



EASCOF-8

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Major high impact climate events over China in 2020

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Outline

1

Climate features



2

Disaster Loss features

3

Major high impact events

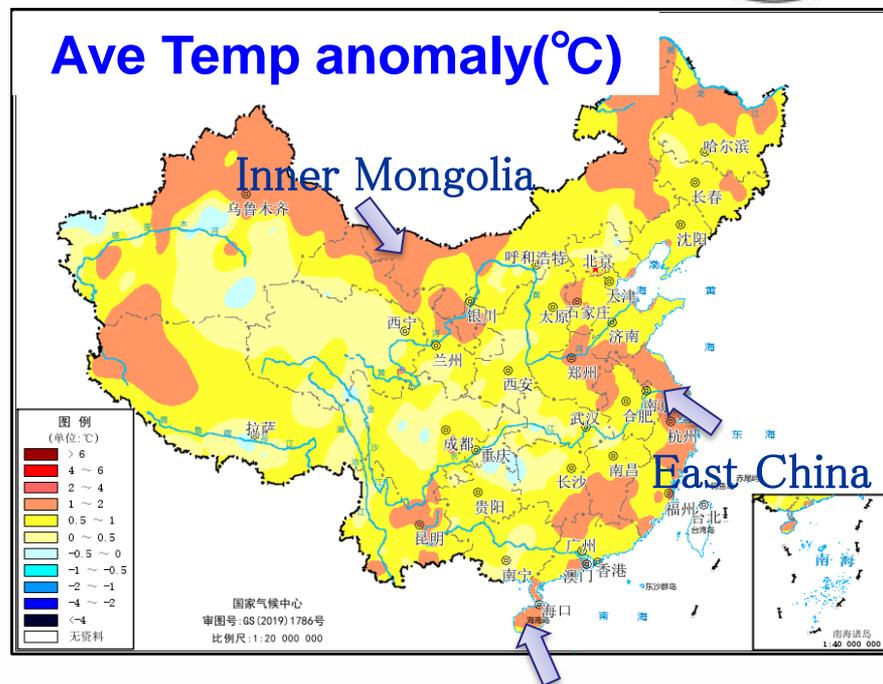
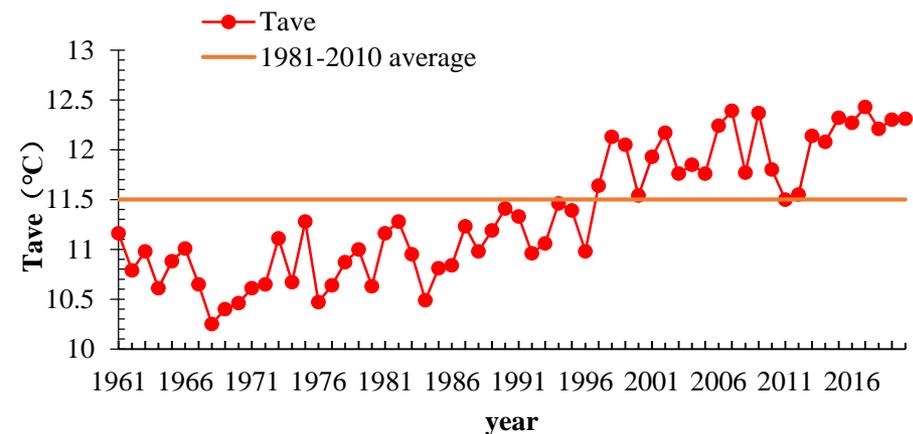




