Site Suitability: Interpolation and Map Suitability

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01

Water Data

Site :

1. can not exist on water

Water Data

Geoprocessing

Reclassify

Parameters Environments

Input raster

Water_Band_1

Reclass field

Description

Reclassification

Reverse New Values

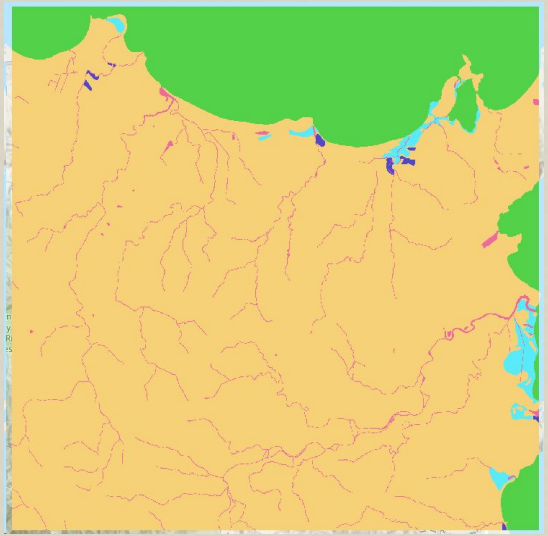
Value	New
00 = Dry Land	1
01 = Wetland	NODATA
02 = Mangroves	NODATA
03 = Inland Water	NODATA
04 = Ocean	NODATA
NODATA	NODATA

Classify Unique

Output raster

Reclass_Wate2

Change missing values to NoData



Green = Areas that are dry land → site suitable

02

Road Data

Site :

1. can not exist on a road
2. must be close to a road for easy transportation

Road Data Criteria 1

Geoprocessing

Reclassify

Parameters Environments

Input raster

Roads_Band_1

Reclass field

Description

Reclassification

Reverse New Values

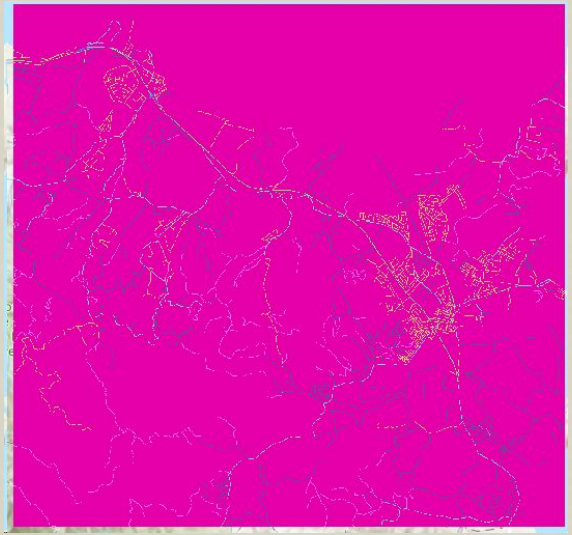
Value	New
00 = Non-road	1
02 = State Highway: 2-lane	NODATA
03 = Highway Access Ramp	NODATA
06 = Regional Road: 2-lane	NODATA
08 = Local Road: Primary	NODATA
09 = Local Road: Secondary	NODATA
10 = Local Road: Tertiary	NODATA
13 = Cul de Sac	NODATA
NODATA	NODATA

Classify Unique

Output raster

Reclass_Road3

Change missing values to NoData



Pink = Roads do not exist so site suitable

Road Data Criteria 2

Geoprocessing

Reclassify

Parameters Environments

Input raster

Roads_Band_1

Reclass field

Description

Reclassification

Reverse New Values

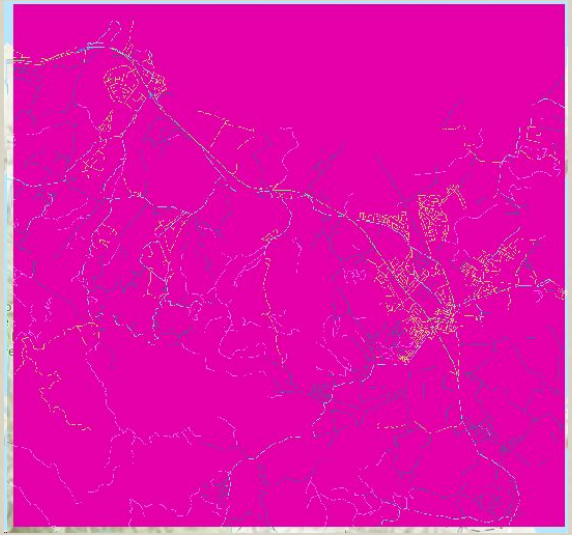
Value	New
00 = Non-road	NODATA
02 = State Highway: 2-lane	1
03 = Highway Access Ramp	1
06 = Regional Road: 2-lane	1
08 = Local Road: Primary	1
09 = Local Road: Secondary	1
10 = Local Road: Tertiary	1
13 = Cul de Sac	8
NODATA	NODATA

