Highlights of WMO State of Climate in Asia 2020

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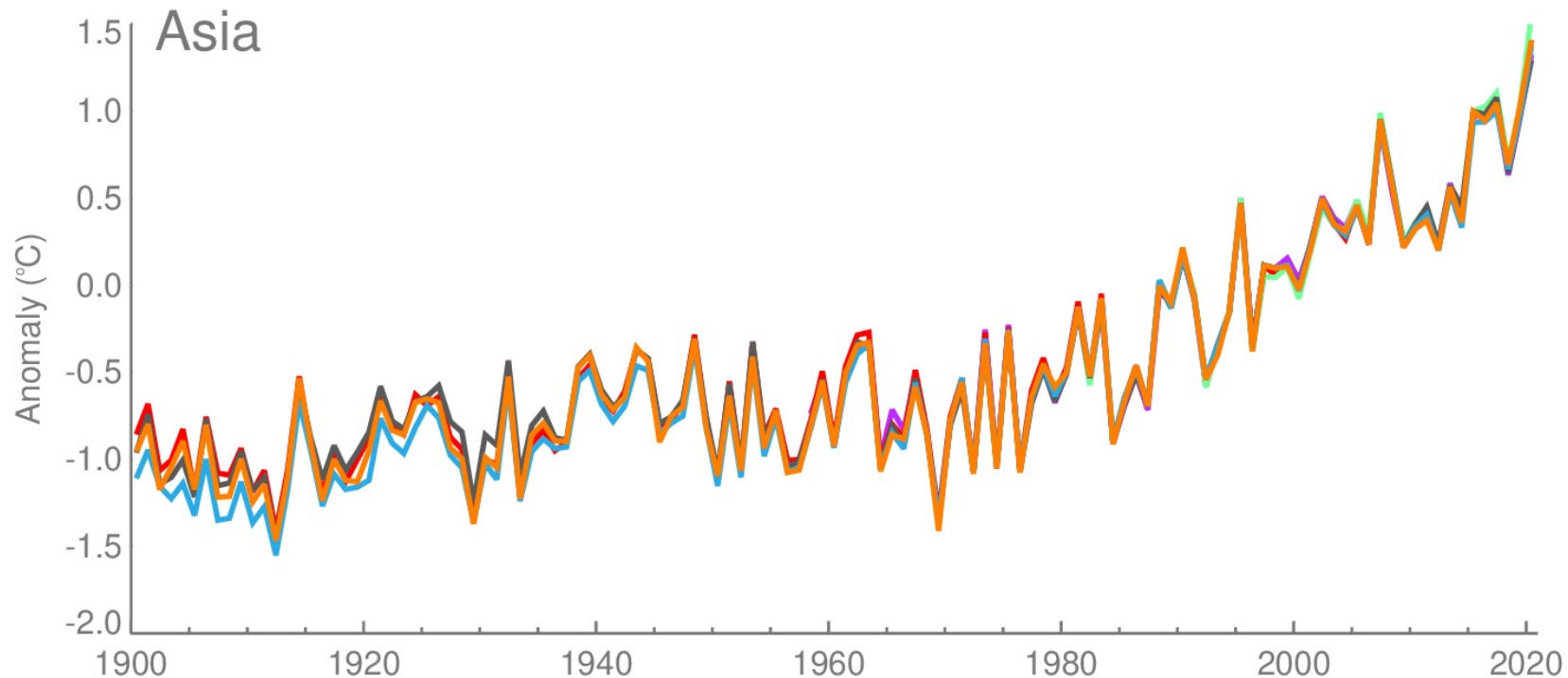

State of the Climate
in Asia

2020

WEATHER CLIMATE WATER

WORLD
METEOROLOGICAL
ORGANIZATION

WMO-No. 1273

Key Messages

- The Asia mean temperature for 2020 was 1.39 deg. C above the 1981–2010 average, which places 2020 as **the warmest year on record** in all data sets used for this assessment.


