



**USING REMOTE SENSING
IMAGE DATA TO ASSESS
FIRE RISK OF ACADIA
NATIONAL PARK**

CONTENE

PART ONE

Introduction

PART TWO

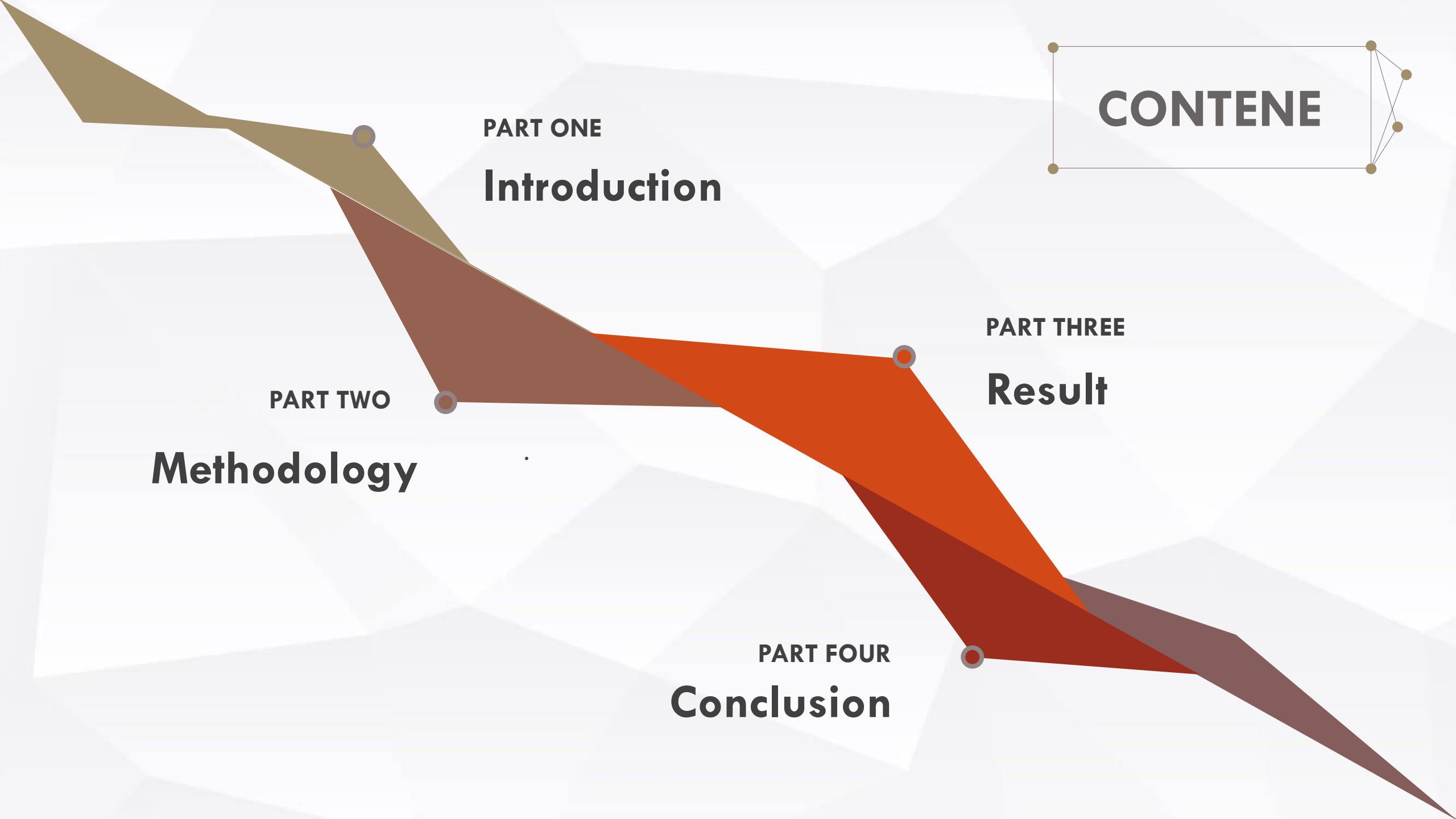
Methodology

PART THREE

Result

PART FOUR

Conclusion





Part 1

Introduction

Purpose & Study Area

Part 1 / The Importance Of Forest



Research Question

General Problem

Forest fires have brought huge economic losses to mankind. How to prevent forest fires has become a concern for people.

