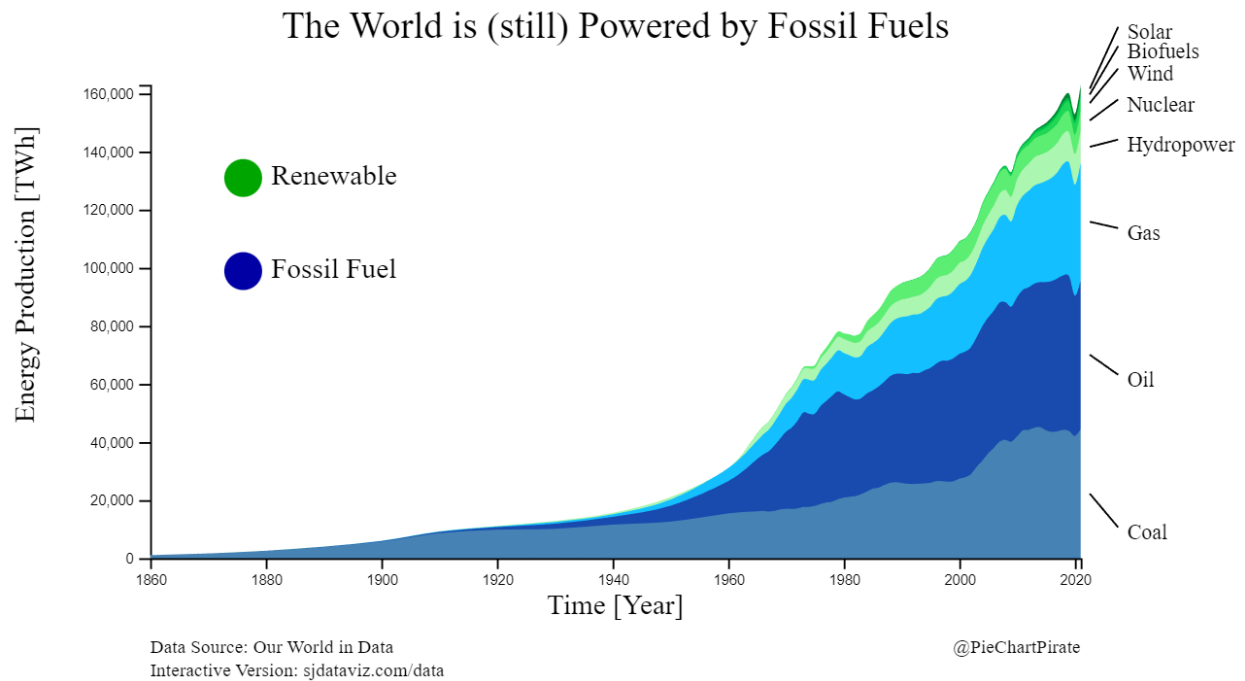


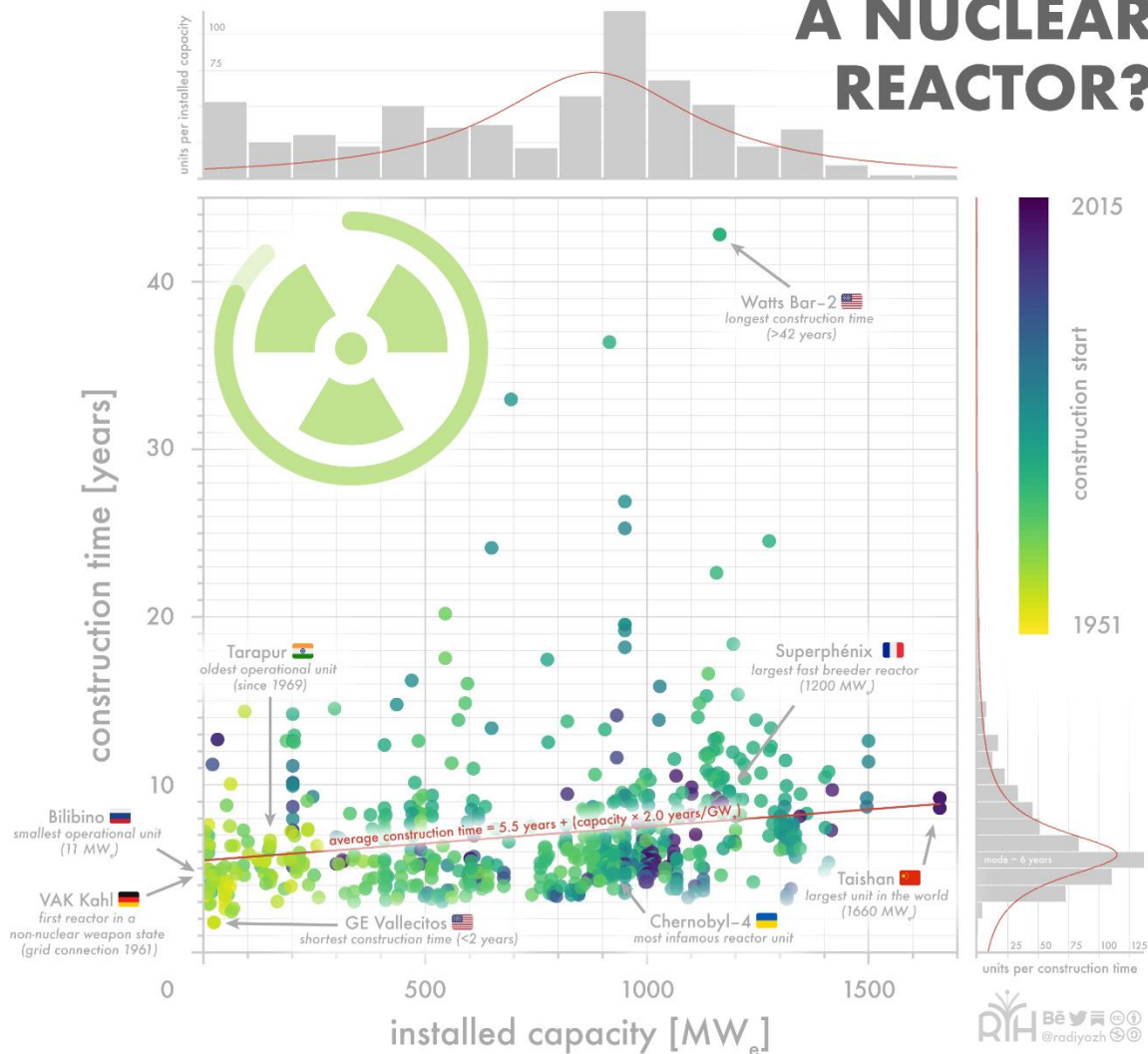
Chapter 2 Problem 3



This graphical display is compelling in its simplicity as I can clearly see how energy production sources have change over time. Moreover, all the axes are properly label with appropriate units and scaled in a logical way. I also notice that they use the Yellow Green Blue palette from RColorBrewer, which ensures that a colorblind person would be able to read the graph.

HOW LONG DOES IT TAKE TO BUILD A NUCLEAR REACTOR?

Data: IAEA Nuclear Power Reactors in the World 2021



I find this graphical display less than compelling because it displays too many graphs and information that makes it. This denseness draws the attention away from the most compelling data, thereby making it less effective. I simply do not understand the purpose of the two graphs on the top and side, especially since they did not specify the “units.” They are also gray, which makes it harder to read. Finally, I do not like the nuclear sign in the middle of the graph since it makes the graphical display looks messy.