Temperature: Warm



Annul Ave Temp in 1961-2020



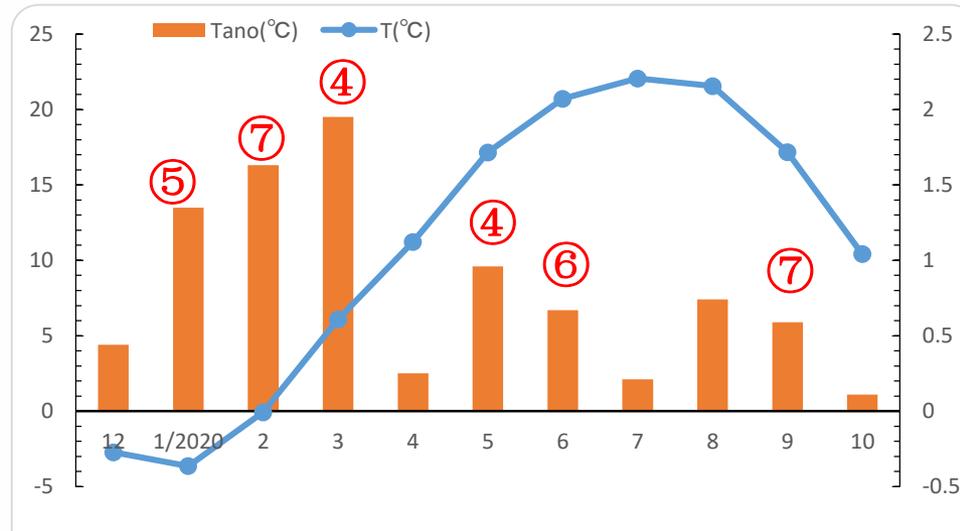
Period: from 1st Jan to 31st Oct
Normal: average over 1981-2010

Hainan

- The mean temperature was 12.3°C, 0.8°C more than the normal, fifth warmest since 1961.
- The regional mean temperatures of Eastern China, Inner Mongolia and Hainan were 1~2°C above the normal.



Temperature: Warm



Monthly Ave Temp and anomalies (°C) over China in 2020

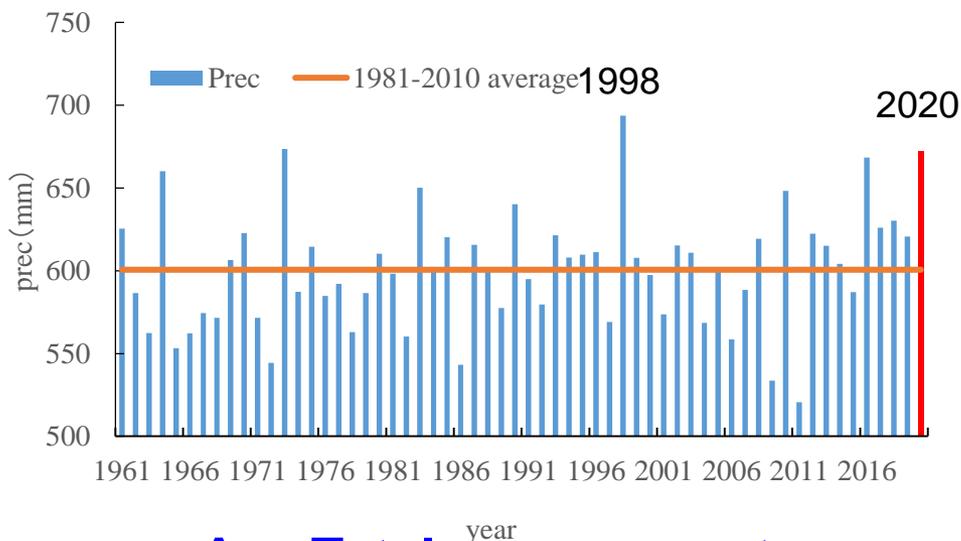
- The mean temperatures of all months were above normal.
- Particularly, the temperatures in Jan, Mar and May were 1.4、2.0、1.0°C warmer than the normal, ranking fifth, fourth and fourth since 1961 respectively.



