

1. PDF Attached

2. PDF Attached

3. PDF Attached

4. PDF Attached

5. PDF Attached

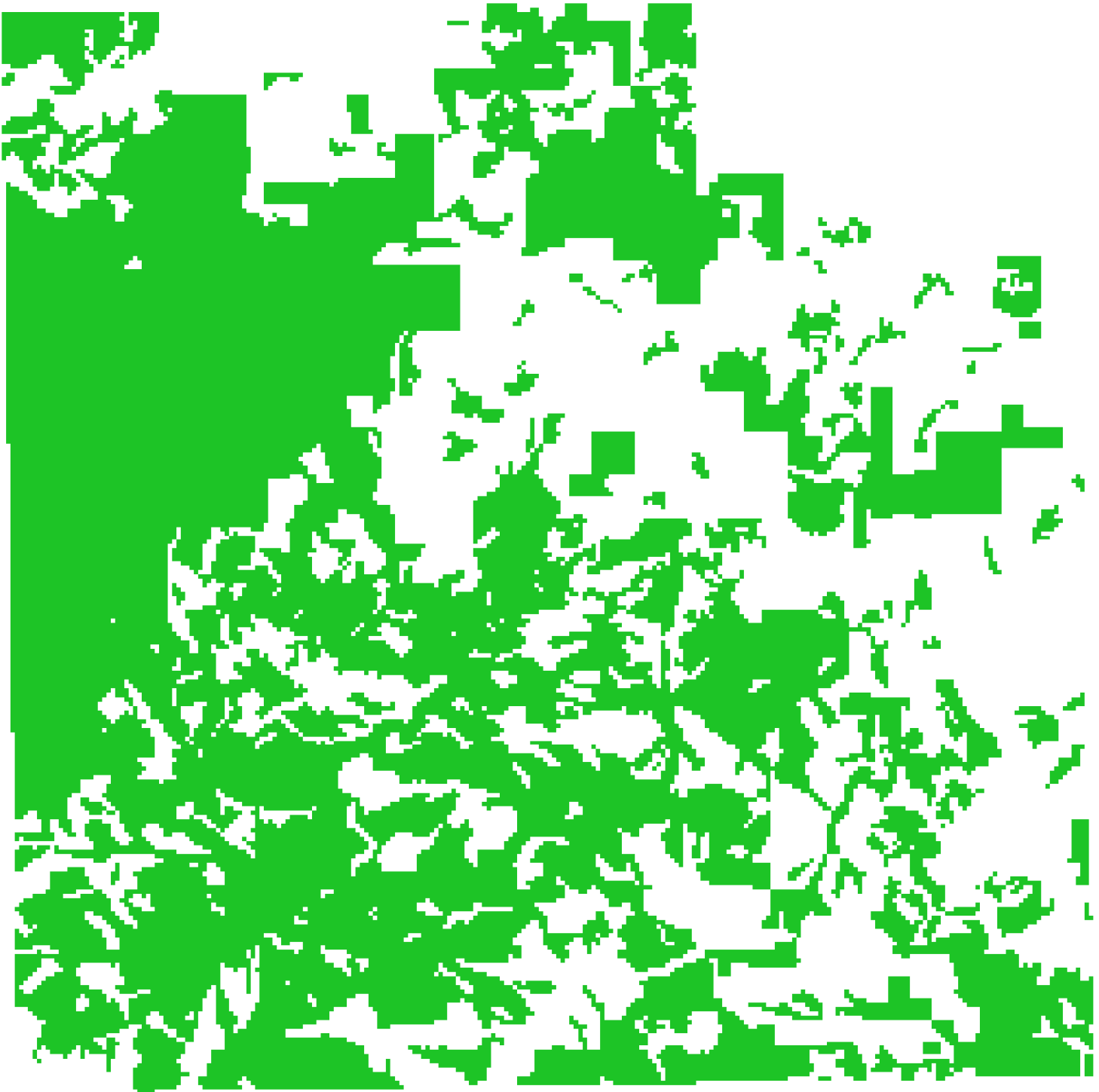
6. Madison Limestone has the highest average slope. Upper Mesozoic has the lowest average slope. The highest slope is 15.37 degrees, and the lowest slope is 2.99 degrees.

8. PDF Attached

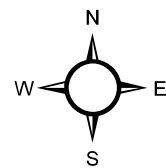
10. PDF Attached

Challenge Problem PDF Attached.

