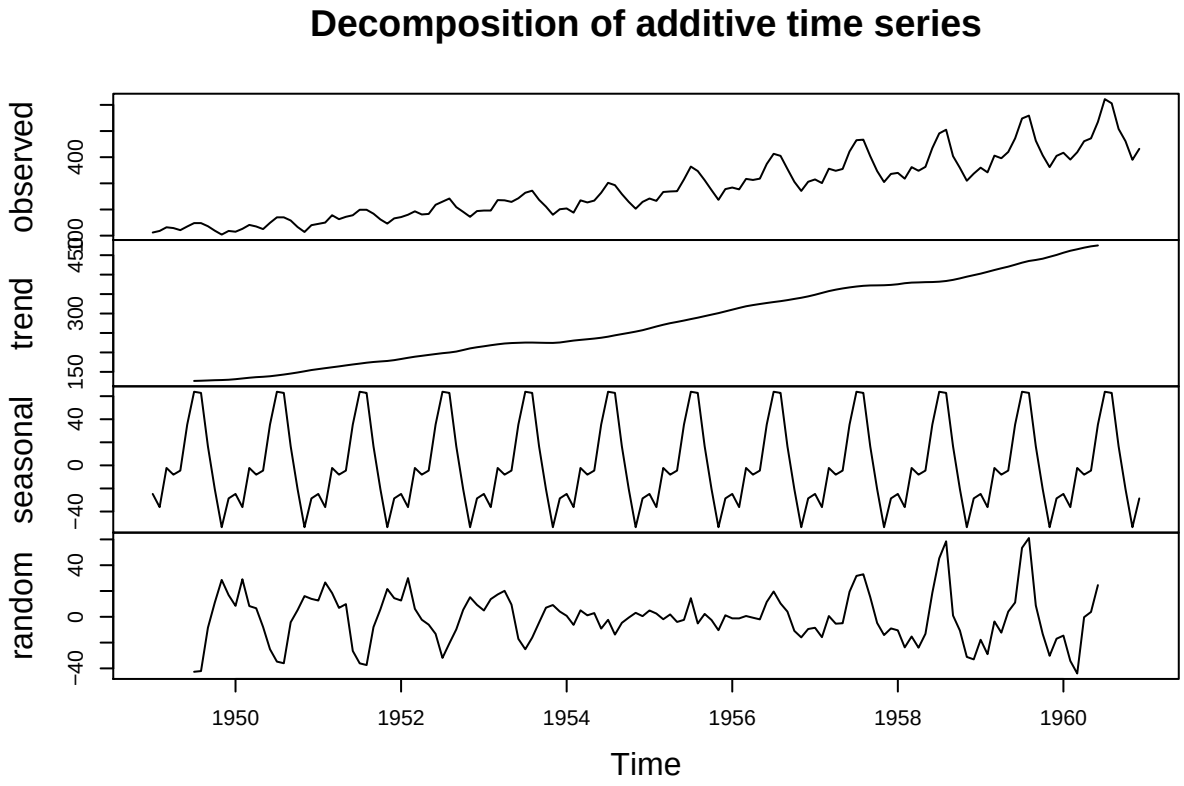
Spatial EDA

Exploratory Data Analysis

EDA Overview

Data Decomposition: Time Series



Data Decomposition: Spatial Data

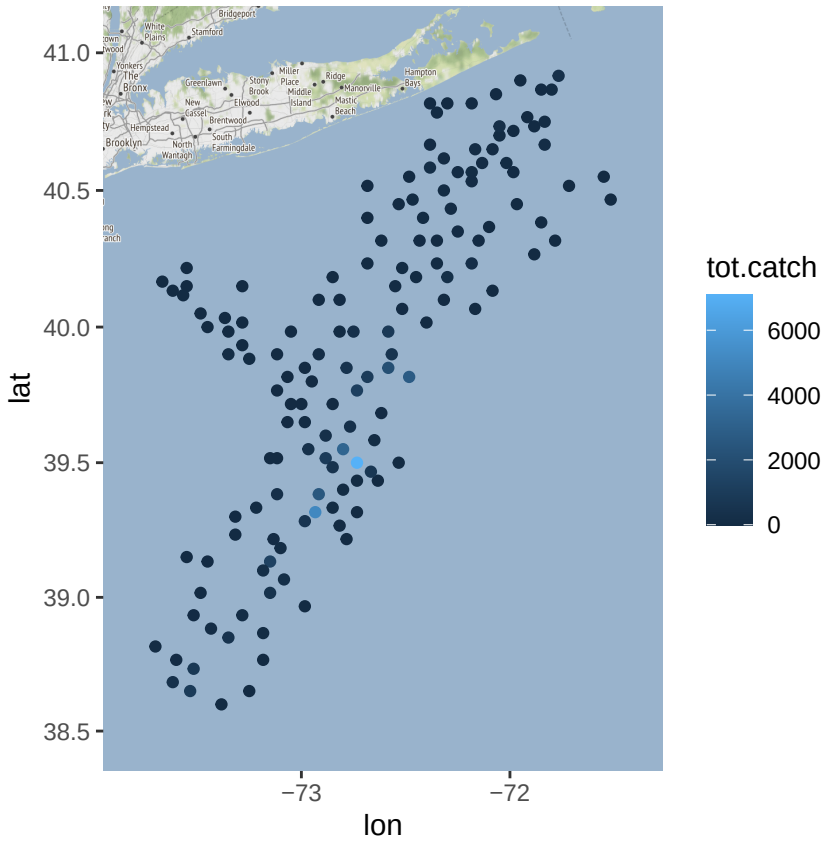
Response Surface vs. Spatial Surface

Spatial EDA Overview

1. Map of locations
2. Histrogram or other distributional figure
3. 3D scatterplot
4. General Regression EDA
5. Variograms and variogram clouds
6. Anistopic diagnostics

