Global Heat Hazards Outlooks

Date of Issuance: 17 June 2025

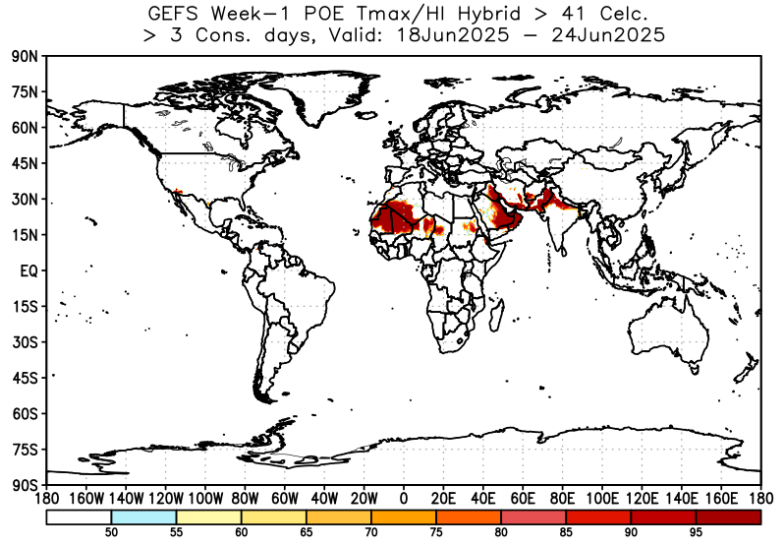
Week-1 Valid : 18 Jun 2025 – 24 Jun 2025

Week-2 Valid: 25 Jun 2025 – 01 Jul 2025

Numerical Weather Prediction Model: NCEP GEFS

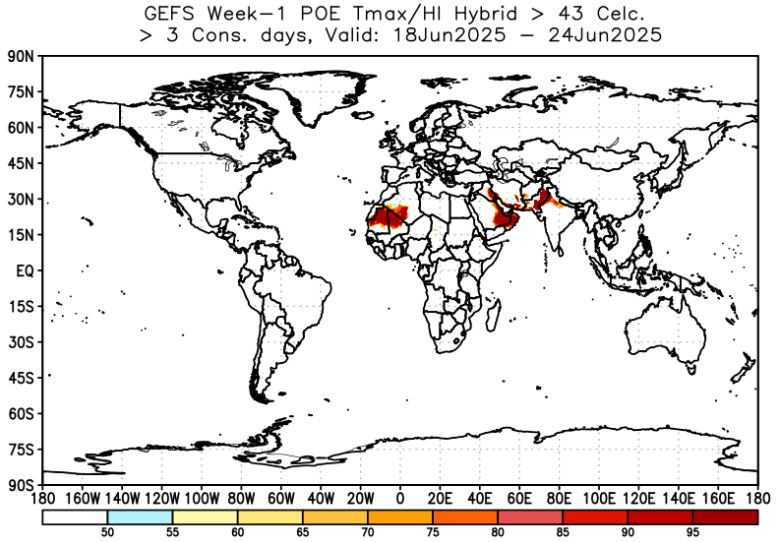
GEFS Week-1 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>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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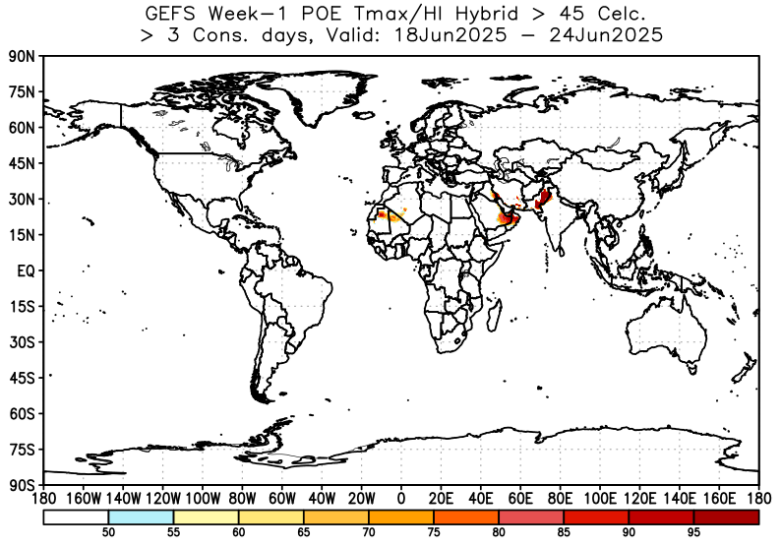
>45ºC & > 3 Consc. Days