Classify Unique

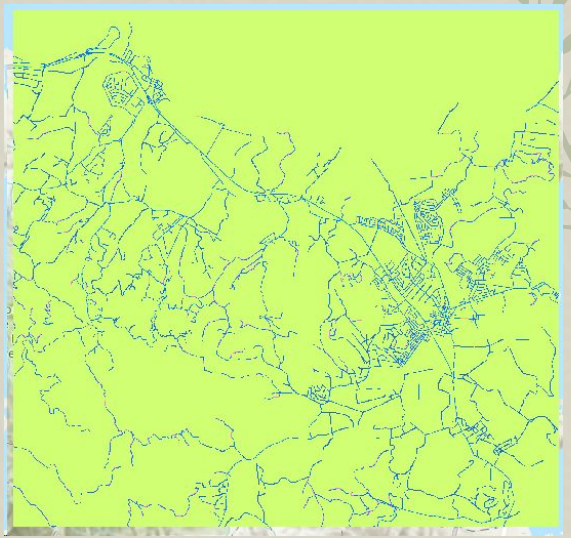
Output raster

Reclass_Road3

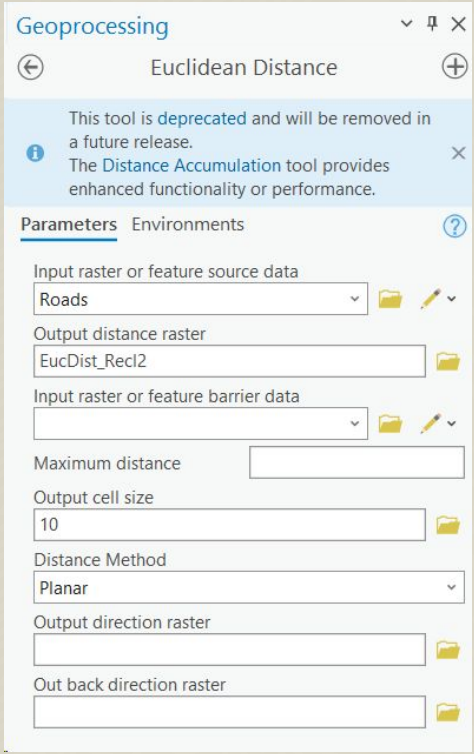
Change missing values to NoData

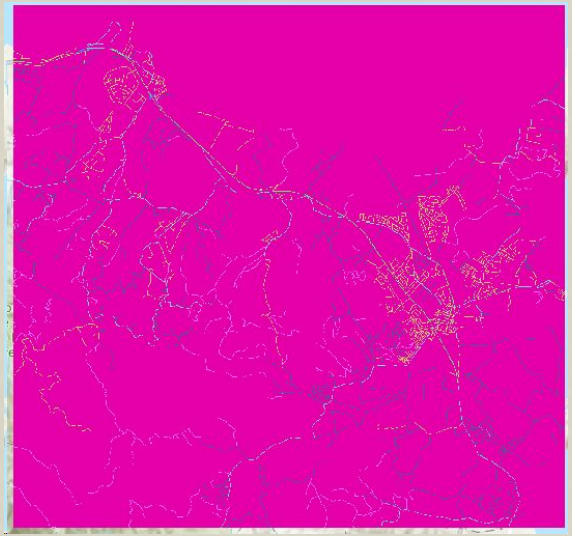


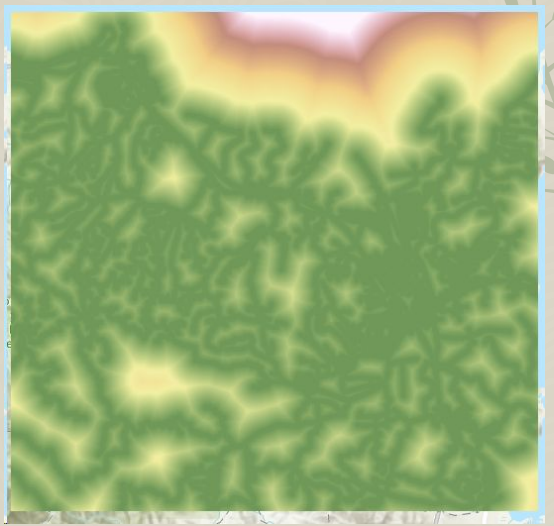
Blue = Roads exist



Road Data Criteria 2

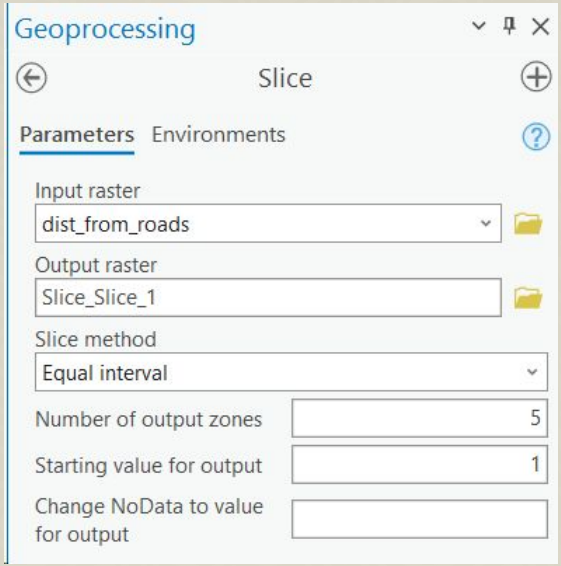


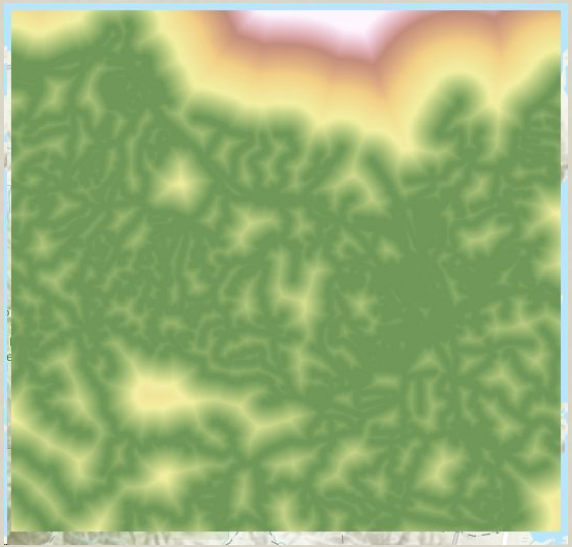




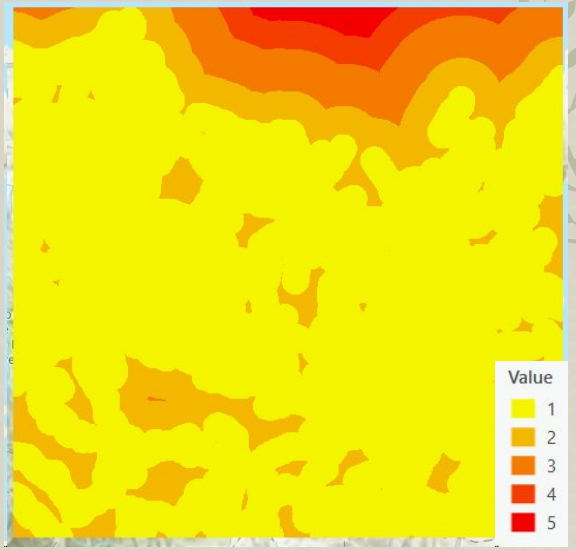
Green = Areas close to roads so preferably more site suitable