Specific Question

Is the use of land near the forest reasonable? Does the slope of the forest affect the spread of fire? How to influence it?



Purpose & Study Area

Acadia National Park is a United States national park located in the state of Maine with an area of nearly 47,500 acres.

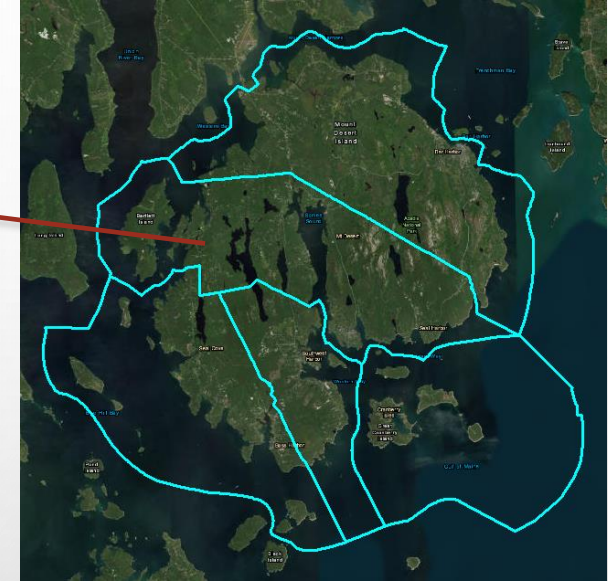
Plants

The Park contains many evergreen trees including spruce, and balsam fir trees.

Wildlife

The park is home to some 40 different species of mammalian wildlife. red and gray squirrels, chipmunks, snowshoe, hares. Many other marine species have been observed in the surrounding area and waters

