

Rainfall Projection for Hong Kong in the 21st century using IPCC AR5 Model Data

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The Hong Kong Observatory has been monitoring climate trends in Hong Kong over the years and making climate projections for the territory based on the latest assessment made by the Intergovernmental Panel on Climate Change (IPCC). Analyses and projection results are communicated to relevant government departments to support their long-term planning and design of drainage, water supply, slope safety and other infrastructure in Hong Kong.

Results from the IPCC Fifth Assessment Report (AR5) were released in September 2013. In this study, monthly data of 25 AR5 global climate models were statistically downscaled to project the rainfall trends in Hong Kong in the 21st century. It was found that under a high greenhouse gas concentration scenario (RCP8.5), the annual rainfall in late 21st century was projected to rise by about 150 mm when compared to the 1986-2005 average. The number of extremely wet years was expected to increase from 3 in 1885-2005 to about 12 in 2006-2100, while the number of extremely dry years would remain more or less the same. The implications of these latest results to the resilience of the city to climate change effects will be discussed.