Road Data Criteria 2



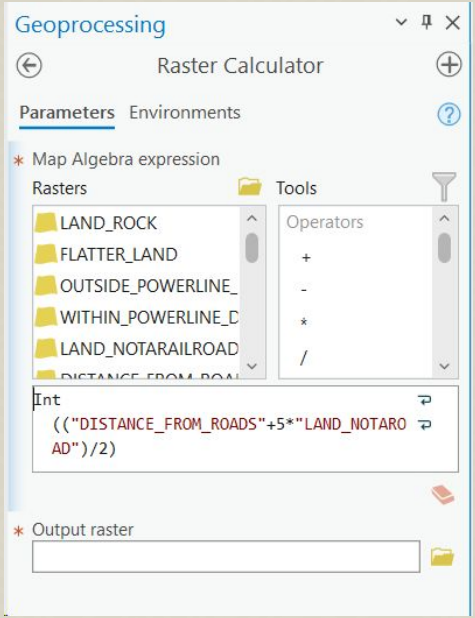


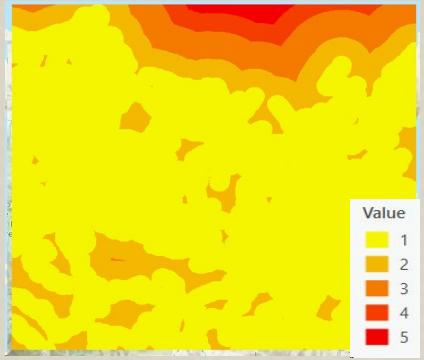
Yellow= Area with close access to a road → site suitable



Road Overlay

Road Overlay





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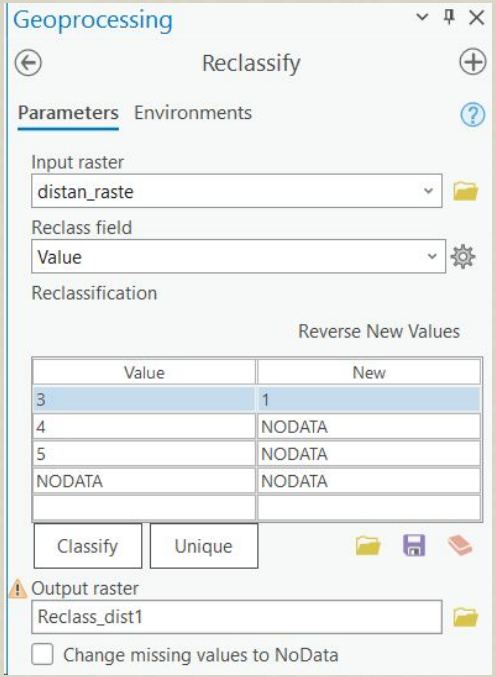
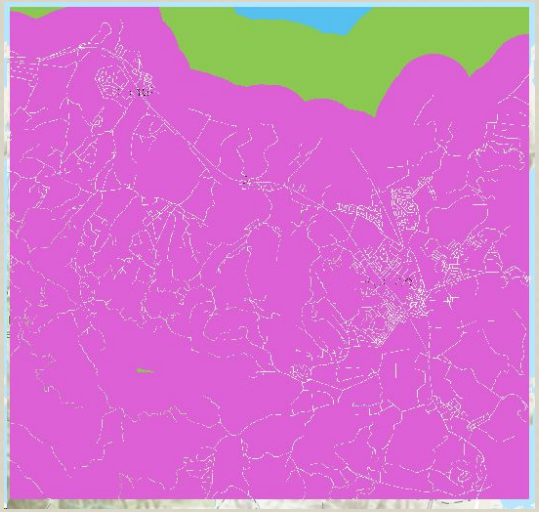
Road overlay





Yellow= Areas that aren't on top of a road but close enough for easy transportation

