High temperature dataset in China for more than 60 years

Aixia Feng, Qiang Zhang, and Feng Gao

Data service office, National Meteorological Information Center of China Meteorological Administration, Beijing,China
(fax20032008@163.com)

Based on the daily maximum temperature of the basic meteorological elements dataset (V3.0) in China published by National Meteorological Information Center(NMIC) of China Meteorological Administration(CMA) and the standard of the climatological atlas of China, the high temperature and hot days were defined. Then, the monthly and yearly extreme maximum temperature, the average maximum temperature, the high temperature days, the hot days, their multi-year average and anomaly were statistical according to the method of statistics and compilation of climate data (1981-2010). Using yearly and station available rate, the effectiveness of the high temperature dataset was evaluated. The spatial distribution and yearly variation of their multi-year average were analyzed as well. The results show that the available rates of monthly and yearly extreme maximum temperature are higher than those of the average maximum temperature, the high temperature days and the hot days. The effectiveness of the high temperature dataset is good. For the monthly average maximum temperature, the rate of the station available rate above 99% is 98.1%, while that of the yearly average maximum temperature is 82.4%. The yearly available rate is higher than ever after 1970s. And from the yearly variations of the anomaly of the temperature elements, it has a trend of increasing. The dataset not only provides data support for China's climate change, but also provides preliminary temperature statistical analysis.