Hong Kong Flooding Assessment and People's Perception of Current Flooding Warning System: Are We Well-Prepared for the Future Flooding Risk?

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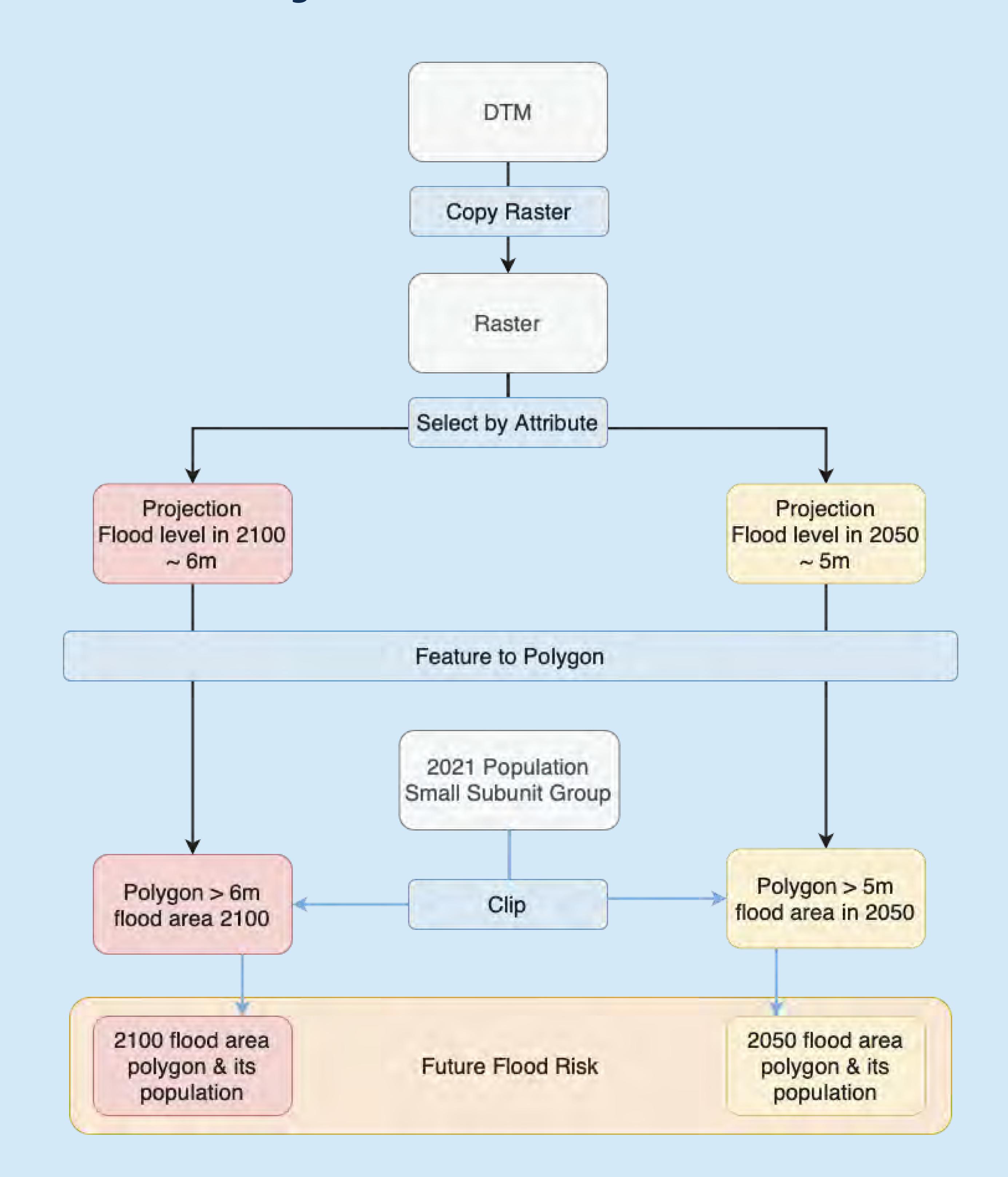
Introduction

Hong Kong is prone to meteorological disasters and flooding, especially during heavy rainstorms. Factors causing flooding in Hong Kong include storm surges, rainstorms, tsunamis, tidal change, climate change leading to rising sea level, crustal subsidence, and land subsidence. Flood damage has been increasingly severe in recent decades, and Hong Kong needs to prepare for future flood risks. The study aims to investigate the flood risk perception of Hong Kong citizens and the capability of current warning systems. Research hypotheses when many people in Hong Kong will be negatively affected by increasing flood risk, and have low risk perception, a new warning system should be established when a flood will affect a significant number of people in Hong Kong.