Annual mean temperature anomalies 1900–2020 (deg. C) averaged over Asia, relative to the 1981–2010, for six global temperature data sets:
HADCRUT.5.0.1.0, NOAA GLOBALTEMP V5, GISTEMP V4, BERKELEY EARTH, ERA5 and JRA-55 (JMA)
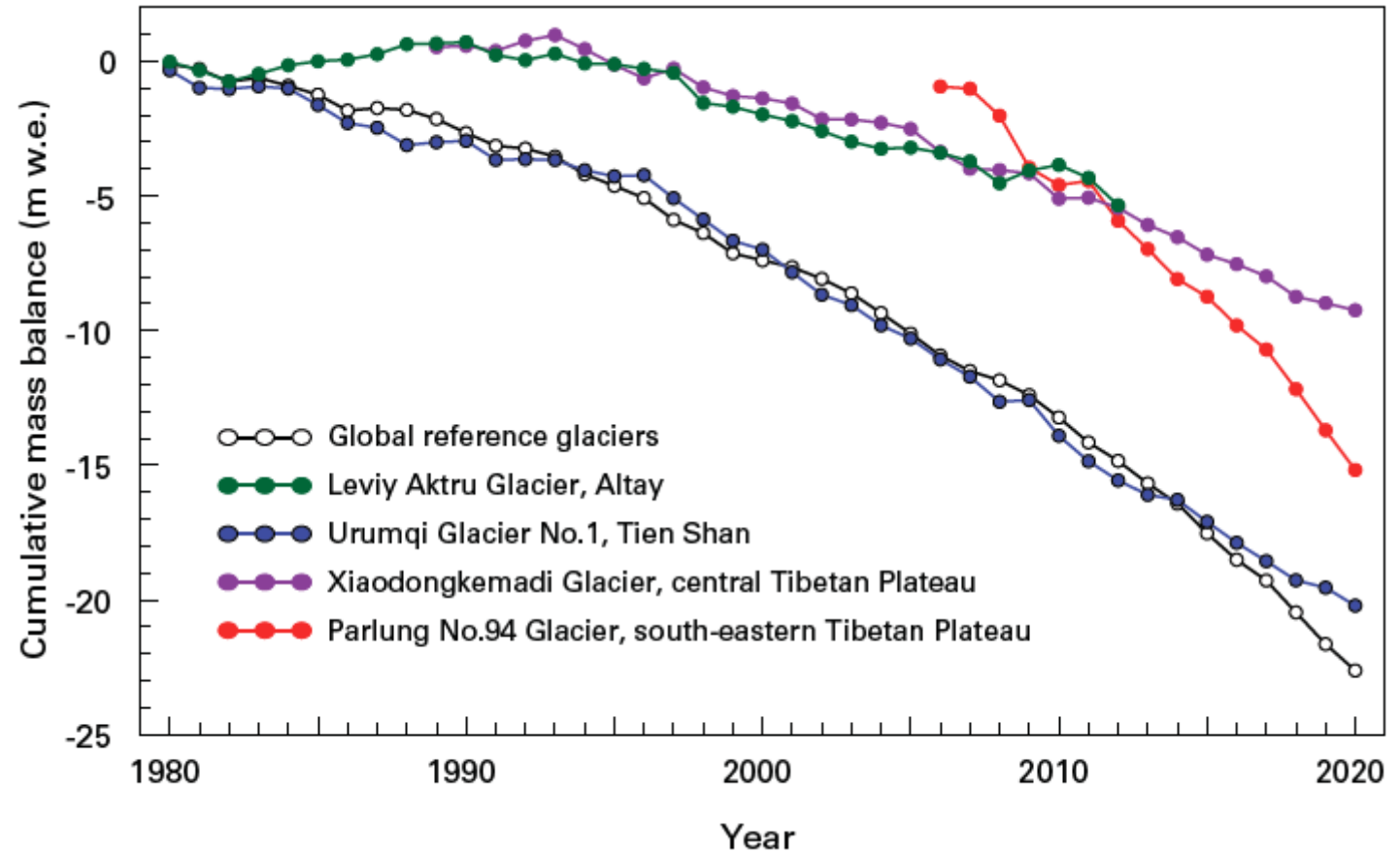
Key Messages

- Many parts of WMO's Regional Association II (Asia) and the surrounding oceans experienced heat events in 2020.

