

I was having trouble loading my final figure and R Markdown in RStudio. This is the code I had written. A copy of the complete code is found at the bottom of this document.

----

```
title: "Assignment 1"
author: "Giulietta Schutte"
date: "2025-09-19"
output:
  pdf_document
```

This dataset was used to analyze deer movements to track the impacts (if any) of human and cougar presence on deer behavior. Locations were obtained from female mule deer fitted with a GPS-collar. This does skew the data towards female mule deer behavior and does not give a representation of the species as a whole since only one gender was studied.

I chose this data set because animal habitat use interests me. This data was made public on Dryad. Link to data: [Dryad | Data: Dynamic riskscapes for prey: Disentangling the impact of human and cougar presence on deer behavior using GPS smartphone locations](#) . Link to published paper using this data: [Ecography - Wiley Online Library](#)

The class of the dataset is dataframe.

Read in dataset:

```
"readRDS("C:/Users/schut/Downloads/MD_dataset.RDS")
deermov=readRDS("C:/Users/schut/Downloads/MD_dataset.RDS")
```

View(deermov)

Variables of interest:

**str(deermov) #variable (left) with its class type (right)**

```
Classes 'data.table' and 'data.frame':   1854448 obs. of  23 variables:
 $ burst_      : num  15 15 15 15 15 15 15 15 15 15 ...
 $ sl_         : num  30.95 136.08 3.56 1.08 80.9 ...
 $ ta_         : num  0.216 -2.635 3.087 -2.286 -1.592 ...
 $ t1_         : POSIXct, format: "2019-05-31 22:00:00" "2019-05-31
22:00:00" "2019-05-31 22:00:00" "2019-05-31 22:00:00" ...
 $ t2_         : POSIXct, format: "2019-06-01 00:00:00" "2019-06-01
00:00:00" "2019-06-01 00:00:00" "2019-06-01 00:00:00" ...
 $ dt_         : 'difftime' num  2 2 2 2 ...
 ..- attr(*, "units")= chr "hours"
 $ tod_end_    : Factor w/ 2 levels "day","night": 2 2 2 2 2 2 2 2 2 2
 ...
 $ case_       : logi  TRUE FALSE FALSE FALSE FALSE FALSE ...
 $ step_id_    : num  633 633 633 633 633 633 633 633 633 ...
 $ cos_ta      : num  0.9768 -0.8745 -0.9985 -0.6555 -0.0213 ...
 $ log_sl      : num  3.4325 4.9132 1.2711 0.0731 4.3932 ...
 $ NDVI        : num  0.341 0.438 0.341 0.341 0.438 ...
 $ season      : chr   "birthing_rearing" "birthing_rearing"
"birthing_rearing" "birthing_rearing" ...
 $ elev_s2     : num  2094 2180 2101 2101 2127 ...
 $ TRI_s2      : num  28.9 40 37.7 37.7 45.8 ...
```

```

$ nlcd_s2                : Factor w/ 5 levels "Shrub","Forested",...: 2 2 2 2 2 1
2 2 1 2 ...
$ dt_rds                 : num  1425 1421 1423 1423 1486 ...
$ lionRSF_s2             : num  0.868 0.944 0.893 0.893 0.929 ...
$ season.year            : chr   "birthing_rearing_2019" "birthing_rearing_2019"
"birthing_rearing_2019" "birthing_rearing_2019" ...
$ hmd_avg_counts_season: num  0.000288 0.000288 0.000288 0.000288 0.000288 ...
$ hmd_prob_use_season   : num  0.21 0.115 0.161 0.165 0.118 ...
$ site                   : chr   "BookCliffs" "BookCliffs" "BookCliffs"
"BookCliffs" ...
$ animalID               : chr   "A3462" "A3462" "A3462" "A3462" ...
- attr(*, ".internal.selfref")=<externalptr>