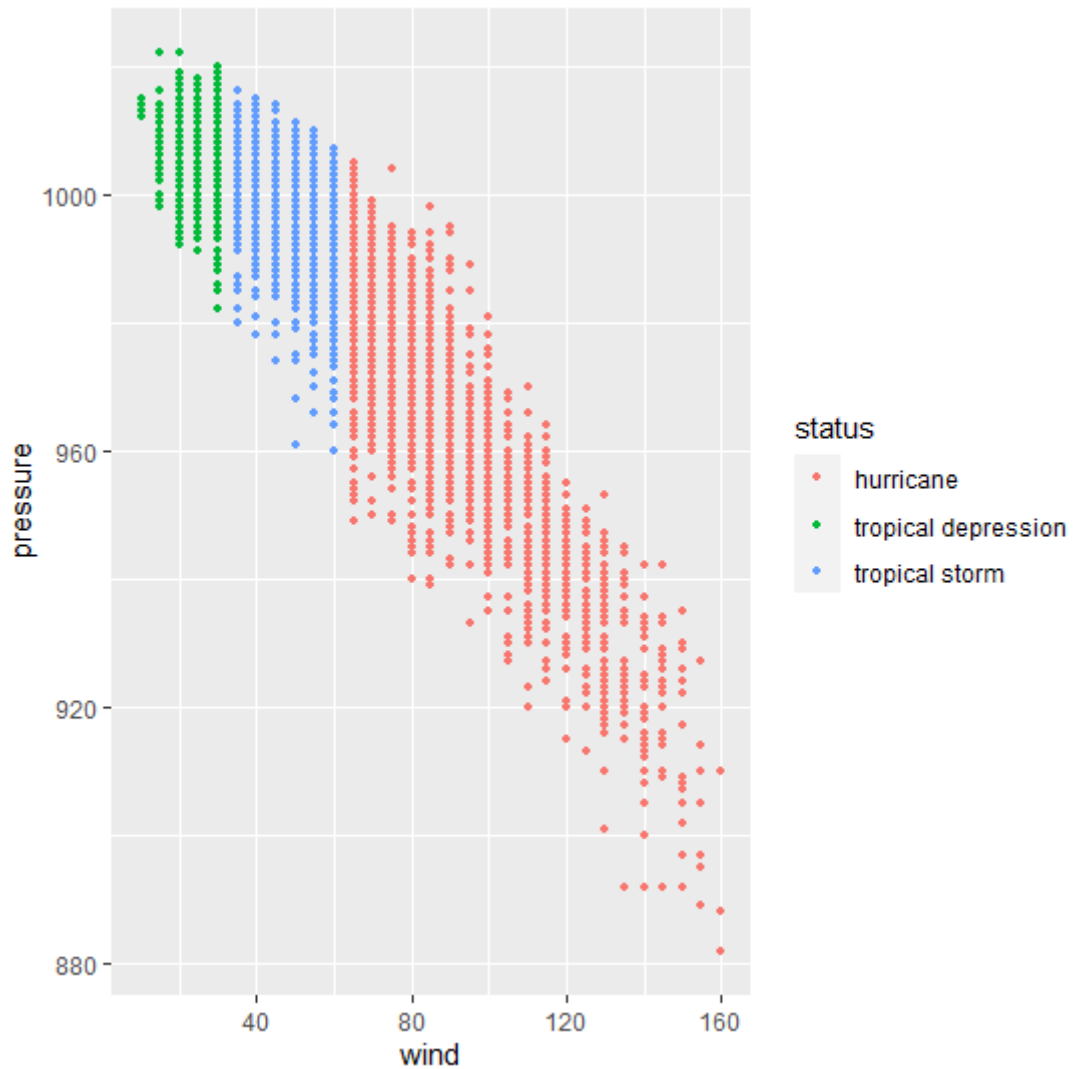
To improve this graphical display, they simply need to remove the unnecessary logo and graphs. I would also use black instead of gray.

Chapter 2 Problem 5

- a. The message that these two graphics convey is that tax cuts disproportionately benefit the middle-upper and upper class. In the graph “Whose Tax Rates Rose or Fell,” we can see that the tax rate for the top 0.01 percent’s tax rate more than halved from 1960 to 2004. Meanwhile, the tax rate of the bottom 99% have effectively stay the same within the same period. This graphic pairs nicely with the graphic “Who Gains Most from Tax Breaks” that details different categories of tax cuts. It seems that almost all of the categories except for refundable credits disproportionately benefitted the top 20 percent income group.
- b. They utilized a color palette like the Red Blue palette from RColorBrewer, which means that people with colorblind can still read the graph. All the information is clearly displayed with well-marked axes and contextual information. I find the use of horizontal width in comparison to compare the different categories to the total cost to treasury compelling. It also avoids the use of pie charts, which is difficult to read.
- c. I can see why the “Whose Tax Rates Rose or Fell” can be misleading because it arbitrary starts in 1960. I would like to know the tax rate ever since taxes have been implemented to see the full picture more clearly. I also wonder why they have so many exclusions for the “Who Gains Most from Tax Breaks” graphics, but I also understand that it would make the graphics too cluttered if they have too much information. In all, I find these two to be great graphics.

