

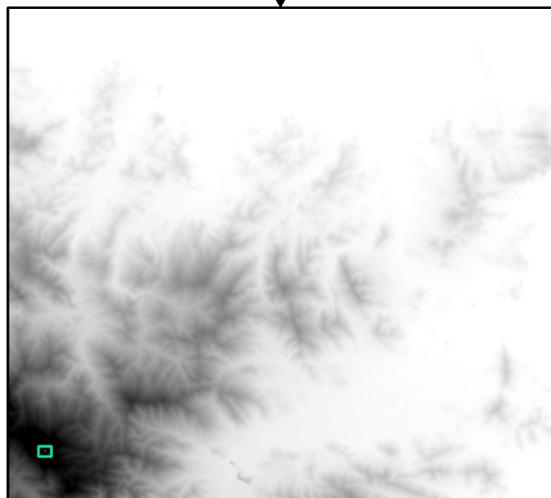
Help Police to Find Criminals

Step 1: Identify Luquillo's Highest Peak



Due to the criminals were last spotted near Luquillo's Highest Peak, which elevation is 670 meters. So I used the "Reclassify" Tool to locate the peak, then through "Raster to Point" Tool to convert raster data to vector point data.

Reclassified

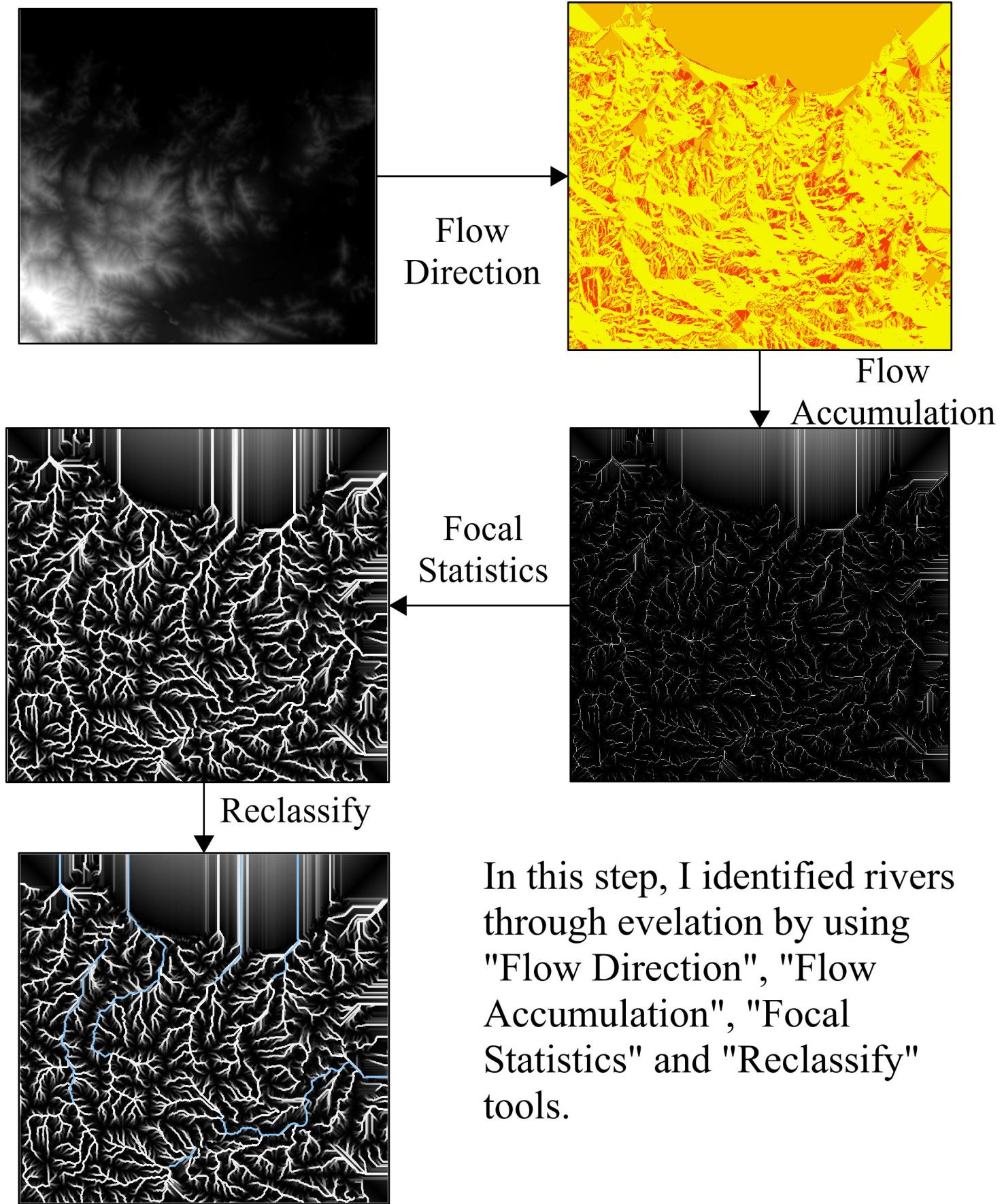


Raster to
Point



