Global Heat Hazards Outlooks

Date of Issuance: 6 May 2025

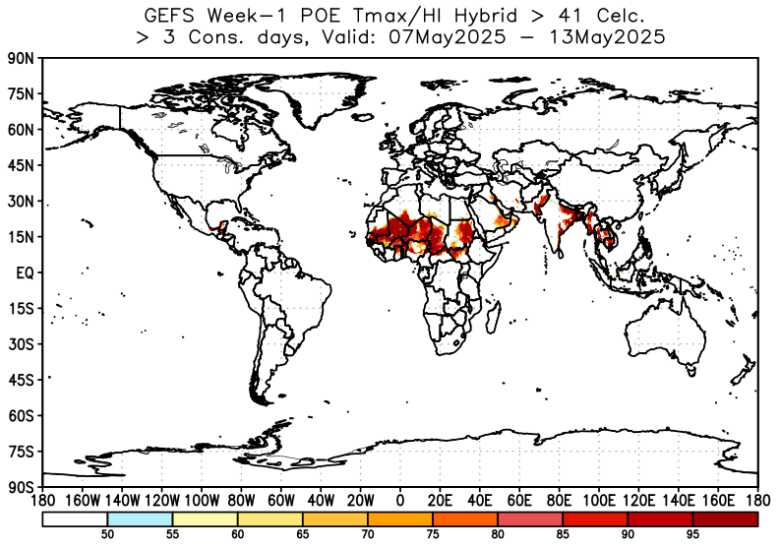
Week-1 Valid: 7 May 2025 – 13 May 2025

Week-2 Valid: 14 May 2025 – 20 May 2025

Numerical Weather Prediction Model: NCEP GEFS

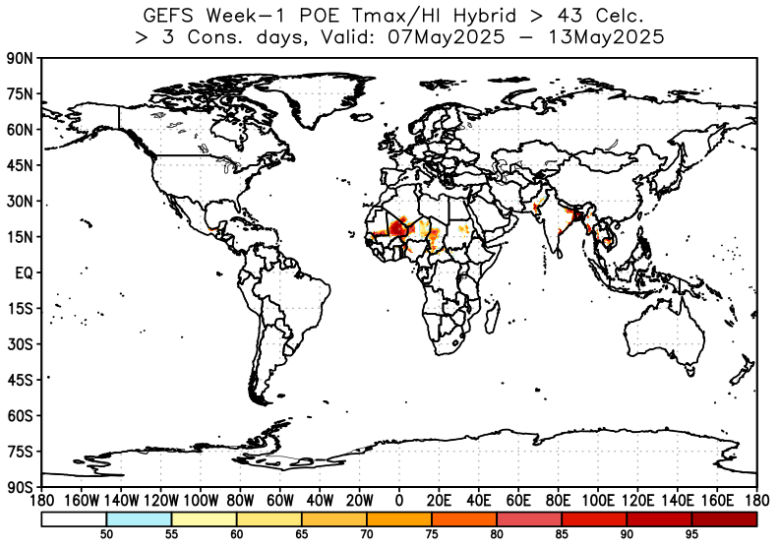
GEFS Week-1 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41ºC & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_41.png

>43ºC & > 3 Consc. Days



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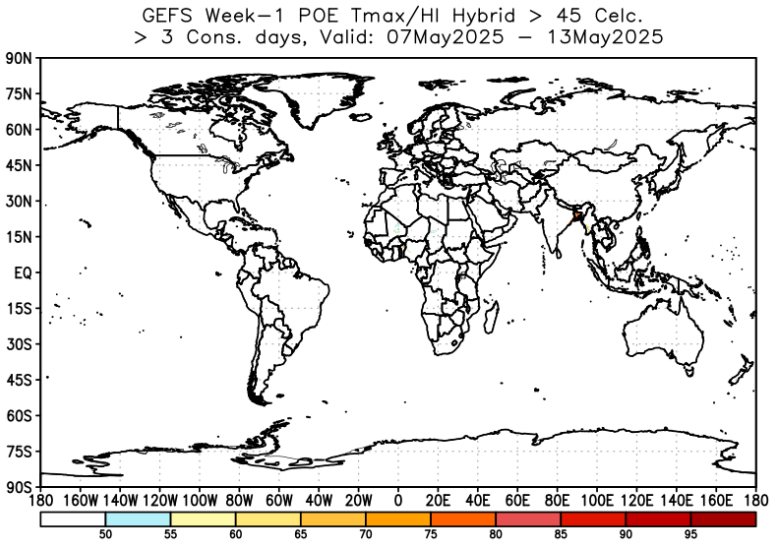
>45ºC & > 3 Consc. Days

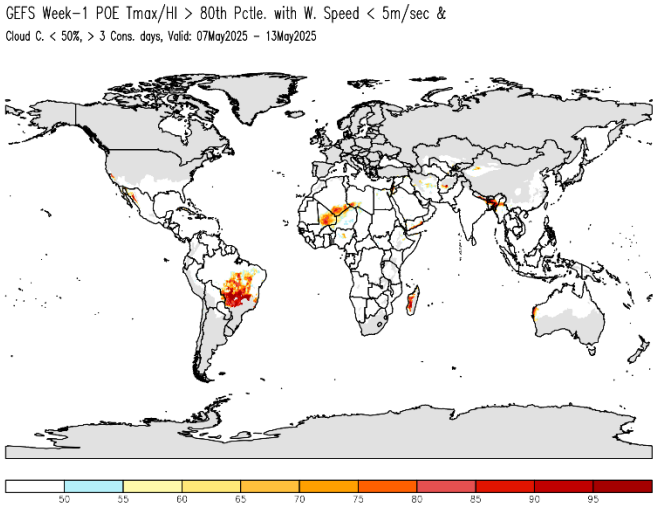


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_45.png

- Probabilities exceed 85% for the hybrid index to exceed 41ºC for at least three consecutive days across the Sahel and over eastern Sudan, western South Sudan, parts of Saudi Arabia, eastern Oman, eastern Pakistan, eastern India, Bangladesh, Myanmar, northern Thailand, and Cambodia.