Acadia National Park





Part 2

Methodology

Data Portrayal & Analysis

Part 2 / Work Flow Chart



LANDSAT 8

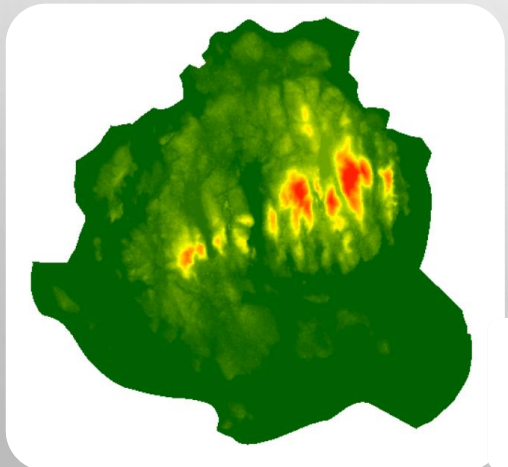
Multiband
image
synthesis

Clipping the
study area

Create a
training
sample

Maximum
likelihood
classification

Reclassify
with weight



High : 468
Low : 0

DEM

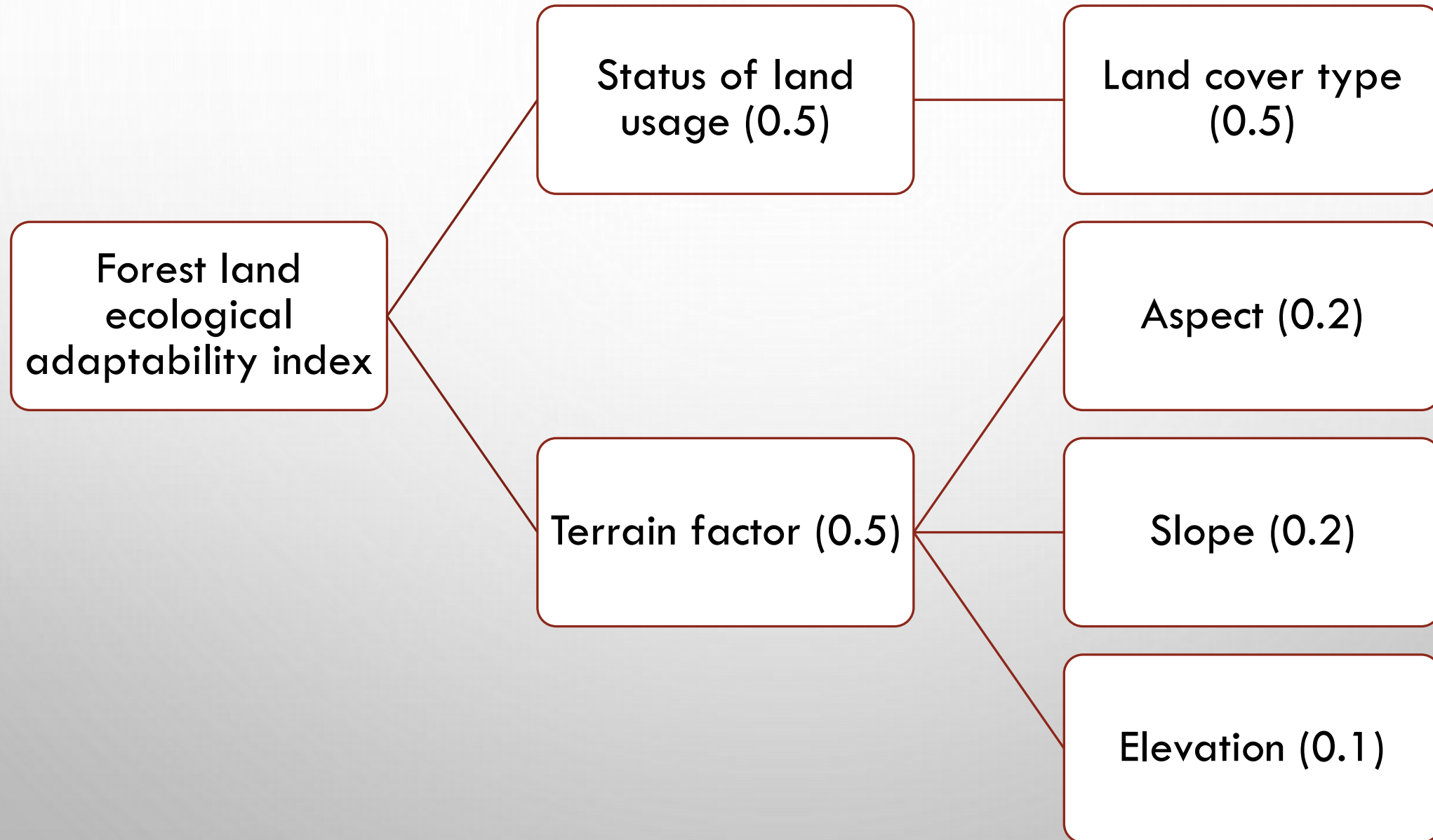
DEM data
combination

Clipping the
study area

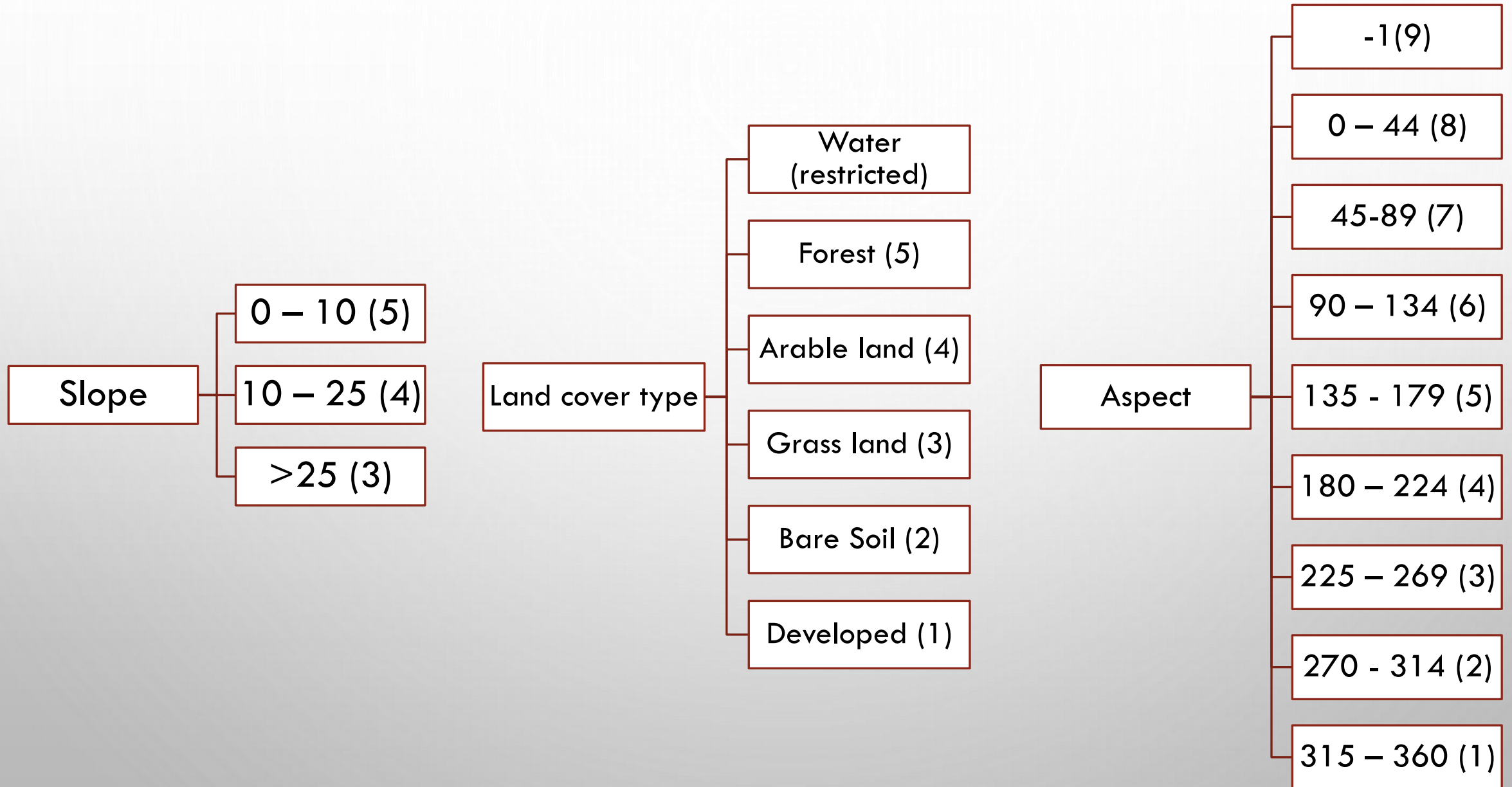
Terrain
information
extraction

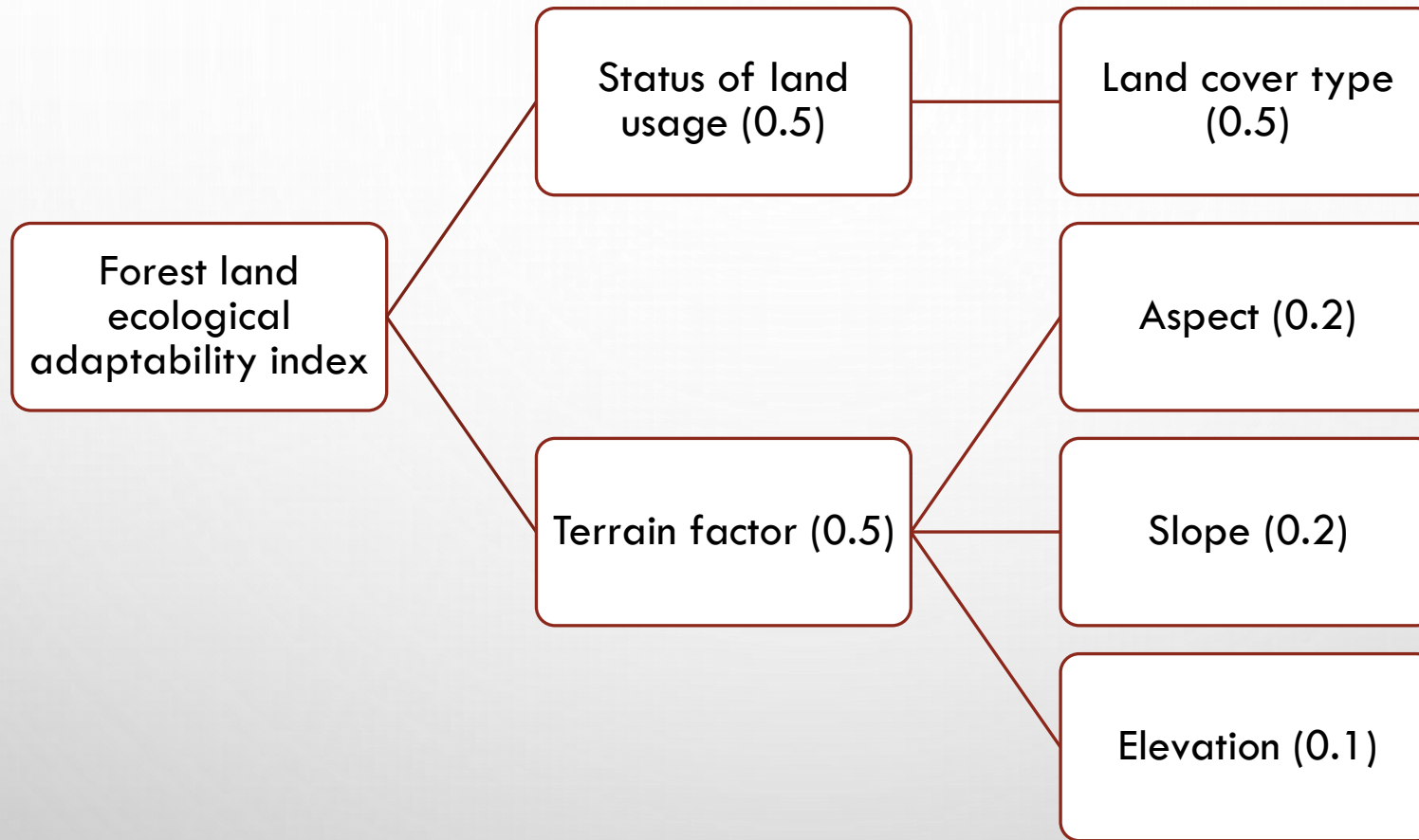
Slope and
Aspect
Analysis

Part 2 / Work Flow Chart