```

**summary(deermov) # this line of code gives some basic analytics on numerical data for each variable assigned numeric.**

```

burst_      sl_      ta_
Min.   : 1.00   Min.   : 0.00   Min.   :-3.141593
1st Qu.: 11.00  1st Qu.: 36.49  1st Qu.: -1.438022
Median : 17.00  Median : 113.87  Median : 0.000006
Mean    : 31.06  Mean    : 201.25  Mean    : 0.000047
3rd Qu.: 31.00  3rd Qu.: 271.62  3rd Qu.: 1.440737
Max.    :301.00  Max.    :7132.67  Max.    : 3.141593
NA's    :100

```

```

t1_
Min.   :2019-05-31 22:00:00
1st Qu.:2019-07-07 12:00:00
Median :2019-08-13 08:00:00
Mean    :2020-01-14 05:04:13
3rd Qu.:2020-07-10 06:00:00
Max.    :2022-06-01 22:00:00

```

```

t2_      dt_
Min.   :2019-06-01 00:00:00   Min.   : 1.500 hours
1st Qu.:2019-07-07 14:00:00   1st Qu.: 2.000 hours
Median :2019-08-13 10:00:00   Median : 2.000 hours
Mean    :2020-01-14 07:04:06   Mean    : 2.102 hours
3rd Qu.:2020-07-10 08:00:00   3rd Qu.: 2.000 hours
Max.    :2022-06-01 23:00:00   Max.    :61.000 hours

```

```

tod_end_      case_      step_id_
day :926352   Mode :logical   Min.   : 3
night:928096  FALSE:1738545  1st Qu.: 881
TRUE :115903  Median :1131
Mean    :1132
3rd Qu.:1394
Max.    :1828

```

```

cos_ta      log_sl      NDVI
Min.   : -1.00000   Min.   : -Inf   Min.   :0.09811

```

1st Qu.: -0.63881	1st Qu.: 3.597	1st Qu.: 0.44716
Median : 0.13109	Median : 4.735	Median : 0.53300
Mean : 0.06501	Mean : -Inf	Mean : 0.52896
3rd Qu.: 0.76796	3rd Qu.: 5.604	3rd Qu.: 0.62414
Max. : 1.00000	Max. : 8.872	Max. : 0.93160
NA's : 100		

season	elev_s2	TRI_s2
Length: 1854448	Min. : 1499	Min. : 0.00
Class : character	1st Qu.: 2381	1st Qu.: 12.27
Mode : character	Median : 2477	Median : 22.05
	Mean : 2446	Mean : 23.50
	3rd Qu.: 2565	3rd Qu.: 33.29
	Max. : 2987	Max. : 184.51

nlcd_s2	dt_rds	lionRSF_s2
Shrub : 875899	Min. : 0.0	Min. : 0.00009
Forested : 966706	1st Qu.: 182.5	1st Qu.: 0.66834
Open : 10844	Median : 446.0	Median : 0.80767
Ag : 164	Mean : 1082.2	Mean : 0.78241
Developed: 792	3rd Qu.: 1081.7	3rd Qu.: 0.92583
NA's : 43	Max. : 8721.7	Max. : 0.99998
		NA's : 1003

season.year	hmd_avg_counts_season
Length: 1854448	Min. : 0.000e+00
Class : character	1st Qu.: 3.204e-05
Mode : character	Median : 1.602e-04
	Mean : 2.610e-03
	3rd Qu.: 7.049e-04
	Max. : 1.255e-01

hmd_prob_use_season	site
Min. : 0.0003243	Length: 1854448
1st Qu.: 0.1047547	Class : character
Median : 0.2036947	Mode : character
Mean : 0.2096133	
3rd Qu.: 0.2959858	
Max. : 0.9831589	
NA's : 7	