Help Police to Find Criminals

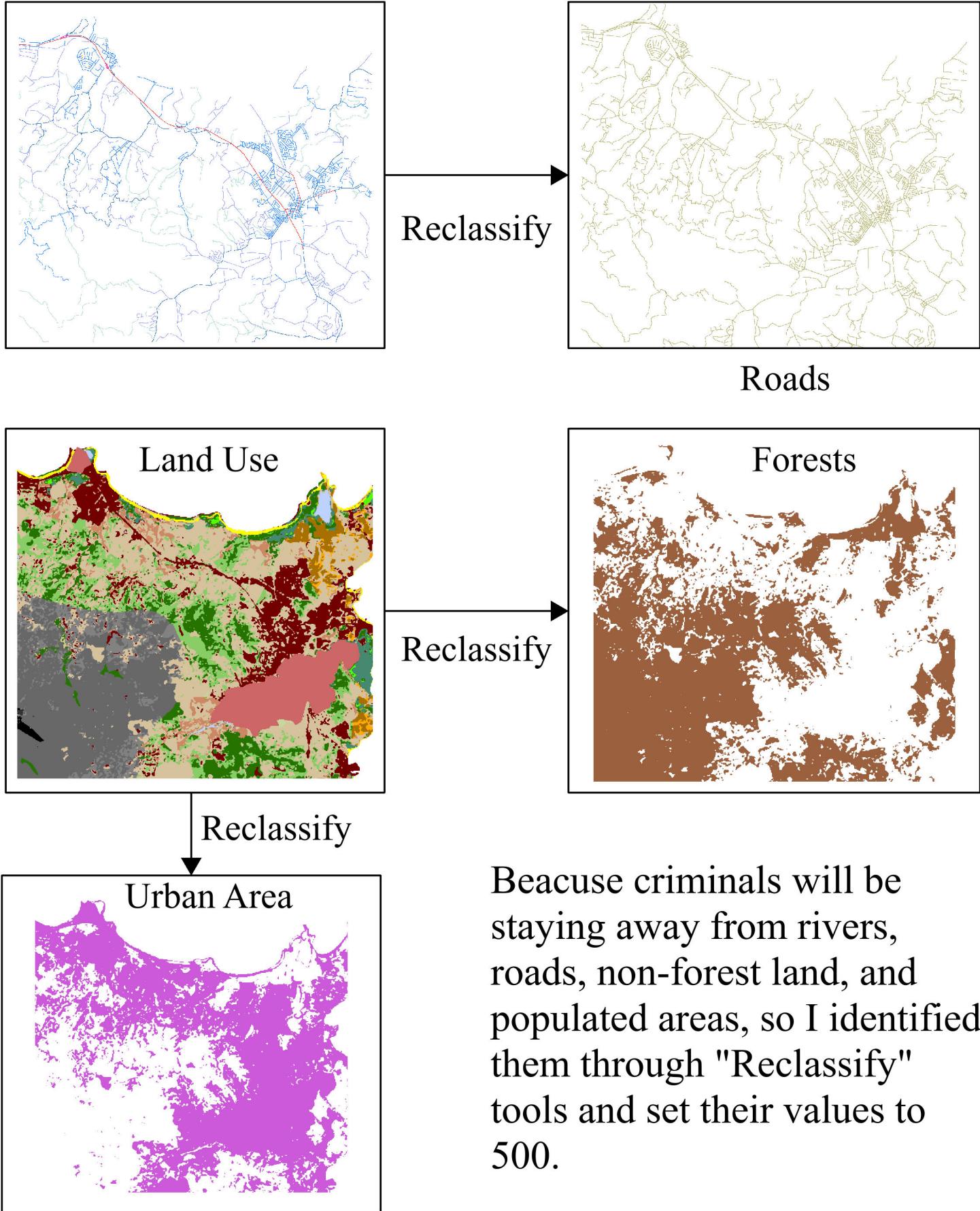
Step 2: Identify Rivers



In this step, I identified rivers through elevation by using "Flow Direction", "Flow Accumulation", "Focal Statistics" and "Reclassify" tools.

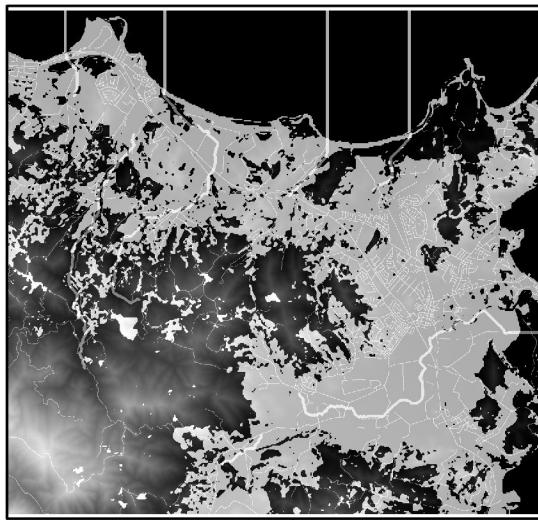
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Step 3: Identify Road, Forest, Urban Areas



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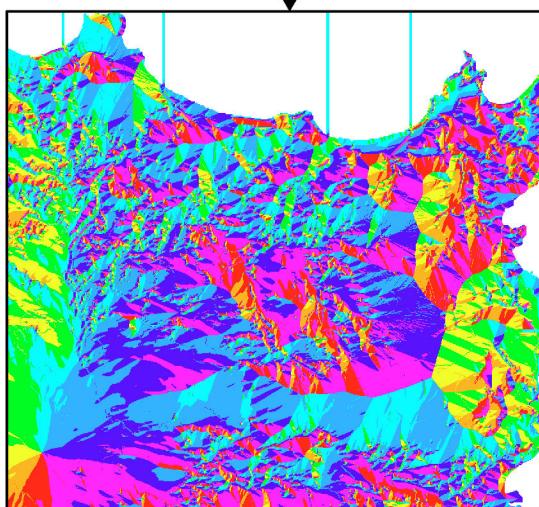
