

Appendix

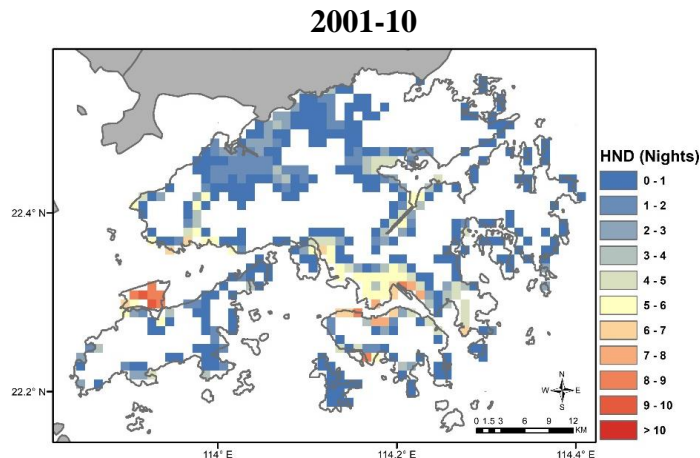
1. **Table: Extreme weather events in Hong Kong as a result of climate change** (data source: research team)

	2001-10	2011-20	2040-49 (The intermediate greenhouse gas emissions scenario SSP2-4.5*)
10-year average of hot nights (daily minimum temperature $\geq 28^{\circ}\text{C}$, May-September)	≈ 20 days	≈ 32 days	≈ 48 days (projection)
10-year average of longest duration of consecutive hot nights (weather station at HKO Headquarters)	≈ 7 days	≈ 8 days	≈ 10 days (projection)
Highest hourly rainfall	$\approx 109\text{mm}$	$\approx 158\text{mm}$	$> 230\text{mm}$ (projection)

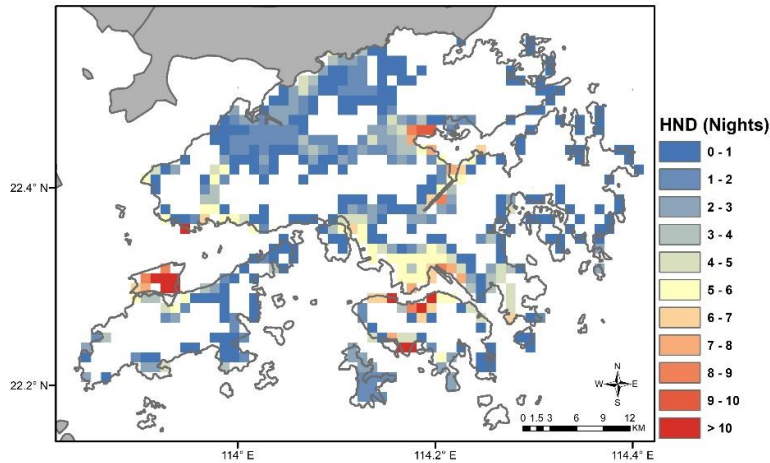
*Note: The intermediate greenhouse gas emissions scenario means that carbon dioxide emissions remain around current levels until the middle of the century. If the high or very high greenhouse gas emissions scenario comes to pass, with carbon dioxide emissions roughly doubling by 2100 (high emissions) or 2050 (very high emissions) compared to the current level, the projected number of extreme weather events will significantly increase.

2. **Image: district variations in the 10-year average of the longest consecutive number of hot nights**