GEFS Week-1 POE, Tmax/HI with Calmer Wind (< 5m s-1) and less Cloud Cover (< 50%)

>80th & > 3 Consc. Days



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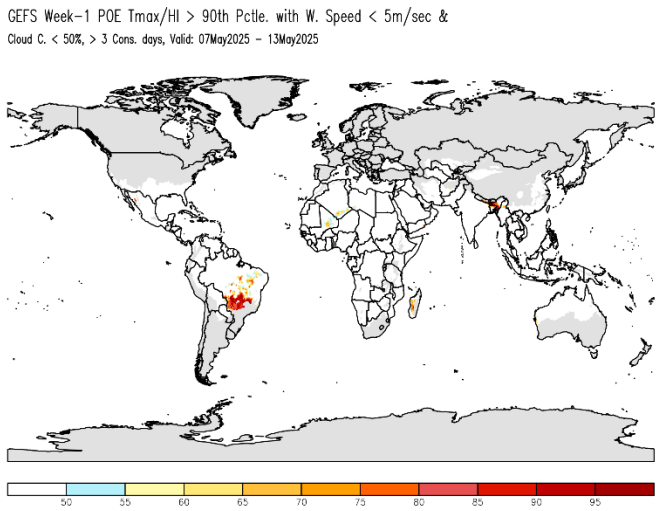
>90th & > 3 Consc. Days



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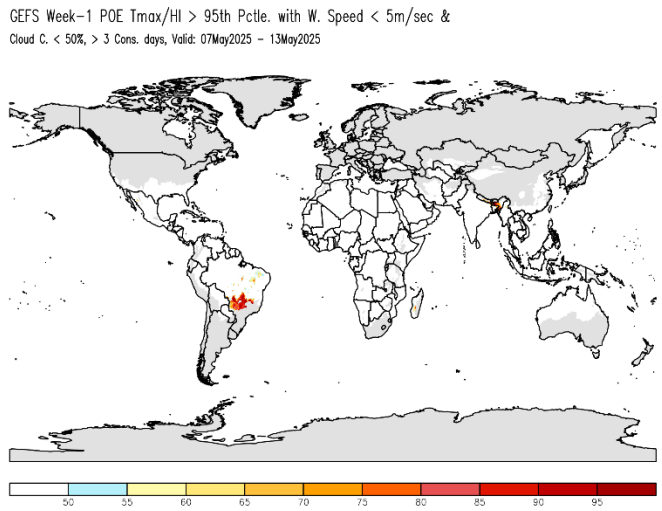
>95th & > 3 Consc. Days



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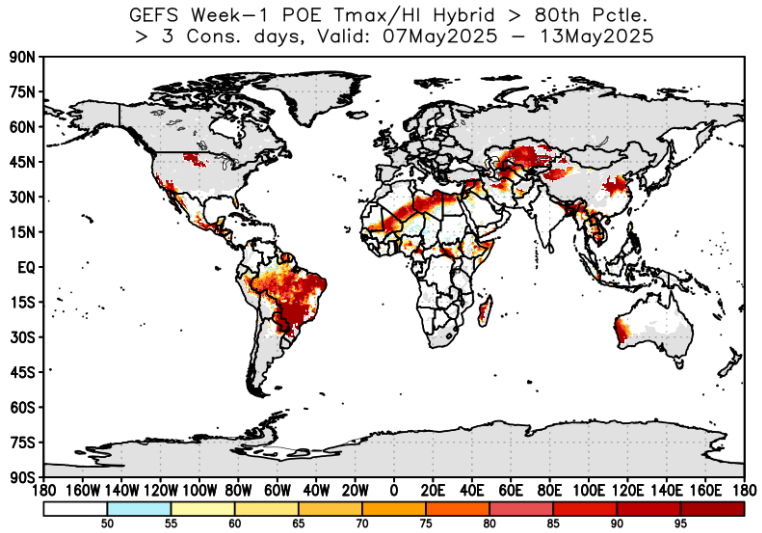
- Probabilities exceed 70% for the hybrid index with calmer wind and less cloud cover to exceed the 80th percentile for at least three consecutive days over south-central Brazil, central Mali, southern Algeria, southwestern Libya, western Madagascar, southern Yemen, west-central Afghanistan, southern Nepal, northeastern India, part of Myanmar, and part of western Australia.

GEFS Week-1 HI/Tmax Hybrid POE with Respect to Percentile Climo. Thresholds

>80th & > 3 Consc. Days



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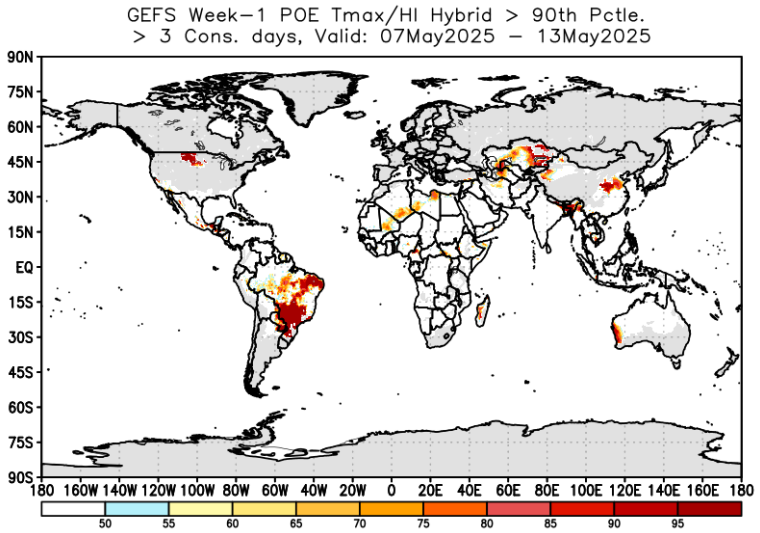
>90th & > 3 Consc. Days