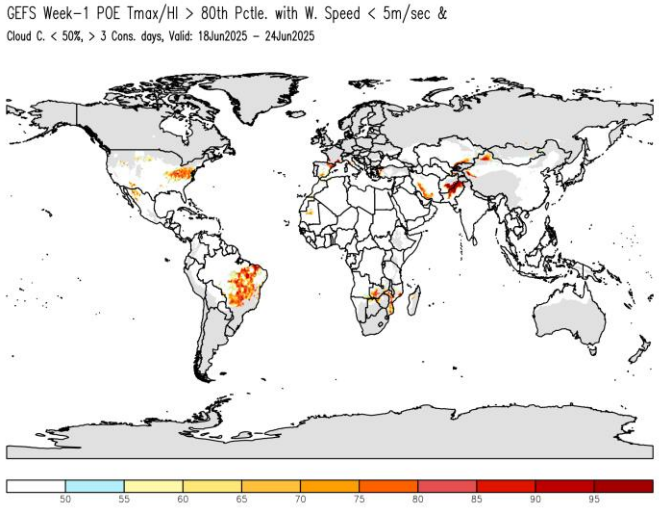


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_45.png

- Probabilities exceed 85% for the hybrid index to exceed 41ºC for at least three consecutive days across the far southwestern boarder of US/Mexico, southern Algeria, western Sahara, Mauritania, Mali, central Niger. western Chad, eastern Sudan, Saudi Arabia, Oman, Iraq, western Iran, southwestern Afghanistan, much of Pakistan and northern/eastern India.

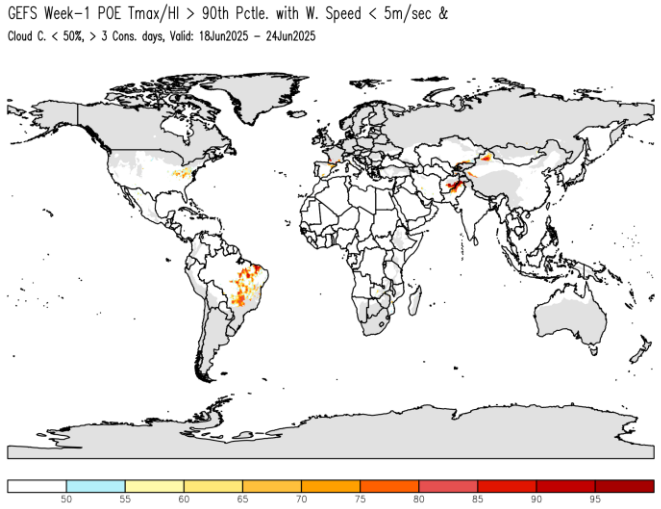
GEFS Week-1 POE, Tmax/HI with Calmer Wind (< 5m s-1) and less Cloud Cover (< 50%)

>80th & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week1_glb_prob_80.gif

>90th & > 3 Consc. Days



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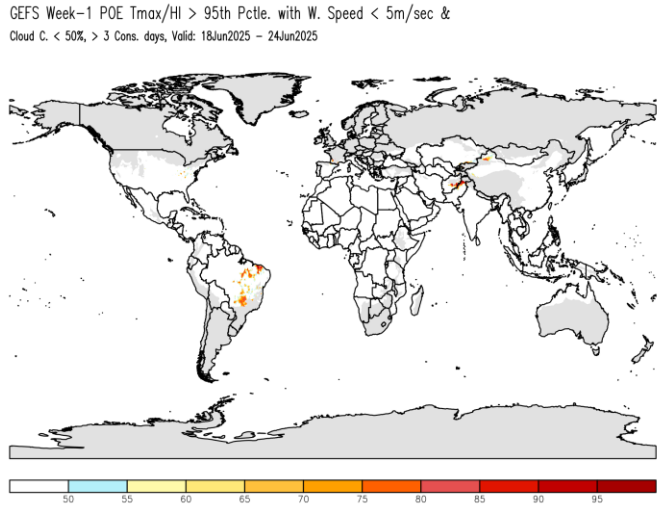
>95th & > 3 Consc. Days



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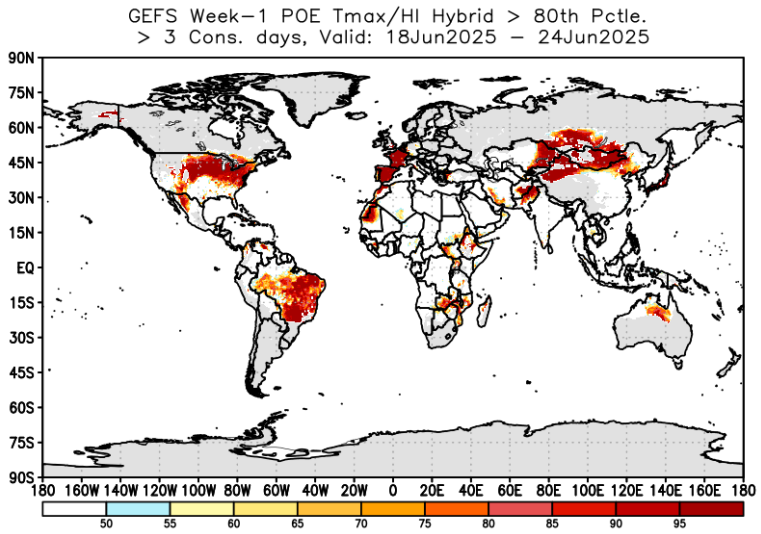
- Probabilities exceed 70% for the hybrid index with calmer wind and less cloud cover to exceed the 80th percentile for at least three consecutive days, over scattered pockets of northeastern/southern US, northern Mexico, central Brazil, small pockets of southern/northern Spain, Mauritania, western Iran, northern Pakistan, southern Afghanistan, eastern Central Asia and western China.

