

Tropical Cyclone (TC) Impact Dataset (Source: HKO TC Annual Report and relevant webpages of HKO)

Last Update Date: 15 March 2023

NR – Data not recorded/reported

NA – Data not available

- Data incomplete

& - Used when meteorological data is taken from the whole period of multiple passages

Spreadsheet 1 – Signal Data

TC Basic Information

- Year: Year of TC genesis
- Name: Name of TC
- Chinese Name: Chinese Name of TC
- JMA ID: The numerical code assigned by the Japan Meteorological Agency (JMA) for tropical cyclone in the western North Pacific basin attaining tropical storm intensity or above.

TC Warning Signal Related Data

- Highest TC Warning Signal Issued: The highest TC warning signal issued for the tropical cyclones affecting Hong Kong. For TCs with multiple passages, it refers to the highest TC warning signal issued.
- Times of Passages: The number of times of passages for those TCs with multiple passages.
- Issuance Date of the first TC Warning Signal During this Passage: Date of first TC signal issued during that passage.
- Cancellation Date of the TC Warning Signal During this Passage: Date of last TC signal cancelled during that passage.
- Duration of all Issued TC Warning Signals During this Passage: It is the sum of issuance time of all TC Warning Signals during that passage.
- Lifespan maximum intensity classification: Maximum intensity classification of the TC during its lifespan

<u>Tropical Cyclone Classification</u>	<u>Maximum 10-minute mean wind near the centre</u>
Tropical Depression (TD)	41 to 62 km/h
Tropical Storm (TS)	63 to 87 km/h
Severe Tropical Storm (STS)	88 to 117 km/h

Typhoon (T)	118 to 149 km/h
Severe Typhoon (ST)	150 to 184 km/h
Super Typhoon (SuperT)	185 km/h or above

- Estimated minimum central pressure of the TC when it was closest to Hong Kong.
- Closest Distance to HK.
- Closest Approach Bearing: In 16 compass points.

Spreadsheet 2 – Wind

Wind Data

The maximum gust and hourly mean wind speed recorded at the following stations during the passage of TC.

Spreadsheet 3 – Rainfall

Rainfall Data

- The total rainfall during the passage of the TC: It is the sum of daily rainfall amounts recorded at different stations during that passage of the TC.
- Total rainfall when the TC was within 600 km and 72 hours afterwards: It is the total rainfall (in mm) recorded at the HKO Headquarters from the time when a TC is centred within 600 km of HK to 72 hours after it has dissipated or moved farther than 600 km away from HK.

Spreadsheet 4 – Other Met Data

Pressure Data (Source: TC Annual Report)

Minimum instantaneous MSL Pressure (in hPa) recorded at the HKO Headquarter.

Tide Data (Source: TC Annual Report)

The maximum sea level (above chart datum) and the maximum storm surge (above astronomical tide) recorded at QUB (Quarry Bay) and TPK (Tai Po Kau) stations.

Spreadsheet 5 – Casualty and Vessel Damage

(Note : The casualty and damage data in this spreadsheet are as recorded/reported and may not be exhaustive)

Casualty

Data about persons Dead, missing and injured comes from the TC annual report.

For person affected, data comes from the annual damage survey conducted by the Hong Kong Observatory.

Spreadsheet 6 – Social Impact

(Note : The impact data in this spreadsheet are as recorded/reported and may not be exhaustive)

Traffic Interruption

Source of the traffic interruption data is from annual damage survey conducted by the Hong Kong Observatory.

Spreadsheet 7 – Damage (Physical)

(Note : The damage data in this spreadsheet are as recorded/reported and may not be exhaustive)

Damage in Physical Terms

Source of the damage data is from annual damage survey conducted by the Hong Kong Observatory.

For Road, Pedestrian pavement, Railing and Satellite antenna, 77 (1.46 km) refer to 77 cases and 1.46 km of the road were damaged.

For staircase, it refers to the area of the staircase (in m²).

For electric supply and water supply, 10 (3590 families) refer to 10 incidents and 3590 families were affected. Meanwhile, NR (8000 families) refer to the number of affected sites were not recorded but 8000 families were affected.

Spreadsheet 8 – Damage (Monetary)

Damage in Monetary Terms

The damage in monetary terms is divided into 2 different parts.

A) Losses reported by government departments, public utility companies and other organizations – based on the annual damage survey conducted by the Hong Kong Observatory

B) Insurance claims data – based on the survey conducted by Hong Kong Federation of Insurers for TCs necessitating signal No. 8 or above

- Estimated Total Direct Economic Loss = Losses reported by government departments, public utility companies and other organizations (adjusted by insurance already claimed if data available) + (insurance claim data)/market share of the participated insurance companies)

The estimates are for reference only and may be subject to various uncertainties in the survey responses and analysis method. For more details, please refer to the following paper:

CW Choy et al., “Assessment of the damages and direct economic loss in Hong Kong due to Super Typhoon Mangkhut in 2018”, Tropical Cyclone Research and Review (9), 4, PP. 193 -205 (<https://doi.org/10.1016/j.tcrr.2020.11.001>)