Part 2 / Work Flow Chart





$$\text{Fire Risk} = (\text{Land cover} * 0.5) + (\text{Aspect} * 0.2 + \text{Slope} * 0.2 + \text{DEM} (1) * 0.1)$$



Part 3

Result

Result & Conclusion



LANDSAT 8

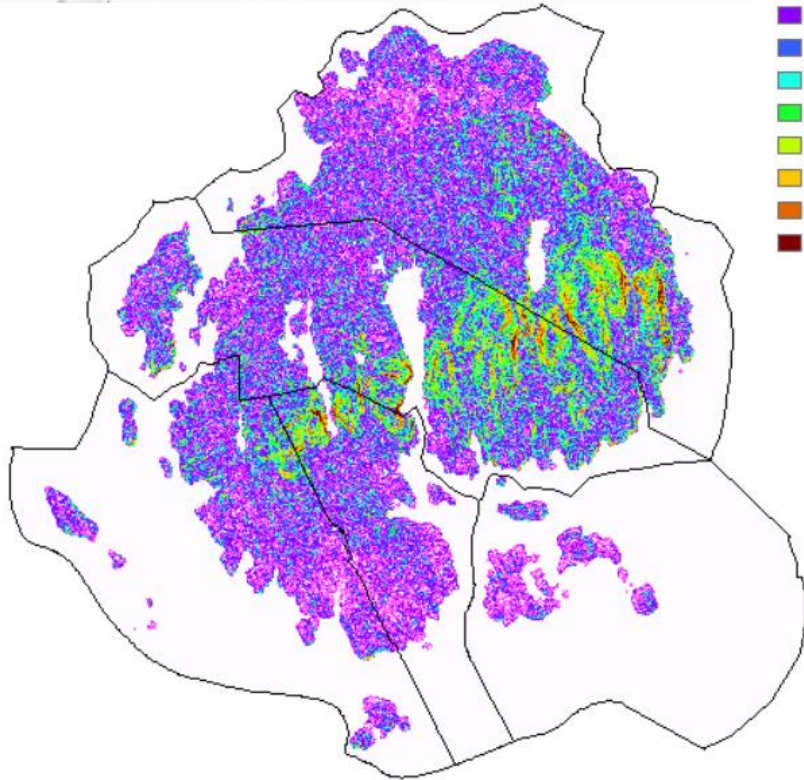
- Developed
- Water
- Bare Soil
- Forest