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

>80th & > 3 Consc. Days



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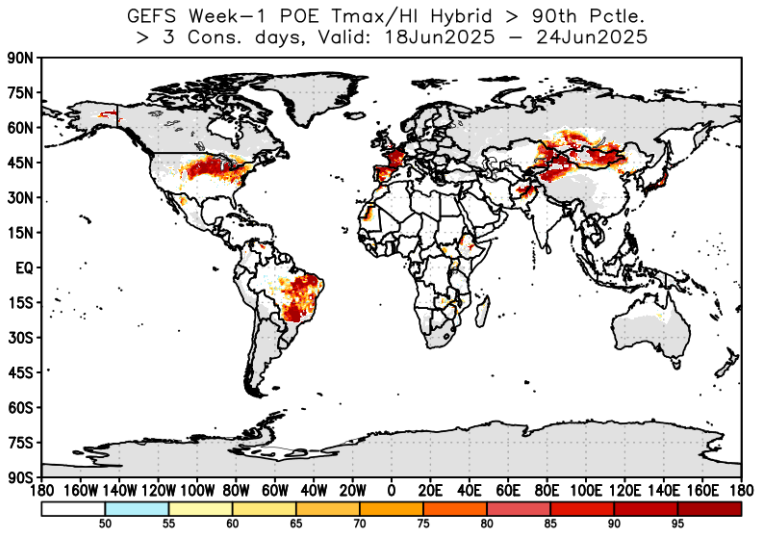
>90th & > 3 Consc. Days



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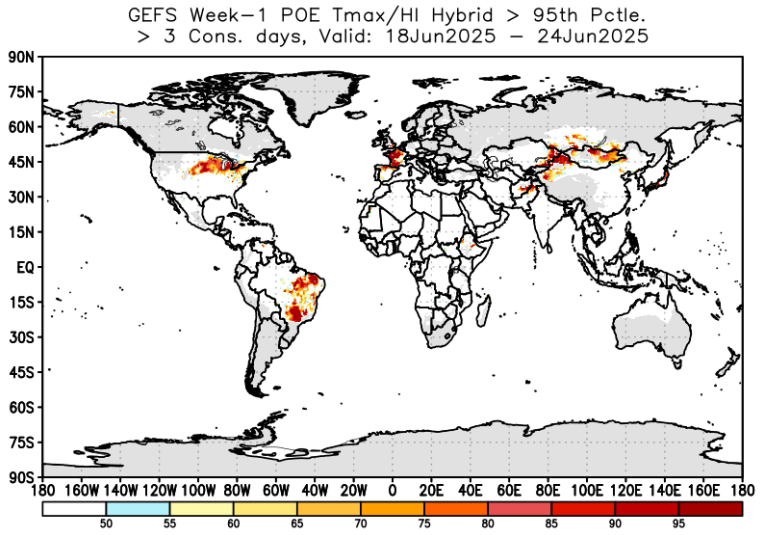
>95th & > 3 Consc. Days

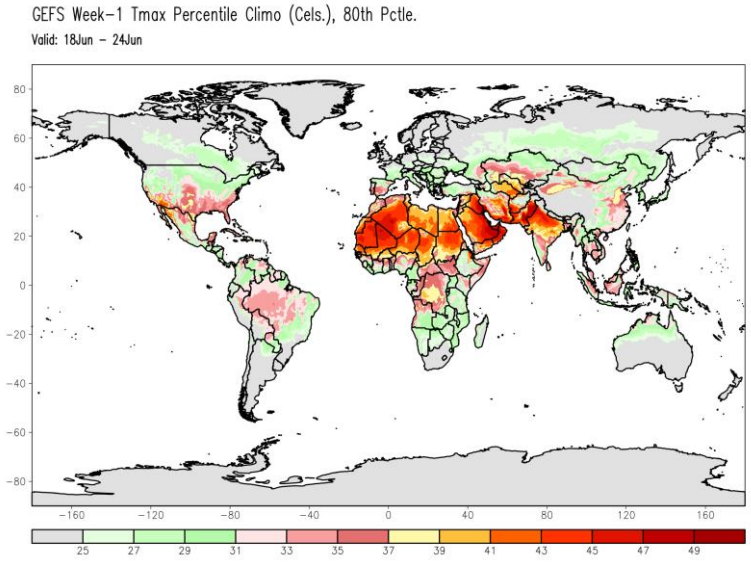


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_95.png

- Probabilities exceed 90% for the hybrid index to exceed the 80th percentile for at least three consecutive days , in mid-western/central/southern United States, , northern parts of Colombia and Venezuela , much of the Brazil, Spain, France, Mauritania, Morocco, central Ethiopia, Zambia, South Sudan, Zimbabwe, Mozambique, western Madagascar, western Iran, central Afghanistan, Pakistan, eastern Central Asia, Mongolia, southern Russia, western China and northern Australia.

