

# MICB425

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## Data Science Friday 5

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse
```

```
## v ggplot2 2.2.1      v purrr  0.2.4
```

```
## v tibble  1.4.2      v dplyr  0.7.4
```

```
## v tidyr   0.8.0      v stringr 1.2.0
```

```
## v readr   1.1.1      v forcats 0.2.0
```

```
## -- Conflicts ----- tidyverse_conflicts_
```

```
## x dplyr::filter() masks stats::filter()
```

```
## x dplyr::lag()     masks stats::lag()
```

```
###Exercise 1
```

```
library(phyloseq)
```

```
library(ggplot2)
```

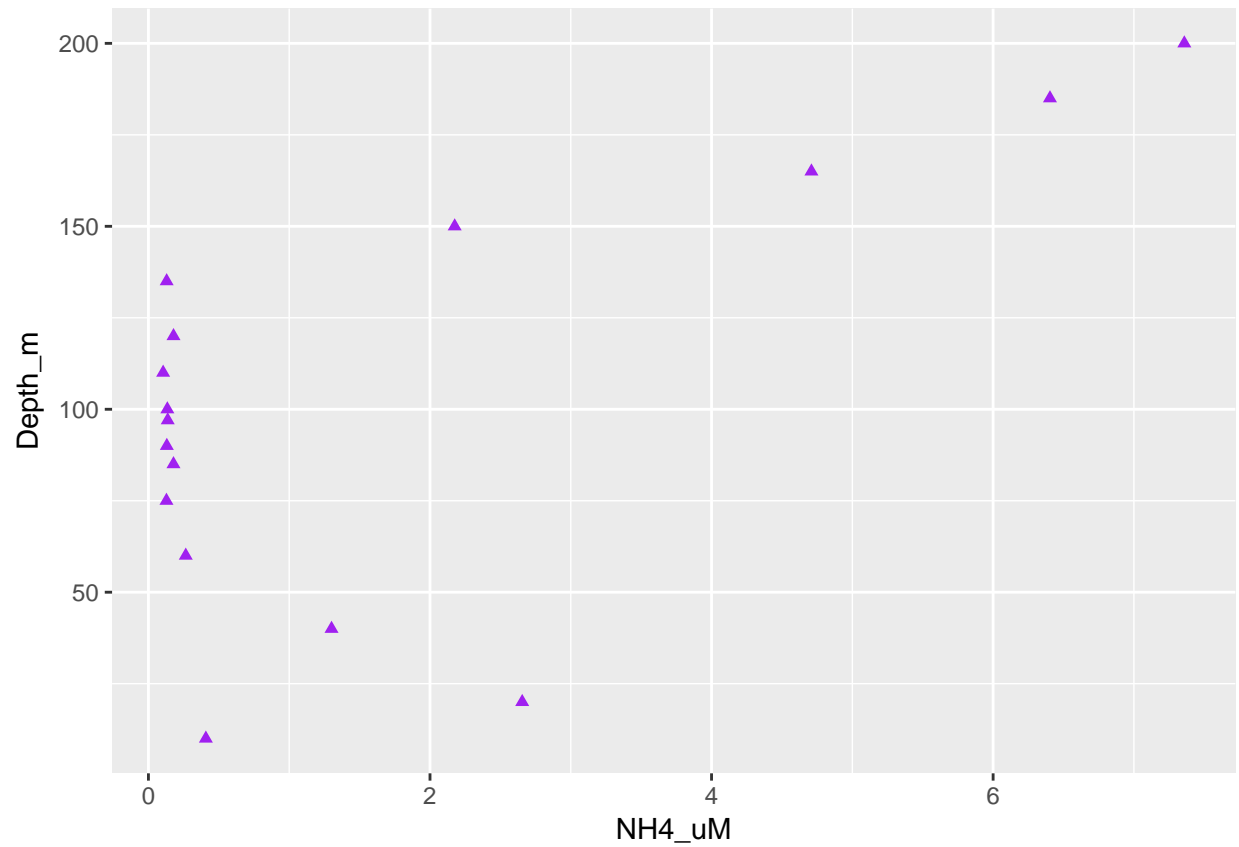
```
library(dplyr)
```

