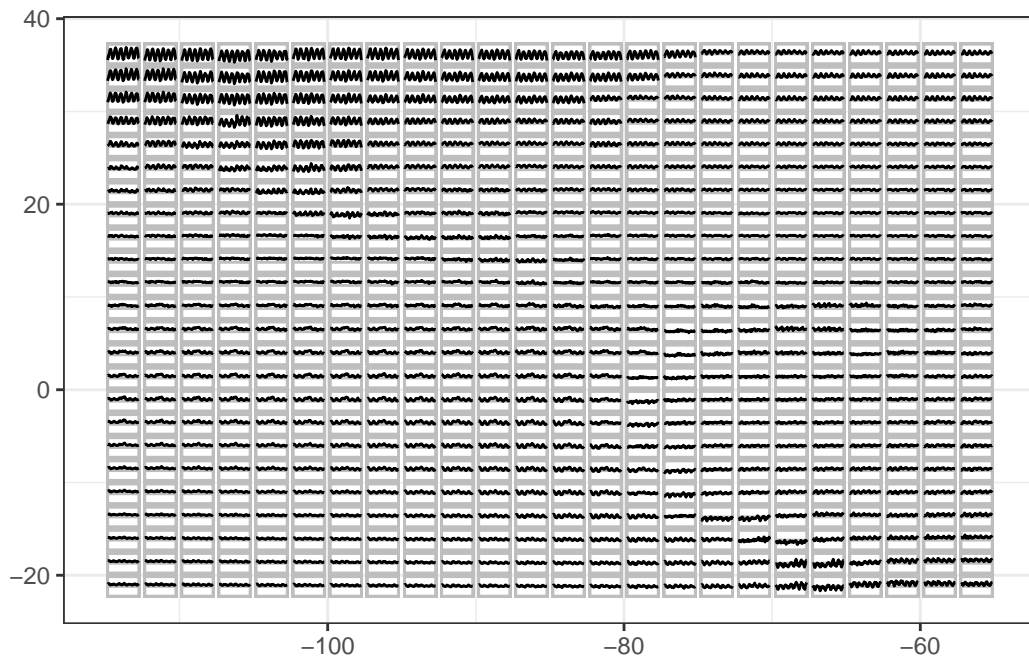


GSOC Glyph Maps Tests

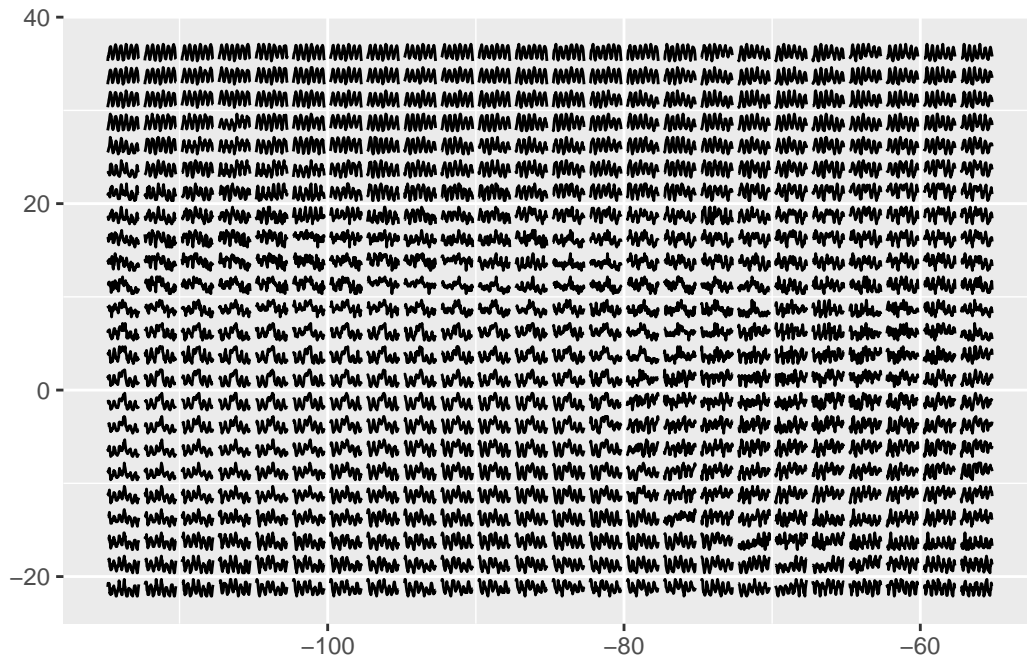
Test 1 (Easy):