GEFS Week-1 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



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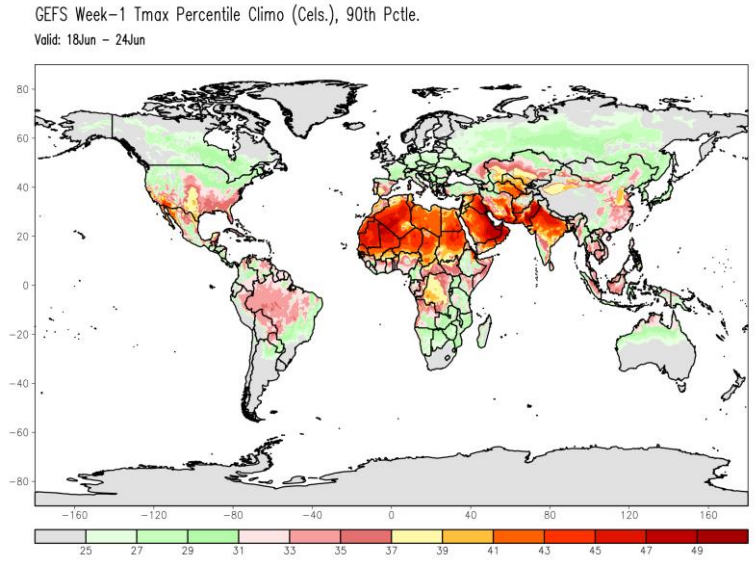
Tmax 90th Percentile



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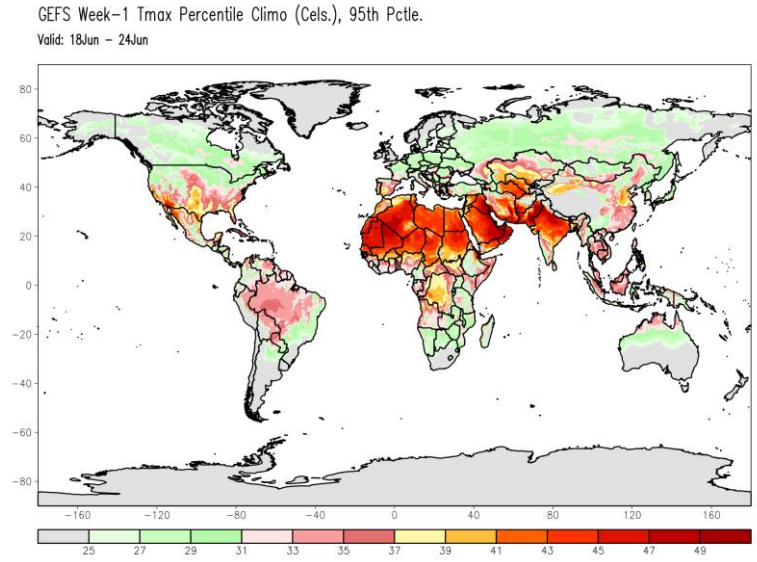
Tmax 95th Percentile



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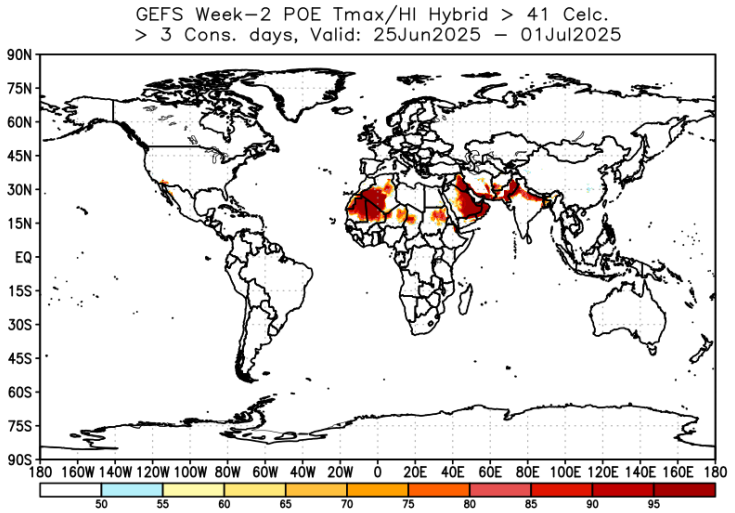
GEFS Week-2 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41ºC & > 3 Consc. Days