Research Objectives

- 1.To assess flood risk in Hong Kong by predicting which area in Hong Kong will experience flood risk in year 2050 & 2100 and estimate how many people in Hong Kong will be affected by flooding
- 2. To assess the perception of Hong Kong citizens on the current flood warning system by examining the capability of the current warning system to urge the community to respond to future (2050 & 2100) floods, and evaluate when we should adopt a new warning system.
- 3. To examine the capability of Hong Kong facing flood risk in future 100 years.

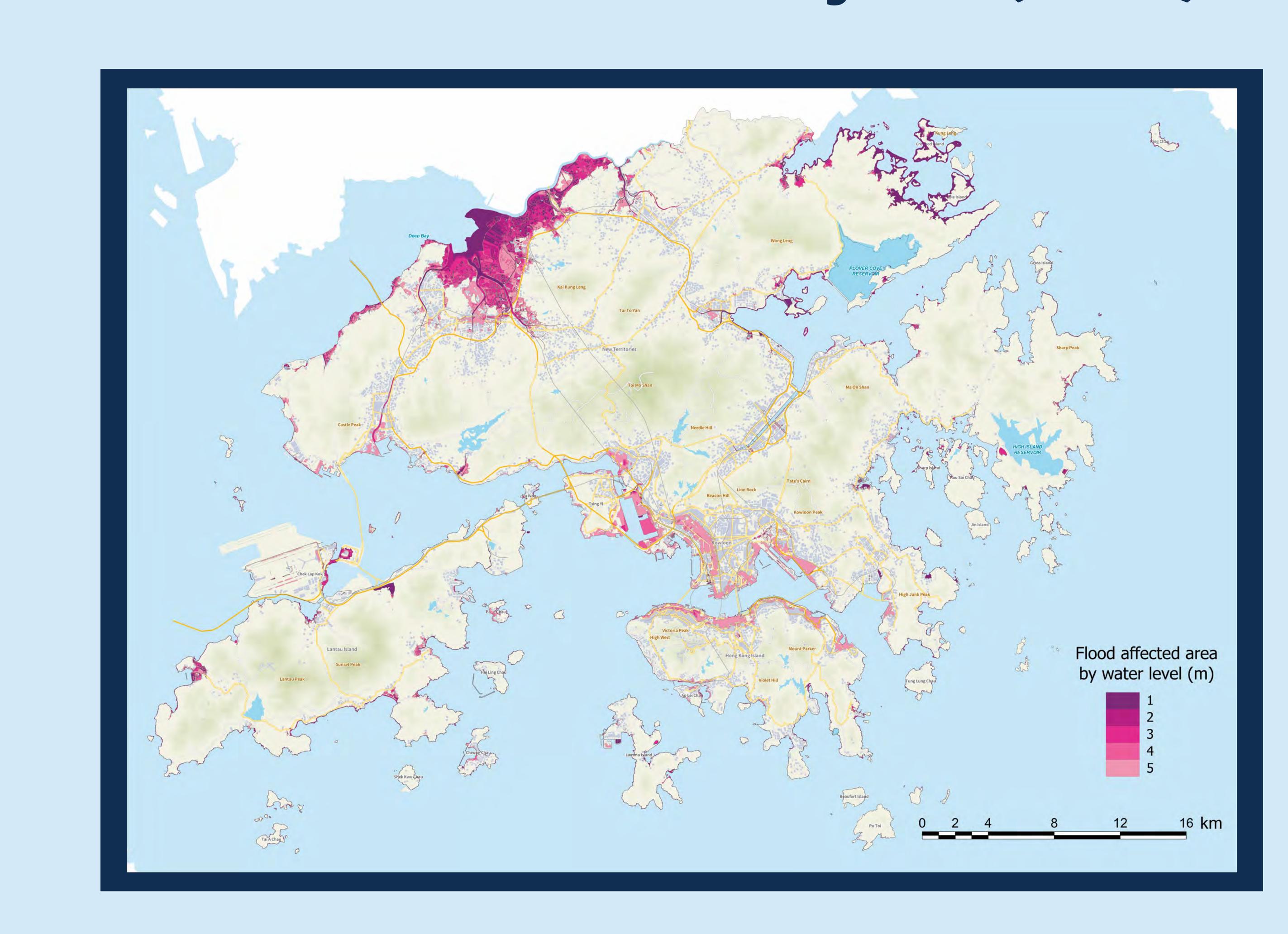
GIS Analytical Framework



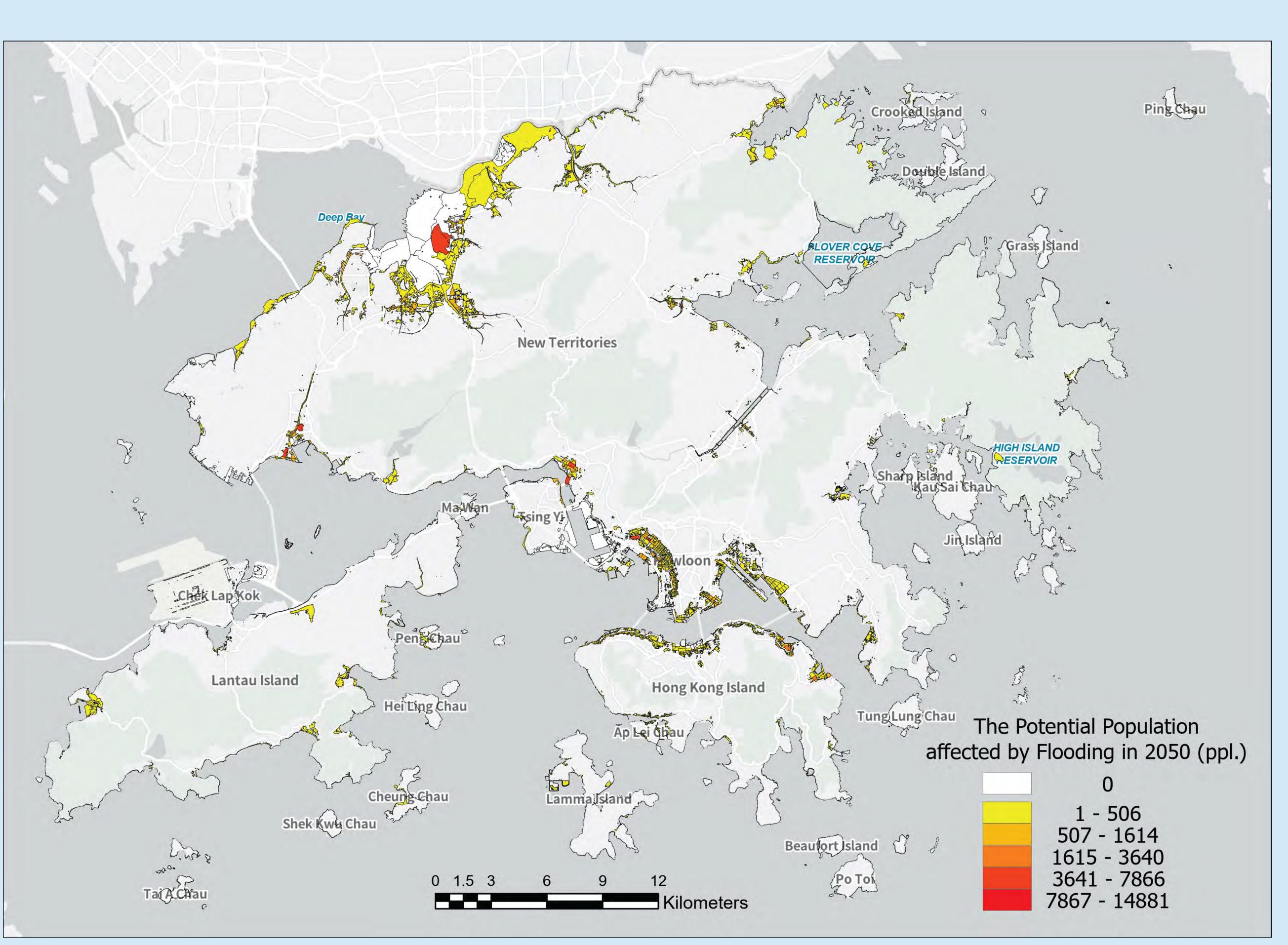
Flood Risk Factors

