Activity 3: Data Visualization — Fundamentals of ggplot

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install.packages("ggplot2")

{r library(ggplot2) library(here) library(tidyverse)

Read in the data and store as "ci_np" data object

ci_np <- read.csv("ci_np.csv")

display the first 6 rows

head(ci_np)

colnames(ci_np)

glimpse(ci_np)

ggplot(data = ci_np)

ggplot(data = ci_np, mapping = aes(x = year, y = visitors)) + geom_point()

ggplot(data = ci_np, mapping = aes(x = year, y = visitors)) + geom_col()

ggplot(data = ci_np, mapping = aes(x = year, y = visitors)) + geom_point() + geom_line()

ggplot(data = ci_np, mapping = aes(x = year, y = visitors)) + geom_point() + geom_smooth(method = 'lm')

Plotting one variable —-

ggplot(data = ci_np, aes(x = visitors)) + geom_histogram(bins = 10)

ggplot(data = ci_np, mapping = aes(x = visitors)) + geom_density()

ggplot(data = ci_np, mapping = aes(x = year, y = visitors)) + geom_point(shape = 8, color = “blue”)

ggplot(ci_np, aes(x = year, y = visitors)) + geom_point(shape = 8, color = “blue”)

ggplot(ci_np, aes(x = year, y = visitors)) + geom_point(aes(size = visitors))

ggplot(ci_np, aes(x = year, y = visitors)) + geom_point(aes(size = visitors, color = visitors))

ca_np <- read.csv(“ca_np.csv”)

unique(ca_np$park_name)

ggplot(data = ca_np, mapping = aes(x = year, y = visitors)) + geom_point(aes(color = park_name))

ggplot(data = ca_np, mapping = aes(x = year, y = visitors)) + geom_point()

ggplot(data = ca_np, mapping = aes(x = year, y = visitors)) + geom_point(aes(color = park_name)) + facet_wrap(park_name ~ .)

ggplot(data = ca_np, mapping = aes(x = year, y = visitors)) + geom_point(aes(color = park_name)) + facet_wrap(park_name ~ ., scales = “free_y”)

abalone <- read.csv(“abalone_landings.csv”)

glimpse(abalone)

ggplot(data = abalone, mapping = aes(x = Year, y = Abalone_Landings_lbs)) + geom_point(aes(color = Abalone_Species))+ geom_smooth(method = ‘lm’)

#reseach question: All abalone species except Red abalone have 0 landings post 2001

ggplot(data = abalone, aes(x = Year, y = Abalone_Landings_lbs, color = Abalone_Species)) + geom_smooth() + facet_wrap(Abalone_Species ~ .) + scale_color_manual(values = c(“Red” = “firebrick”, “Green” = “darkgreen”, “Pink” = “deeppink”, “Black” = “black”, “White” = “white”))

ggsave(“abalone_landings_by_species.png”, width = 8, height = 6, units = “in”, dpi = 300)

unique(abalone$Abalone_Species)

What we learned from our graph:

All species declined precipitously over the course of the dataset. But, only red abalone had any harvest (>0lbs) at the endo of the data series.

Follow up research question:

How did juvenile abalone populations fare during this period. We would need size data, and potentially non-fisheries data to answer this question.

ggsave()