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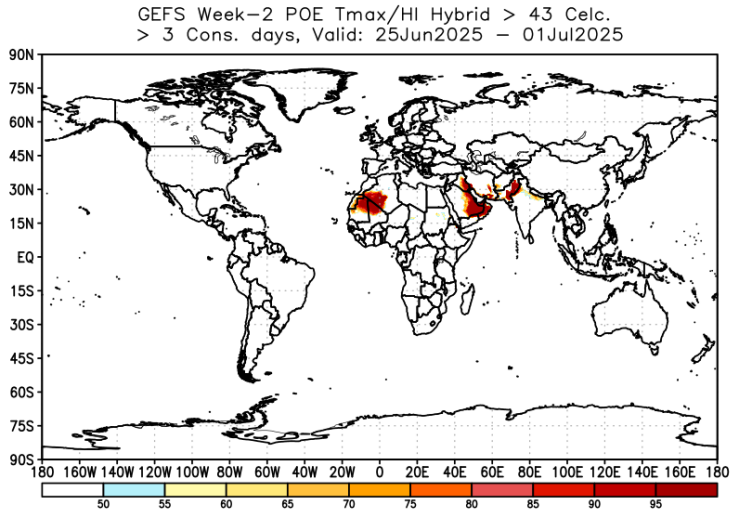
>43ºC & > 3 Consc. Days



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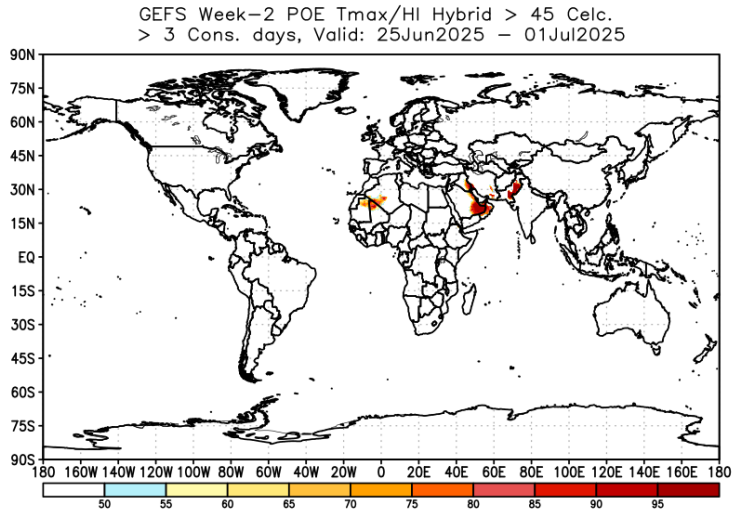
>45ºC & > 3 Consc. Days

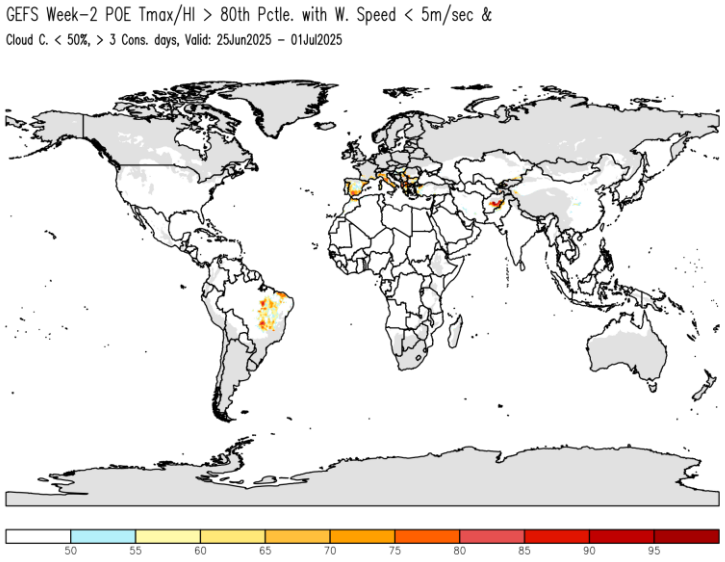


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_45.png

- There is an increased chance for the hybrid index to exceed 41ºC for at least three consecutive days in the small pocket of southwestern US, Mauritania, Algeria, Mali, eastern Niger, western Chad, eastern Sudan, Saudi Arabia, Oman, Yemen, Iraq, western Iran, southern Afghanistan, Pakistan, north/eastern India and Bangladesh.

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

>80th & > 3 Consc. Davs



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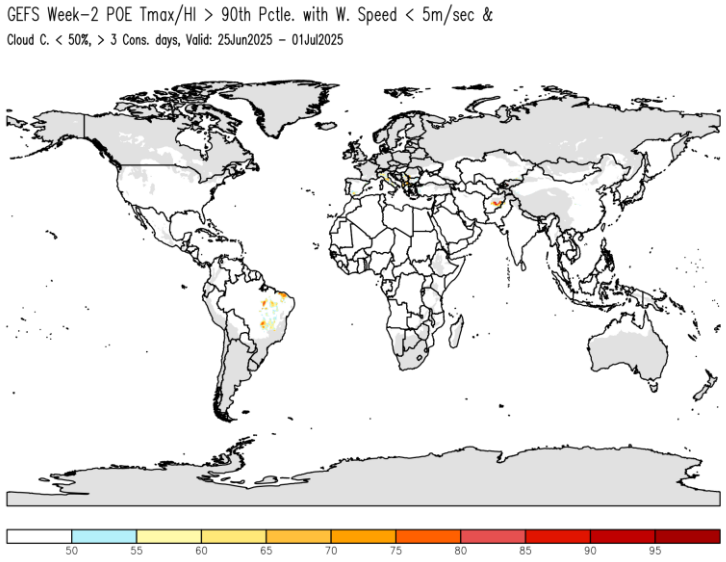
>90th & > 3 Consc. Davs