- **Temperatures reached 38.0 deg. C at Verkhoyansk on 20 June, provisionally the highest known temperature anywhere north of the Arctic Circle.**
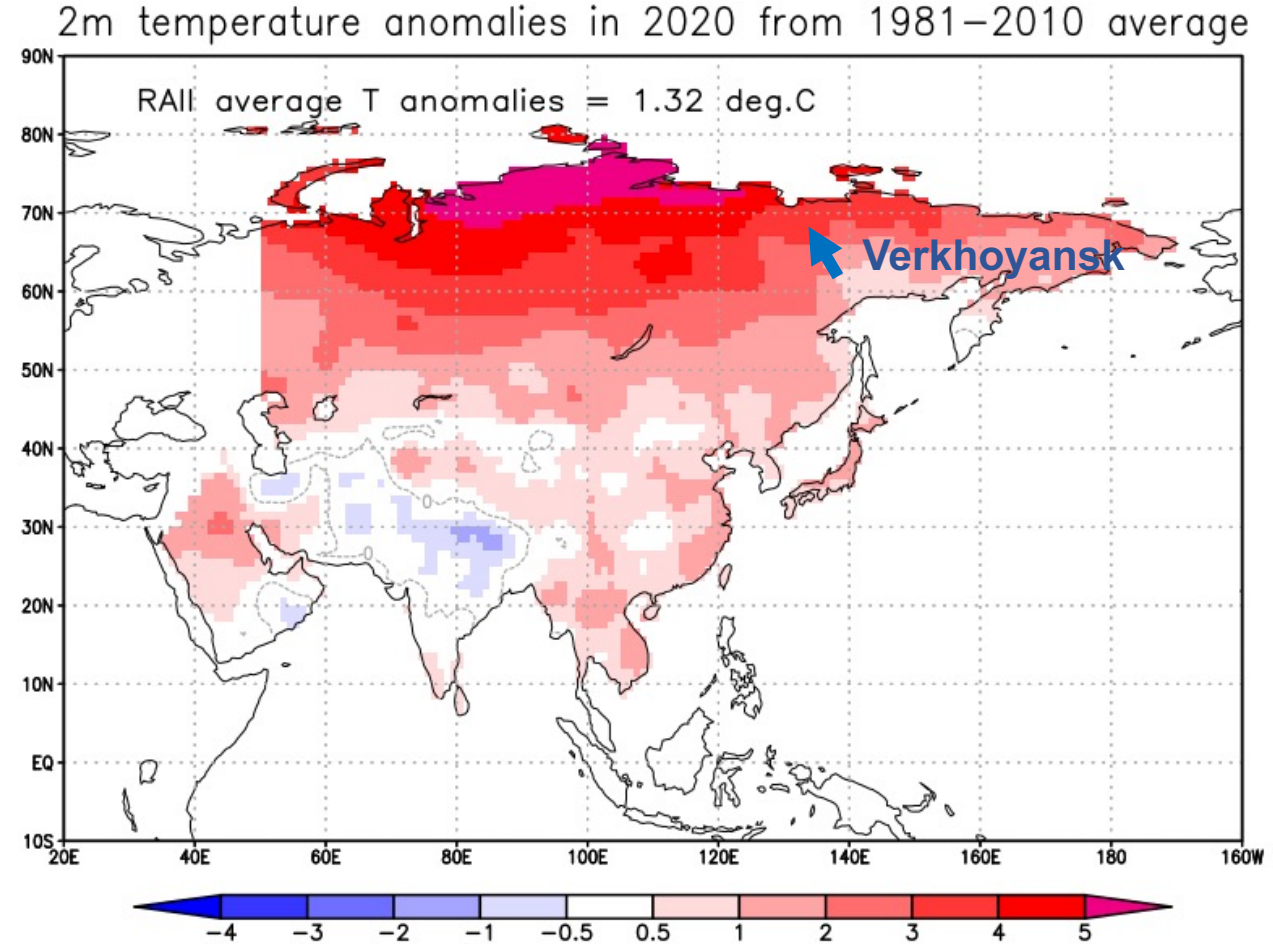
Temperature anomalies (deg. C) relative to the 1981–2010 long-term average from the JRA-55 reanalysis for 2020.
Source: Tokyo Climate Center, Japan Meteorological Agency

Key Messages

- **Glaciers** with relatively long-term observations **in the High Mountain Asia region experienced mass loss** in the hydrological year 2019/2020, **with an accelerating trend** to date throughout the twenty-first century.

