

Ideal Inundation Simulation using Numerical model and SAGA GIS in Pearl River Delta

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Climate change contributes an important part for sea level rise and the intensities of the storm surge (Typhoon or Hurricane). Therefore the coastline area suffered a big threaten of the sea level rise and storm surge, for example, the increasing intensive flooding and rainfall. My research focuses on the impact and influence by the sea level rise and storm surge in coastline area. Briefly, how the ocean actions (sea level rise and storm surge) affect the landscape.

The Pearl River Delta, located in south-eastern China, is one of the most economic regions in China with a long coastline. Due to the low lying topography of the Pearl River Delta, major risks and threats are sea level rise and increasing typhoon events (i.e. accelerated storm surges) and inland flooding (i.e. heavy rains and peak flows). This research aims are to analyze and assess how much landscape influenced by storm surges (Typhoon), using numerical modeling approaches based topological analyses to identify areas, which face highest risks under present and future sea level rise scenarios in climate conditions.