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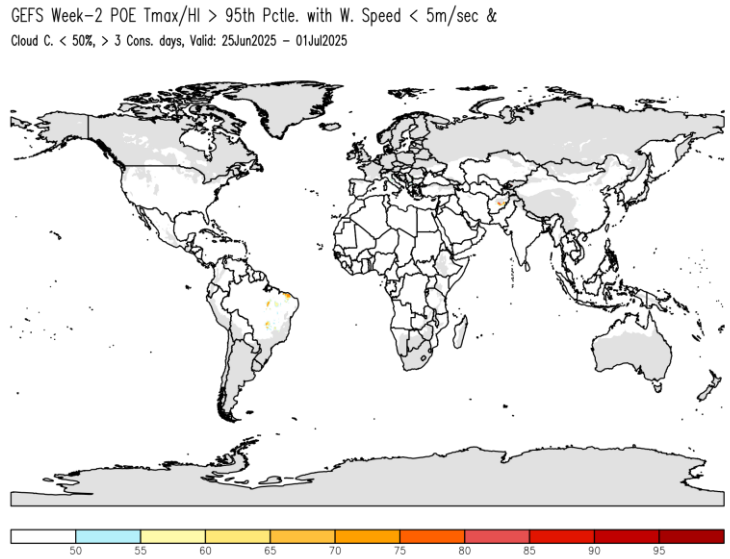
>95th & > 3 Consc. Days



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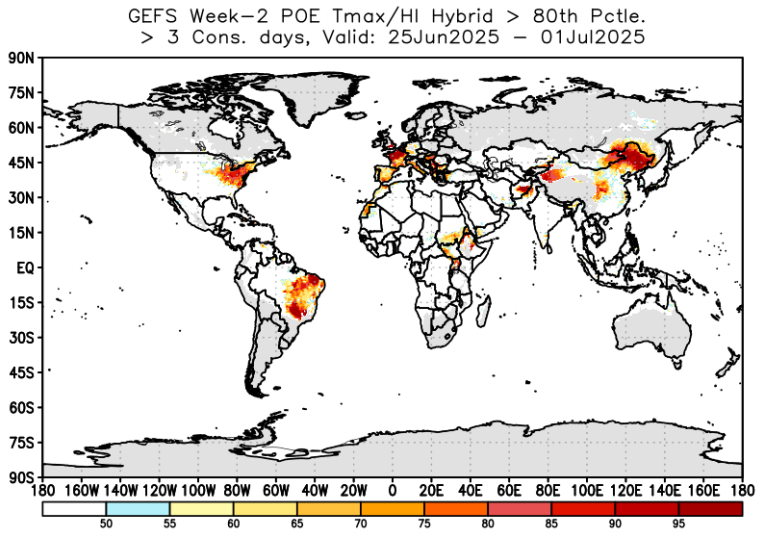
- Probabilities exceed 70% for the hybrid index with calmer wind and less cloud cover to exceed the 80th percentile for at least three consecutive days, over central/eastern Brazil, Spain, scattered parts of Italy, Austria, and southeastern Afghanistan.

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

>80th & > 3 Consc. Days



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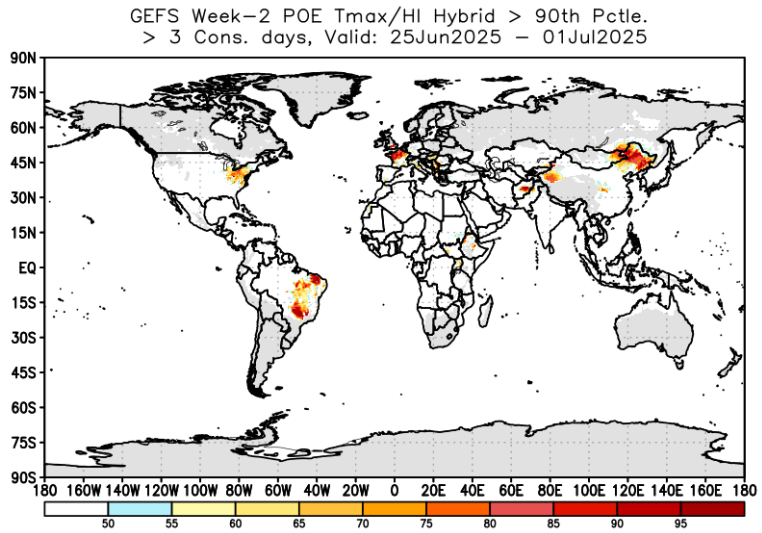