Boolean Raster of Open Vegetation and NFS Land

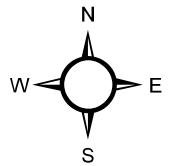


0 1 2 4 Miles





Zachary Raslan
Geog 4510
Lab6 Q1

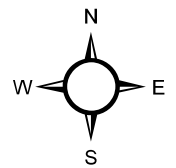
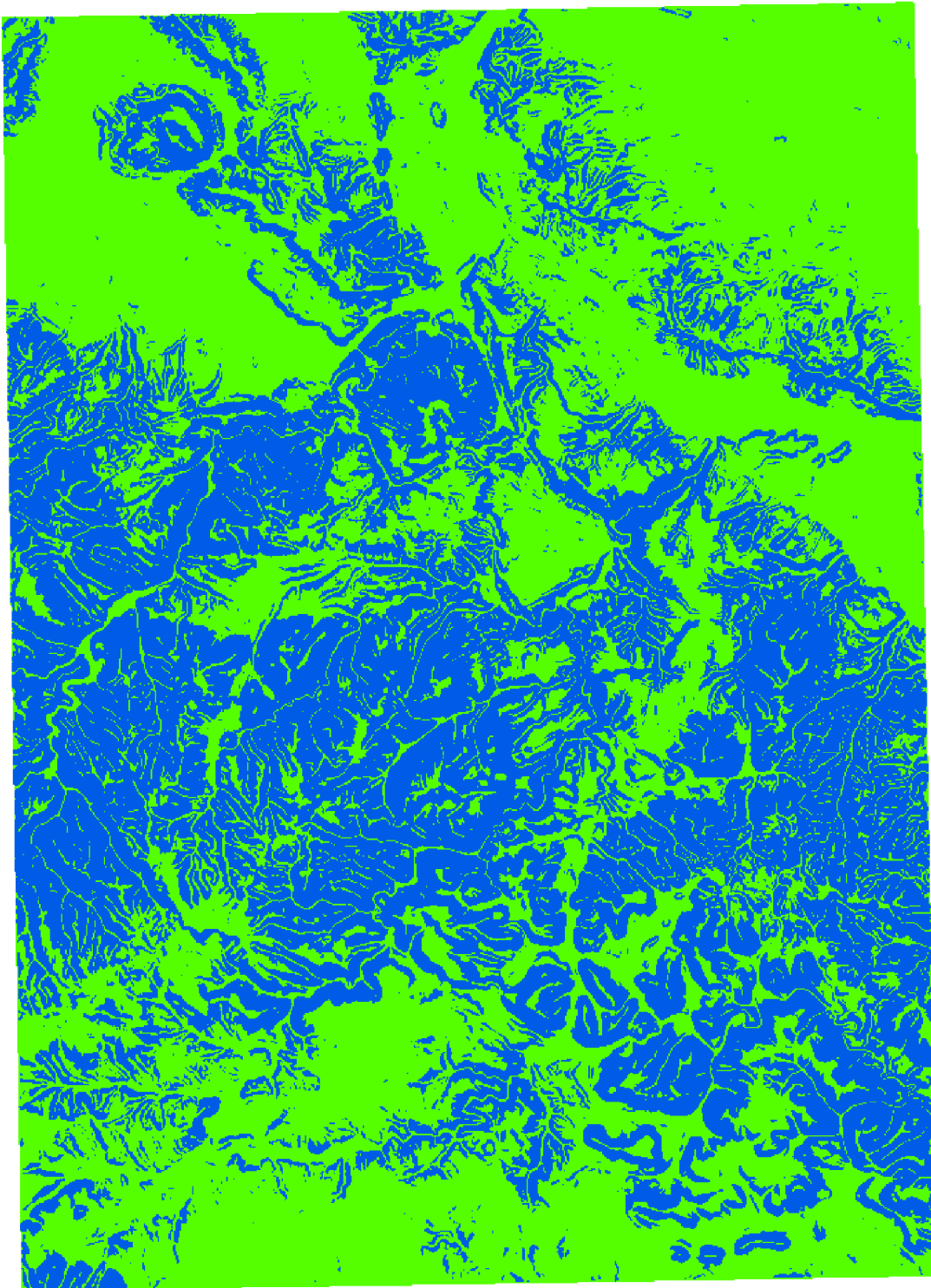
Boolean Raster of 1000 Meter Buffer on Primary and Secondary Roads