Download the `cubble` package and run the glyph map examples (`?geom_glyph`).

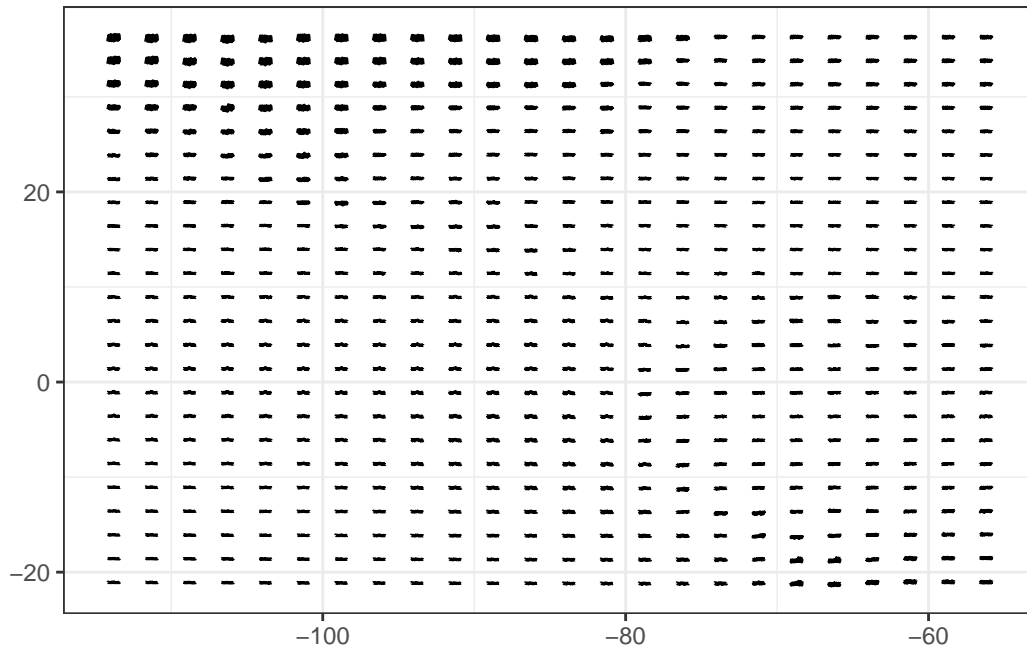
```
if (!require("cubble")) {  
  install.packages("cubble")  
  library(cubble)  
}  
library(tidyverse)  
  
# basic glyph map with reference line and box-----  
p <- ggplot(data = GGally::nasa,  
  aes(x_major = long, x_minor = day,  
      y_major = lat, y_minor = surftemp)) +  
  geom_glyph_box() +  
  geom_glyph_line() +  
  geom_glyph() +  
  theme_bw()  
p
```