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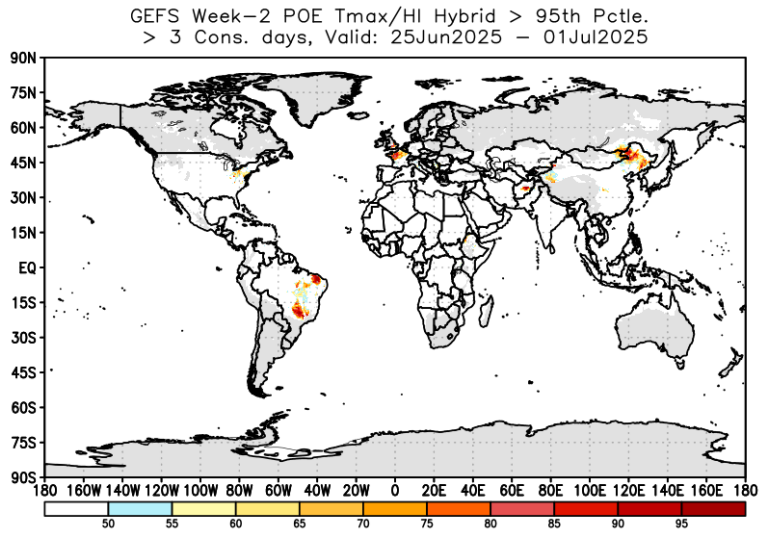
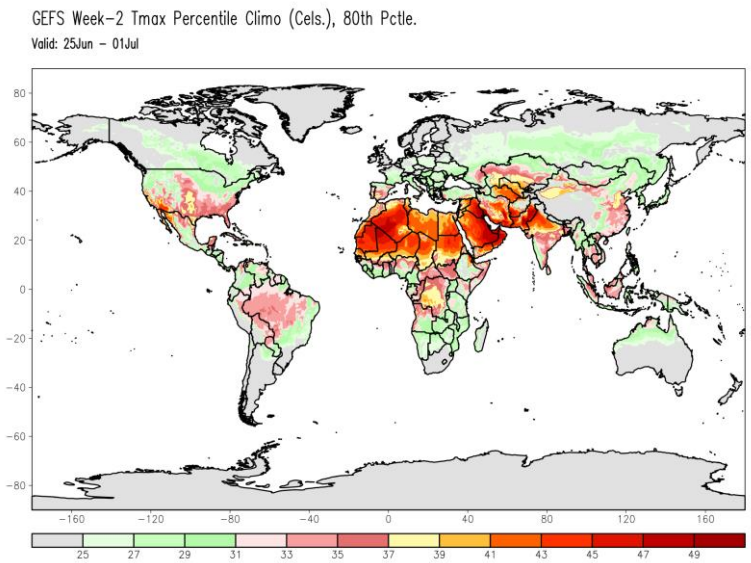


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_95.png

- There is an increased chance (> 80%) for the hybrid index to exceed the 80th percentile for at least three consecutive days, in northeastern USA, central/eastern Brazil, Germany, Poland, Spain, France, Western Sahara, southern Sudan, western South Sudan, Burundi, eastern Ethiopia, central Afghanistan, northern Pakistan, eastern Magnolia, southern Russia and western/eastern China.

GEFS Week-2 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



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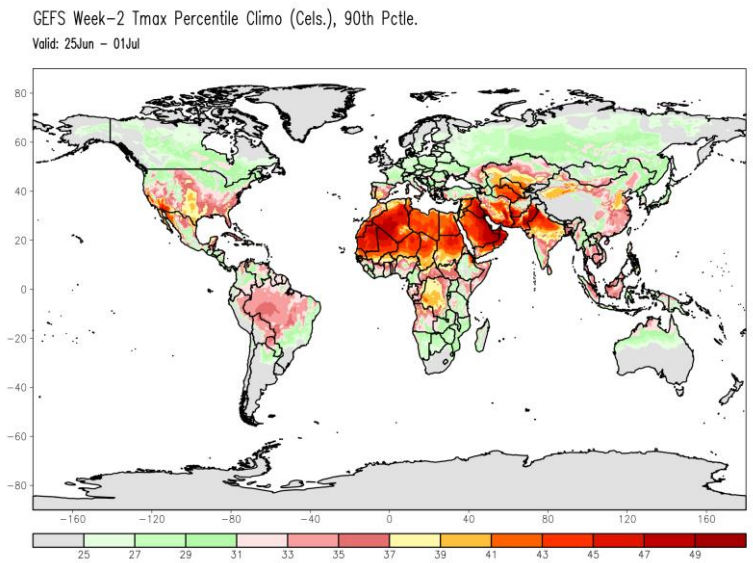
Tmax 90th Percentile



