NASA's Climate Tornado

William Komu

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Intro

This exercise is an attempt to recreate the tornado end of the NASA's animated spiral, which is a chart of the global temperature change going back to 1880! This exercise is a riffed copy of Prof P. Scholls' Riffomonas Project Code Club (CCXXX)! I have included a few mods!

```
# Loading data.csv

t_data <- read_csv("/home/iamlnx/Documents/GitHub/nasoma_R/climate/data/GLB.Ts+dSST.csv", skip = 1, na =
    select(year = Year, all_of(month.abb)) %>%
    pivot_longer(-year, names_to = "month", values_to = "t_diff") %>%
    drop_na()
```

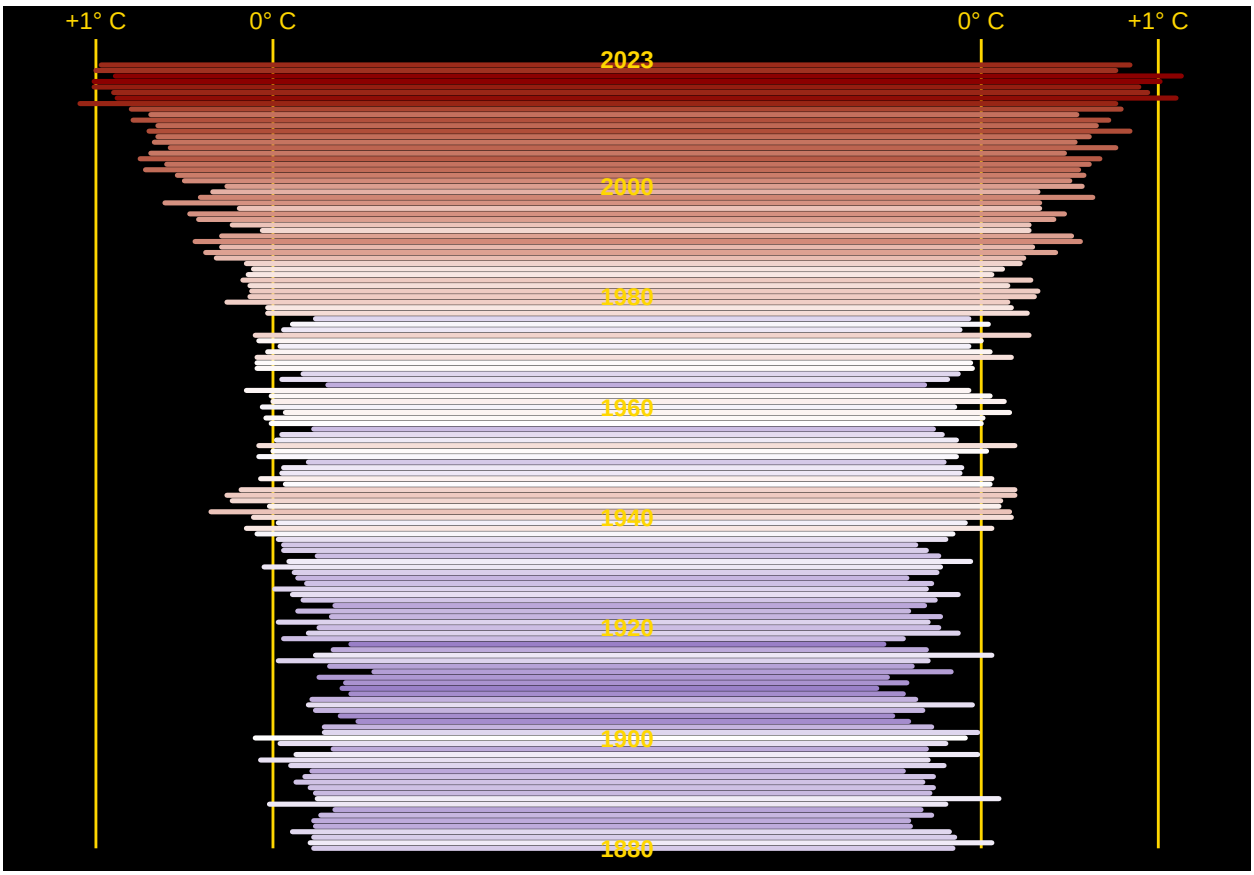
```
# Subsetting for geom_labs & geom_text

grid_labels <- tibble(x = c(-5, -4, 0, 1), y = c(2030), labels = c("+1\u00B0 C", "0\u00B0 C", "0\u00B0 C
year_labels <- tibble(x = -2, y = c(seq(1880, 2000, by = 20), 2023))

# Plotting

t_data %>%
    filter(month == "Apr" | month == "Oct") %>%
    pivot_wider(names_from = "month", values_from = "t_diff") %>%
    mutate(t_ave = (Apr + Oct) / 2) %>%
    ggplot(aes(x = -4 - Oct, xend = Apr, y = year, yend = year, color = t_ave)) +
    geom_vline(xintercept = c(-5, -4, 0, 1), color = "gold") +
    geom_label(
        data = grid_labels, aes(x = x, y = y, label = labels), inherit.aes = FALSE,
        fill = "black", color = "gold", label.size = 0, size = 3
    ) +
    geom_segment(size = 0.9, lineend = "round") +
    geom_text(
        data = year_labels, aes(x = x, y = y, label = y),
        inherit.aes = FALSE, color = "gold", size = 3, fontface = "bold"
    ) +
    scale_color_gradient2(
        low = "darkblue", mid = "white", high = "darkred",
        midpoint = 0, guide = "none"
    ) +
    scale_y_continuous(limits = c(NA, 2030), expand = c(0, 0)) +
    coord_cartesian(clip = "off") +
    labs(x = NULL, y = NULL) +
    theme(
```

```
        plot.background = element_rect(fill = "black", colour = "black"),
        panel.background = element_rect(fill = "black", color = "black"),
        axis.text = element_blank(),
        axis.ticks = element_blank(),
        panel.grid = element_blank()
    )
```




```
# Saving the plot as a .png

ggsave("figures/raw/climate_tornado_nasa.png", width = 4.5, height = 3.5, units = "in", dpi = 300)
```

Commentary

NOTE:

I am doing this in 2023, meaning that I don't have any `na` values - that is, I have complete data as of December 2022!

Tricks and Treats

`scale_y_continuous(limits = c(NA, 2030), expand = c(0,0))`

The `expand=c(0,0)`, removes the extension at the bottom and tht top, thus, we added 2030 to the limits to go 7 years into the future, hence opening up the extensions at the top!

Issue

The coloring of the years labels is a bit washed out, meaning kinda off!! Maybe we could add a text outline to fix it!

Reference

- The Riffomonas Project