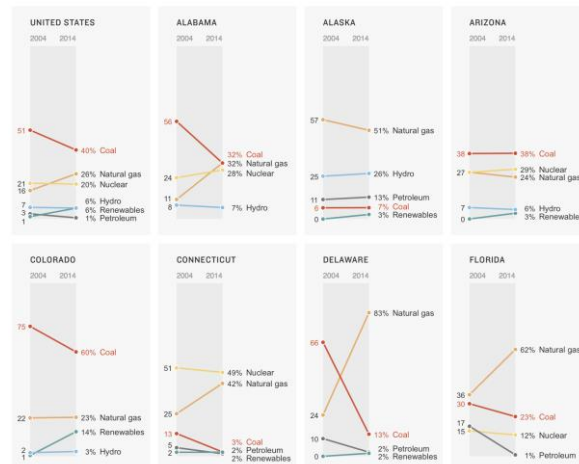
Extent of sea ice



<https://twitter.com/zlabe/status/1138831331679358979?s=12>

7

Electric power generation

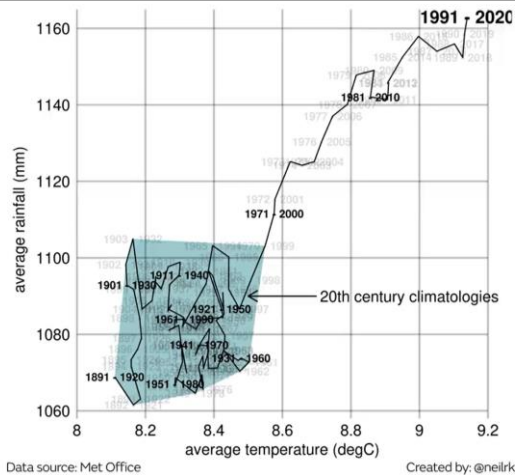


Slope
graph

<https://www.npr.org/2015/09/10/319535020/coal-gas-nuclear-hydro-how-your-state-generates-power?t=1574117463924>

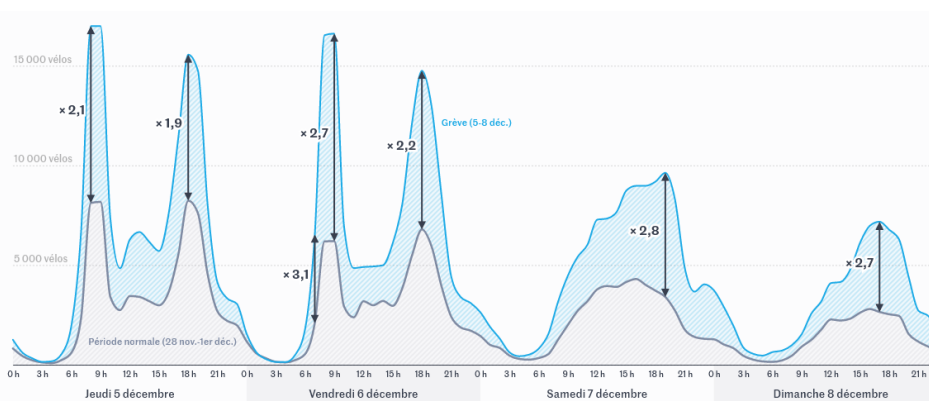
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30 year average for UK temperature and rainfall



https://twitter.com/metoffice_sci/status/1472899593956376577

Impact of transport strike on use of bikes

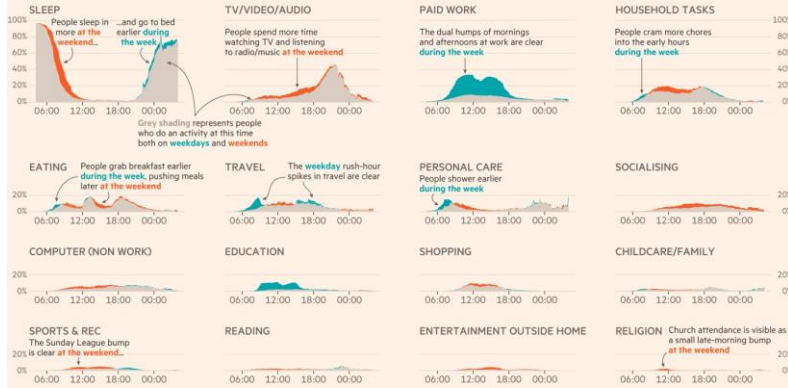


https://www.lemonde.fr/les-decodeurs/article/2019/12/09/greve-des-transports-la-frequentation-des-pistes-cyclables-a-explose-a-paris_6022246_4355770.html

How Britons spend their time at weekends vs weekdays

How Britons spend their time at weekends vs weekdays

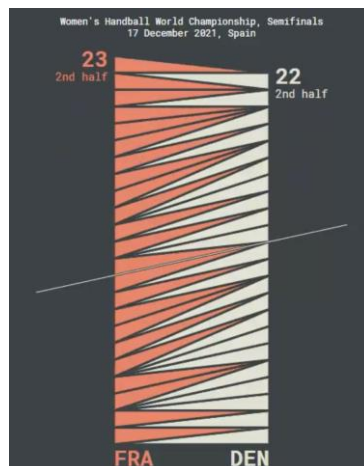
Share of people doing specific activities during **weekends** vs **weekdays**, by time of day (%)