Chapter 2 Problem #6

Chapter 3 Problem 2

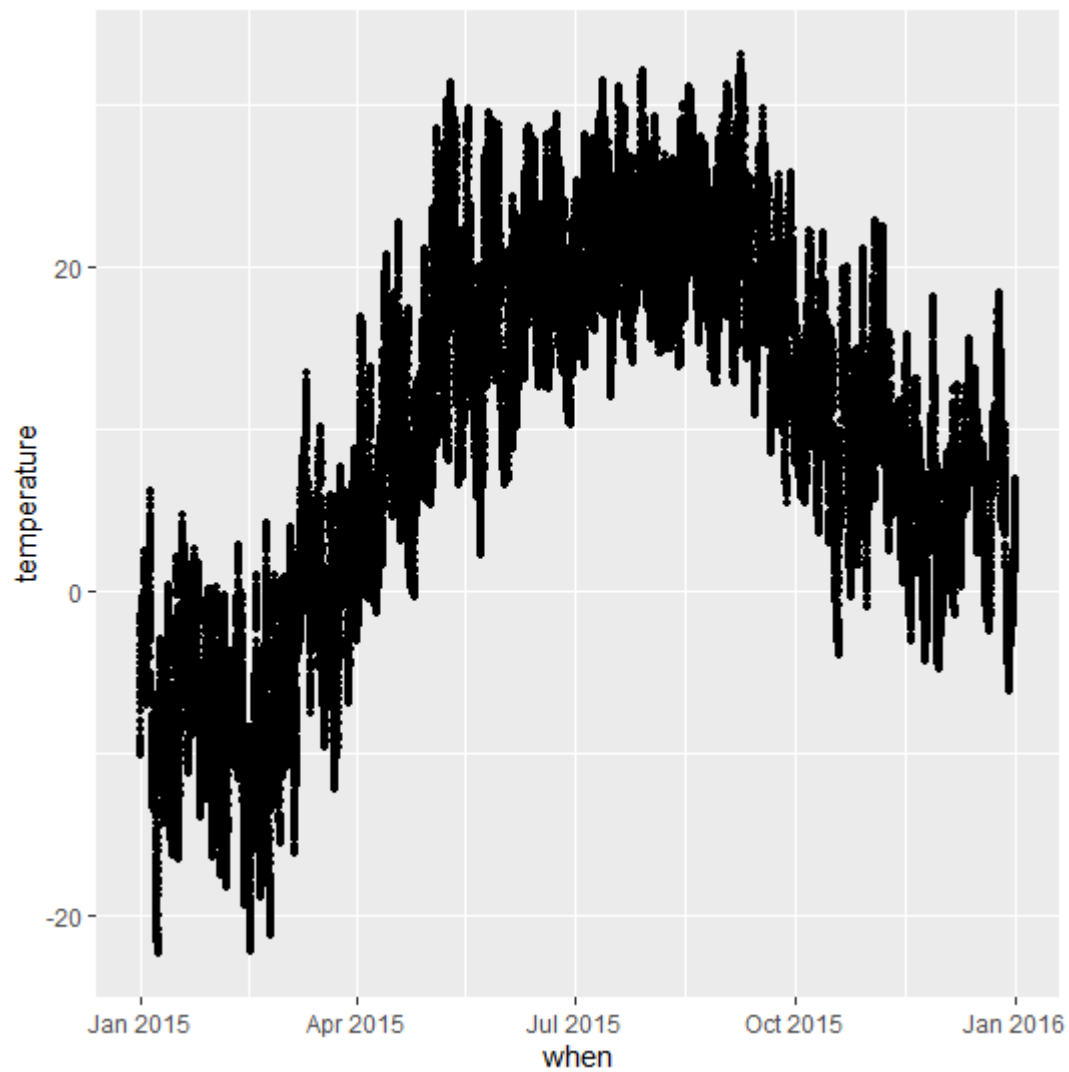


```
library(ggplot2)
library(tidyverse)
library(nasaweather)
library(mdsr)

glimpse(storms)

g <- ggplot(data = storms, aes(x = wind, y = pressure, color = status))
g + geom_point(size = 1)
```