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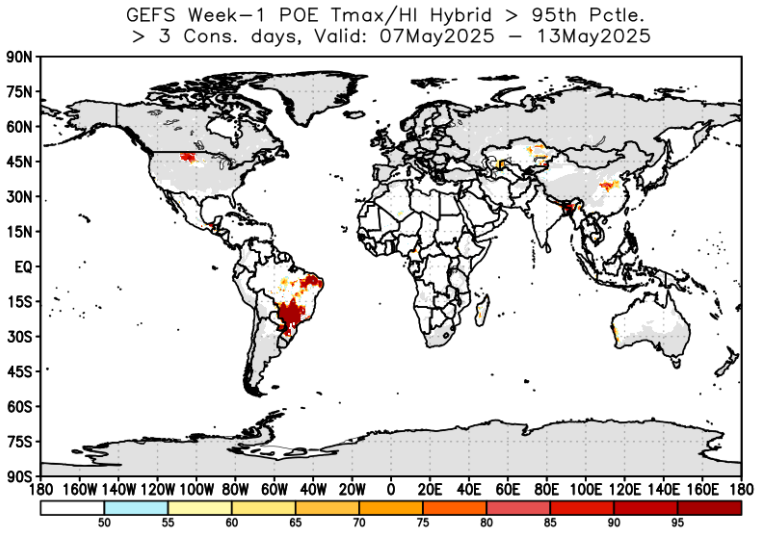
>95th & > 3 Consc. Days

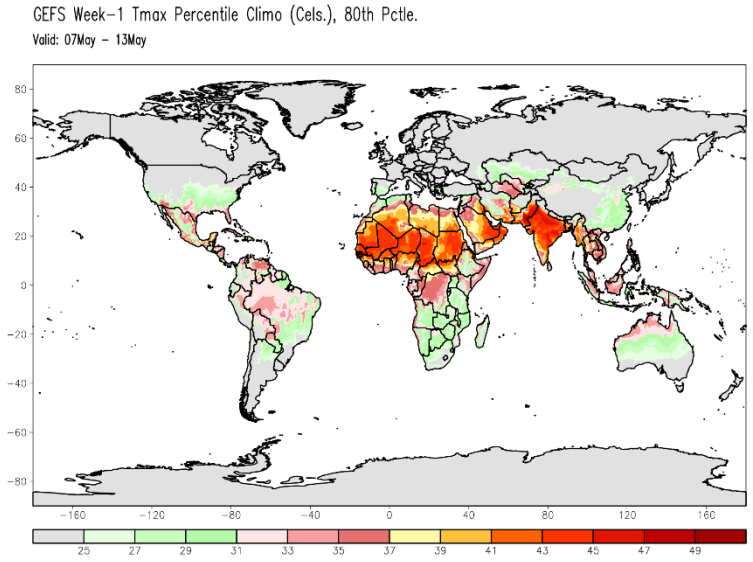


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_95.png

- Probabilities exceed 90% for the hybrid index to exceed the 80th percentile for at least three consecutive days in southwestern and northern United States, western and southern Mexico, Guatemala, western Honduras, eastern Peru, much of Brazil, Suriname, Paraguay, southern Mauritania, central Mali, southern Algeria, Libya, northern Egypt, central Nigeria, northern Cameroon, western South Sudan, western Ethiopia, northwestern Somalia, western Madagascar, the Middle East, western Turkmenistan, northern Uzbekistan, Kazakhstan, southwestern Afghanistan, western and eastern China, Bangladesh, northeastern India, northern Myanmar, Laos, Cambodia, and western Australia.

GEFS Week-1 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



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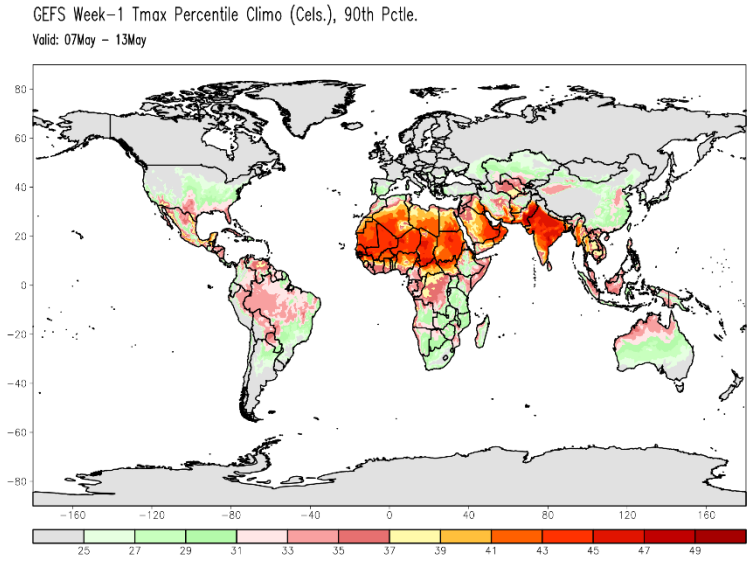
Tmax 90th Percentile