Flood Risk Factors	Water Level in 2050	Water Level in 2100
Storm Surge	2.35 m	
Rainstorm	0.28 m	0.397 m
Tsunami	Not included	
Tidal Change	2.01 mPD	
Sea Level Rise	0.32 m	1.08 m
Crustal Subsidence	Not included	
Land Subsidence	0.18 m	0.48 m
Worst Case Scenario	5.14 m ≈ 5 m	6.317 m ≈ 6 m

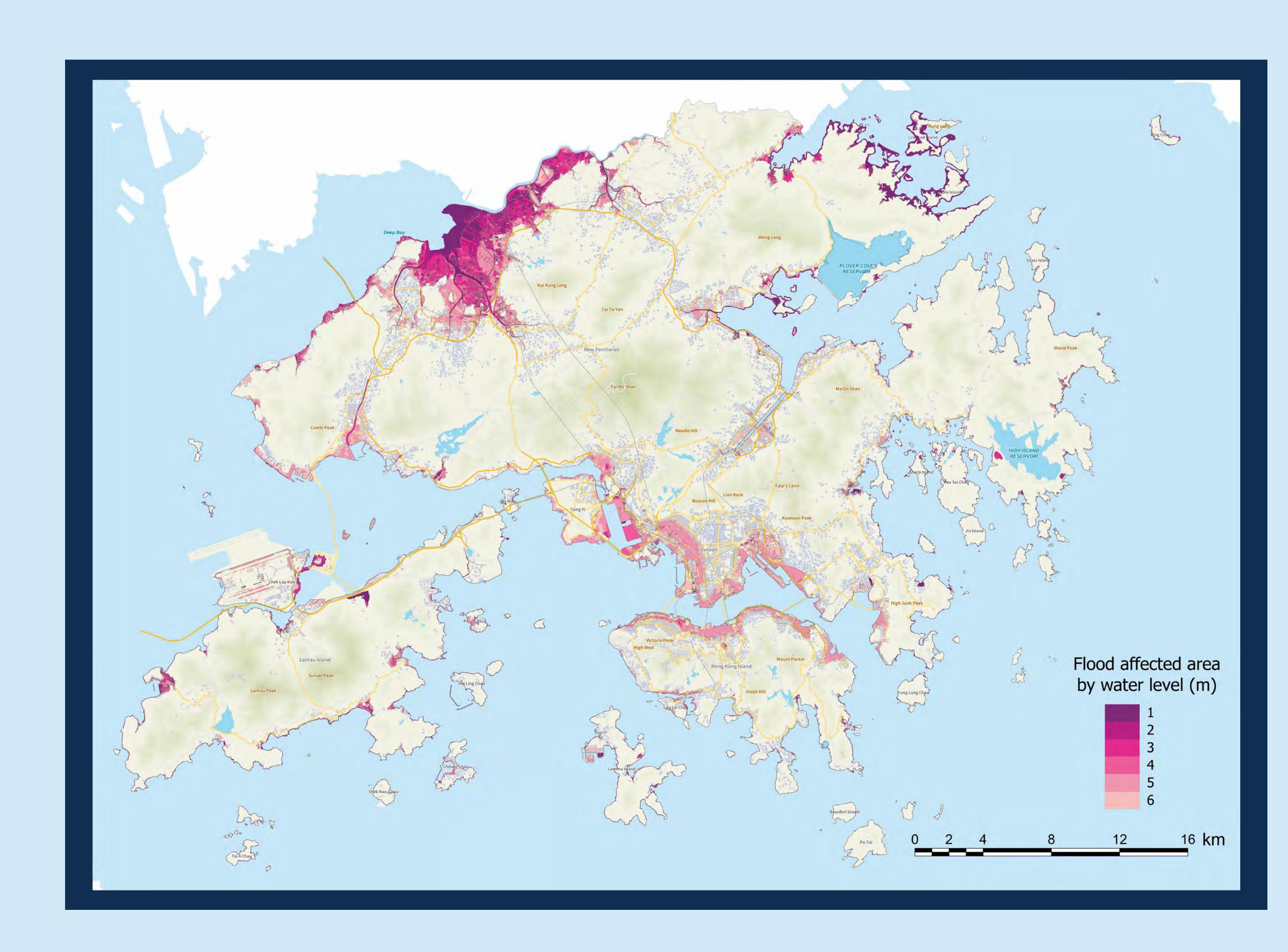
Flood Affected Area By 5M (2050)