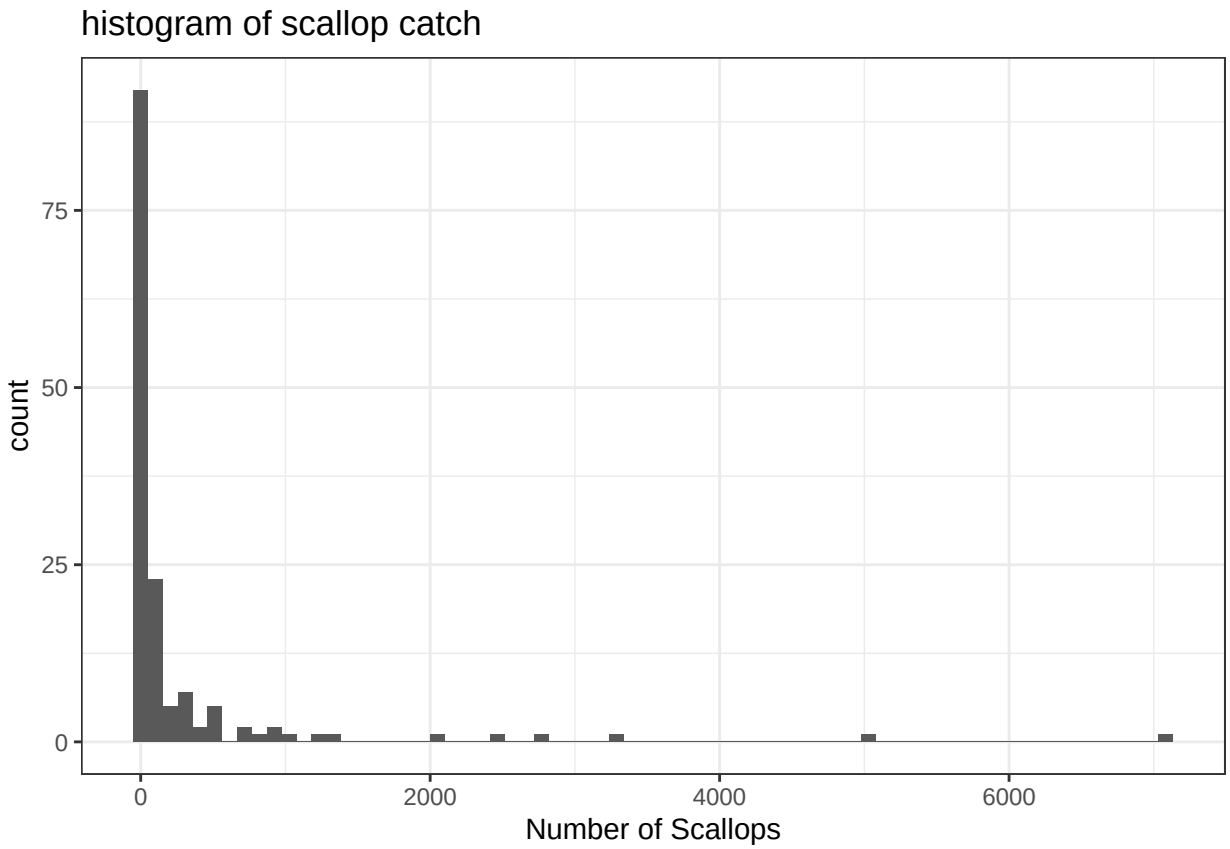
Scallops Data Example

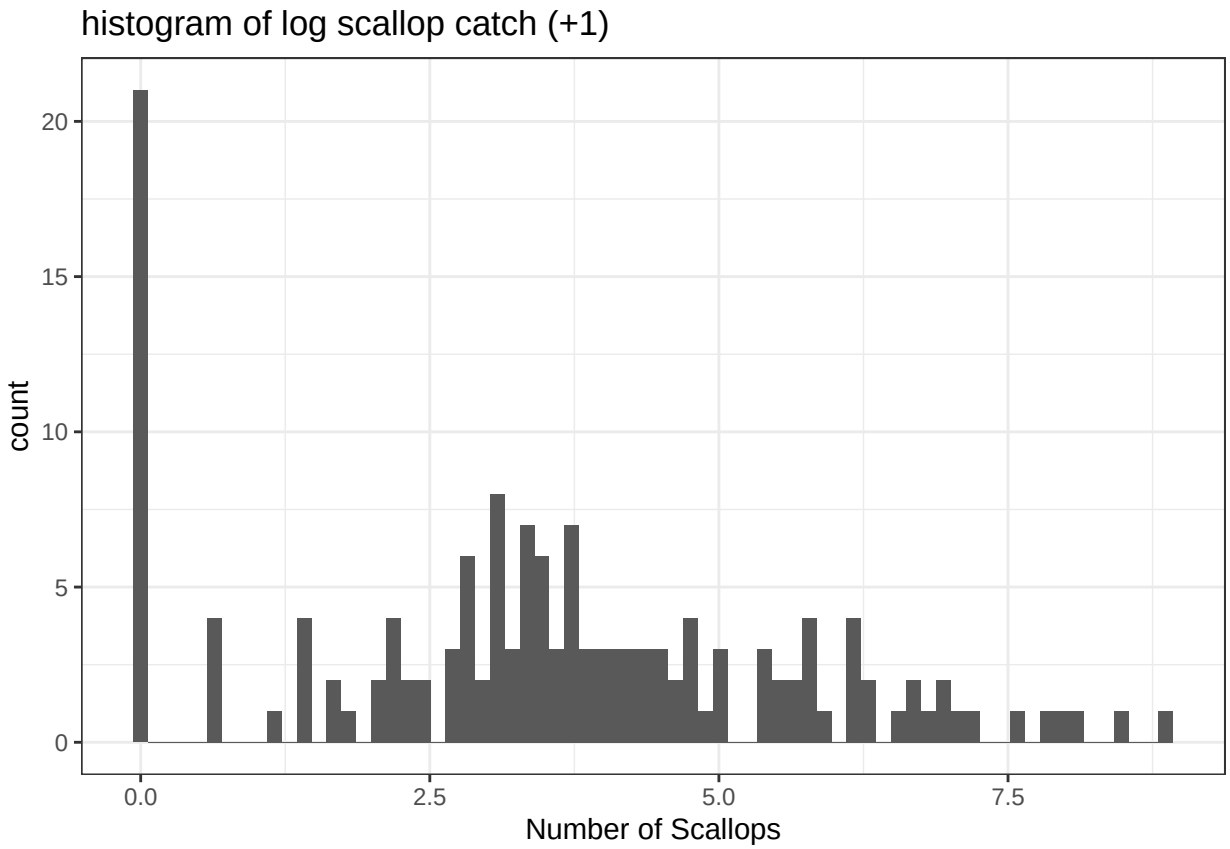
1. Map of Locations



1. Map of Locations - Takeaways