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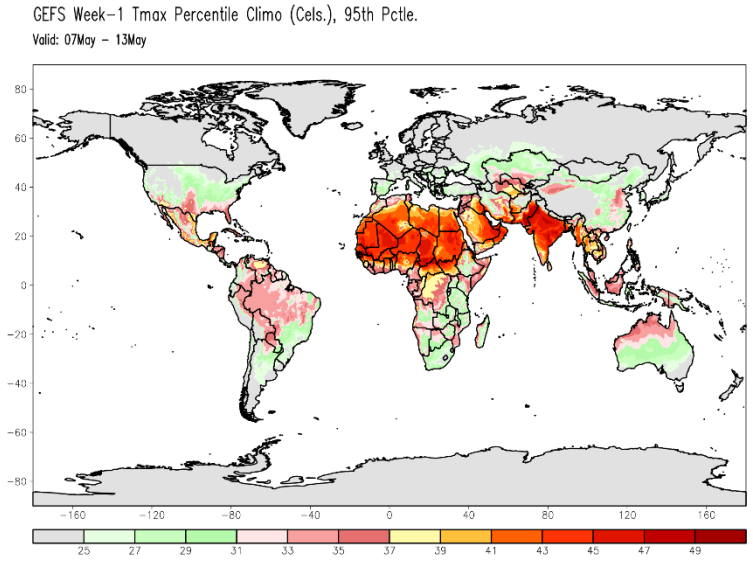
Tmax 95th Percentile



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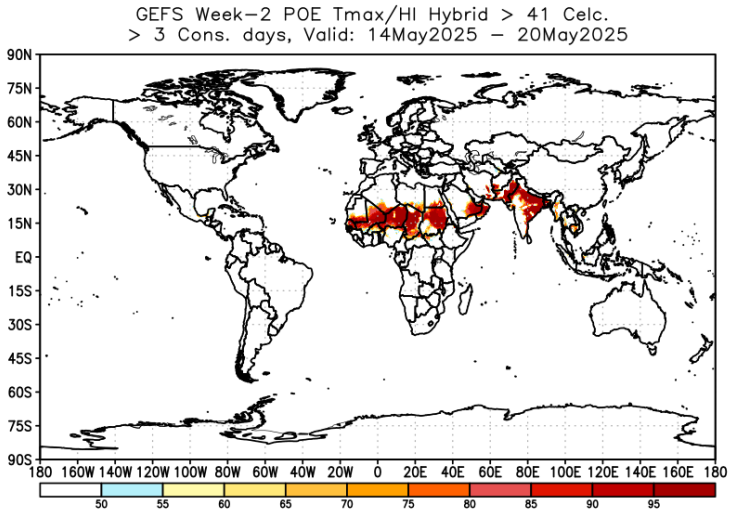
GEFS Week-2 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41ºC & > 3 Consc. Days



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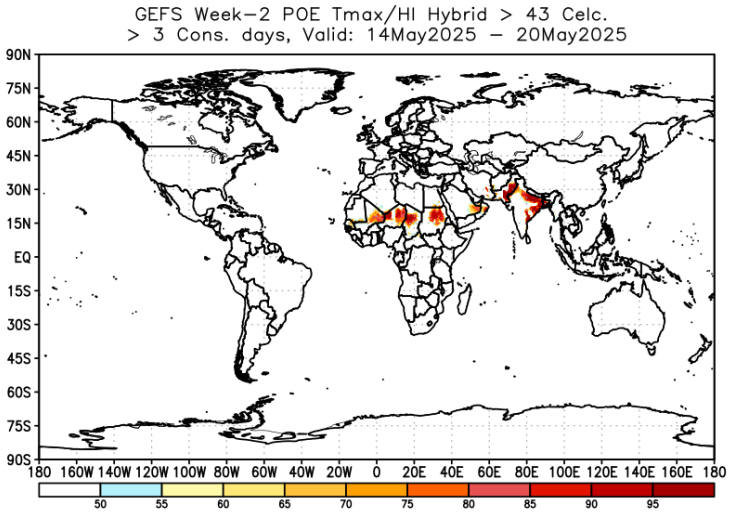
>43ºC & > 3 Consc. Days



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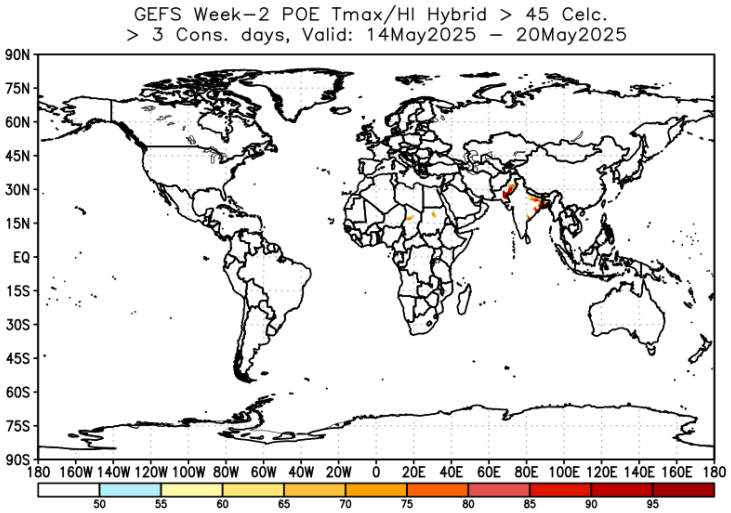
>45ºC & > 3 Consc. Days