Step 4: Creating Friction



Cost Layer

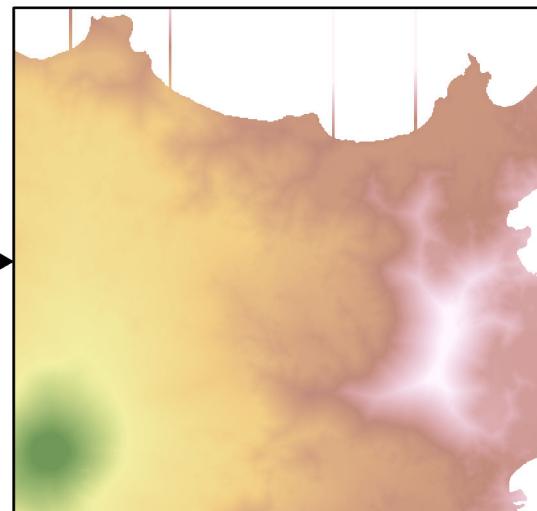


Luquillo's Highest Peak



Distance Bearing

This step is to create friction, which is to prepare for the subsequent finding of the best possible escape path. Firstly, I use "Cell Statistics-Sum" Tool to generate the Cost Layer, the Forest layer's value is 1, elevation is the original value, and other data's value are 500.

