

2021 warmest year on record for Hong Kong

With 11 months warmer than usual, 2021 was the warmest year on record in Hong Kong. The monthly mean temperatures of 22.0 degrees in March, 29.0 degrees in May and 29.7 degrees in September were record highs. The annual mean temperature was 24.6 degrees, 1.1 degrees above the 1991-2020 normal (Note 1) (or 1.3 degrees above the 1981-2010 normal). The annual mean maximum temperature of 27.5 degrees and the annual mean minimum temperature of 22.6 degrees were also the highest on record.

The highest temperature recorded at the Hong Kong Observatory (HKO) in the year reached 36.1 degrees on May 23, the joint third highest on record. There were 61 hot nights (Note 2) and 54 very hot days (Note 3) in 2021, both ranking as the highest on record and breaking the previous records set in 2020.

The lowest temperature recorded at the HKO in the year was 7.7 degrees on January 8. The number of cold days (Note 4) in the year was 13 days, 2.2 days less than the 1991-2020 normal (or 4.1 days less than the 1981-2010 normal).

The annual total rainfall in 2021 was 2 307.1 millimetres, about 5 per cent below the 1991-2020 normal of 2 431.2mm (or about 4 per cent below the 1981-2010 normal of 2 398.5mm). The HKO issued six Red Rainstorm Warnings and two Black Rainstorm Warnings in the year. The number of days with thunderstorms reported was 41 days in 2021, one day less than the 1991-2020 normal (or two days more than the 1981-2010 normal).

A total of 27 tropical cyclones occurred over the western North Pacific and the South China Sea in 2021, less than the long-term (1961-2010) average of about 30. There were 10 tropical cyclones reaching typhoon intensity (Note 5) or above during the year, less than the long-term average of about 15, with five of them having reached super typhoon intensity (with a maximum 10-minute sustained wind speed of 185 kilometres per hour or above near the centre). A total of eight tropical cyclones necessitated the issuance of Tropical Cyclone Warning signals, more than the long-term average of about six in a year. The No. 8 Gale or Storm Signals were issued during the passages of Lionrock and Kompasu in October.

Globally, 2021 is likely to be between the fifth and seventh warmest year on record according to the World Meteorological Organization's preliminary assessment. The global mean sea level reached a new record high in 2021. Different parts of the world were ravaged by various extreme weather events in 2021, including heatwaves in western North America, the Mediterranean region and eastern Europe; extreme cold events in many parts of the central United States, northern Mexico, northern Asia and Europe; severe drought in subtropical South America, western North America, southwest Asia and southern Madagascar; extreme rainfall triggered severe flooding in Henan

Province of China, western Europe, eastern New South Wales in Australia, Afghanistan, the Mediterranean and Black Sea coasts, northern South America, India, Pakistan, Bangladesh, Nepal, and western Japan; and severe damage and heavy casualties brought by tropical cyclones in the United States, Venezuela, Indonesia, Timor-Leste, Australia, Mozambique, South Africa, Zimbabwe, Eswatini, Madagascar, India, Pakistan, Oman, Iran and the Philippines. Exacerbated by widespread drought and high temperature weather, destructive wildfires wreaked havoc in northern California of the United States, Algeria, southern Turkey, Greece, Siberia and parts of Brazil.

A short-lived La Niña event was established in January 2021 and ended in March. Sea surface temperatures of the central and eastern equatorial Pacific remained normal throughout spring and summer, but became below normal again in October. The colder-than-normal sea surface temperatures persisted afterwards, indicating the development of another La Niña event.

A detailed description of the local weather for individual months is available on the Monthly Weather Summary webpage:
www.weather.gov.hk/en/wxinfo/pastwx/mws/mws.htm.

A detailed version of the year's weather for 2021 with some significant weather events in Hong Kong is available at:
www.weather.gov.hk/en/wxinfo/pastwx/ywx.htm.

Note 1: Climatological normals for the reference period of 1961-1990, 1971-2000, 1981-2010 and 1991-2020 are available at www.weather.gov.hk/en/cis/normal.htm. Climatological normals of 1991-2020 are referenced in the text unless otherwise stated.

Note 2: "Hot night" refers to the condition with the daily minimum temperature equal to or higher than 28.0 degrees.

Note 3: "Very hot day" refers to the condition with the daily maximum temperature equal to or higher than 33.0 degrees.

Note 4: "Cold day" refers to the condition with the daily minimum temperature equal to or lower than 12.0 degrees.

Note 5: Information on the classification of tropical cyclones is available at www.weather.gov.hk/en/informtc/class.htm.