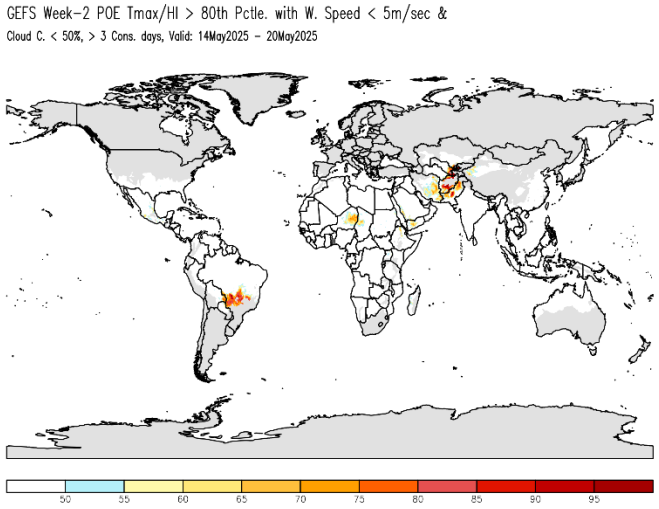


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_45.png

- There is an increased chance for the hybrid index to exceed 41ºC for at least three consecutive days across the Sahel, eastern Sudan, eastern Saudi Arabia, Oman, parts of southern Iran, southwestern Afghanistan, eastern Pakistan, northern and eastern India, Bangladesh, and areas of Myanmar, and Cambodia.

GEFS Week-2 POE, Tmax/HI with Calmer Wind (< 5m s-1) and less Cloud Cover (< 50%)

>80th & > 3 Consc. Days



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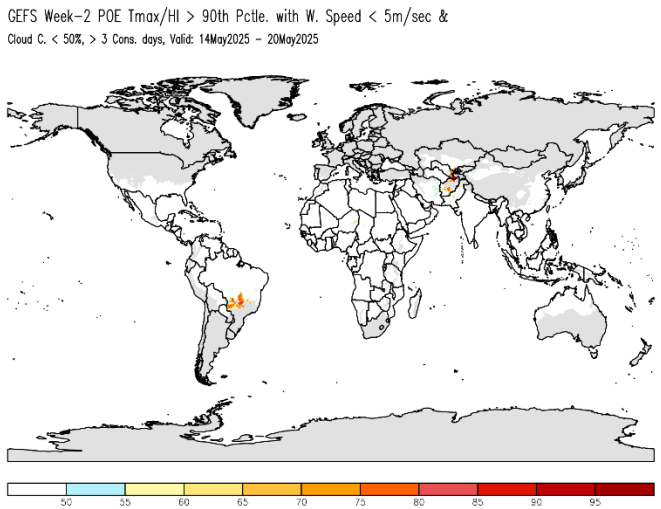

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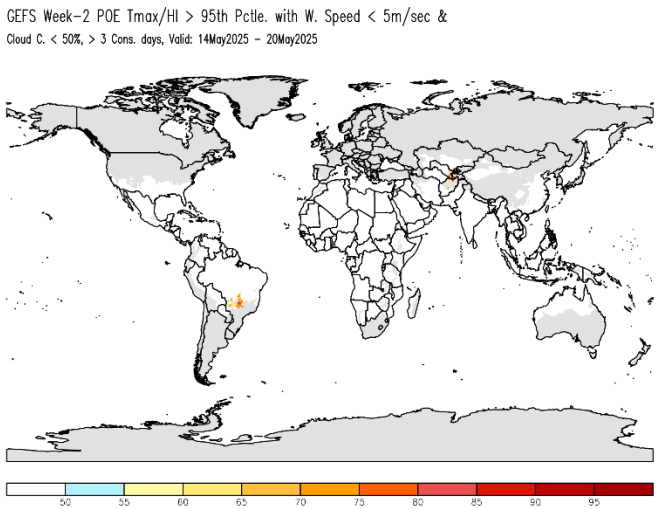
>95th & > 3 Consc. Days



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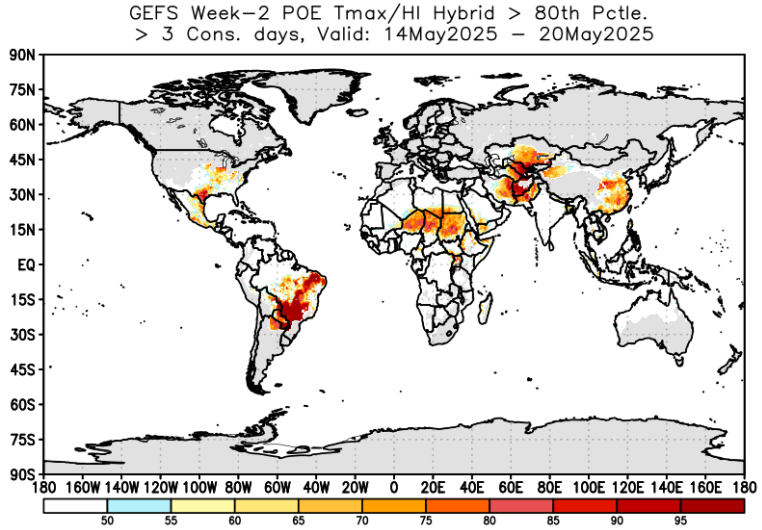
- Probabilities exceed 70% for the hybrid index with calmer wind and less cloud cover to exceed the 80th percentile for at least three consecutive days in south-central Brazil, eastern Niger, isolated areas of Iran, northern and southwestern Afghanistan, and southern Uzbekistan.