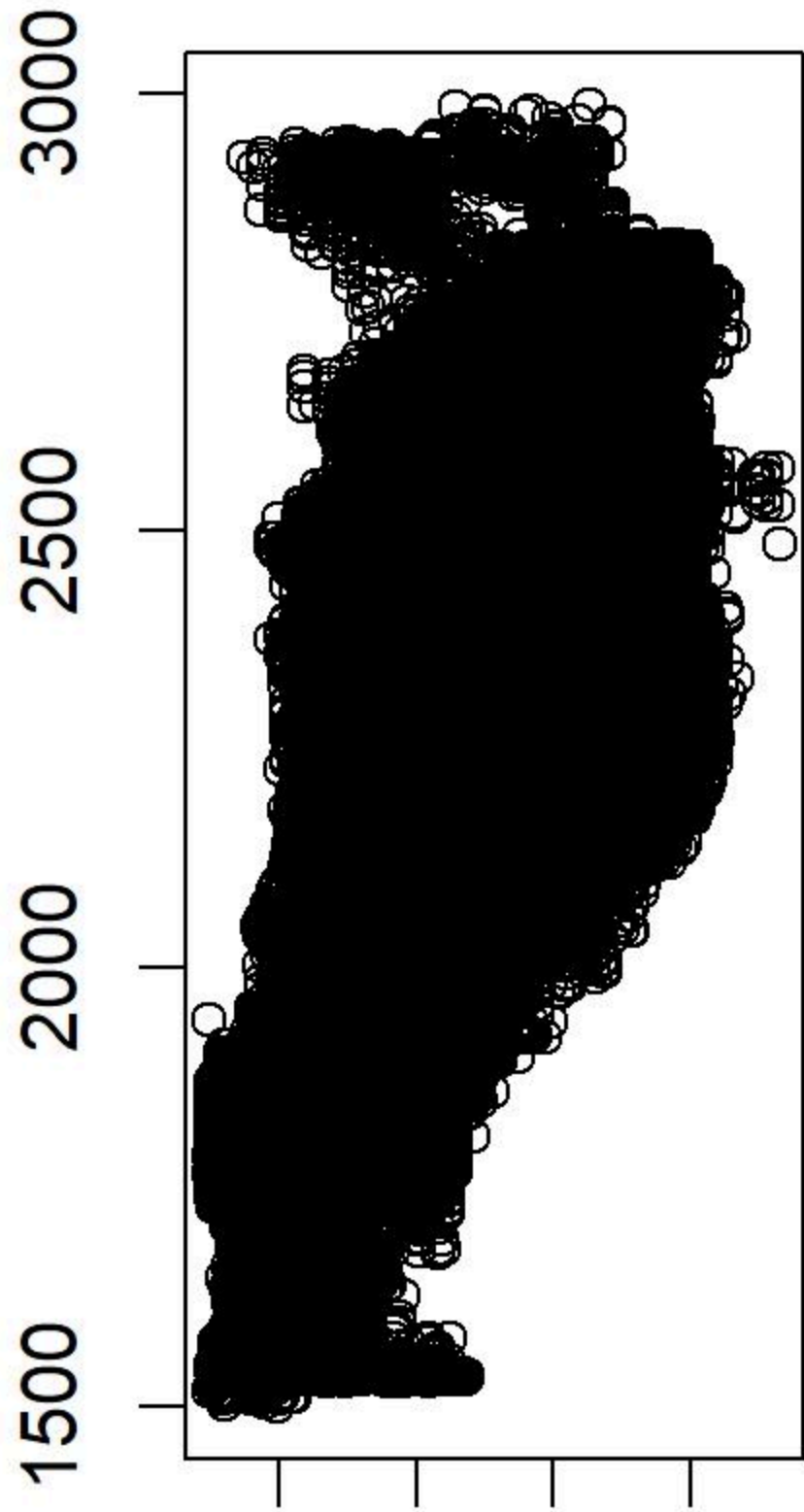
animalID
Length: 1854448
Class : character
Mode : character