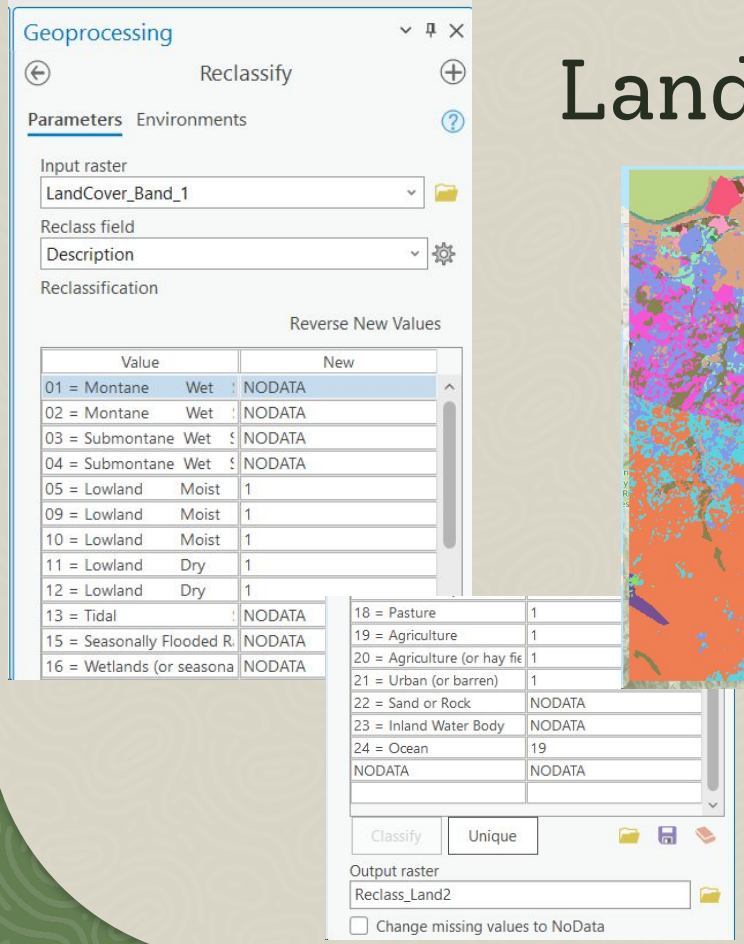
03

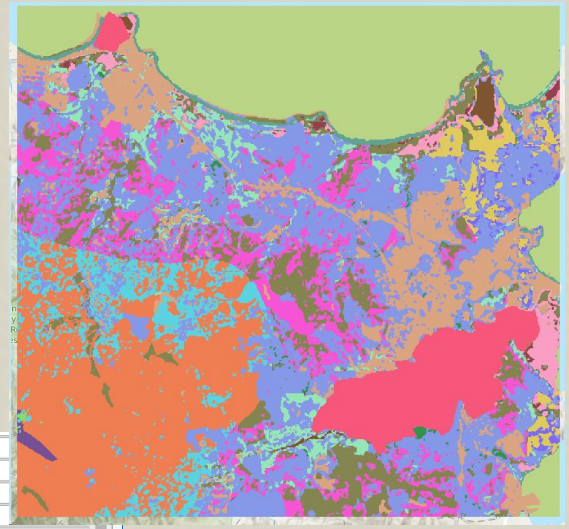
Land Cover Data

Site :

1. can not exist on water
2. can not exist on sand or rock
3. must exist on relatively dry ground

Land Cover Data





Green= Suitable land regions

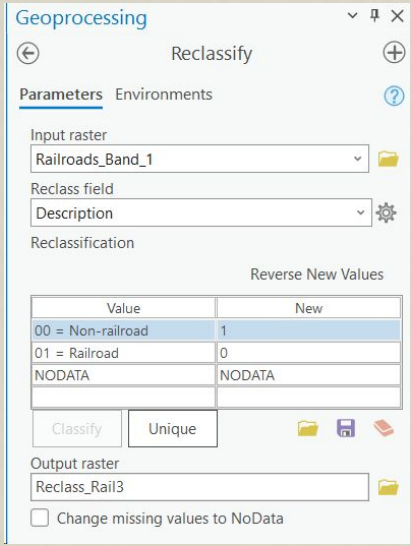
04

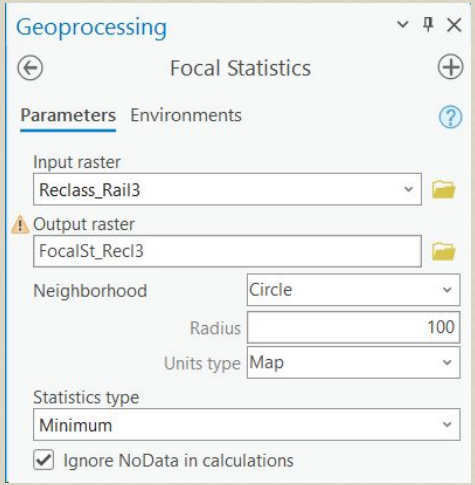
Railroad Data

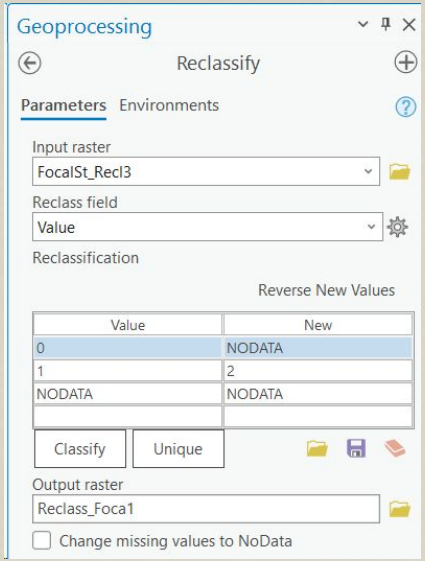
Site :