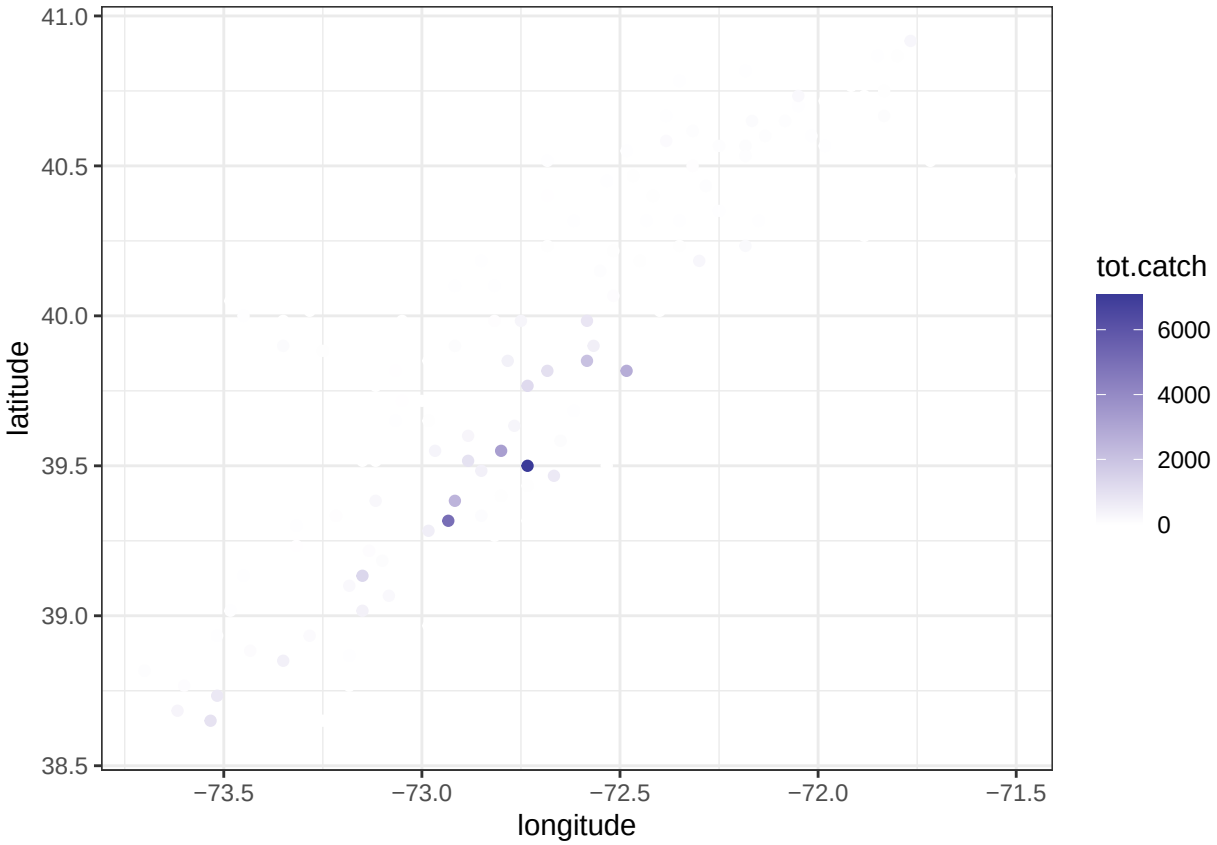
2. Histogram

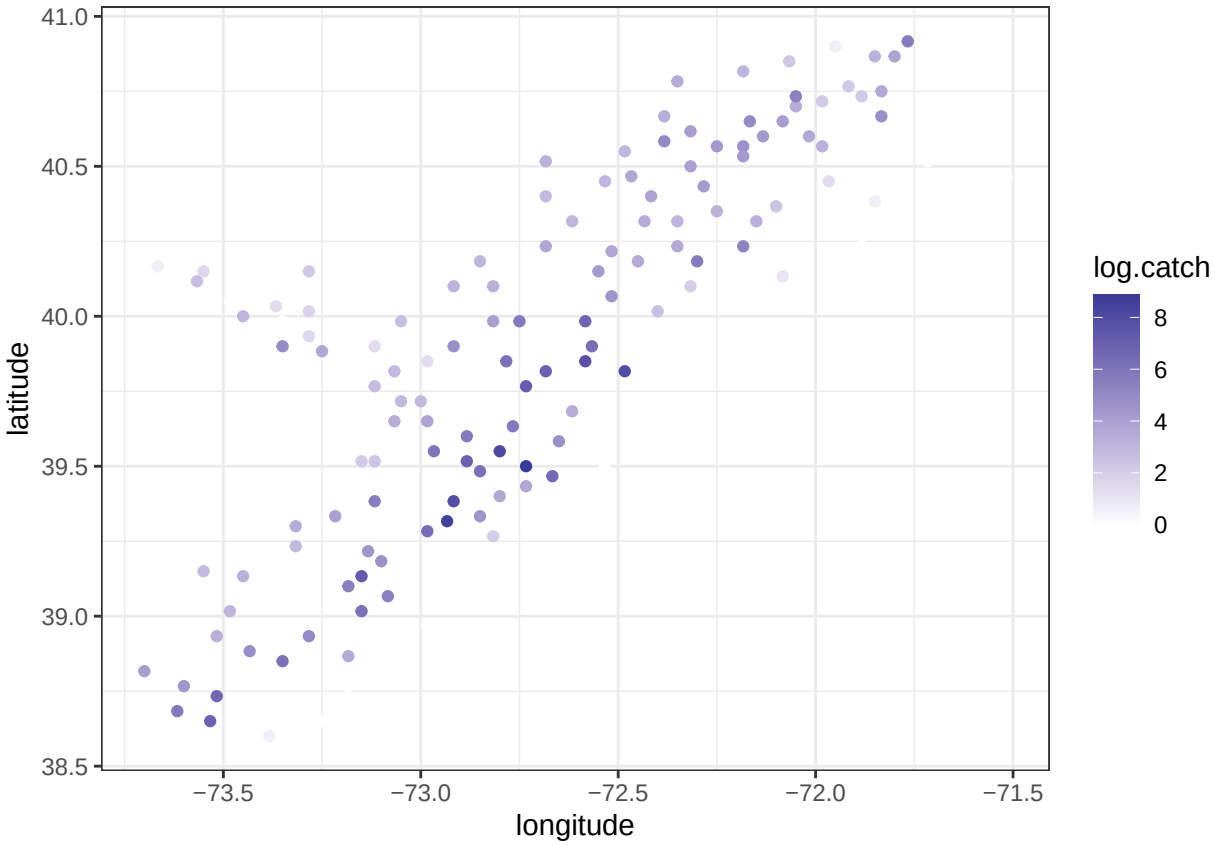

histogram of scallop catch
count
75
50
25
0
0
2000
4000
6000
Number of Scallops