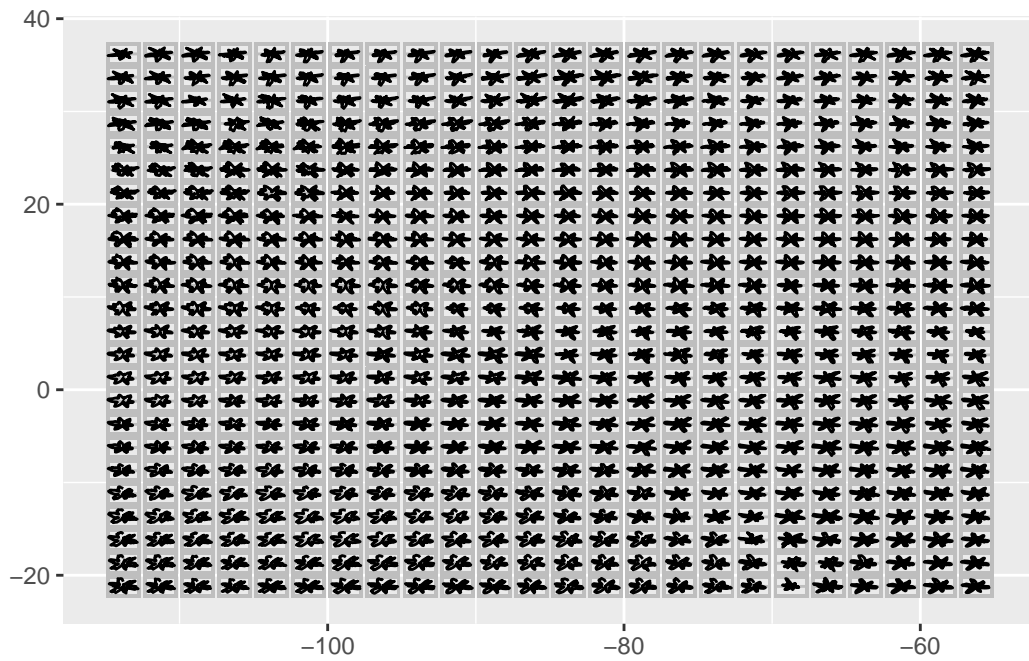
```
# rescale on each individual glyph -----
p <- ggplot(data = GGally::nasa,
  aes(x_major = long, x_minor = day,
      y_major = lat, y_minor = surftemp)) +
  geom_glyph(global_rescale = FALSE)
p
```



```
# adjust width and height with relative & absolute value -----
p <- ggplot() +
  geom_glyph(data = GGally::nasa,
    aes(x_major = long, x_minor = day,
      y_major = lat, y_minor = surftemp),
    width = rel(0.8), height = 1) +
  theme_bw()
p
```



```
# apply a re-scaling on Y and use polar coordinate
p <-
  GGally::nasa %>%
  ggplot(aes(x_major = long, x_minor = day,
              y_major = lat, y_minor = ozone)) +
  geom_glyph_box(fill=NA) +
  geom_glyph_line() +
  geom_glyph(y_scale = GGally::range01, polar = TRUE)
p
```



Test 2 (Medium):

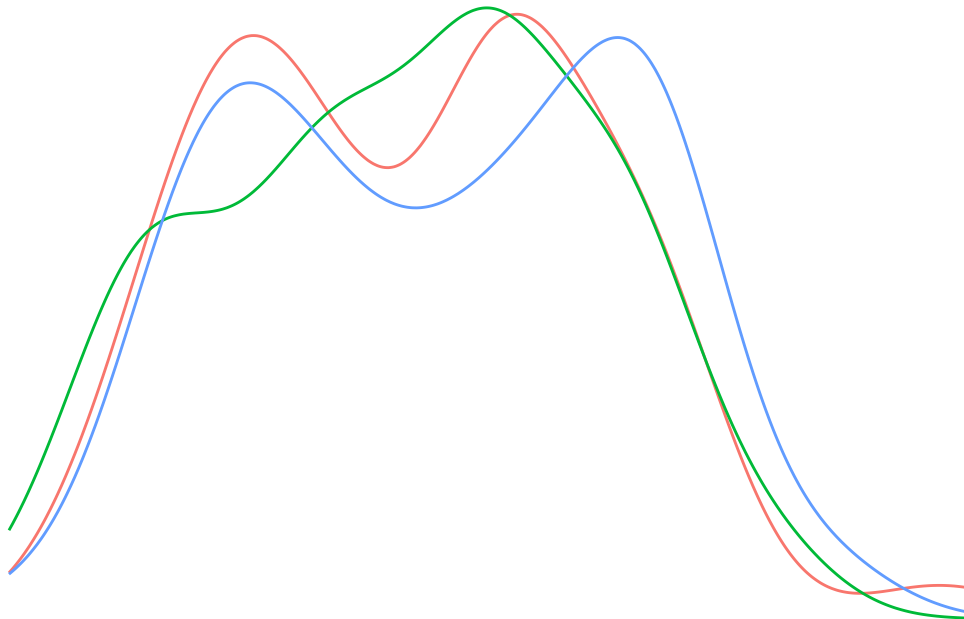
read [the Geoms section](#) in the ggplot2 package reference and other geoms available in the ggplot2 extensions. Create a example that is applicable to be used as a glyph on a map.