- The minimum sea-ice extent in the Arctic Sea in 2020 was **the second lowest** since 1979.

Cumulative mass changes (m w.e.) of four reference glaciers in the High Mountain Asia region and the average loss of global reference glaciers. Data sourced and updated from WGMS, 2021:
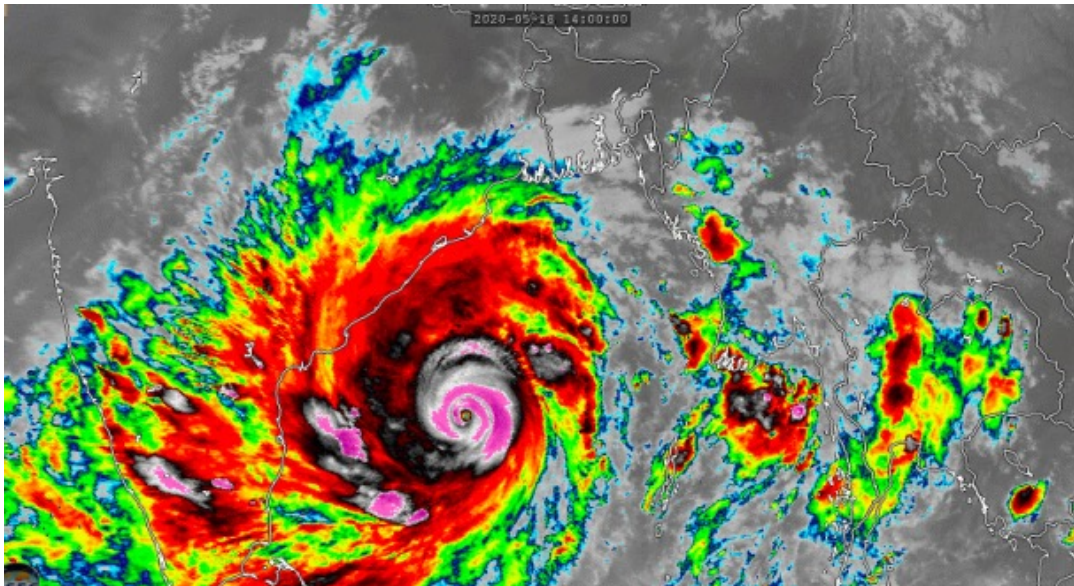
Key Messages

- An unusual wet spell in East Asia and heavy rainfall in South Asia during the Asian summer monsoon season, combined with frequent tropical cyclone activities, brought floods, landslides and associated socioeconomic impacts to the affected regions.

- In 2020 **floods and storms affected approximately 50 million people, including over 5 000 lives lost in the region**. This is below the annual average of the last two decades: 158 million people affected and about 15 500 fatalities.

(left) Karachi Flood 2020
(right) floods in Myanmar

Key Messages

- The coronavirus (COVID-19) pandemic complicated disaster management efforts and countries faced the dual challenge of tackling the pandemic and climate-related hazards.
  - Cyclone Amphan, one of the strongest cyclones ever recorded, hit densely populated coastal areas in Bangladesh and India during the rapid spread of COVID-19 in May 2020. The response to the impact of Amphan was made difficult owing to restrictions imposed during the pandemic and the disruption of supply chains.

Satellite image of Cyclone Amphan (WMO website)

Key Messages

- Asia is currently **well placed to respond to extreme weather events** and is among the regions with the greatest EWS capacity.

- Of the countries for which data are available, 35% reported having a multi-hazard early warning system (MHEWS) in place, **covering 70 000 in 100 000 on average with early warnings**.

- However, that data was only obtained from only 56% of the region (19 out of 34 countries), covering about 38% and 50% of Least Developed Countries and Small Island Developing States in the region, respectively. There is thus **a substantial need for improved data** from all countries in the region **to obtain a clearer picture of the gaps and needs moving forward** for Asia as a whole.