Precipitation: More in rainy season



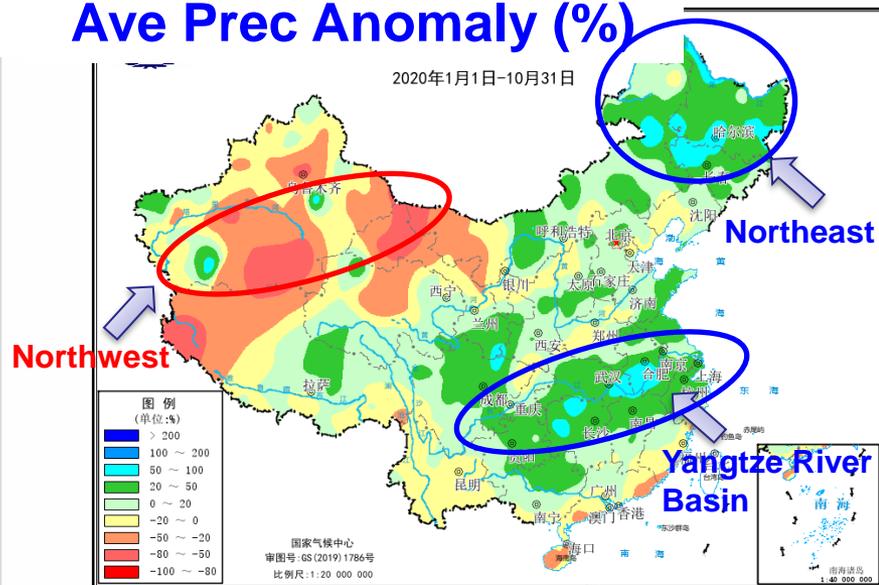
Annul Ave Prec in 1961-2020 (mm)



Ave Total prec amount

Period: from 1st Jan to 31st Oct

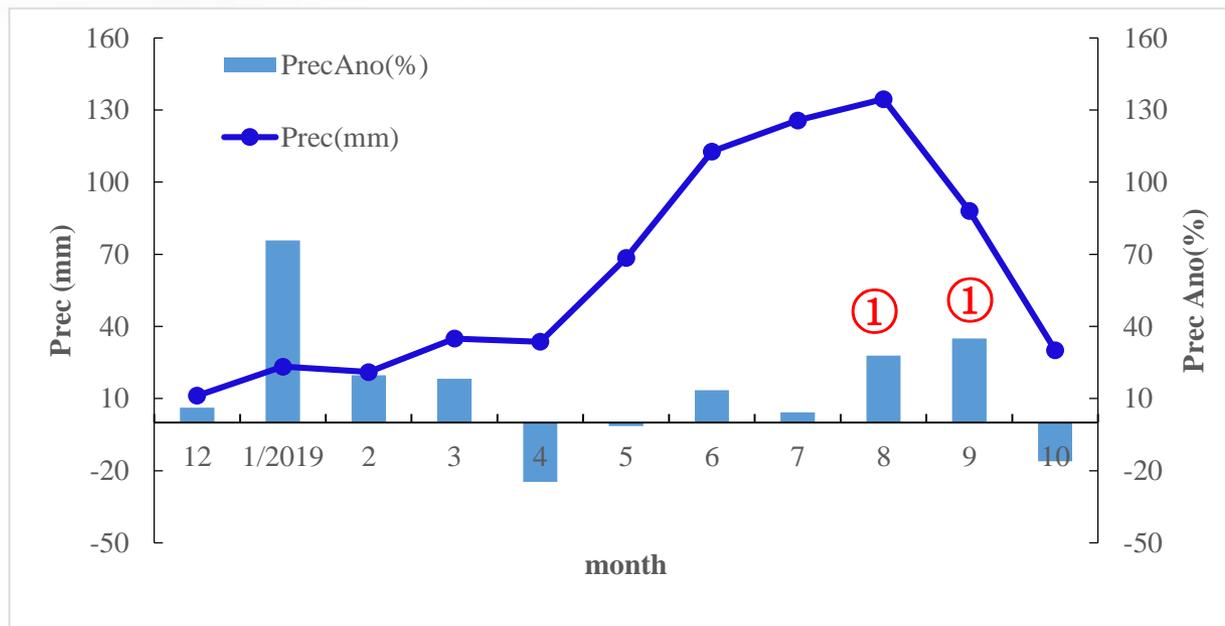
Ave Prec Anomaly (%)



- The Jan-Oct mean total prec amount over China was 672.0 mm, ranked third since 1961 (lower than 1998, 1973). Particularly, the Jun-Sep mean total prec amount (461.1 mm) ranked first since 1961.
- The regional mean precipitation was significantly more (20-100%) in Yangtze River Basin and Northeast China, and less (20%-80%) in Northwest China.