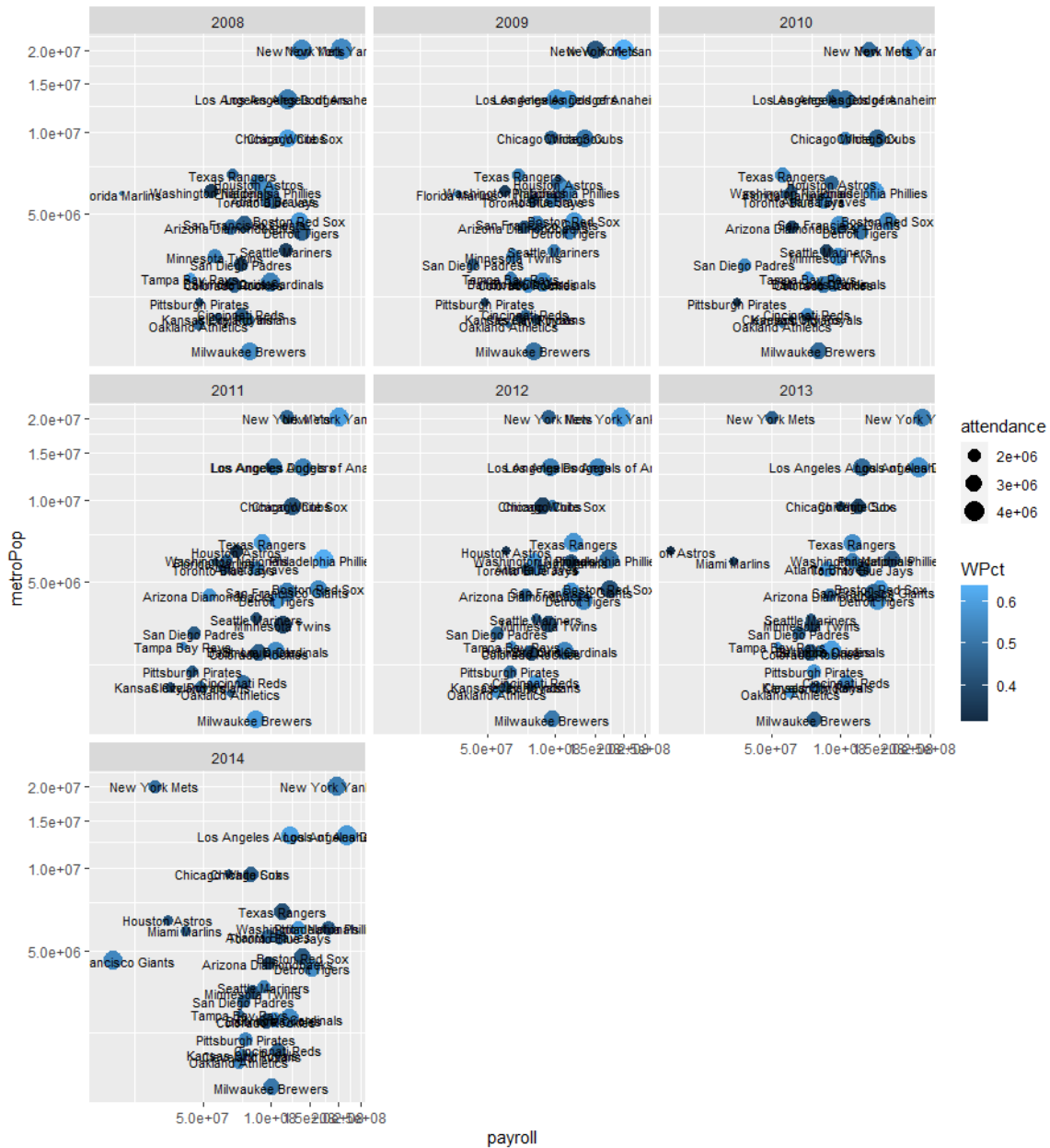
Chapter 3 Problem 4



```
library(ggplot2)
library(tidyverse)
library(nasaweather)
```

```
g <- ggplot(data = nasaweather, aes(x = when, y = temperature))
g + geom_point(size = 1)
```

