

Climate Change Corner

Hong Kong's rainfall record

Since the establishment of the Hong Kong (formerly Royal) Observatory in 1883, continuous rainfall records have been available from the headquarters (HK) Station near Nathan Road except for a seven-year period encompassing the Second World War.

An analysis of the record at the HK Station reveals:

1. The mean annual rainfall at HK Station during 1884-1939 and 1947-2010 is 2,227.9 mm, with a standard deviation value of +471.5 mm and a range of 2,441.9 mm.
2. The driest year on record (901.1 mm) is 1963, caused by regional circulation changes to predominantly offshore winds attributed to the eruption of the Agung volcano in Indonesia in February/March 1963.
3. The wettest year on record (3,343.0 mm) is 1997, the strongest known El Niño onset year in the instrumental record.
4. The second wettest year on record (3,274.5 mm) is 1982, the second strongest El Niño onset year in the instrumental record. The heavy rainfall is attributed to the spread of the eruption cloud from the El Chichón volcano in Mexico on March/April 1982.
5. 1991 is the tenth-driest year in the instrumental record due to regional circulation changes attributed to the eruption of the Pinatubo volcano in the Philippines in June 1991.
6. June 2008 is the wettest June since record began and is attributed to the spread of the eruption cloud from the Chaitén volcano in Chile in May 2008.
7. Rainfall recording stations located in the mountainous regions of Hong Kong usually report higher mean annual rainfalls than HK Station due to differences in elevation and aspect.
8. Volcanic eruptions affect the atmospheric distribution of water vapour and are an important natural cause of extreme rainfall variability.

Hong Kong's rainfall is appreciably higher than inland China. Our natural water resources, including groundwater, should be utilised more efficiently than at present. The adoption of an integrated water management policy in the future is necessary to tackle the conflicting issues of growing demand, water quality and treatment, flood control and landslide prevention.

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