

Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2022-42
Project Title:	Environment and Conservation Fund - Coastal Hazard Protection Benefits of Ecosystems in Hong Kong under Global Climate Change
Principal Investigator:	Dr Dong You, Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University
Total Approved Grant:	\$806,400
Duration:	1/9/2023 to 31/8/2025
Project Status/Remarks:	On-going
Project Scope:	<p>The purpose of this project is to investigate the protection benefits of ecosystems against coastal natural hazards (e.g., tropical cyclones, storm surges, and overtopping waves) under global climate change scenarios, and to develop high-efficient planting and management strategies based on the topographic, meteorological, and hydrological characteristics of Hong Kong.</p> <p>The main objectives are:</p> <ul style="list-style-type: none"> (a) To establish geographic information models of high-risk coastal urban areas in Hong Kong; (b) To investigate the protective effects of different ecosystems in high-risk regions through experimental and numerical studies; (c) To identify key factors affecting the protective effects and optimise the planting of ecosystems using artificial intelligence technologies; and (d) To develop a risk-based cost-benefit framework for the ecological protection systems to formulate robust city protection strategies.
Summary of the Findings/ Outcomes:	To be available upon completion of the project