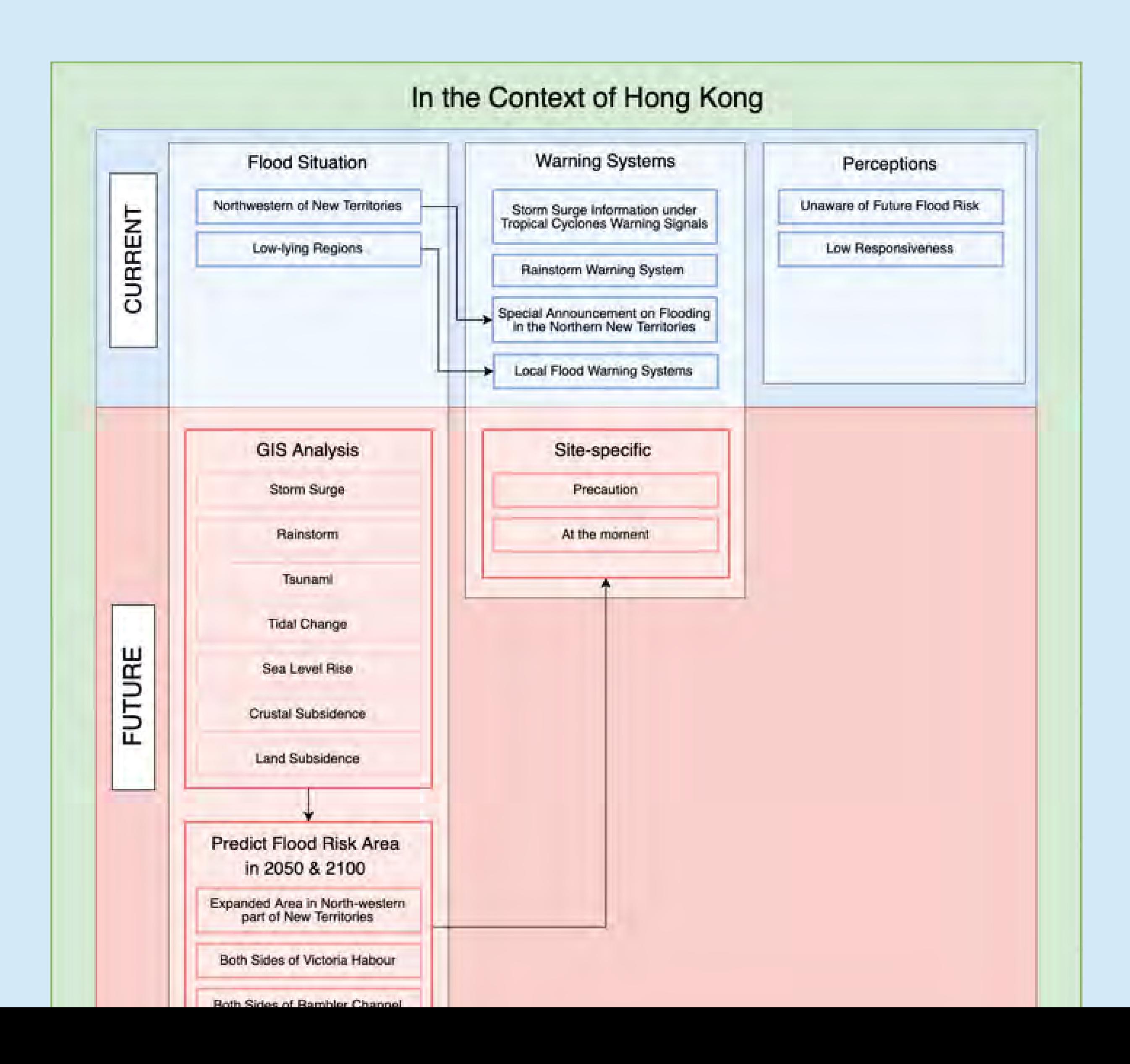
Potential Population Affected In 2050



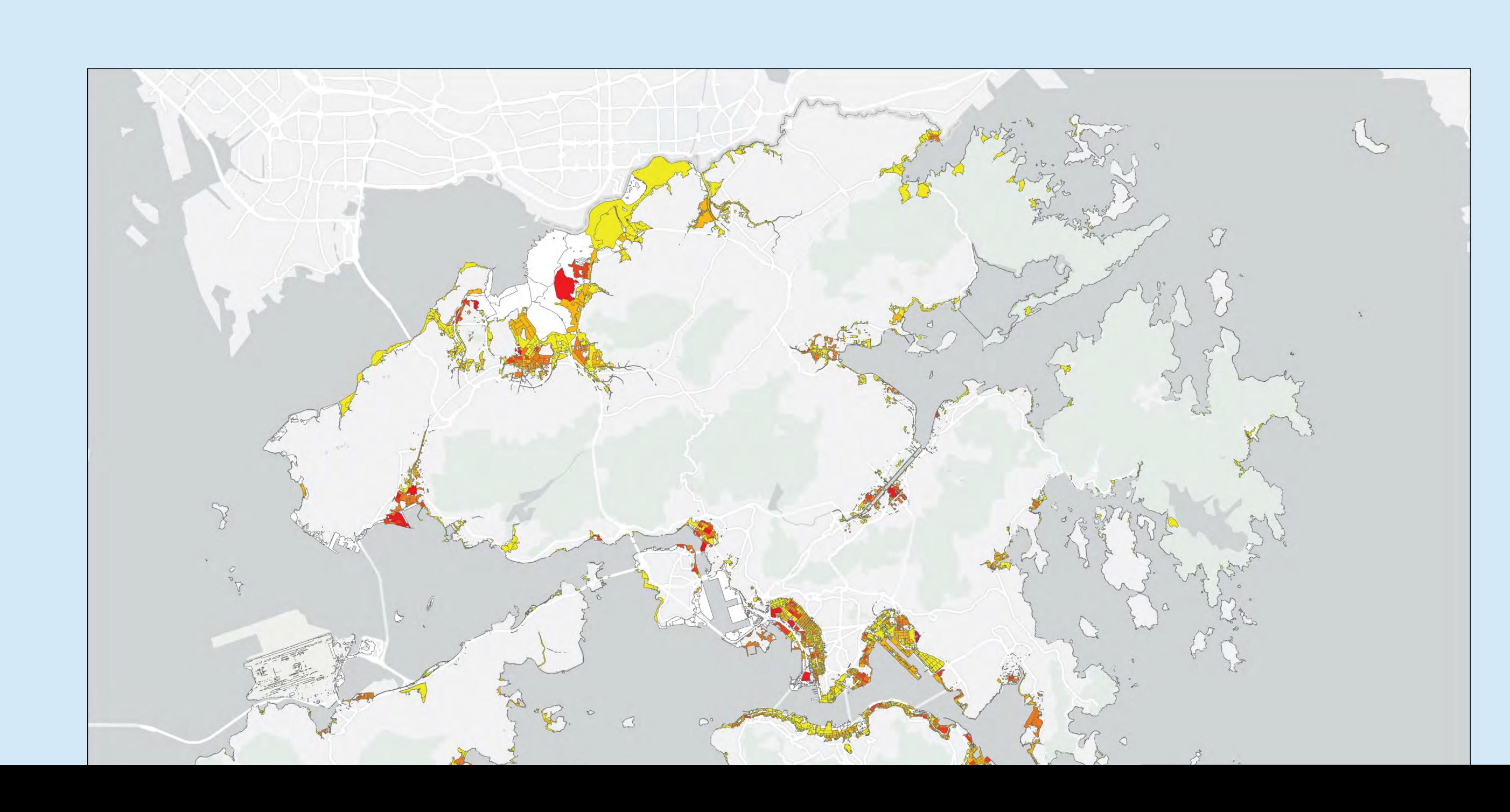
Flood Affected Area By 6M (2100)



Conceptual Framework



Potential Population Affected In 2100



Flood Area In 2050 & 2100