Chapter 3 Problem 6

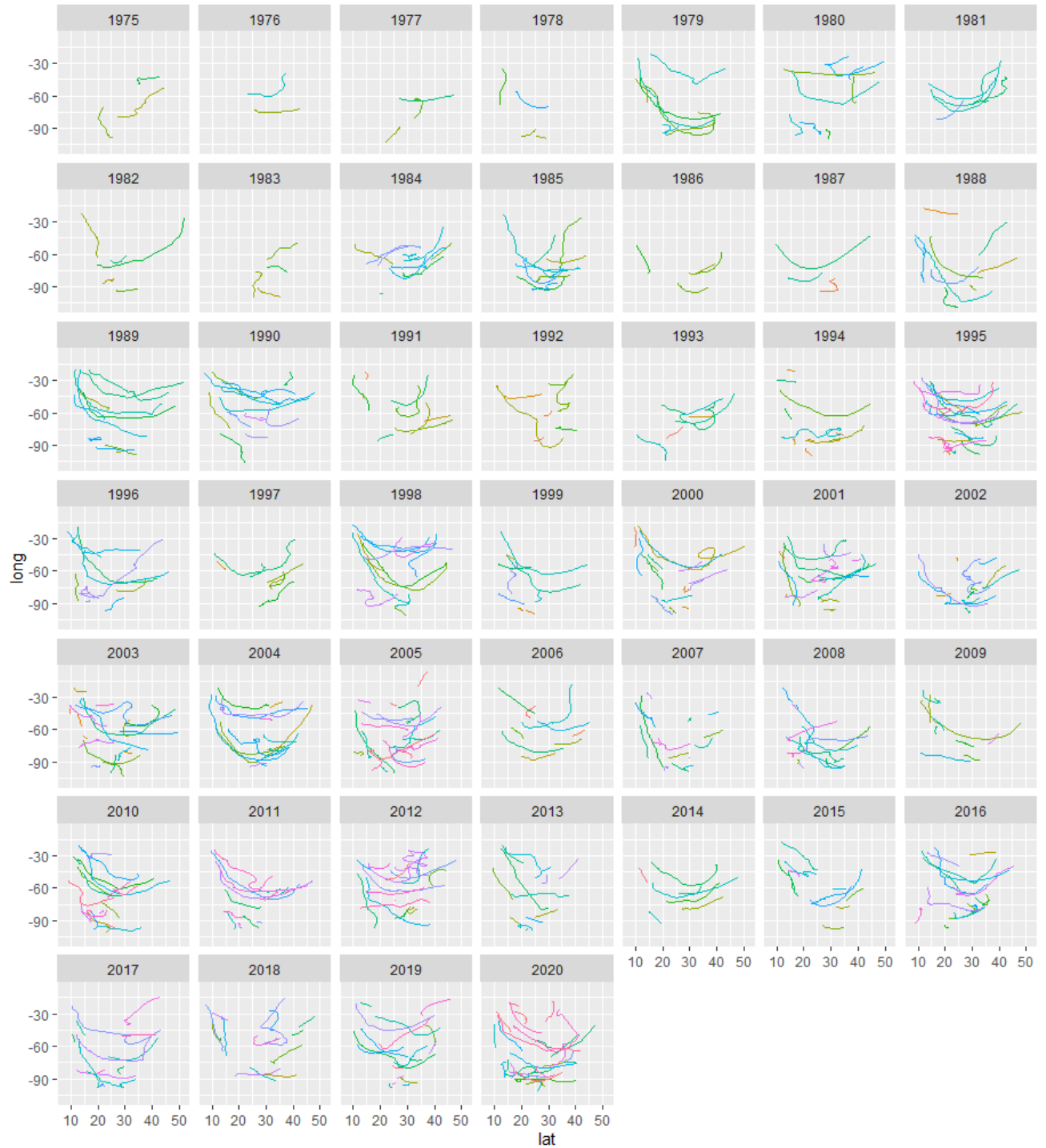


```
library(ggplot2)
library(tidyverse)
library(mdsr)

glimpse(MLB_teams)

g <- ggplot(data = MLB_teams, aes(x = payroll, y = metroPop))
g +
  geom_point(aes(size = attendance, color = WPct)) +
  facet_wrap(~yearID) +
  geom_text(aes(label = name), size = 2) +
  coord_trans(y="log10", x="log10")
```

