Extract SDM's to RMBL

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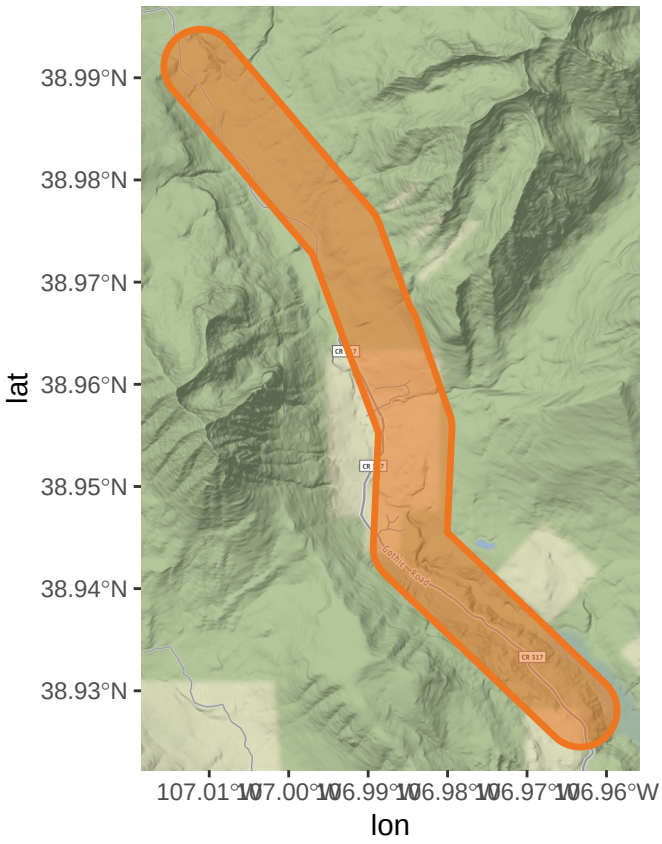
Finally, we can extract SDMs to the field sites near the Rocky Mountain Biological Laboratory. This is the final step in this portion of the project.

```
library(tidyverse) # data tidying
library(sf) # spatial data compliant with tidyverse
library(raster) # raster data
library(here)
library(spdep)

set.seed(12)
```

Given that the points more or less follow the lower slopes of the valleys, we will use them to quickly create a elongated polygon feature which occupies the valley. To do this I utilize a Minimum Spanning Tree algorithm, and manually select the neighbors between all sites, and the origin point for the spannning tree.



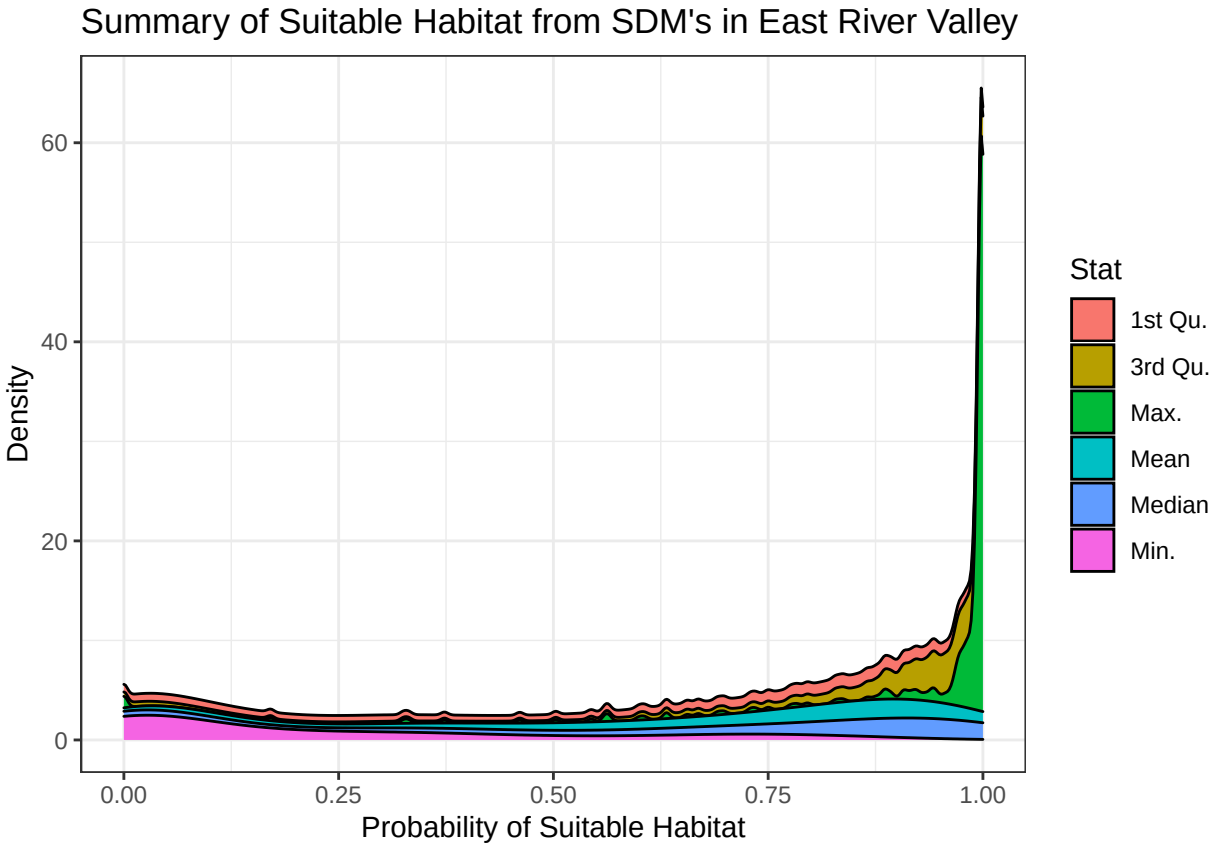

```
j_sites_buf <- study_area %>%
  st_transform(32613) %>%
  st_buffer(1000)

sdp_prods <-
  read.csv("https://www.rmbl.org/wp-content/uploads/2021/04/SDP_product_table_4_26_2021.csv")

slope_angle_uri <- sdp_prods %>%
   filter(Product == 'Topographic Slope Angle') %>%
   pull(Data.URL)
slope_angle_path <- paste0("/vsicurl/", slope_angle_uri)
slope_angle <- raster(slope_angle_path, progress='text')
slope_angle <- crop(slope_angle, extent(j_sites_buf))

writeRaster(slope_angle, paste0(here(),"/data/raw/Slope_angle"))
rm(slope_angle_uri, slope_angle_path, slope_angle)
```

```
## Warning in .local(x, y, ...): Transforming SpatialPolygons to the crs of the
## Raster
```



REFERENCES:

R. C. Prim (1957) Shortest connection networks and some generalisations. In: Bell System Technical Journal, 36, pp. 1389-1401