Land Cover

OBJECTID *	Value	Count
1	1	132720
2	2	337425
3	5	63262
4	7	152738

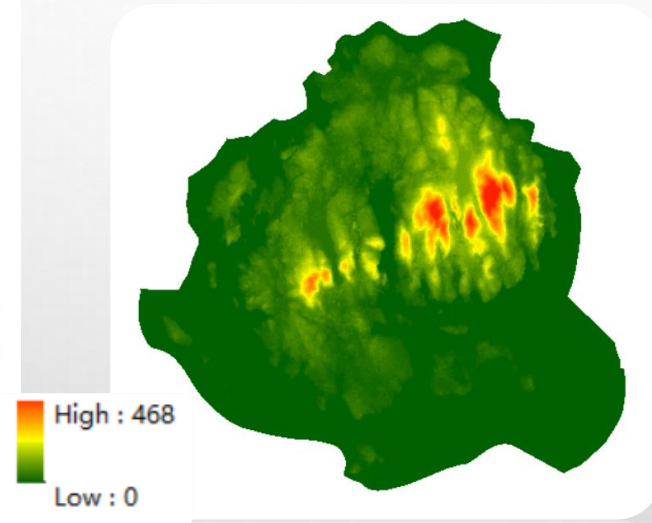
Part 3 / Result



Slope

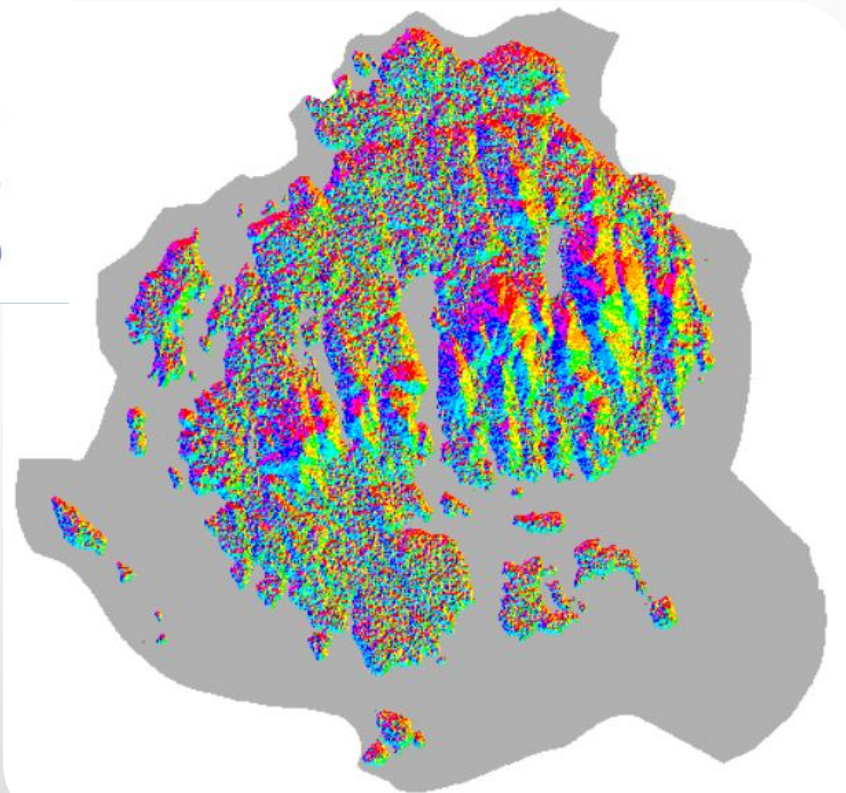
- 0 - 1.253734544
- 1.253734545 - 3.970159389
- 3.97015939 - 6.477628476
- 6.477628477 - 9.403009078
- 9.403009079 - 12.53734544
- 12.53734545 - 16.08959331
- 16.08959332 - 20.26870846
- 20.26870847 - 25.49260239
- 25.4926024 - 32.59709814
- 32.59709815 - 53.28371811