Precipitation: More in rainy season



Monthly total prec (mm) and anomalies (%) over China in 2020

- The rainfall amounts in most months were more, particularly in August and September, 27.8%, 34.9% above the normal respectively, ranking the most since 1961.



Outline

1 Climate features

2 Disaster Loss features



3 Major high impact events



Overall situation of loss

In the first three quarters , the natural disaster caused:

- **Affected people:** 130 million (↓ 11.8%); **Killed or missing people:** 578 (↓ 40.1%)
- **Houses collapsed:** 83,000 (↓ 61.2%)
- **Crop affected area:** 19.0 million hectares; **Crop failure area:** 2.5 million hectares
- **Direct economic losses:** 313.6 billion yuan (↑ 0.1 %)

(compared with the same period of past 5 years)

Source: China Department of Emergency and Disaster Reduction



Serious flood disaster

China experienced serious flooding in the first three quarters, with 45 heavy rainfall events across the country, ranking the second most serious since 1961. Flooding above warning levels hit 836 rivers in 26 provinces and seven major river basins in China, 80 percent more than the average in previous years, and the highest figure since 1998.

In the first three quarters , the serious floods caused:

- **Affected people:** 73.7 million (↑ 19.1%)
- **Direct economic losses:** 219.9 billion yuan (↑ 27.6 %)
- **Killed or missing people:** 278 (↓ 51.5%)
- **Houses collapsed:** 72,000 (↓ 57.4%)

(compared with the same period of past 5 years)

Source: China Department of Emergency and Disaster Reduction





Outline

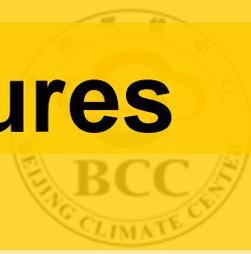
1 Climate features

2 Disaster Loss features

3 Major high impact events



Major high impact events and features



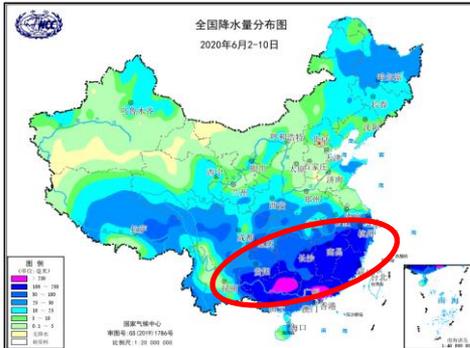
- **Rainstorms in southern China**: frequent, long-lasting and overlapped
- Landfalling **TCs**: less, genesis time concentrated
- **High temperature events** : started earlier
- **Droughts**: regional and periodic



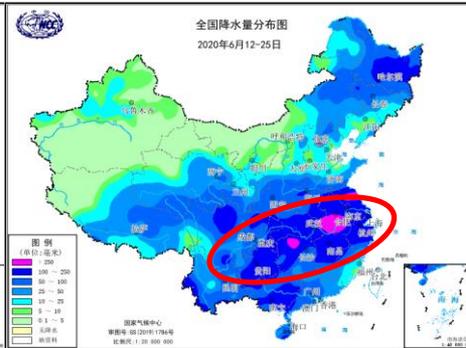
Rainstorms in southern China: frequent, long-lasting and overlapped