<https://www.ft.com/content/085749dc-3cac-11ea-b232-000f4477fbca>

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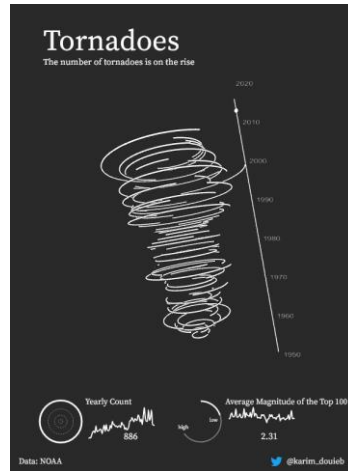
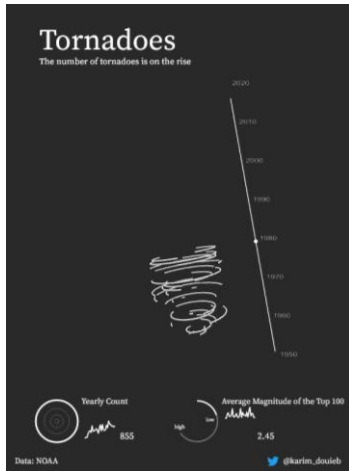
Handball match



<https://twitter.com/i/status/1472140953045590016>

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Tornadoes

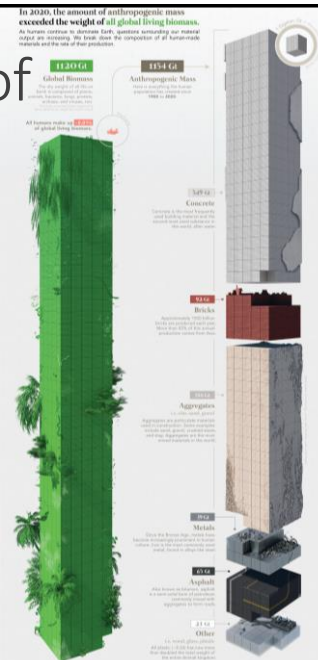


<https://observablehq.com/@karimdouieb/tornados>

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Visualizing the scale of anthropogenic mass

In 2020, the amount of anthropogenic mass exceeded the weight of **all global living biomass**



<https://www.visualcapitalist.com/visualizing-the-accumulation-of-human-made-mass-on-earth/>

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Alt text

Alt text = alternative text

Written descriptions added to images that convey the meaning of the image

Helpful for people who use screen readers (often have a vision impairment)

alt= "**Chart type** of **type of data** where **reason for including chart**"

Include a **link to data source** somewhere in the text

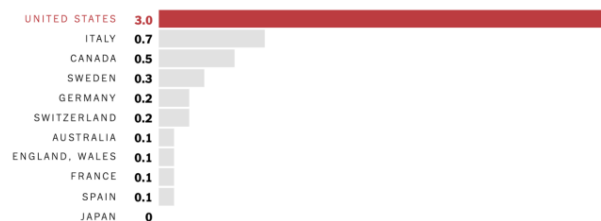
<https://nightingaledvs.com/writing-alt-text-for-data-visualization/>

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Alt text: simple example

Gun murders per 100,000 people

America's private arsenal is six times as lethal as Canada's, and 30 times worse than Australia's.



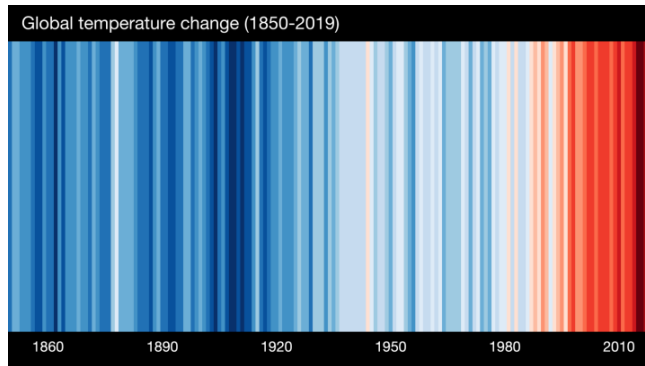
The New York Times | Sources: United Nations Office on Drugs and Crime (gun murders); Small Arms Survey (guns per 100 people) | Murder data for U.S., Canada, Sweden, Switzerland, Australia and Spain from 2015 and latest available for other countries; 2007 data for guns per 100 people.

alt= "**Bar chart** of **gun murders per 100,000 people** where **America's murder rate is 6 times worse than Canada, and 30 times Australia**"

<https://nightingaledvs.com/writing-alt-text-for-data-visualization/>

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Alt text: complex example



alt= "Colored stripes of chronologically ordered temperatures where they increase in red to show the warming global temperature"

<https://nightingaledvs.com/writing-alt-text-for-data-visualization/>

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To achieve accessibility

General guidelines

- Keep in mind
 - The audience
 - The presentation format
 - The specifics of the data
 - The message
- Strive for clarity, minimize clutter
- Take into account human visual processing abilities
 - Careful choice of colors
 - Use annotation, informative titles
- Use uncommon charts only if they are "worth it"

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To achieve accessibility

Design process guidelines

- Try different visualizations
- Show your visualizations to a friend—are they able to get to the message?