70,000 in 100,000 people are covered by early warnings

■ Yes ■ No ■ No data
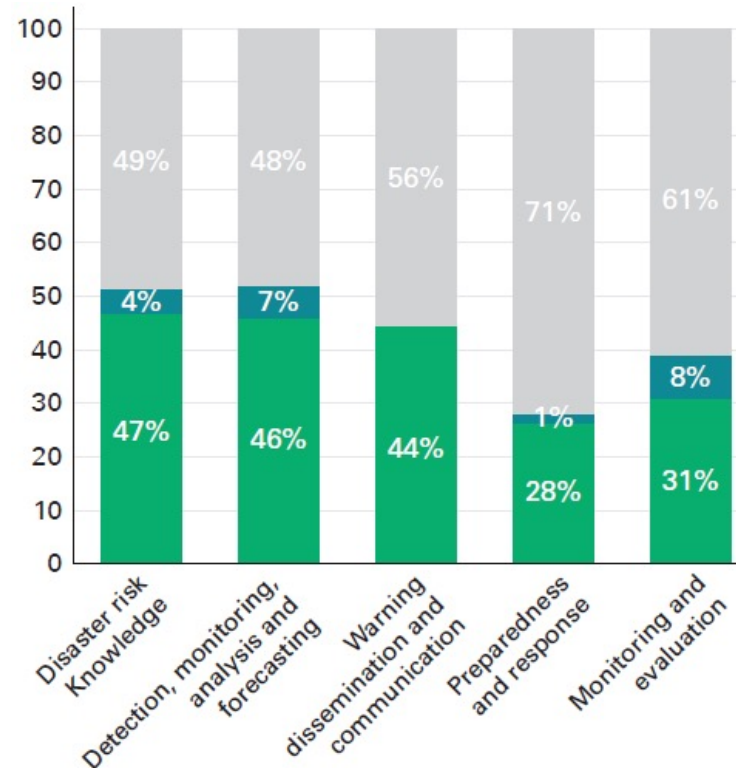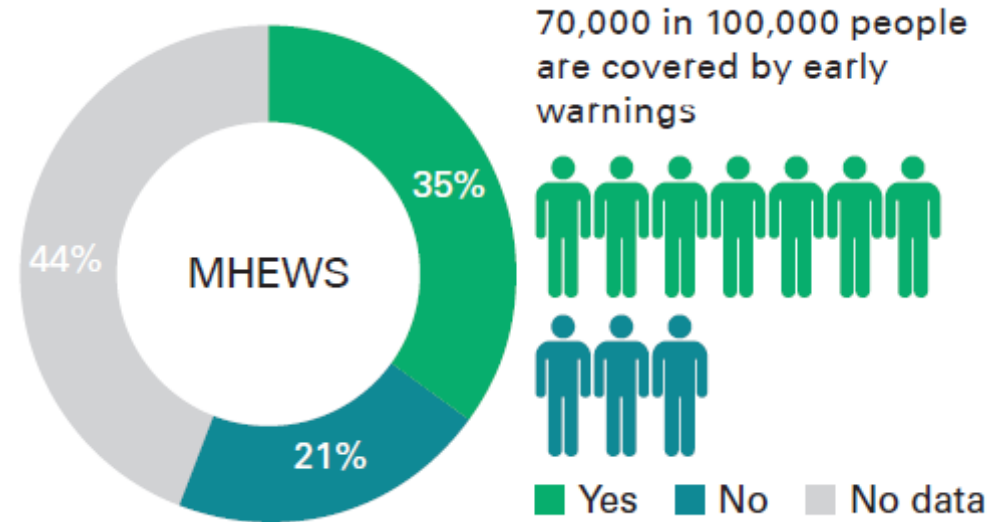
(Top) WMO Members that reported having a MHEWS in place, as a percentage of the total number of WMO Members in the region (34).

(Bottom) EWS capacities in Asia, by value chain component, calculated as a percentage of functions satisfied in each component area, across 34 WMO Members in the region.

Source: WMO, 2020 State of Climate Services (WMO-No. 1252)