1. can not exist on or too close to any railroad

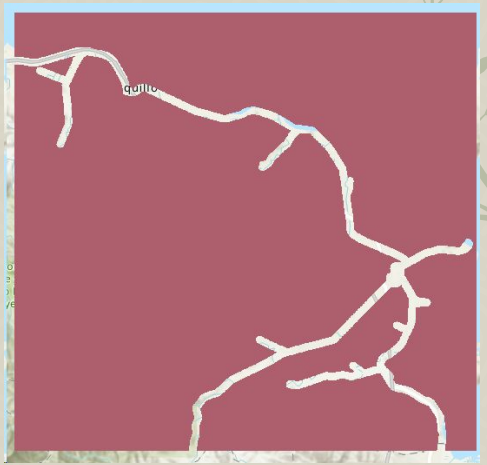
Railroad Data







Red= Not on top of or directly next to a railroad



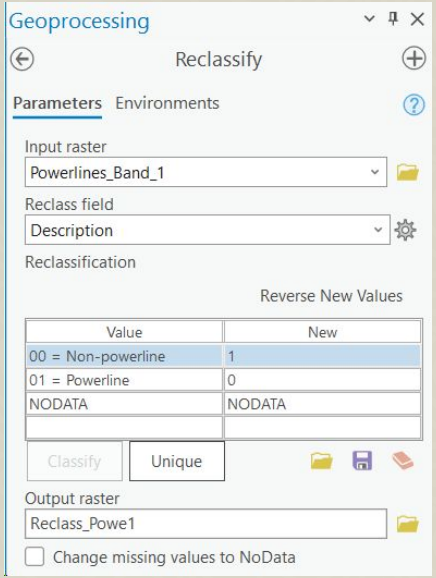
05

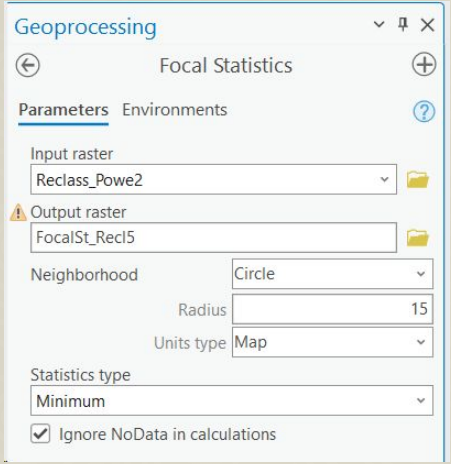
Power Data

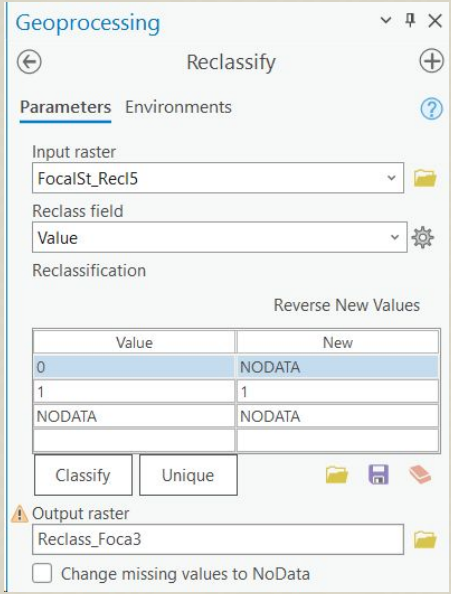
Site :

1. can not exist going through a powerline or too close to a powerline
2. can not exist too far from powerline (access to utilities like electricity)