GEFS Week-2 HI/Tmax Hybrid POE with Respect to Percentile Climo. Thresholds

>80th & > 3 Consc. Days



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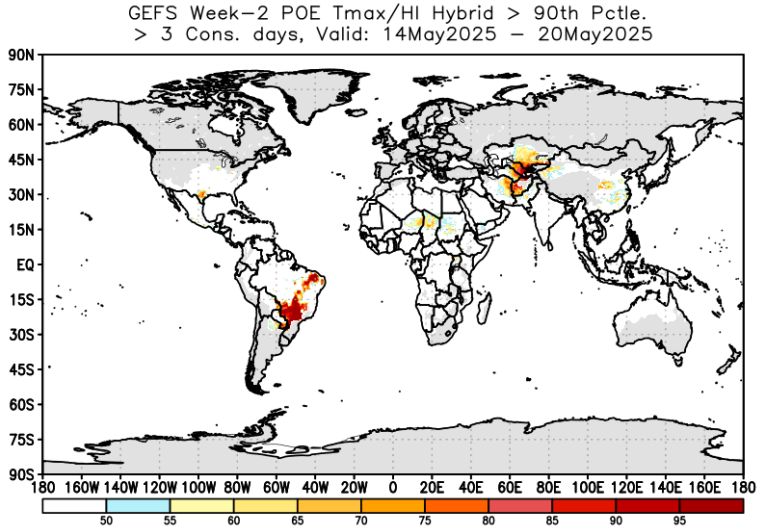

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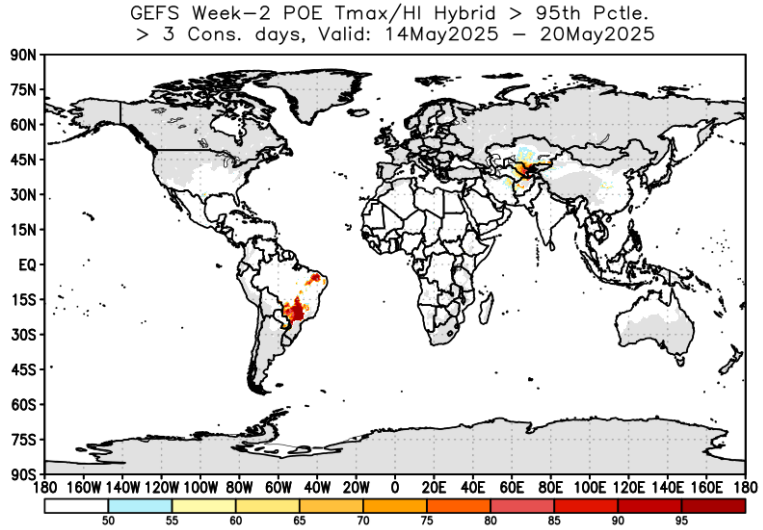
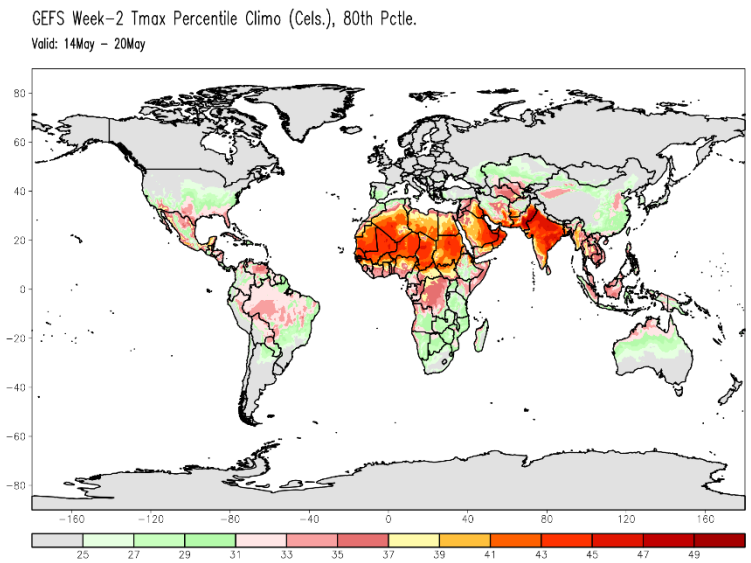


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_95.png

- There is an increased chance (> 80%) for the hybrid index to exceed the 80th percentile for at least three consecutive days in southern United States, southwestern and northeastern Mexico, south-central and northeastern Brazil, Paraguay, northern Argentina, much of Niger, northern Chad, Sudan, areas of Ethiopia, northern Uganda, west-central Yemen, Iran, western Afghanistan, Pakistan, eastern Turkmenistan, Uzbekistan, southern and central Kazakhstan, and eastern China.

GEFS Week-2 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



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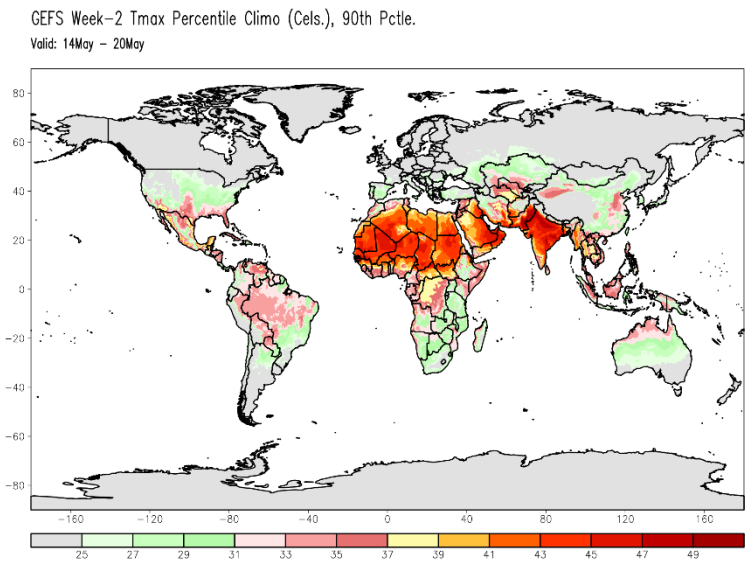
Tmax 90th Percentile