0 1.25 2.5 5 Miles

-  Area Further Than 1,000 Meters
-  Area Within 1,000 Meters

Boolean Raster Showing Area with Less than 10 Degree Slope

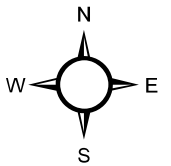
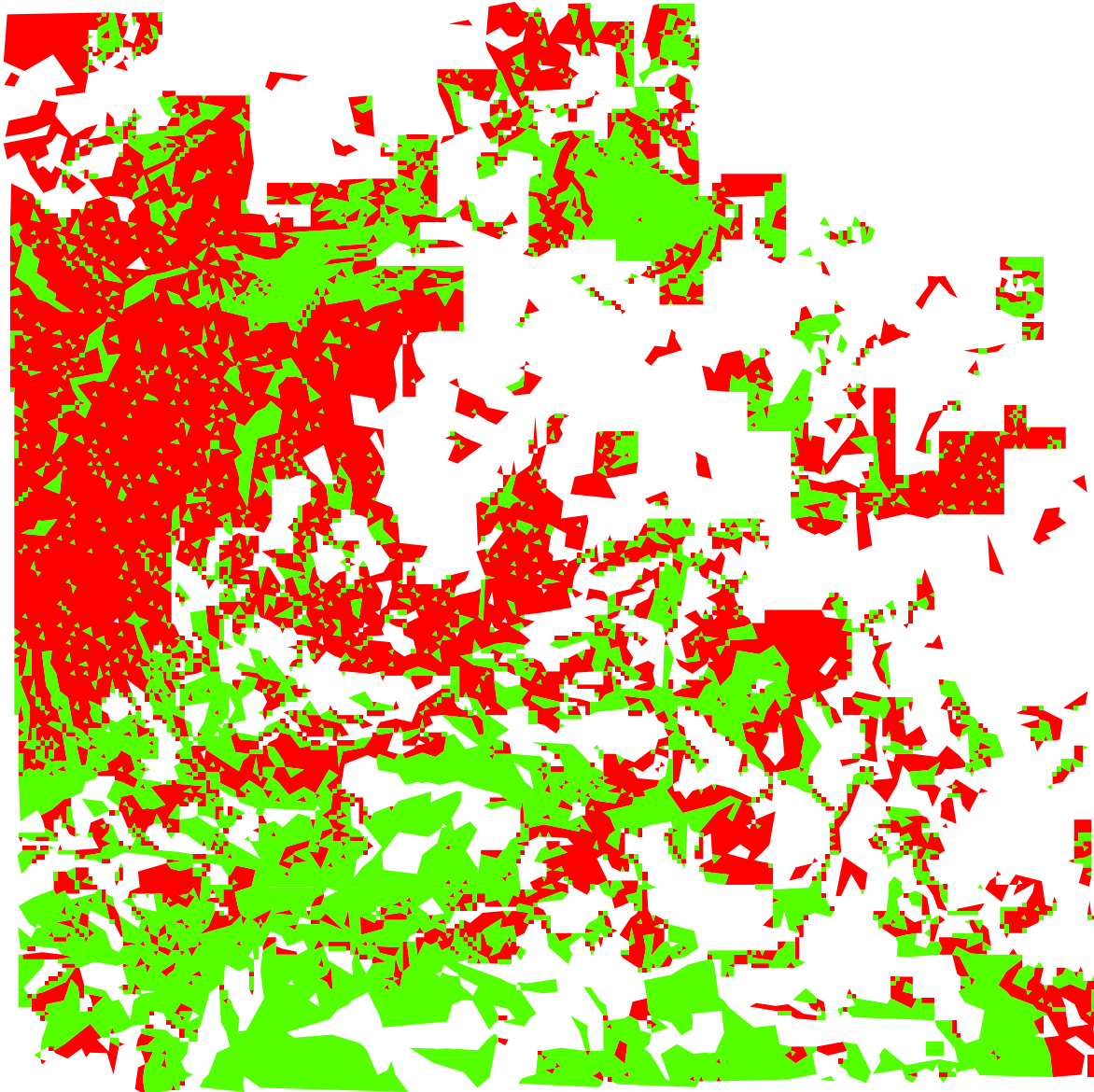


