Macroplastics by material

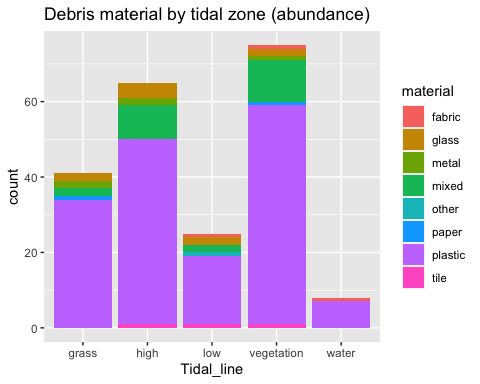
2023-01-07

library(tidyverse)

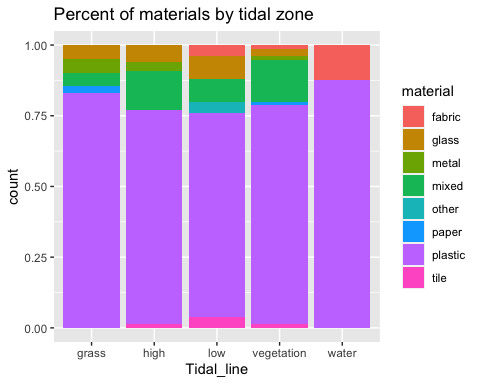
## ── Attaching packages ─────────────────────────────────────── tidyverse 1.3.2 ──  
## ✔ ggplot2 3.4.0 ✔ purrr 1.0.0   
## ✔ tibble 3.1.8 ✔ dplyr 1.0.10  
## ✔ tidyr 1.2.1 ✔ stringr 1.5.0   
## ✔ readr 2.1.3 ✔ forcats 0.5.2   
## ── Conflicts ────────────────────────────────────────── tidyverse\_conflicts() ──  
## ✖ dplyr::filter() masks stats::filter()  
## ✖ dplyr::lag() masks stats::lag()

library(readxl)  
library(plotrix)  
macroplastics <- read\_excel("~/Desktop/MB5001 Macroplastics Data.xlsx")

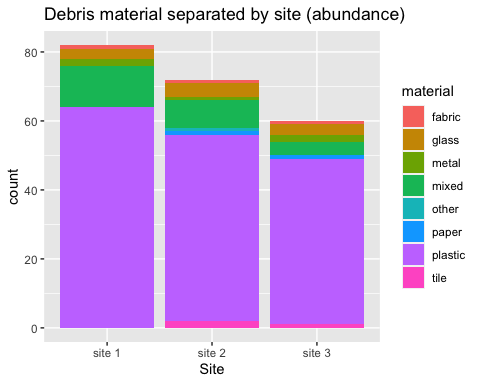
macroplastics %>%   
 ggplot() +  
 geom\_bar(mapping = aes(fill = material, x = Tidal\_line), na.rm = T) +  
 ggtitle("Debris material by tidal zone (abundance)")



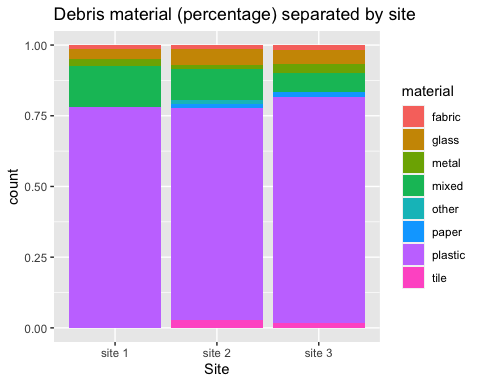
macroplastics %>%   
 ggplot() +  
 geom\_bar(mapping = aes(fill = material, x = Tidal\_line), na.rm = T, position = "fill") +  
 ggtitle("Percent of materials by tidal zone")



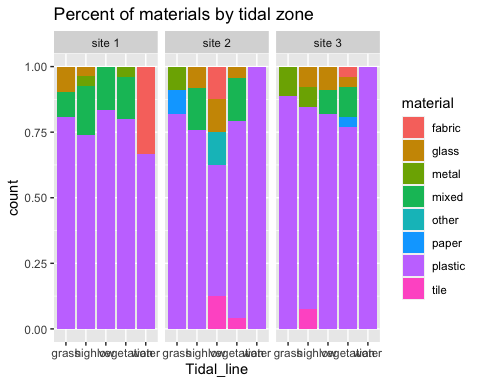
macroplastics %>%   
 ggplot() +  
 geom\_bar(mapping = aes(fill = material, x = Site), na.rm = T) +  
 ggtitle("Debris material separated by site (abundance)")



macroplastics %>%   
 ggplot() +  
 geom\_bar(mapping = aes(fill = material, x = Site), na.rm = T, position = "fill") +  
 ggtitle("Debris material (percentage) separated by site")



macroplastics %>%   
 ggplot() +  
 geom\_bar(mapping = aes(fill = material, x = Tidal\_line), na.rm = T, position = "fill") +  
 ggtitle("Percent of materials by tidal zone") +  
 facet\_wrap(~ Site)



For average count for each material with standard error bars:

material\_summary <- macroplastics %>%   
 group\_by(material) %>%   
 summarise(mean = mean(Count), std\_error = std.error(Count))  
  
ggplot(material\_summary, aes(x = material, y = mean)) +  
 geom\_bar(stat = "identity") +  
 geom\_errorbar(aes(ymin = mean - std\_error, ymax = mean + std\_error), width = 0.4, size = 0.4) +  
 labs(x = "Material", y = "Mean rubbish count (+/- SE)")

## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.  
## ℹ Please use `linewidth` instead.