```
library(knitr)
```

```
load(file="metadata.RData")
```

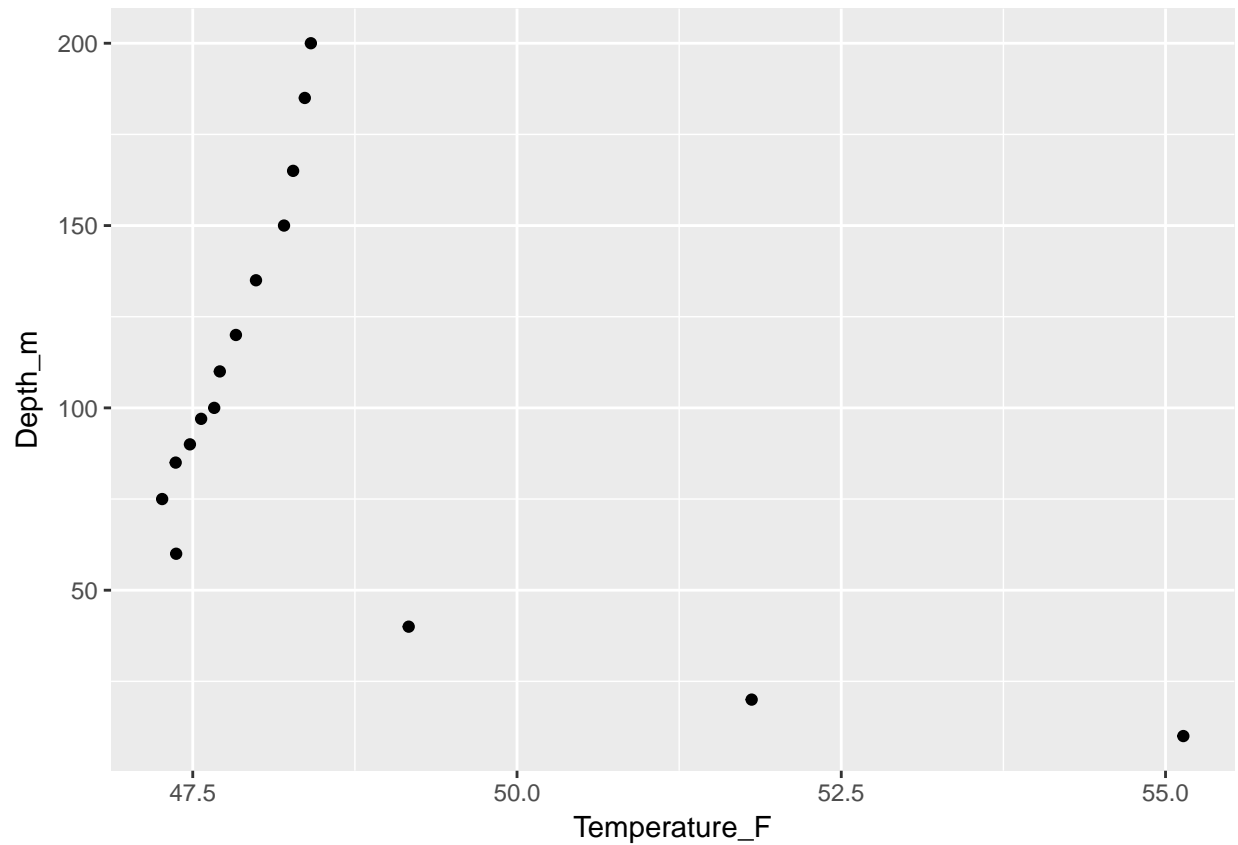
```
ggplot(metadata, aes(x=NH4_uM, y=Depth_m)) +
```