I think all of the following geoms can be appropriately used as glyphs in order to visualize spatio-temporal data.

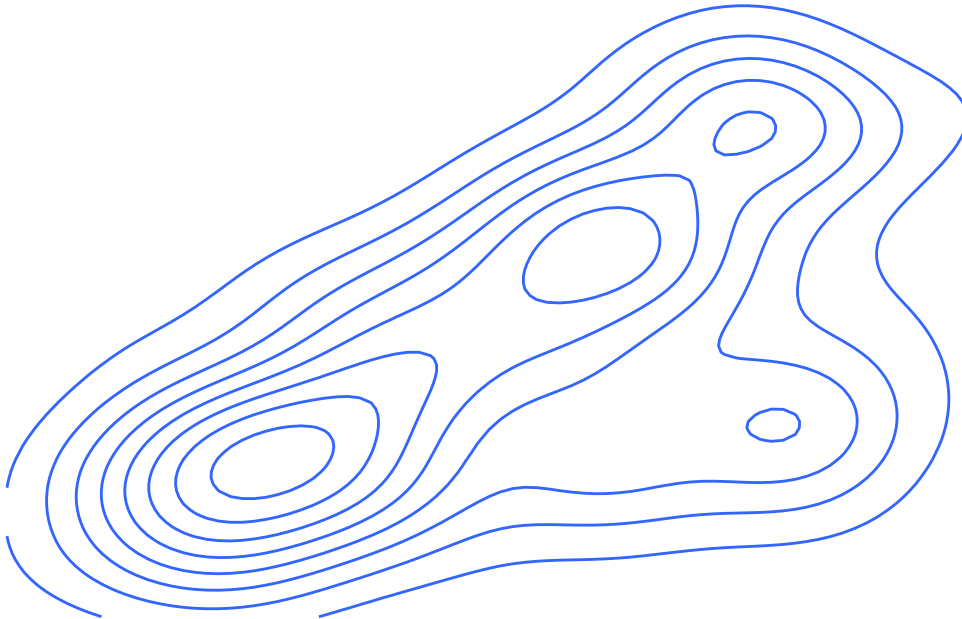
```
library(palmerpenguins)
library(ggribbles)
# install.packages("ggribbles")

penguins_grouped <- penguins |>
  group_by(year) |>
  summarise(
    mean_bill = mean(bill_length_mm, na.rm = TRUE),
    mean_mass = mean(body_mass_g, na.rm = TRUE)
  )

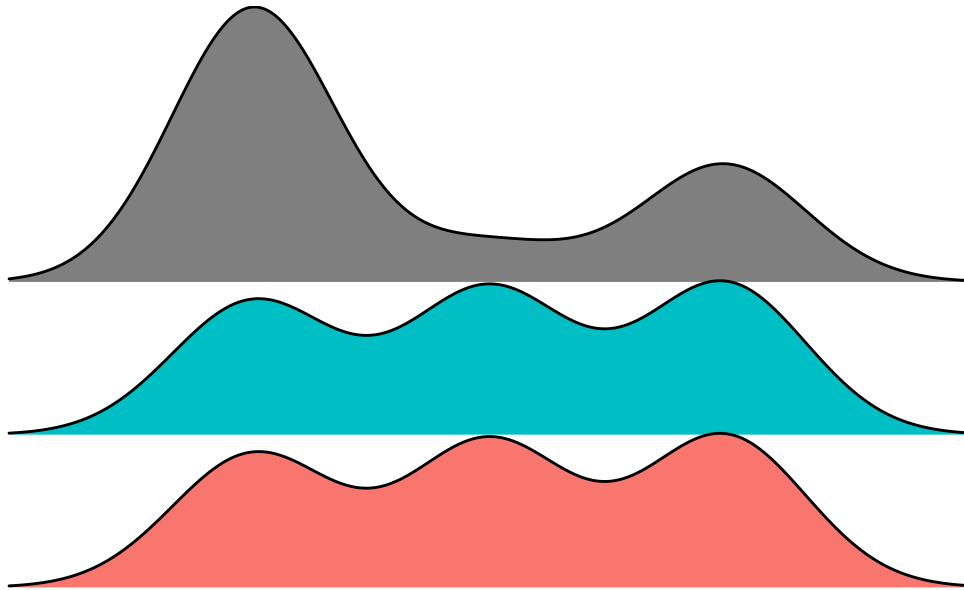
# Density Plots
ggplot(penguins) +
  geom_density(aes(x = bill_length_mm, group = year, color = factor(year)), show.legend =
  theme_void()
```