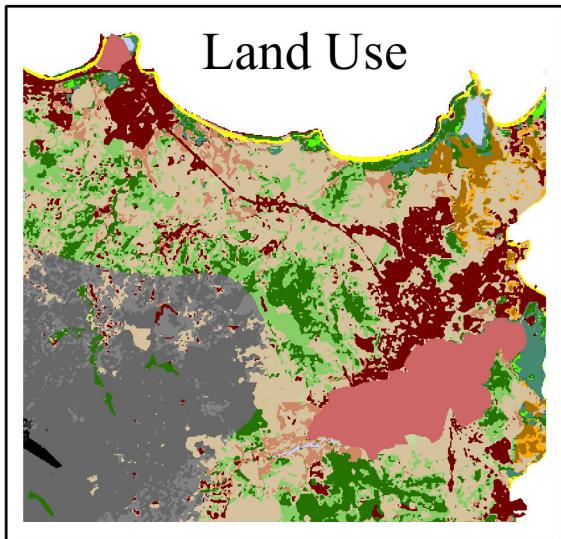


Distance Accumulation

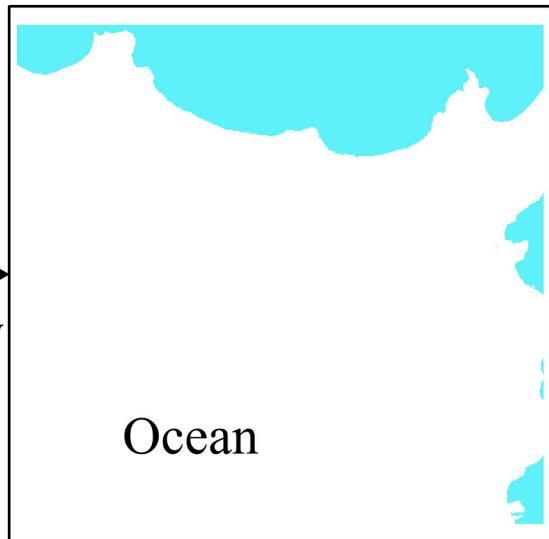
Using the "Distance Accumulation" Tool, Highest Point data and Cost Layer to generate the Distance Accumulation and Bearing layers.

Help Police to Find Criminals

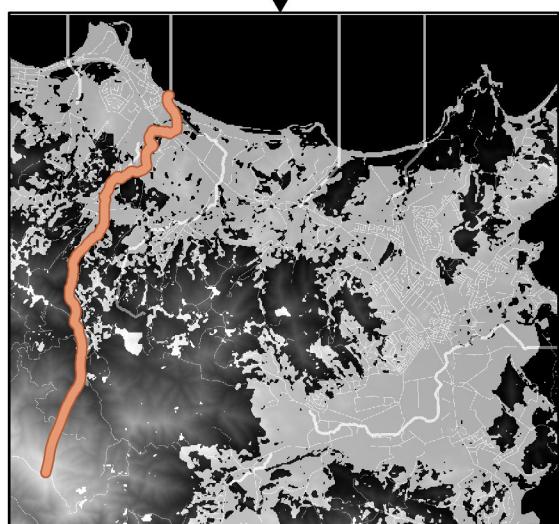
Step 5: Find the Optimal Path and Locate the Road



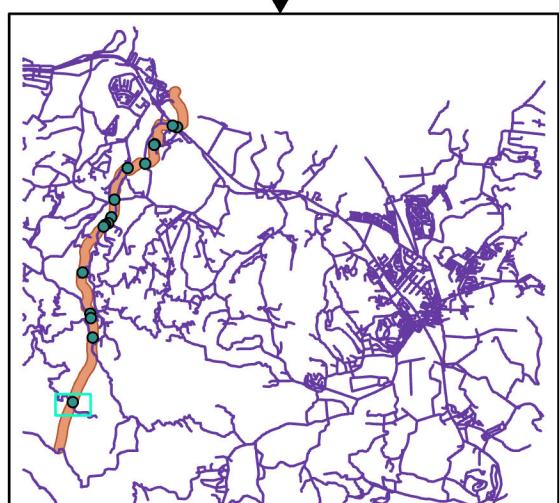
Reclassify



Optimal Path
As Line



Intersect



The final step is to use "Optimal Path As Line" Tool to generate a path with minimal cost. The highest peak is the starting point, ocean is the destination. Input the Distance Accumulation and Flow Direction layers, and finally we got a possible escape path. I converted the Road Raster to Polyline, through "Intersect" to get the intersect points.

Like the results on the right, maybe we should arrange for police to go to the road section inside the box in the map.