

NOAA Tide data parser by GWU student Henry Becker

#This R markdown contians a script for downloading and analyzing NOAA Tide and Current Bouy data.

The "rnoaa" package allows user to retrieve data from the NOAA API.

#Kiptopeke station ID

#8632200

The code below is pulling data from the Kiptopeke station because it has a complete data record going back to 1980.

#Wachapreague station ID

#8631044

Because Wachapreague is missing data in 2006 and 2007 it will produce an error and stop the loop, to

retrieve all wachapreague data change the data range in the initialization of the for loop to c(1983:2005, 2008:2019)

```
library(rnoaa)
```

```
library(lubridate)
```

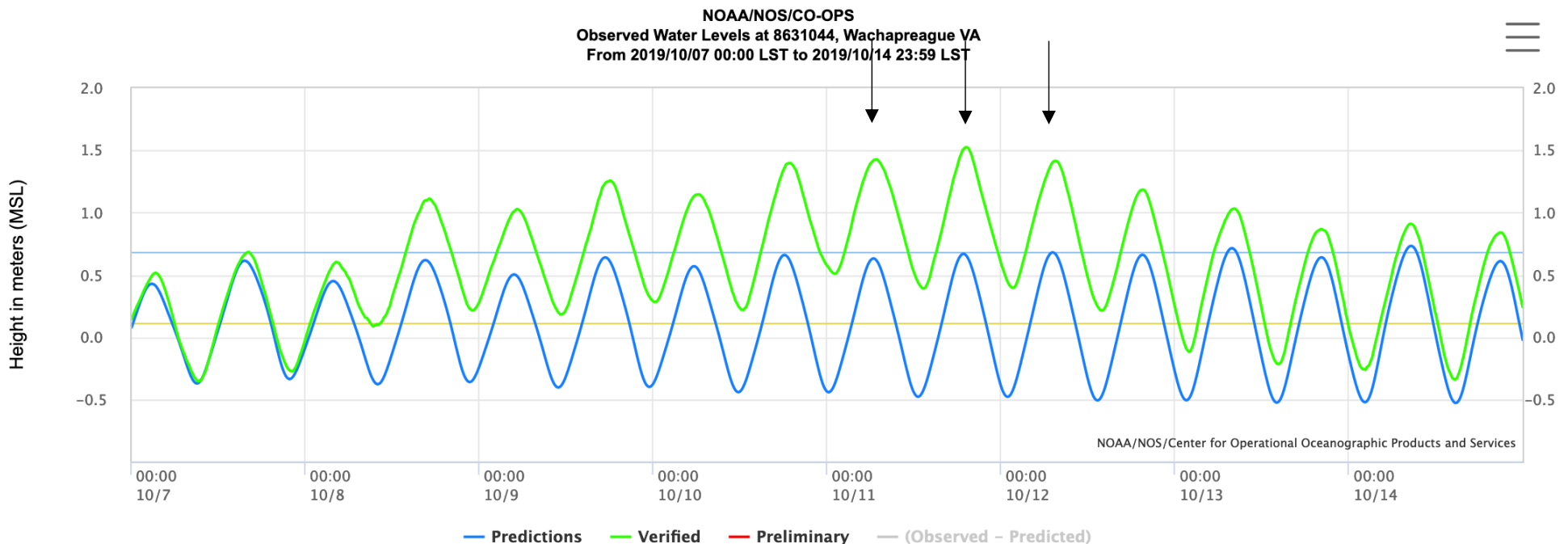
```
library(dplyr)
```

The code below uses the rnoaa coops_search function. The ouput can be customized quite a bit.

Information about this function can be found here: <https://tidesandcurrents.noaa.gov/api/#units>

Currently the high and low tide heights for each day are being pulled from the API ("high_low")

Currently the tide heights are relative to the station datum ("STND") although other datums can be used ("NAVD88" etc)



"The first high tide on **10 / 11 / 2019** is higher than **99.77** Percent of high tides from 1980 - 2018"

"The first high tide on **10 / 12 / 2019** is higher than **99.9** Percent of high tides from 1980 - 2018 -----

The second high tide on **10 / 12 / 2019** is higher than **99.74** Percent of high tides from 1980 - 2018"