```
geom_point(color="purple", shape=17)
```



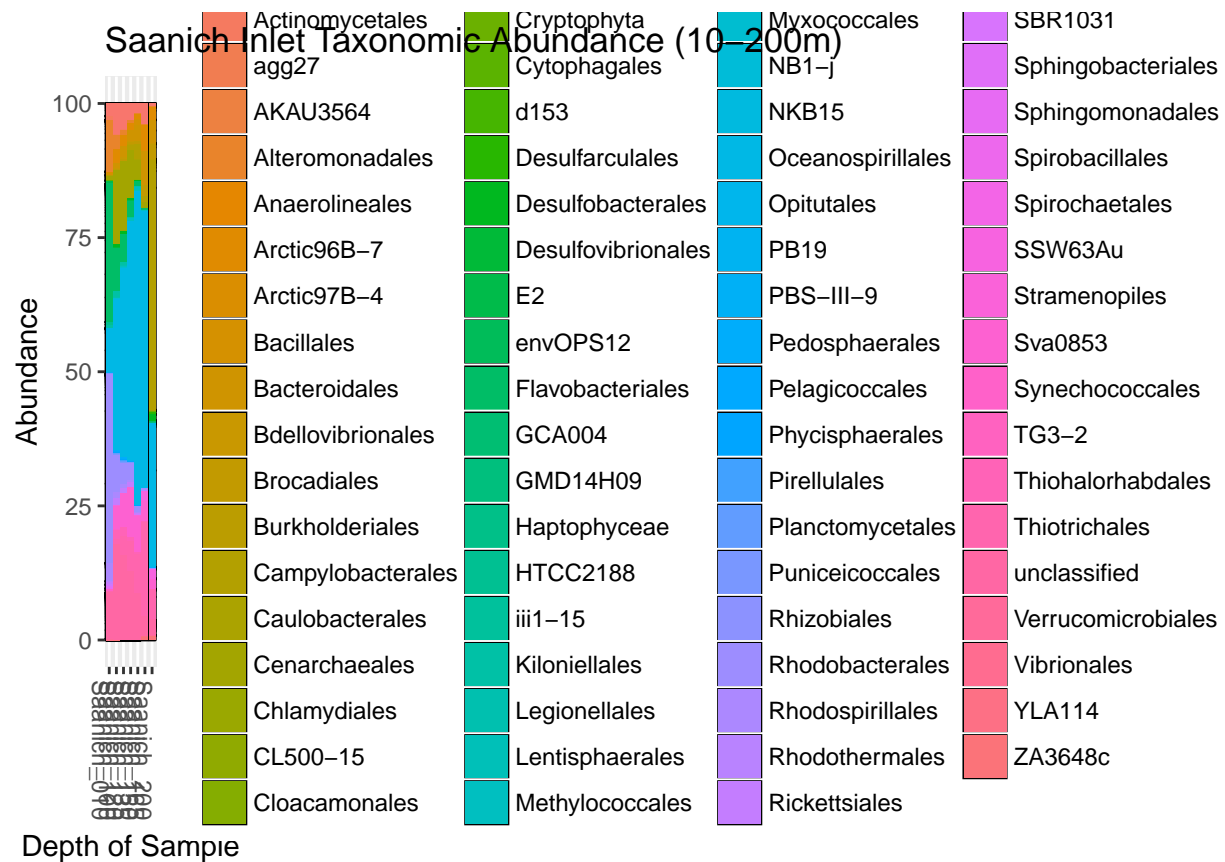
```
###Exercise 2
```

```
load(file="exercise2.RData")  
ggplot(exercise2, aes(x=Temperature_F, y=Depth_m)) +  
geom_point()
```



###Exercise 3

```
load(file="physeq.RData")
physeq_percent = transform_sample_counts(physeq, function(x) 100 * x/sum(x))
plot_bar(physeq_percent, fill="Order") +
  geom_bar(aes(fill=Order), stat="identity") +
  ggtitle("Saanich Inlet Taxonomic Abundance (10-200m)") +
  xlab("Depth of Sample")
```



#### ###Exercise 4

```
ex4 = select(metadata, ends_with("uM"), Depth_m)

facet = gather(metadata, key = "Nutrient", value = "uM", ends_with("uM"))

ggplot(facet, aes(x=Depth_m, y=uM))+
  geom_line()+
  geom_point()+
  facet_wrap(~Nutrient, scales="free_y") +
  theme(legend.position="none")
```