Power Line Data Criteria 1

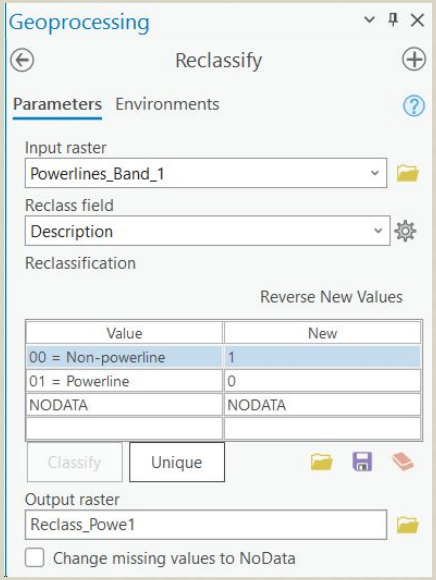


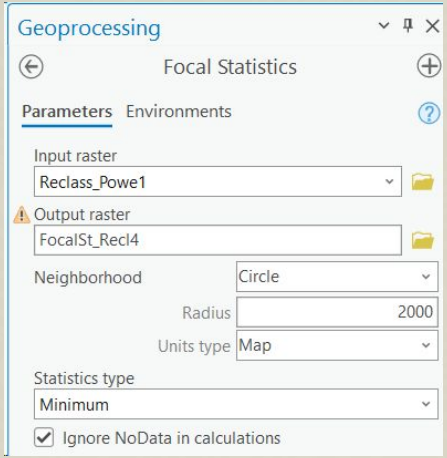


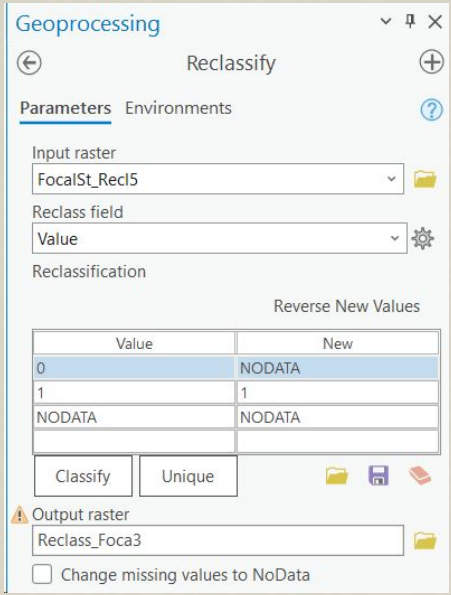


Green = Regions not on top of a Powerline

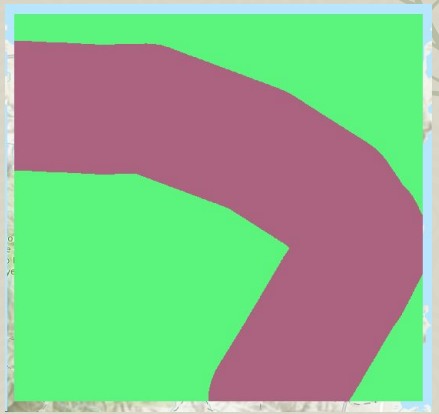
Power Line Data Criteria 2





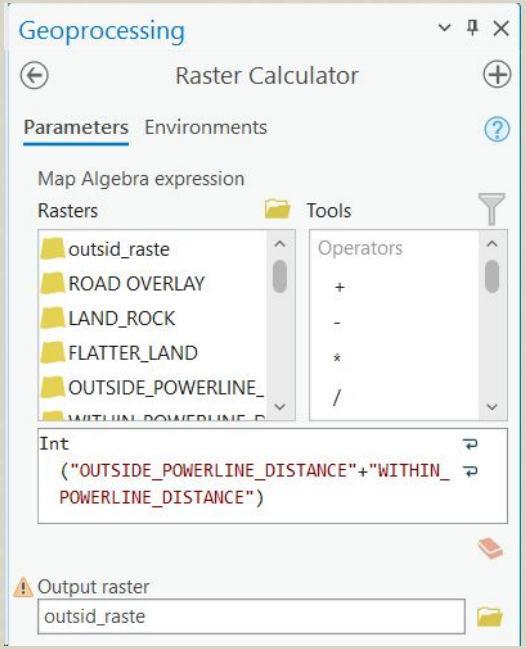


Red= Within the region for accessible electricity/utilities



Power Data Overlay

Power Data Overlay



Pink = Close enough to the powerline but not directly on top of it

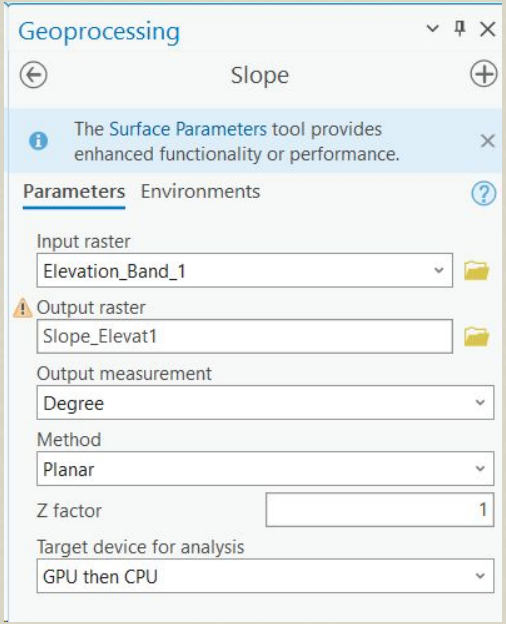
06

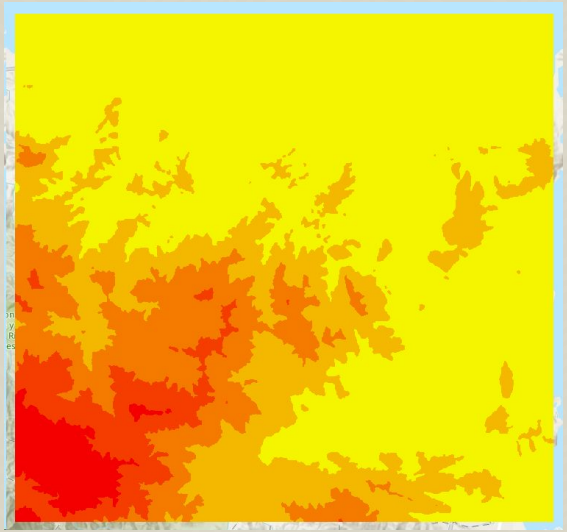
Elevation Data

Site :

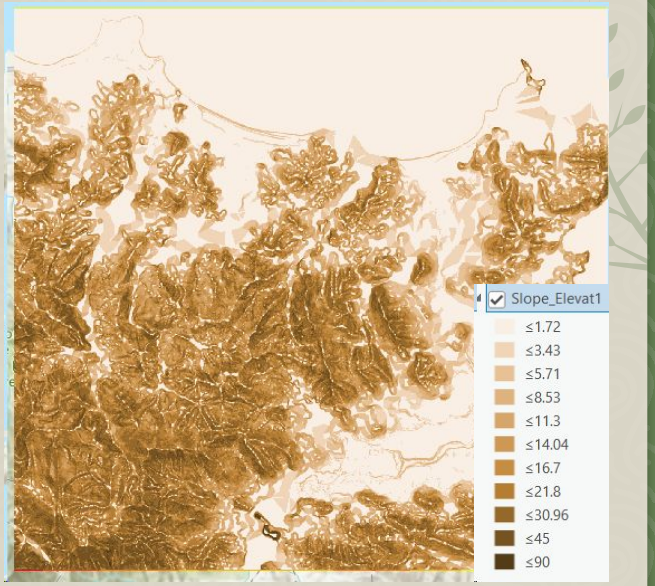
1. can not exist on an area that slopes too much (for structural reasons)