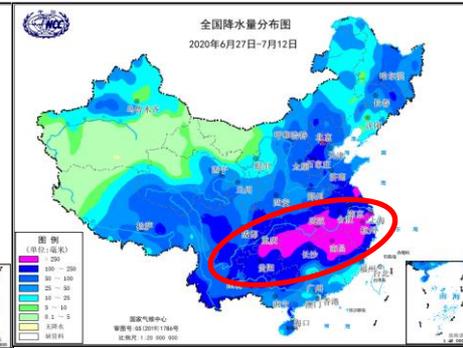
6. 2–6. 10



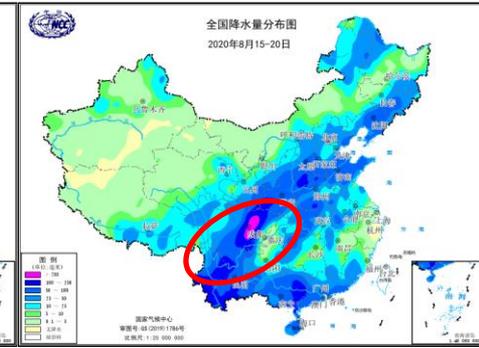
6. 12–6. 25



6. 27–7. 12



8. 15–8. 20



Process accumulated prep. (mm)

- From Jun to Jul, **3 extreme rainfall events occurred continuously in southern China**, and the rainfall processes **were concentrated and overlapped**, leading to serious floods and geological disasters around the Yangtze River Basin.
- On 15-20th August, **continuous heavy rainfall in the northeast of Sichuan** caused flash floods, landslides and debris flow in many areas.

Landfalling TCs: less, genesis time concentrated



5 landfalling TC:

2020 Nuri

2004 Hagupit

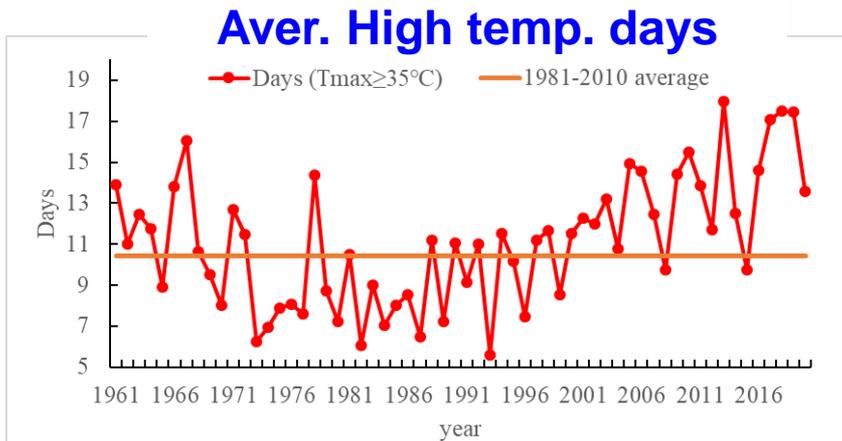
2006 Mekkhala

2007 Higos

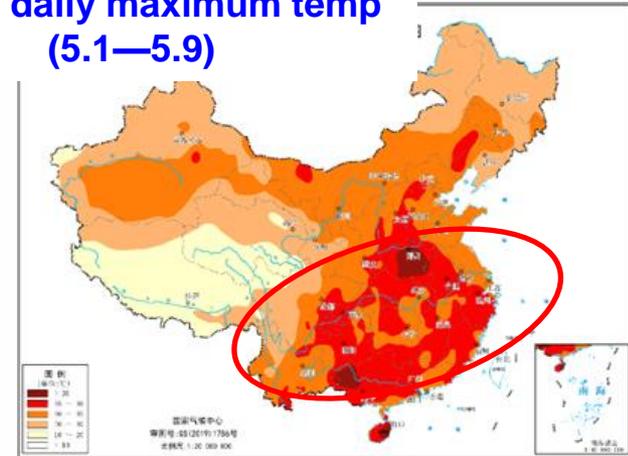
2016 Nangka

- Heretofore, **20 TCs generated** over the WNP and SCS, 2.4 less than the normal (22.4) .
- **5 TCs made landfall** over China, 2 less than the normal (7), and their overall intensity is relatively weak.
- **“Vongfong”, the first tropical cyclone** in 2020, was numbered on 12th May, obviously later than the normal (20th Mar.).