### Graphics:

```
plot(deermov$NDVI,deermov$elev_s2)
```

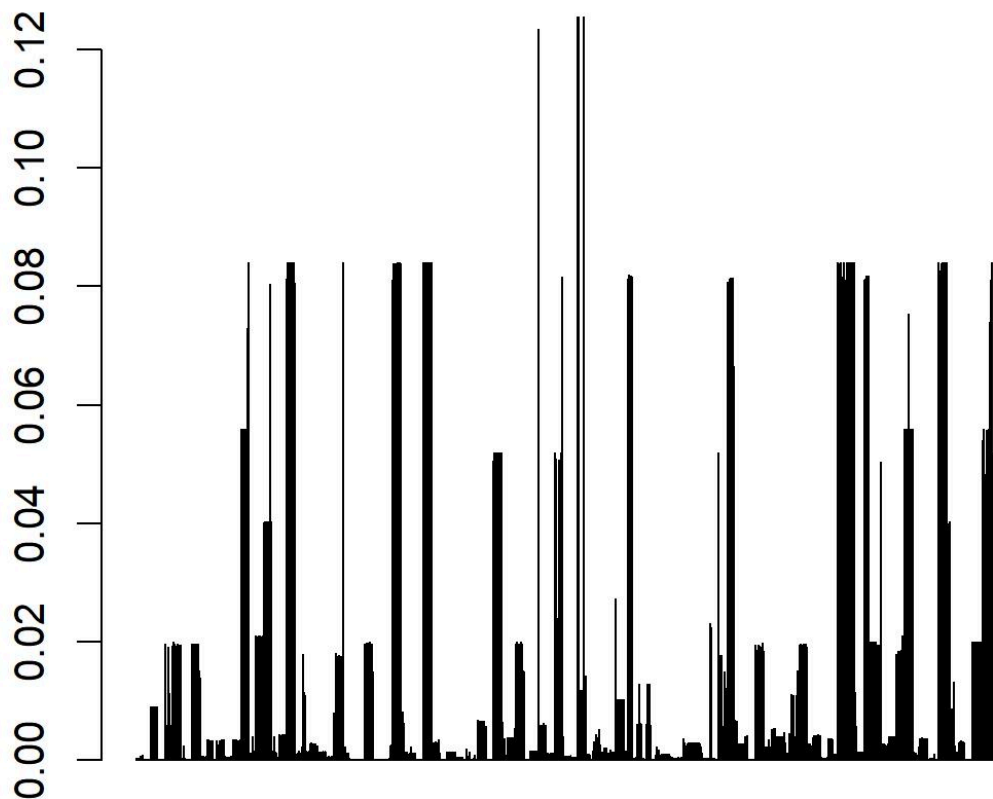
#This plot graph has Normalized Difference Vegetation Index (NDVI) as the x-axis and elevation (meters) as the y-axis.

deermov\$elev\_s2



```
barchart(deermov$season,deermov$dt_rds)
```

#This barchart was an attempt to break down recorded distance to nearest improved road (dt\_rds, y-axis) in reference to biological season category (season, x-axis) however I do not think it worked as I intended it to. Season should have three categories, which is not what is shown below.



```
dotchart(deermov$NDVI,deermov$dt_rds)""
```

#Would not load command. Quit RStudio multiple times, at this point no command would run properly, even ones that I knew for sure how they should work (ex. class(deermov) and view(deermov))

Copy of complete code:

----

title: "Assignment 1"

author: "Giulietta Schutte"

date: "2025-09-19"

output:

Pdf\_document

—

This dataset was used to analyze deer movements to track the impacts (if any) of human and cougar presence on deer behavior. Locations were obtained from female mule deer fitted with a GPS-collar. This does skew the data towards female mule deer behavior and does not give a representation of the species as a whole since only one gender was studied.

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The class of the dataset is dataframe. The command str was used to produce a list of variables with their class types. The command summary was used to provide summary statistics for numerical variables. Figure 1 : This plot graph has Normalized Difference Vegetation Index (NDVI) as the x-axis and elevation (meters) as the y-axis. Figure 2: This barchart was an attempt to break down recorded distance to nearest improved road (dt\_rds, y-axis) in reference to biological season category (season, x-axis) however I do not think it worked as I intended it to. Season should have three categories, which is not what is shown below. Figure 3: Would not load command. Quit RStudio multiple times, at this point no command would run properly, even ones that I knew for sure how they should work (ex. class(deermov) and view(deermov)).

```
"readRDS("C:/Users/schut/Downloads/MD_dataset.RDS")
```

```
deermov=readRDS("C:/Users/schut/Downloads/MD_dataset.RDS")
```

```
View(deermov)
```

```
str(deermov)
```

```
summary(deermov)
```

```
plot(deermov$NDVI,deermov$elev_s2)
```

```
barchart(deermov$season,deermov$dt_rds)
```

```
dotchart(deermov$NDVI,deermov$dt_rds)""
```