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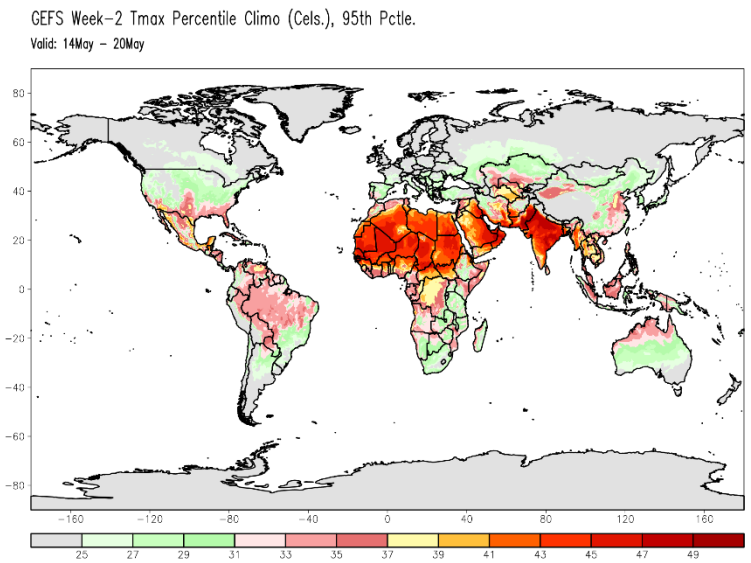
Tmax 95th Percentile



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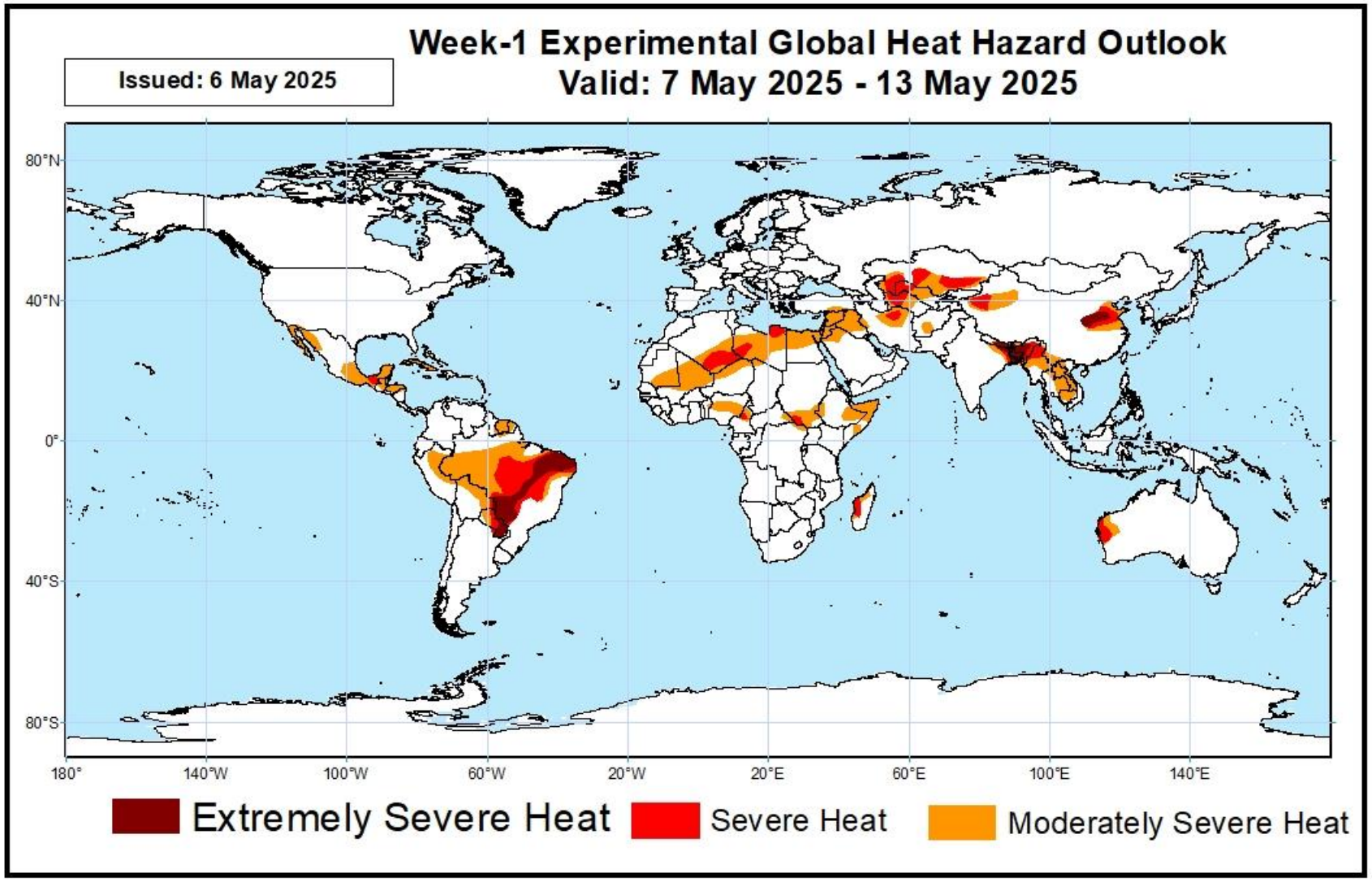
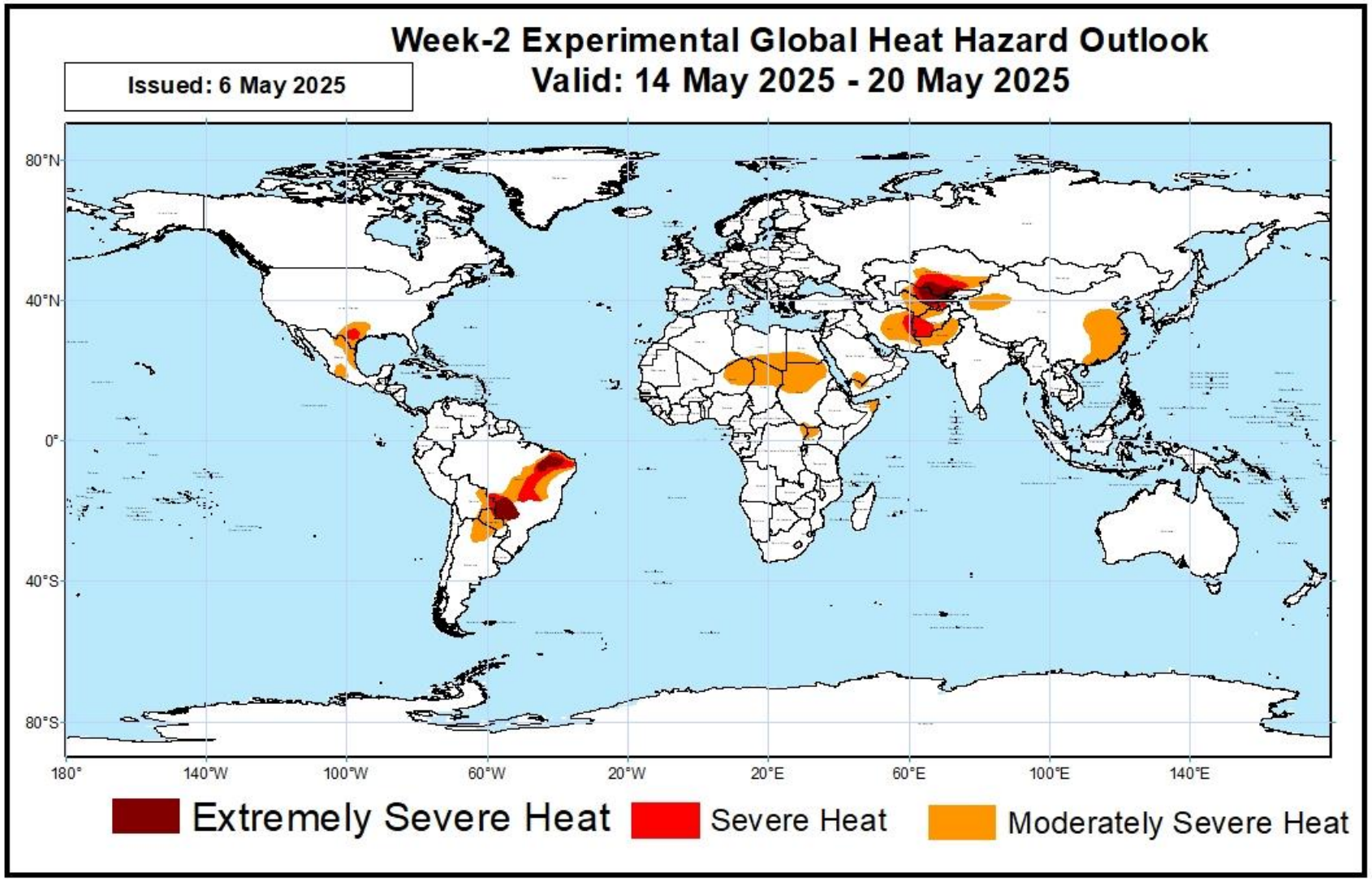


