



## **Coastal Storm surge flooding impact under different climate scenarios in Pearl River Delta**

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The Pearl River Delta is highly vulnerable due to the low altitude and frequent typhoon attack. Flooding poses a severe risk of loss of human life and infrastructural values in this area. This study aims to estimate the inundation area and quantities the economic loss. D-Flow flexible mesh model is employed to simulate the storm surge flooding inundation area under three different typhoon scenarios. D-Flow flexible mesh is the first numerical model combined structure grid and unstructured grid in the world, which is also the first application in the most complicated watercourse in China. The model is calibrated using in-site measured discharge and water level. The inundation area is validated against satellite image. Three typhoon scenarios with different characteristics will be examined. Results of this research will help to relief the flooding loss, also the results would be useful for land use planning and sustainable development in the coastal and delta area.