0 1.25 2.5 5 Miles

Up to 10 Degree Slope

Greater than 10 Degree Slope

Suitable Landfill Locations



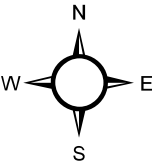
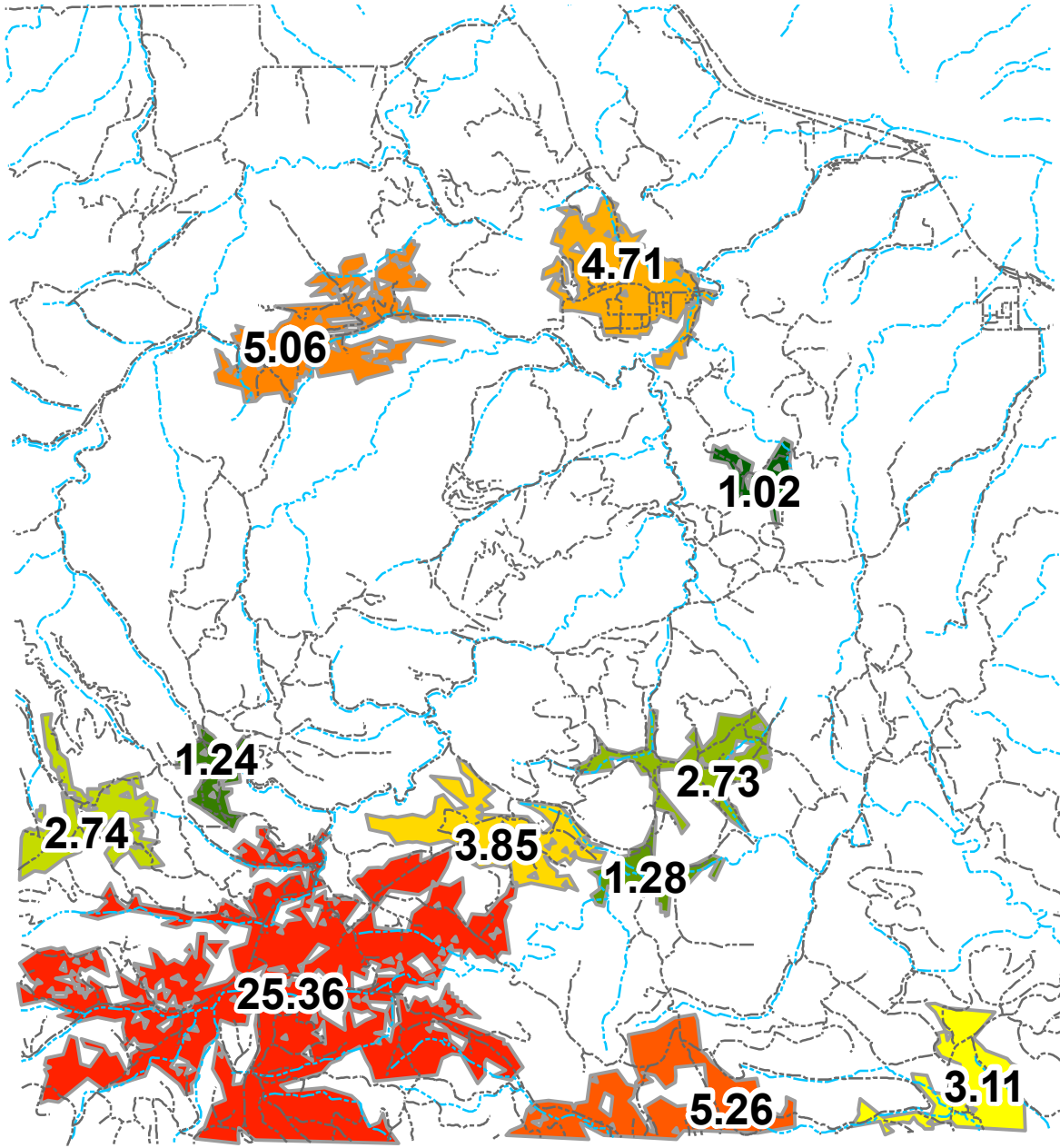
0 1.25 2.5 5 Miles

Conditions Not Met

Conditions All Met

**As a result of utilizing the raster calculator
I have deduced that there is 93.3 square kilometers
of potential landfill area**