Elevation Data

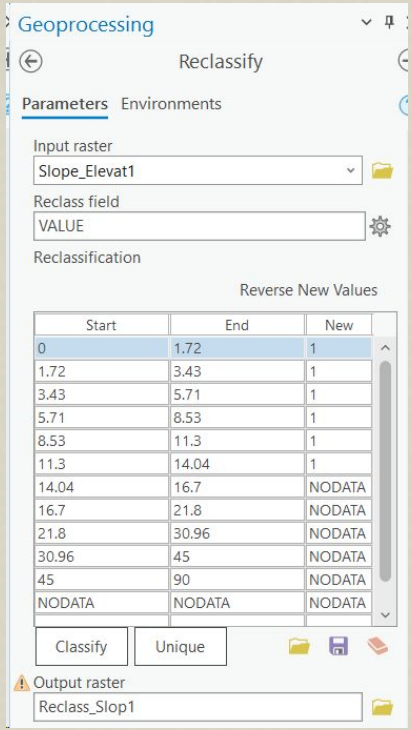


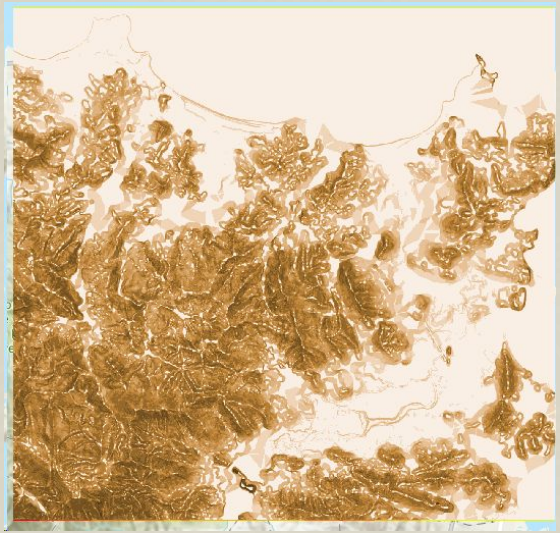


Slope of Elevation

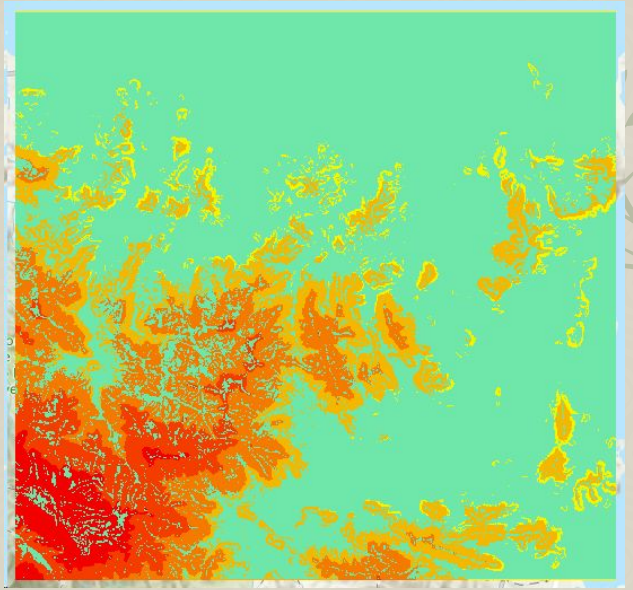


Elevation Data





Teal= Regions with a less steep slope (more flatter) and thus easier to build



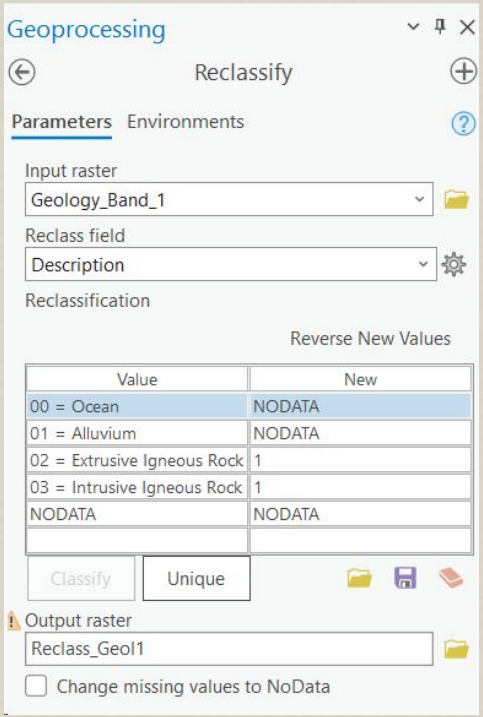
07

Geography Data

Site :

1. can not exist on ocean or alluvium

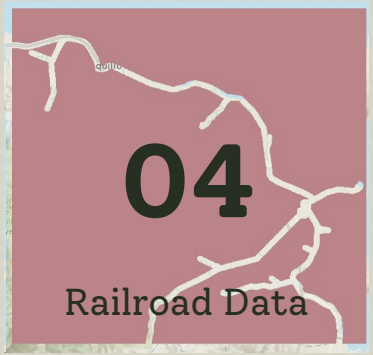
Geography Data

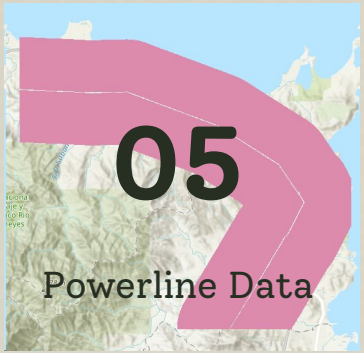


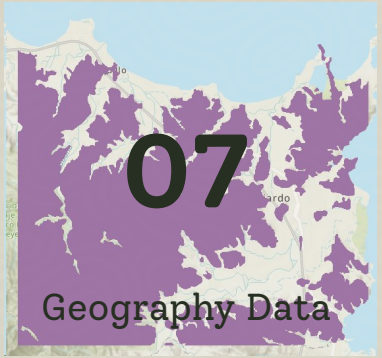
Purple= Not ocean or alluvium → Stable ground