- Flat (-1)
- North (0-22.5)
- Northeast (22.5-67.5)
- East (67.5-112.5)
- Southeast (112.5-157.5)
- South (157.5-202.5)
- Southwest (202.5-247.5)
- West (247.5-292.5)
- Northwest (292.5-337.5)
- North (337.5-360)



DEM

High : 468
Low : 0



Aspect

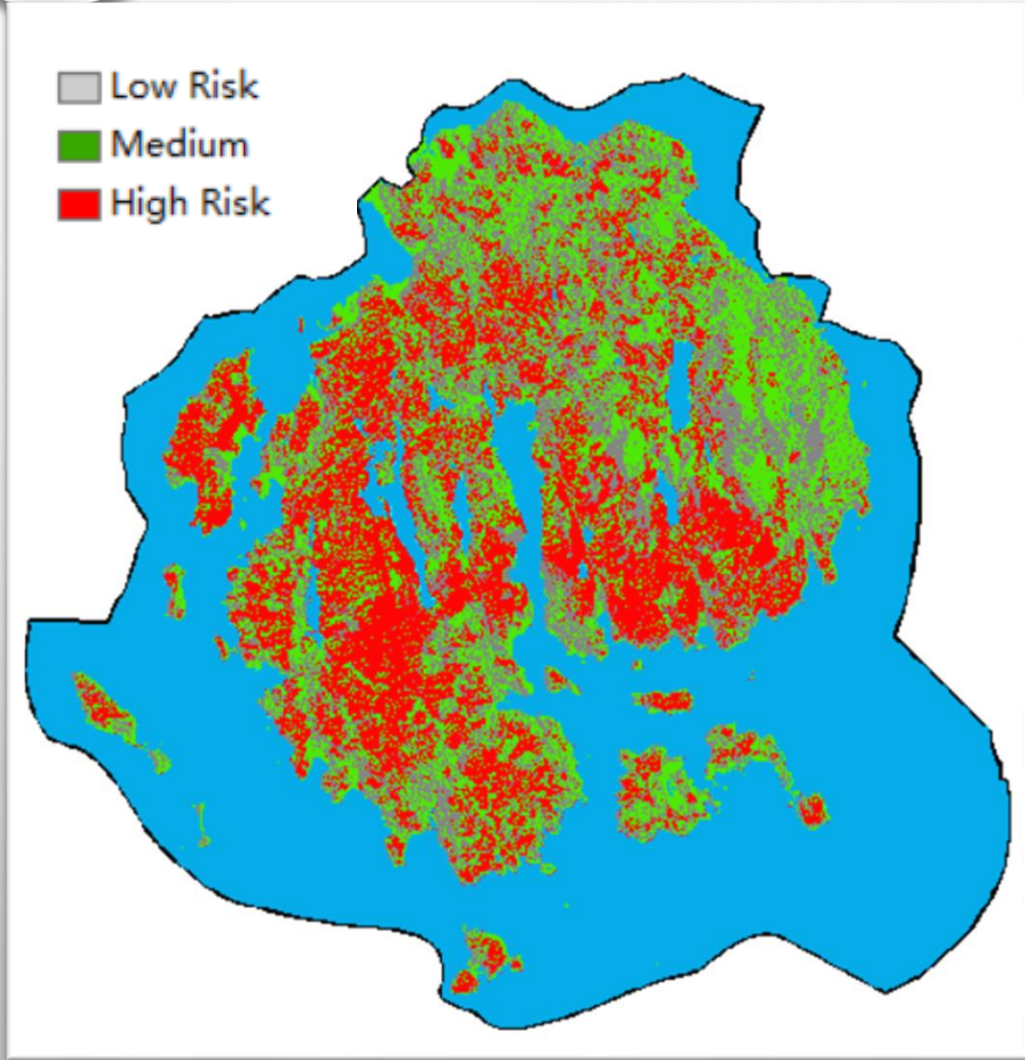


