

Climate Change Corner

Climate change and typhoons in the Pearl River Delta region

Typhoons have been responsible for the most severe natural disasters in Hong Kong's history. Strong wind, storm surge and/or torrential rain caused by typhoons have resulted in floods and landslides. Two typhoons stand out due to the number of casualties they caused: an unnamed typhoon that caused at least 10,000 deaths in 1906, or about 3% of Hong Kong's total population at the time; and another unnamed typhoon which caused 13,000 deaths in 1937.

Following are points worth noting in the debate on climate change and typhoons in the Pearl River delta region:

1. The record of typhoons may be extended to about 8,000 years using a combination of geological, archaeological, historical and instrumental records.
2. Since the end of the Second World War, the annual frequency of typhoons affecting the South China Sea has ranged between 6 and 20 with a mean of about 12.
3. The frequency of typhoons varies from decade to decade.
4. El Nio years and La Nia years are known to have a lower and higher frequency of typhoons respectively.
5. While ocean temperatures have risen due to global warming, past data have not shown any increase in typhoon intensity in the northwestern Pacific Ocean.
6. Population growth and urban development in low-lying coastal regions, including land reclamations and the Pearl River delta, have increased the risk for damage.
7. The highest storm surge level in Hong Kong during the passage of typhoons is found in Tolo Harbour because of the landlocked coastal configuration and the Coriolis force.
8. The damage caused by the 1906 and 1937 typhoons is unlikely to reoccur because of advances in typhoon forecasting and warning, the availability of typhoon shelters and the decline in the number of boat dwellers.
9. Reinsurance companies regard typhoons as one of the greatest threats to the region.

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