Final Overlay

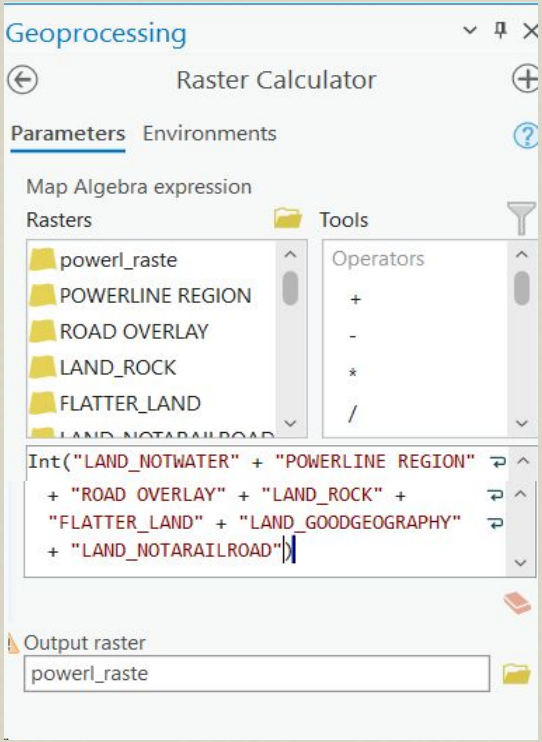
Final Overlay

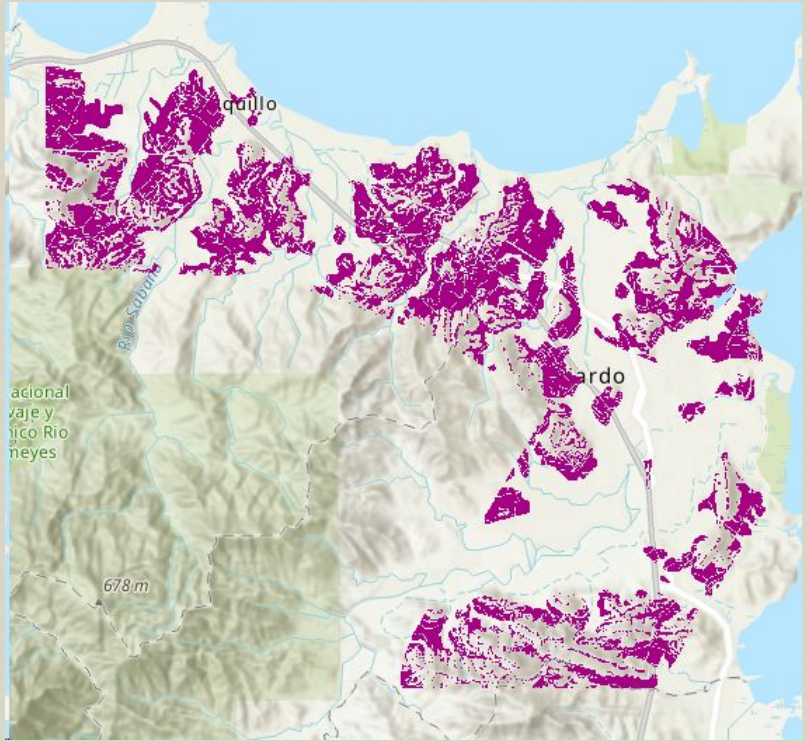




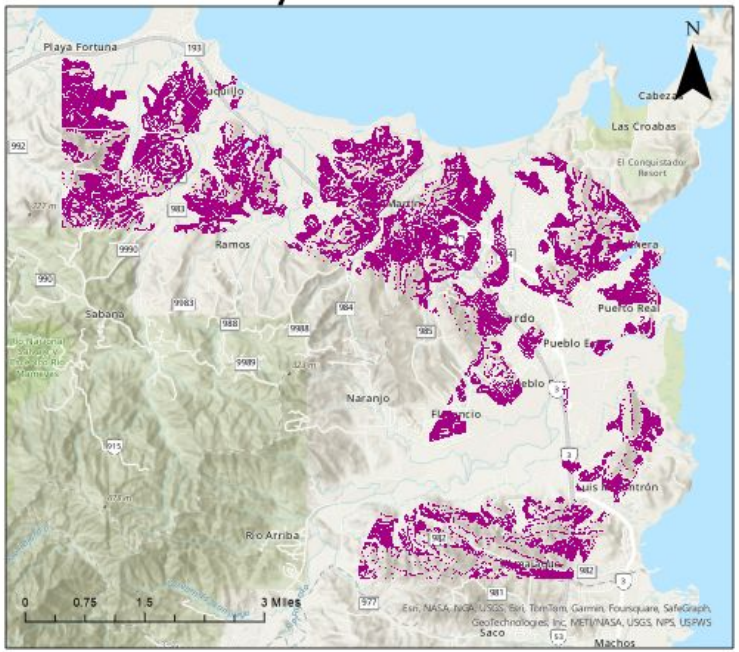


Final Overlay





Site Suitability in Puerto Rico



Puerto Rico was analyzed on a variety of factors including elevation, geography, railroad locations, powerline locations, road locations, landcover, and water data. After overlaying all "suitable zones", this map displays acceptable regions to build a structure