2. Histogram - Takeaways

3. 3D scatterplot



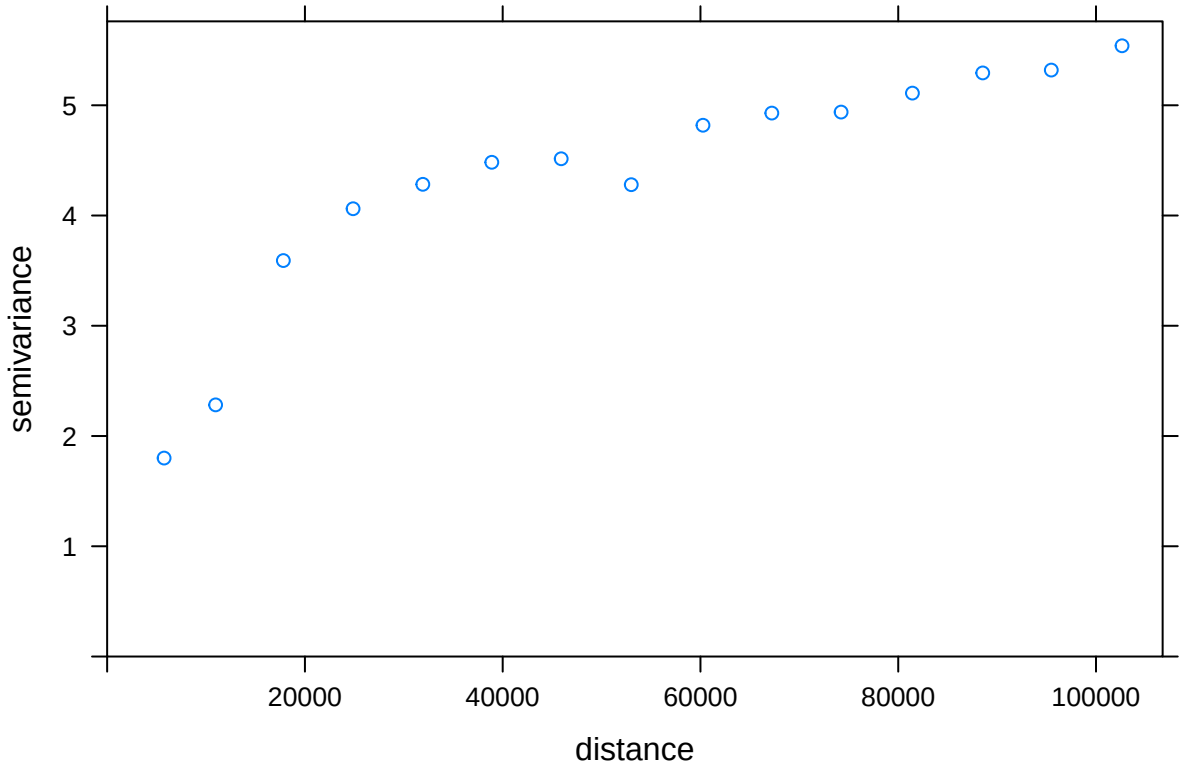


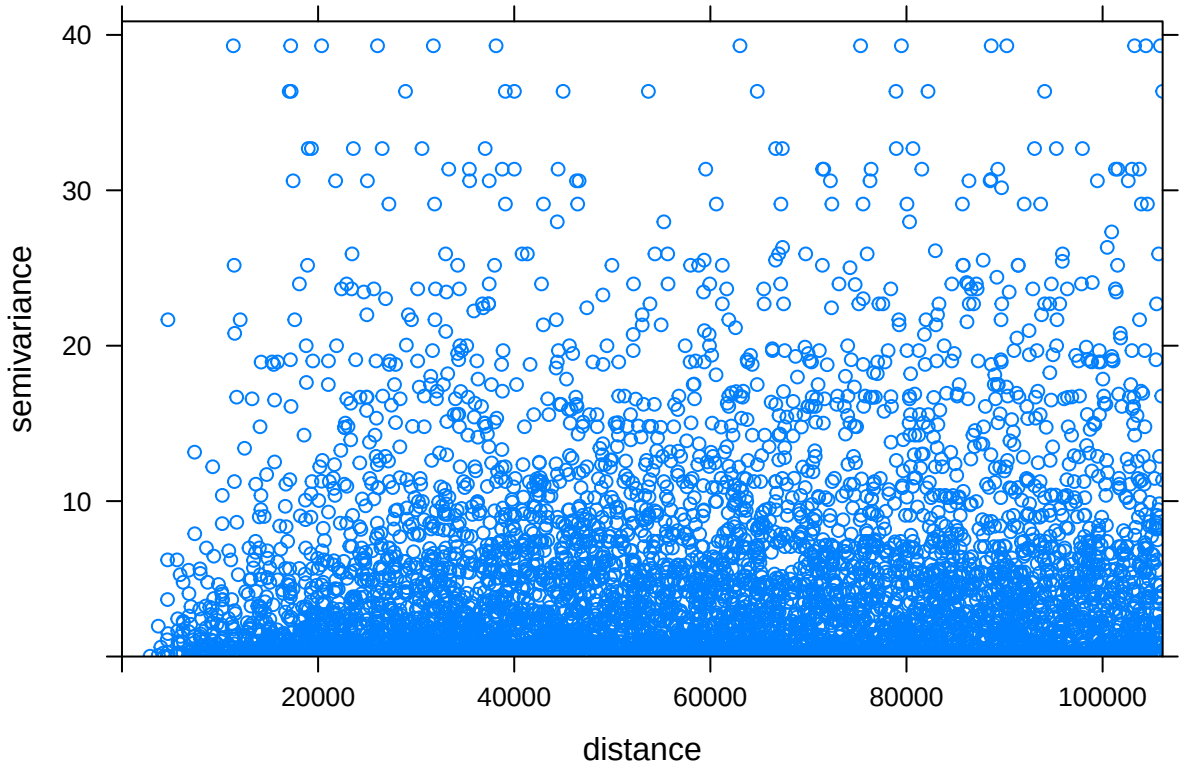
3. 3D scatterplot - Takeaways