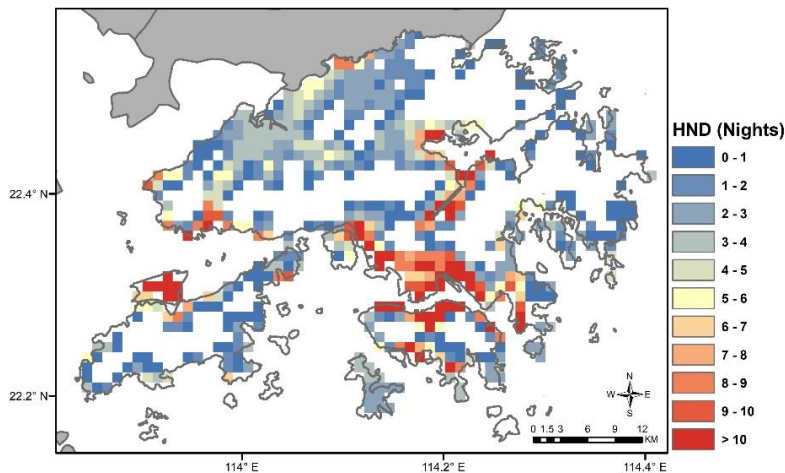
The red colour indicates areas with the longest consecutive number of hot nights, while the blue colour indicates areas with relatively fewer consecutive hot nights. By comparing the maps of three different decades, we can see that consecutive hot nights are becoming more common and will continue to do so in the future, affecting a wider range of areas.



2011-20



2040-49



3. The research team's recommendations for dealing with extreme weather:

Recommendations	Measures
Regularly review and update standards for extreme weather	<ul style="list-style-type: none"> The government should establish standards and mechanisms to address various extreme weather events based on the latest scientific knowledge. This includes regularly reviewing and updating extreme weather warning systems and related meteorological services, as well as disaster preparedness standards, such as design standards for drainage facilities.
Develop protocols for dealing with extreme weather	<ul style="list-style-type: none"> The government should collaborate with different sectors to develop emergency response protocols, such as flood prevention measures in flood-prone areas. All sectors should ensure the effective implementation of relevant measures during extreme weather conditions. Citizens should also have access to and make use of appropriate facilities, such as heat shelters and evacuation sites in their communities or buildings.
Implement permanent	<ul style="list-style-type: none"> As extreme heatwaves become the new normal, the government

<p>support measures and services for the new normal</p>	<p>should consider transforming certain temporary measures into permanent support services, for example by establishing heat shelters.</p> <ul style="list-style-type: none"> • Elderly people and patients with chronic illnesses are more susceptible to the effects of high temperatures, increasing the risks of heatstroke and cardiovascular disease. The public health authorities need to plan for increased demand on medical services such as ambulances and accident and emergency departments. • In response to the long-term impact of extreme heat on public health, there should be effective allocation of medical resources and an enhancement of community services.
<p>Adjust management plans of new infrastructure</p>	<ul style="list-style-type: none"> • New urban planning, construction and subsequent management and operations, particularly in the Northern Metropolis and the development of the Kau Yi Chau Artificial Islands should take into account the potential impact of extreme weather events. This includes considering the health risks that may arise for outdoor workers during hot weather and the possibility of delays to construction projects. Given the high-density development in the future Northern Metropolis, it may also become more susceptible to urban heat island effects.
<p>Maintain emergency evacuation supplies</p>	<ul style="list-style-type: none"> • Citizens should keep emergency evacuation supplies readily available at their residences and workplaces, such as emergency survival kits and food reserves. These provisions can sustain individuals until rescue if they become trapped or stranded.
<p>Enhance disaster preparedness training</p>	<ul style="list-style-type: none"> • The government, healthcare institutions and social welfare organisations should allocate more resources to disaster preparedness work and training, as well as enhancing public education about disaster preparedness and evacuation principles. This will help reduce the casualties and injuries caused by disasters. • Increasing awareness of the severity and potential impacts of extreme weather events among all sectors is crucial. For instance, citizens should not assume that it is safe to go outside during a Black Rainstorm Signal and should instead prioritise personal safety by staying indoors in a secure location, away from flood-prone areas and slopes.
<p>Reduce carbon emissions</p>	<ul style="list-style-type: none"> • The Hong Kong Climate Action Plan 2050 should be reviewed every five years. The current government should update the action plan with the latest scientific data to update carbon reduction targets and plan concrete actions, so the city can achieve carbon neutrality by 2050. • Corporations and individuals should reduce carbon emissions in their daily activities, for example by saving energy, using green transport, reducing waste and recycling. Every individual has a responsibility to mitigate the escalating climate crisis.