

# Increasing the resilience to the health impacts of extreme weather on elderly people under future climate change

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Extreme hot weather is expected to be more frequent and intense in Hong Kong under future climate change. The impacts will be exacerbated due to the presence of the urban heat island phenomenon in our high-density city. In particular, elderly people are more vulnerable to the impacts of extreme hot weather because of their decline in physiological functions and their behaviour and response. As such, plans for “mitigation” and “adaptation” actions are urgently needed.

Numerous studies have proved that excess mortality and morbidity are associated with extreme hot weather. It is important for different sectors of the society to take necessary actions. However, there are three issues to be addressed for successful responses, including (a) lack of data for understanding the extreme hot weather in our city; (b) lack of evidence-based mitigation action plans; and (c) lack of evidence-based adaptation response plan.

This project aims to contribute by: (1) downscaling global climate data to the urban scale for weather information services and health impact assessment; (2) developing a mitigation action plan with better urban planning and building design under extreme weather; and (3) developing an adaptation response plan for supporting services to increase the resilience of elderly people to extreme weather. This study will provide a methodological framework for incorporating the scientific knowledge of extreme weather and its associated impacts on the elderly health and well-being into a comprehensive plan for response actions.

The findings of the study will help the Hong Kong Observatory transform the current simple weather information system into a more comprehensive one that

is capable of reflecting timely conditions of different districts.

Guidance will be developed for urban planners, architects, developers and other professionals in the field to help the industry fully unleash its potential in building towards a sustainable and healthy city under the vision of Hong Kong 2030+. They will fill the current knowledge and awareness gap in the industry.

Current services will be improved by incorporating information provided by the new weather warning system. Housing protocols will be developed to better cater to the elderly’s need under extreme weather. Social workers and volunteers will be trained to take better care of the elderly under such conditions.

The project is led by the project director, Prof. Edward Ng and conducted by a multidisciplinary team composed of architects, scientists, psychologists, building science specialists and health practitioners.

The project lasts for three years from 2019 to 2021. It is funded by the [Research Impact Fund](#) of the University Grants Committee. The funding amount is approximately GBP 1 million.

The project team is looking for contributions from colleagues who are interested in this project to share knowledge and experiences.

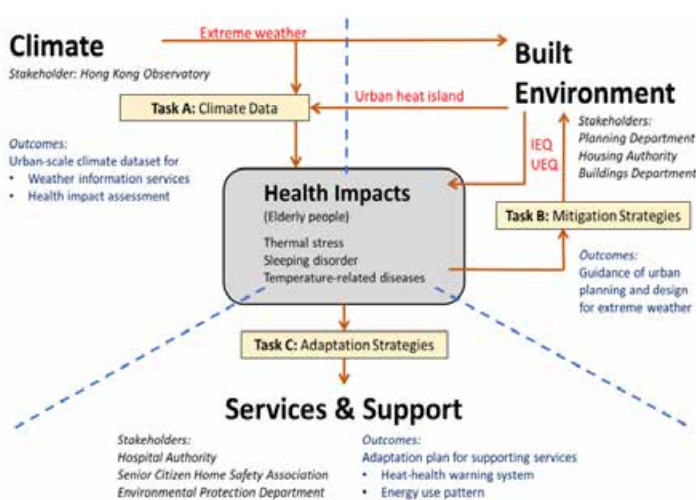


Figure 2: Methodological framework of the project



Figure 1: The context and issues of the project