4. General Regression EDA

5. Variograms and variogram clouds

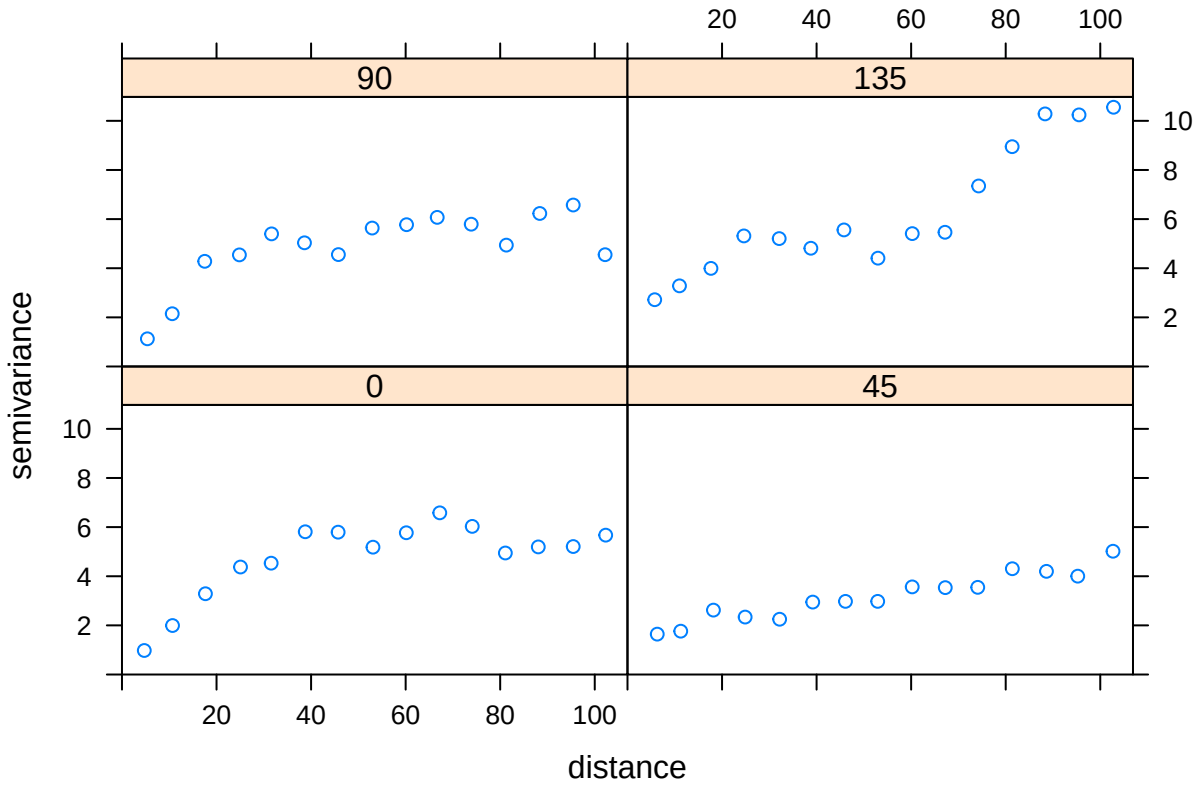
```
## Warning in showSRID(uprojargs, format = "PROJ", multiline = "NO", prefer_proj
## = prefer_proj): Discarded datum Unknown based on WGS84 ellipsoid in Proj4
## definition
```


semivariance
1
2
3
4
5
20000
40000
60000
80000
100000
distance



5. Variograms and variogram clouds: Takeaways

6. Anisotropy

Goal: Determine if direction influences spatial structure

Directional Variogram