High temperature events : started earlier



**Max of daily maximum temp
(5.1—5.9)**



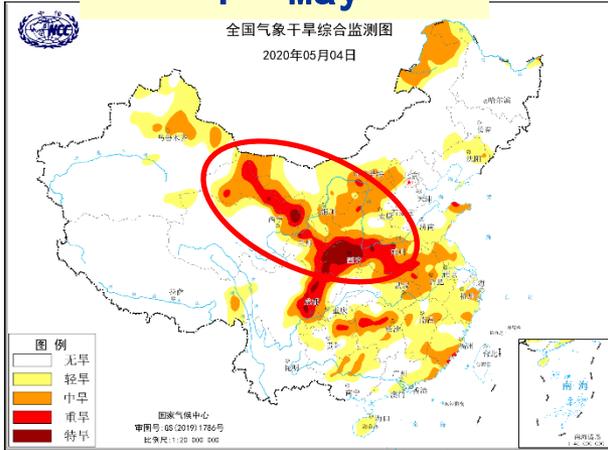
from 1st Jan to 31st Oct

- From Jan to Oct, the mean high temp. days over China were 13.6 days, 3.2 days more than the normal, and the least since 2016.
- On 1-9th May, the central and eastern China experienced the earliest high temp. event since 1961, 49 days earlier than the normal (19th June), with 578 stations reached or exceeded the historical extreme value.

Droughts: regional and periodic

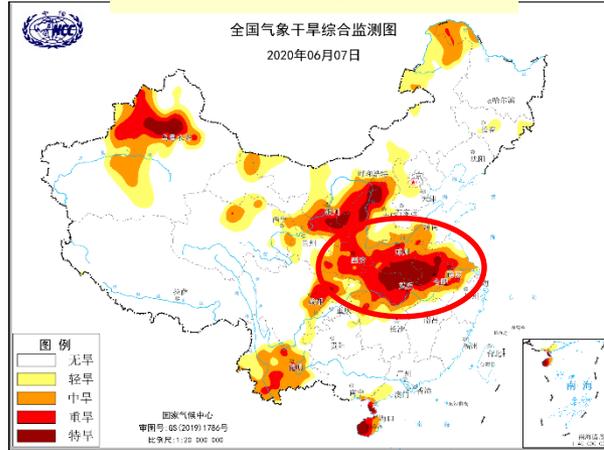
4th May

全国气象干旱综合监测图
2020年05月04日



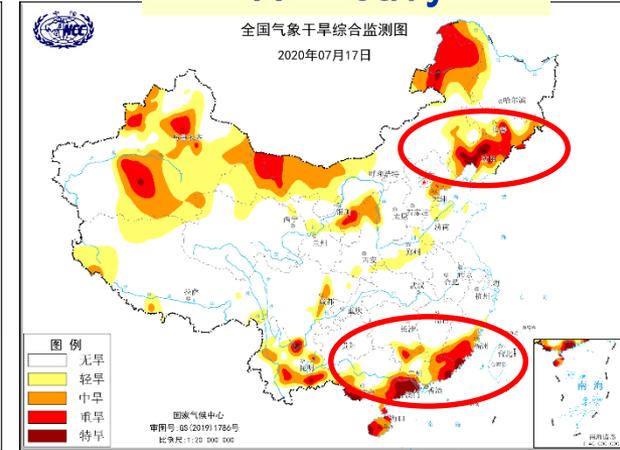
7th June

全国气象干旱综合监测图
2020年06月07日



17th July

全国气象干旱综合监测图
2020年07月17日



China daily meteorological drought monitoring map

- The general influence of drought is light with obvious regional and periodic features
- From April to early May: Northwest China, Northwest of North China
- From late April to mid June: east-mid China
- In July: south of Northeast China, South China



谢谢

Thank you