Suitable Landfill Locations



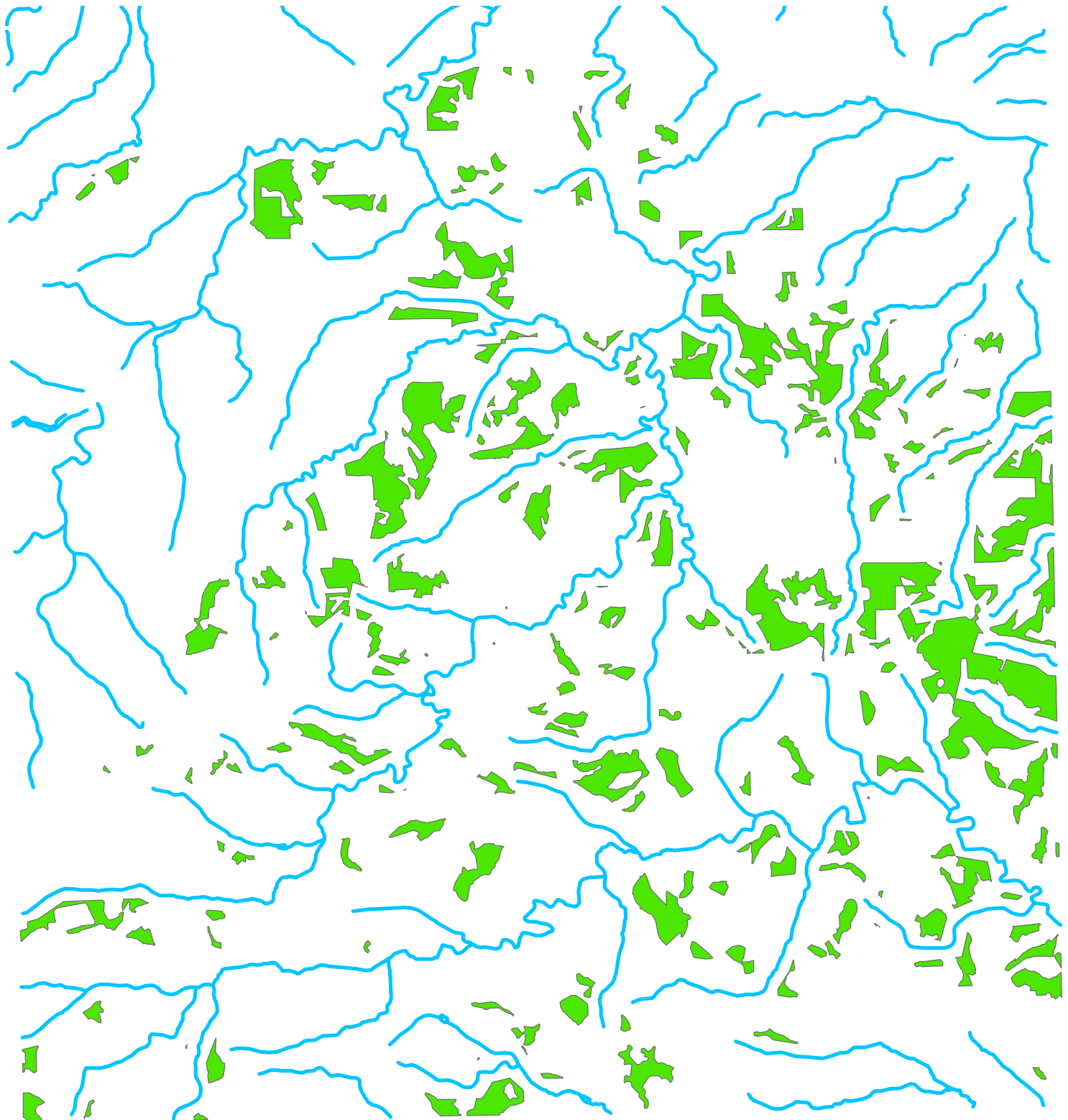
0 1.25 2.5 5 Miles

Legend

- Roads
- Streams

There are 11 that have the minimum area, of 1 square kilometer, and meet all other criteria.