Chapter 3 Problem 8



name

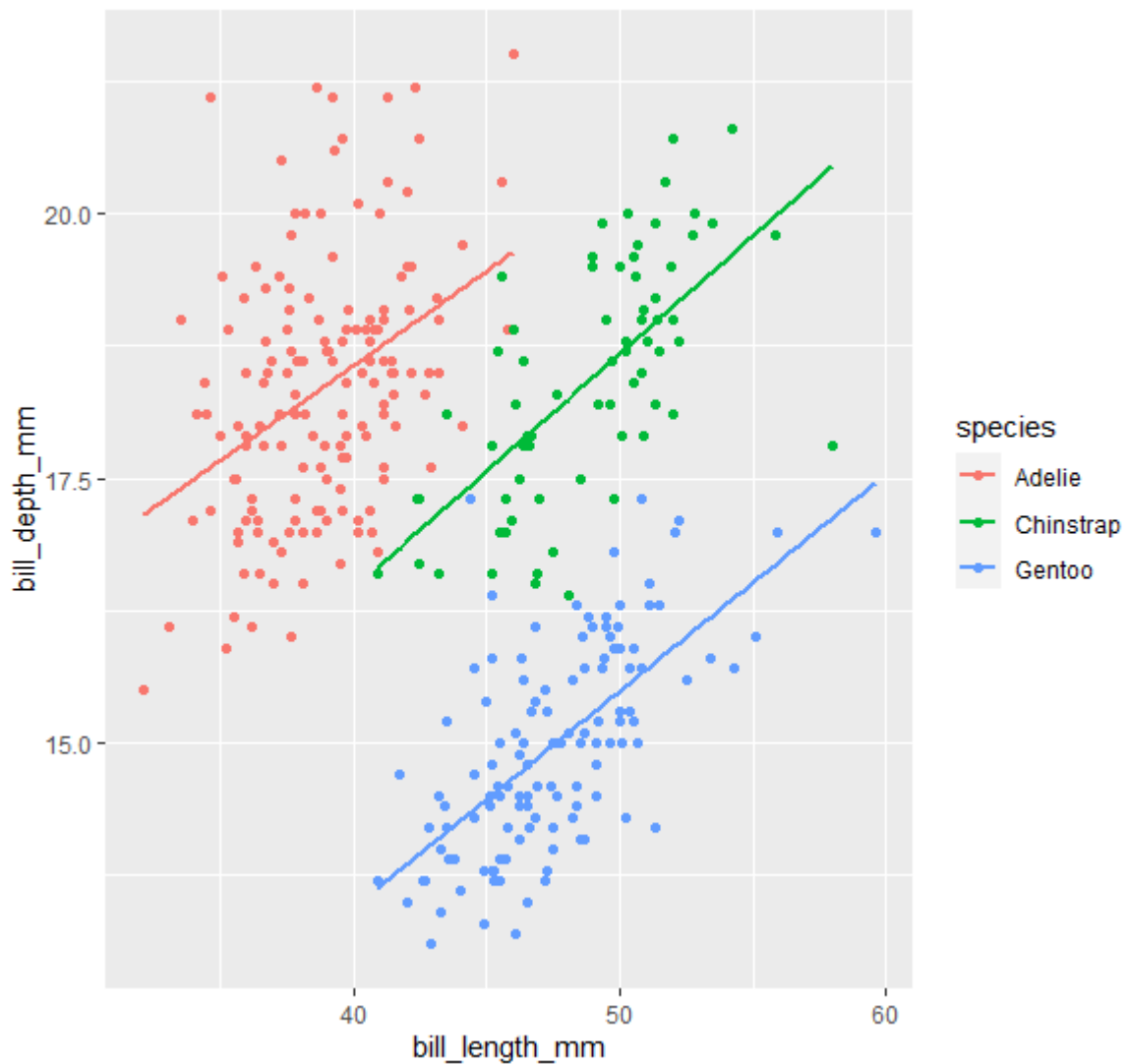
AL011993	AL072003	Alicia	Charley	Epsilon	Gaston	Ingrid	Katia	Michelle	Pablo	Tammy
AL012000	AL081992	Allison	Chris	Erika	Georges	Iota	Katrina	Mindy	Paloma	Tanya
AL021992	AL081994	Amelia	Clara	Erin	Gert	Iris	Keith	Mitch	Patty	Teddy
AL021994	AL091994	Amy	Claudette	Ernesto	Gilbert	Isaac	Kirk	Nadine	Paula	Ten
AL021999	AL092000	Ana	Colin	Eta	Gloria	Isabel	Klaus	Nana	Paulette	Theta
AL022000	AL092001	Andrea	Cora	Evelyn	Gonzalo	Isaias	Kyle	Nate	Peter	Three
AL022001	AL092003	Andrew	Cristobal	Fabian	Gordon	Isidore	Larry	Nestor	Philippe	Tomas
AL022003	AL101991	Anita	Danielle	Fay	Gustav	Ivan	Lee	Nicholas	Rafael	Tony
AL022006	AL101993	Arthur	Danny	Felix	Hanna	Jeanne	Lenny	Nicole	Rene	Two
AL031987	AL101994	Barry	David	Fernand	Harvey	Jerry	Leslie	Nine	Richard	Vicky
AL031992	AL102004	Belle	Dean	Fifteen	Henri	Joan	Lili	Nineteen	Rina	Vince
AL041991	AL111999	Beryl	Debby	Fiona	Hermine	Joaquin	Lisa	Noel	Rita	Wilfred
AL042000	AL121991	Bess	Diana	Five	Hortense	Josephine	Lorenzo	Odette	Roxanne	Wilma
AL051994	AL121999	Beta	Don	Floyd	Hugo	Joyce	Luis	Olga	Sally	Zeta
AL061988	AL141995	Bill	Dorian	Four	Humberto	Juan	Marco	Omar	Sandy	
AL061995	AL142002	Bob	Doris	Franklin	Ian	Julia	Maria	One	Sean	
AL061997	AL142003	Bonnie	Edouard	Fred	Ida	Juliet	Marilyn	Opal	Sebastien	
AL062003	AL202011	Caroline	Eight	Frederic	Igor	Karen	Matthew	Ophelia	Shary	
AL071999	Alberto	Cesar	Eleven	Gabrielle	Ike	Karl	Melissa	Oscar	Sixteen	
AL072002	Alex	Chantal	Emily	Gamma	Imelda	Kate	Michael	Otto	Stan	