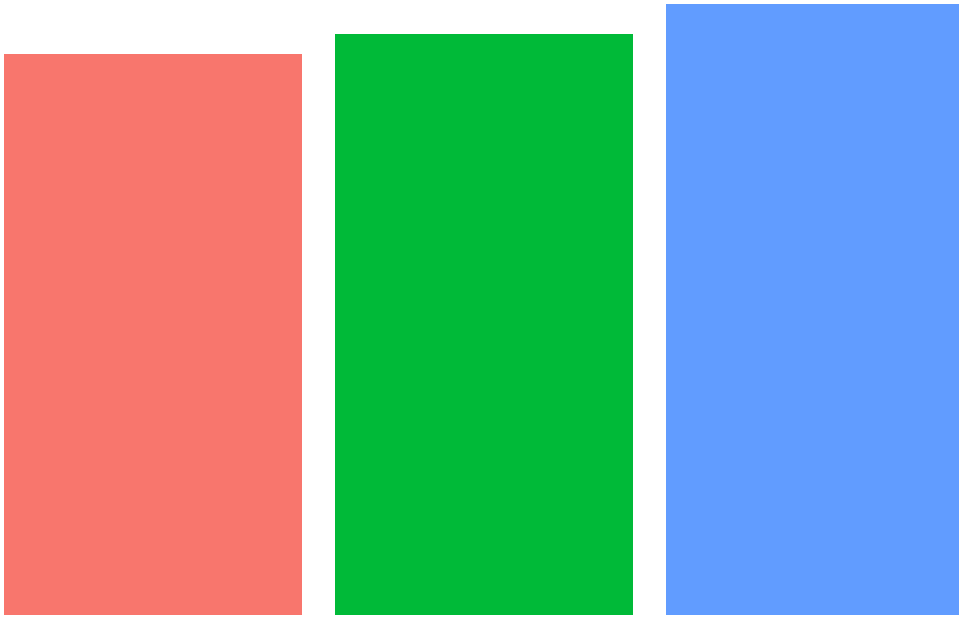
```
# 2d Density Plots
ggplot(penguins) +
  geom_density_2d(aes(x = bill_length_mm, y = body_mass_g), show.legend = FALSE) +
  theme_void()
```



```
# Ridgeline plots
ggplot(penguins) +
  geom_density_ridges(aes(x = year, y = sex, fill = sex), show.legend = FALSE) +
  theme_void()
```



```
# Bar Charts
ggplot(penguins) +
  geom_bar(aes(x = year, fill = factor(year), group = year), show.legend = FALSE) +
  theme_void()
```

Test 3 (Hard):

See <https://github.com/huizezhang-sherry/cubble/pull/28>