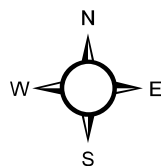
Prime Harvestable Timber in the Black Hills



Legend

— streams

■ Prime Harvestable Timber

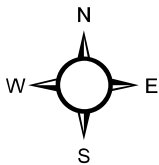
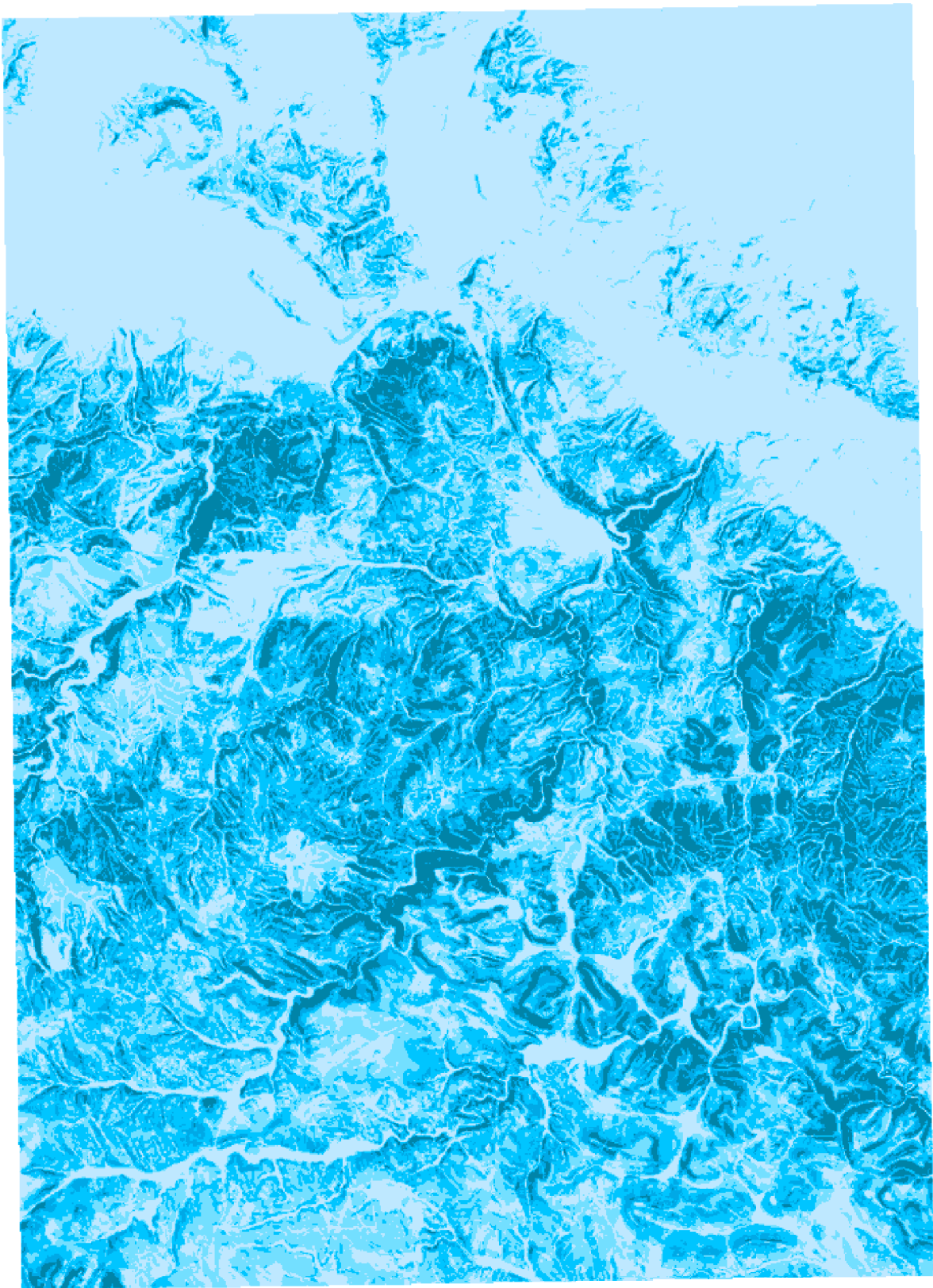


0 1 2 3 4 Miles

There are 33 square kilometers of good timber after considering vegetation stage and distance from streams.