#Chapter 3 Problem 8

```
library(ggplot2)
library(tidyverse)
library(nasaweather)
```

```
glimpse(storms)
g <- ggplot(data = storms, aes(x = lat, y = long, color = name))
g +
  geom_path() +
  facet_wrap(~year)
```


Chapter 3 Problem 9a

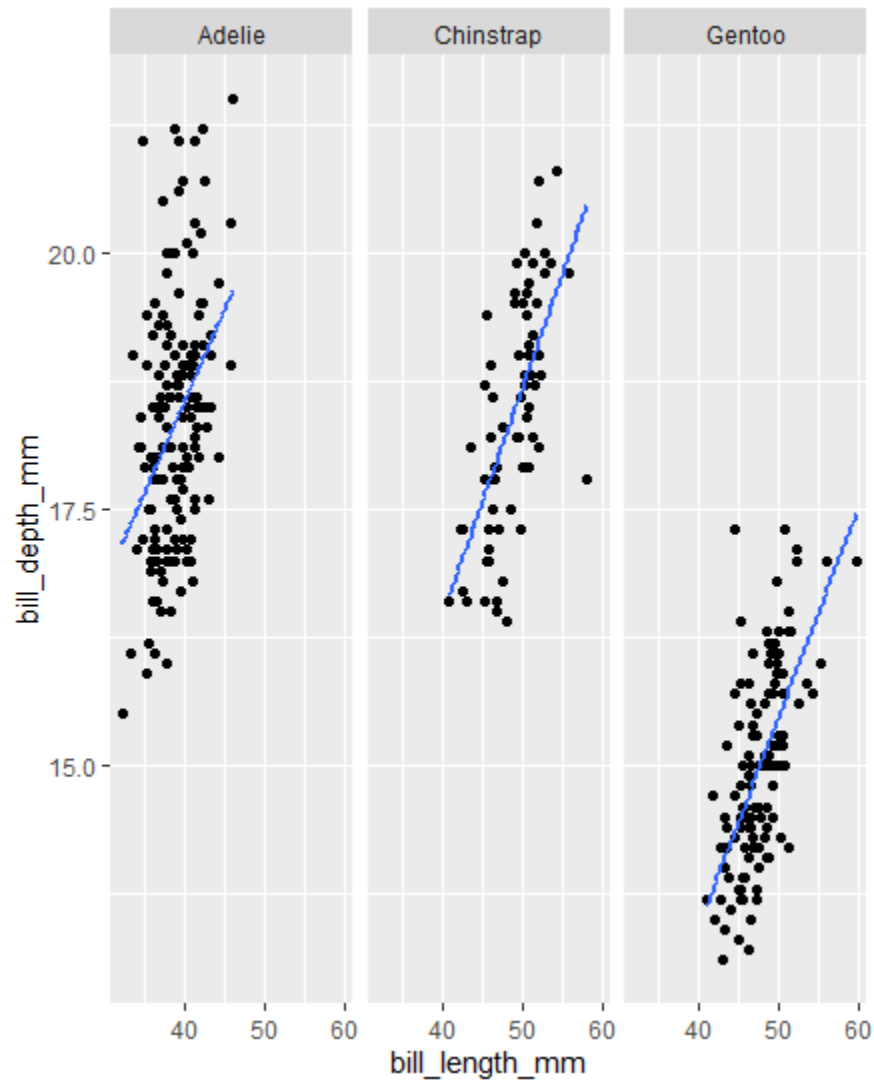


```
#Chapter 3 Problem 9a|
library(ggplot2)
library(tidyverse)
library(palmerpenguins)

glimpse(penguins)
g <- ggplot(data = penguins, aes(x = bill_length_mm, y = bill_depth_mm, color = species))
g +
  geom_point() +
  geom_smooth(method = "lm", se = FALSE)
```

I observe that as bill depths increase in mm, the bill lengths also increase in mm. The association is strongly positive and linear. The association is about the same for all groups of penguins, with Adele having the most outliers.

Chapter 3 Problem 9b



```
#Chapter 3 Problem 9b
library(ggplot2)
library(tidyverse)
library(palmerpenguins)

|
glimpse(penguins)
g <- ggplot(data = penguins, aes(x = bill_length_mm, y = bill_depth_mm))
g +
  geom_point() +
  geom_smooth(method = "lm", se = FALSE) +
  facet_wrap(~species)
```

I summarize that the association between bill depth and bill length is strongly positive and linear for all species of penguin (Adelie, Chinstrap, Gentoo).