Part 4

Conclusion

Result & Conclusion

Part 4 / Conclusion

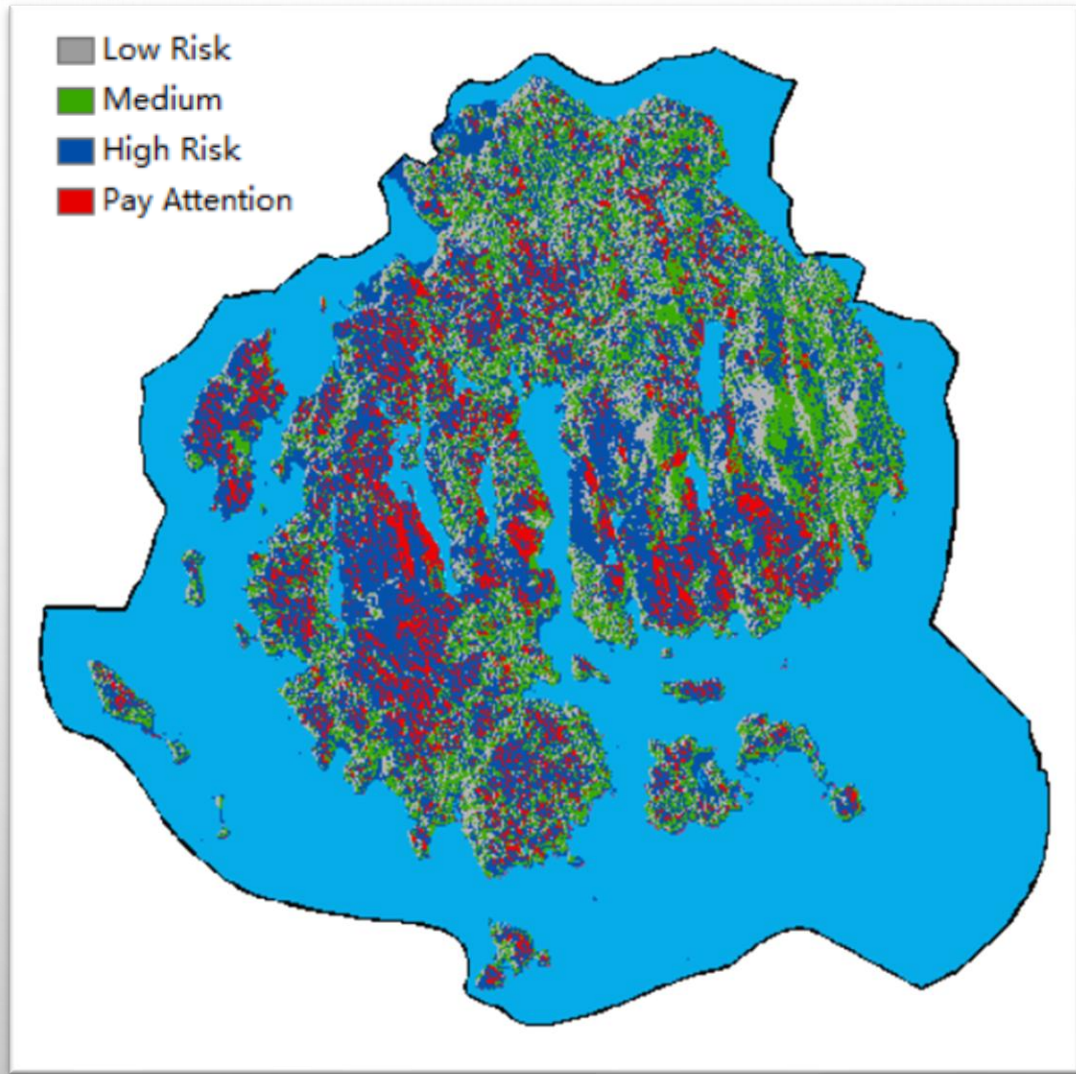


Fire Risk



Land Cover

Part 4 / Conclusion



Fire Risk

The background features a light gray gradient with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

THANK YOU!

YalinYang