Zachary Raslan
Geog 4510
Lab6 Q8

Map of Erosion Index



**Erosion
Index**

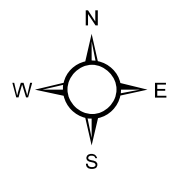
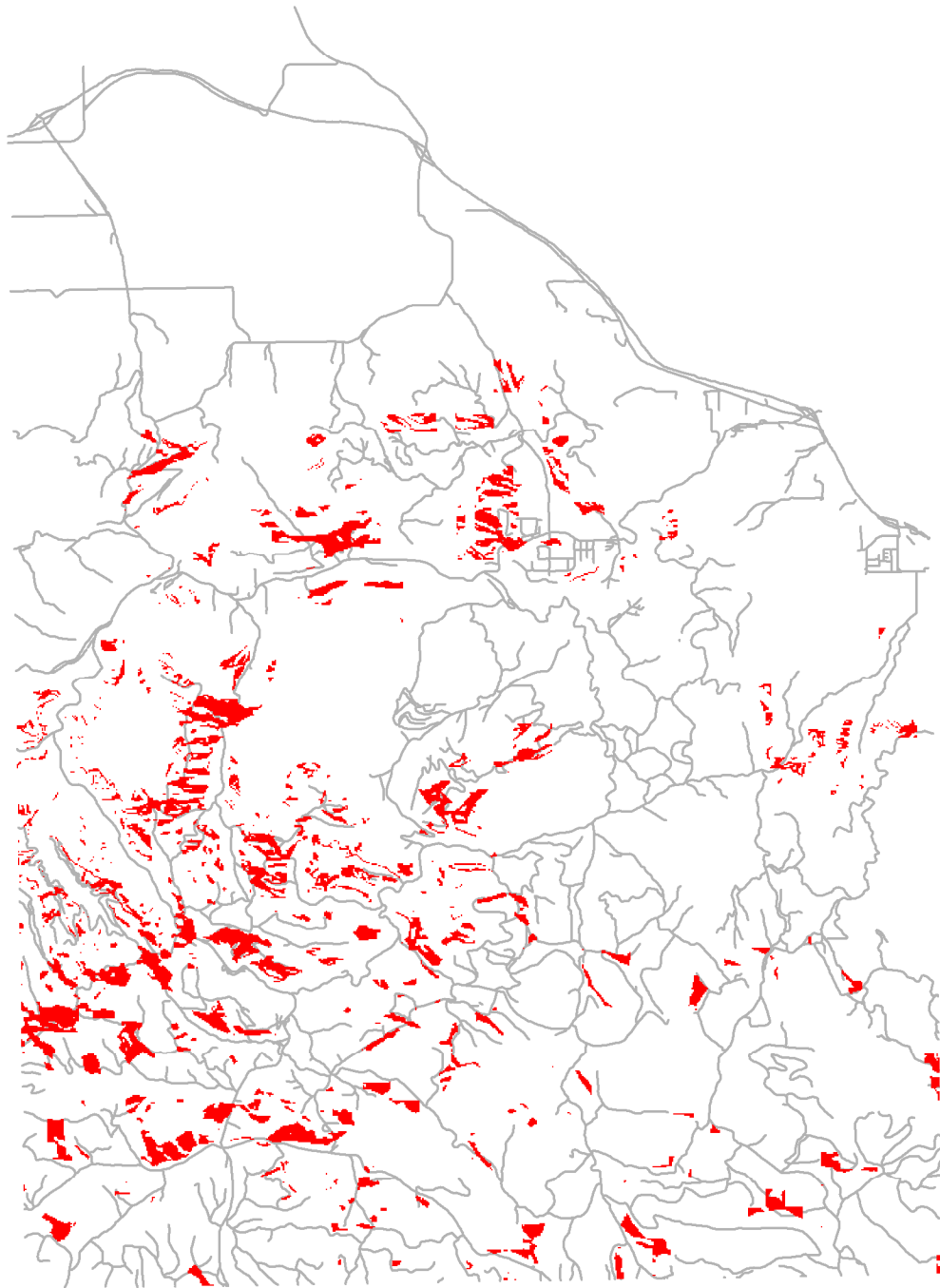


0 1.25 2.5 5 Miles

**Index based off raster calculation
[Slope_Reclass] * [Canopy_Reclass]
and reclassified into 5 classes**

Zachary Raslan
Geog 4510
Lab6 Q10

Potential Cabin Locations in Sturgis Area



Suitable Cabin Locations on Roads

0 1.25 2.5 5 Miles

 Potential Cabin Locations

 Roads

**Total area of potential Cabin locations
is 19.47 Square Kilometers.**