- **There is an increased chance of *moderately severe heat* over portions of Central America, Cuba, Jamaica, Suriname, French Guiana, Central South America, parts of the Sahel and North Africa, Nigeria, Cameroon, South Sudan, Ethiopia, Somalia, Madagascar, the Middle East, Central Asia, China, South Asia, Southeast Asia, and Australia.**
- **There is an increased chance for *extremely severe heat* in parts of Brazil, Bangladesh, and parts of Nepal, and northeastern India.**

Extremely Severe Heat: **Tmax/HI are among the 5% highest values over the 30-year period 1991-2020**
Severe Heat: **Tmax/HI are among the 10% highest values over the 30-year period 1991-2020**
Moderately Severe Heat: **Tmax/HI are among the 20% highest values over the 30-year period 1991-2020**

Note: For the Sahel region in Africa: **Tmax/HI hybrid > 41°C for at least 3 consecutive days** is also considered as **Moderately Severe Heat**



- **There is an increased chance for *moderately severe heat* in southern United States, areas of Mexico, portions of central South America, parts of Niger, Chad, Sudan, Egypt, Uganda, Somalia, Saudi Arabia, Yemen, Central Asia, and China.**
- **There is an increased chance for *extremely severe heat* in areas of Brazil, Uzbekistan, and Kazakhstan.**

Extremely Severe Heat: **Tmax/HI are among the 5% highest values over the 30-year period 1991-2020**
Severe Heat: **Tmax/HI are among the 10% highest values over the 30-year period 1991-2020**
Moderately Severe Heat: **Tmax/HI are among the 20% highest values over the 30-year period 1991-2020**

Note: For the Sahel region in Africa: **Tmax/HI hybrid > 41ºC for at least 3 consecutive days** is also considered as **Moderately Severe Heat**