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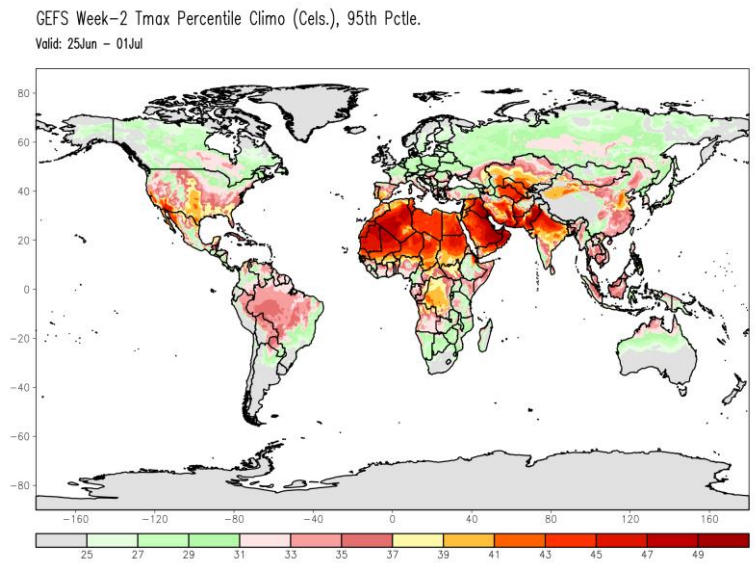
Tmax 95th Percentile



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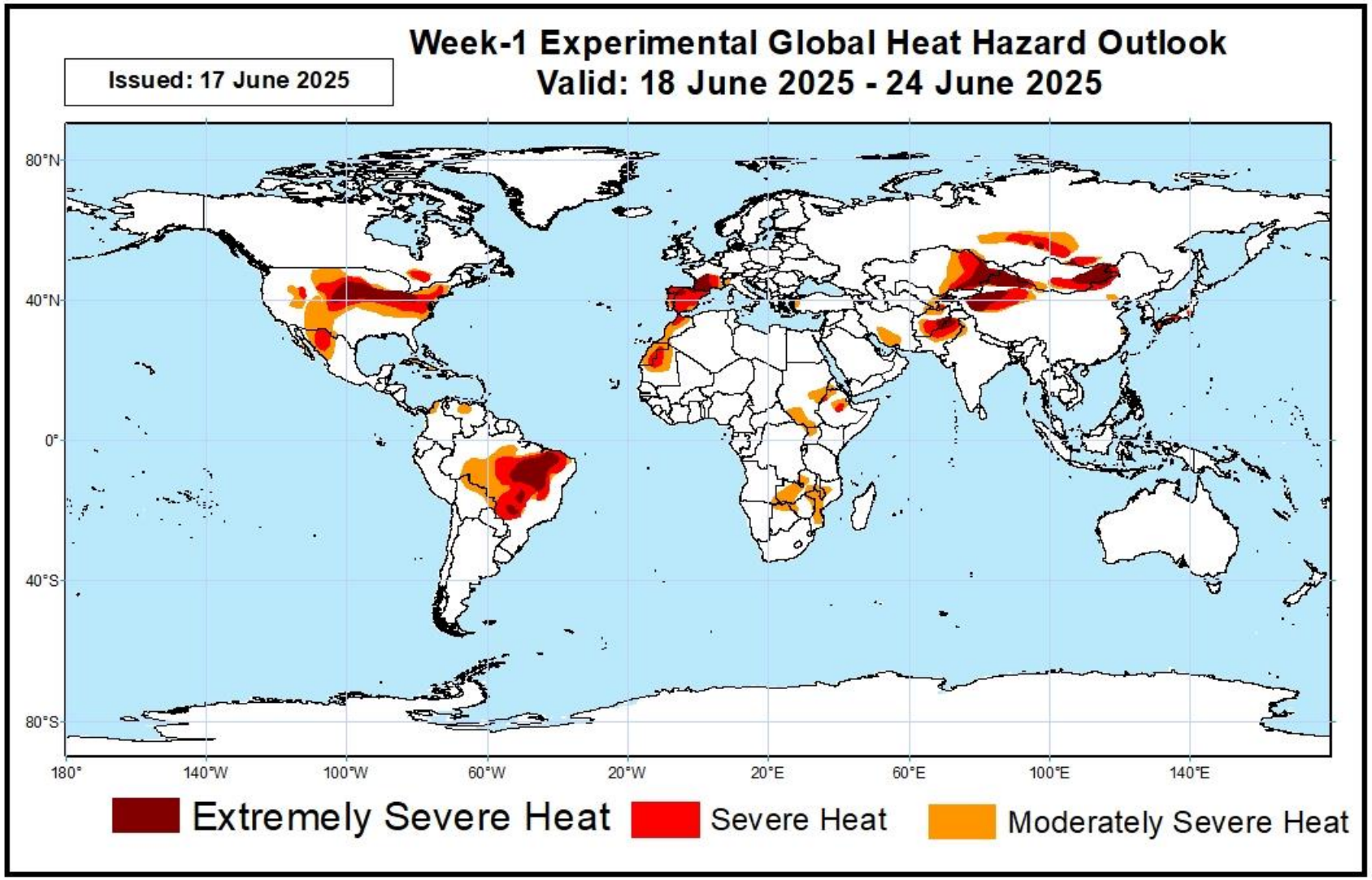
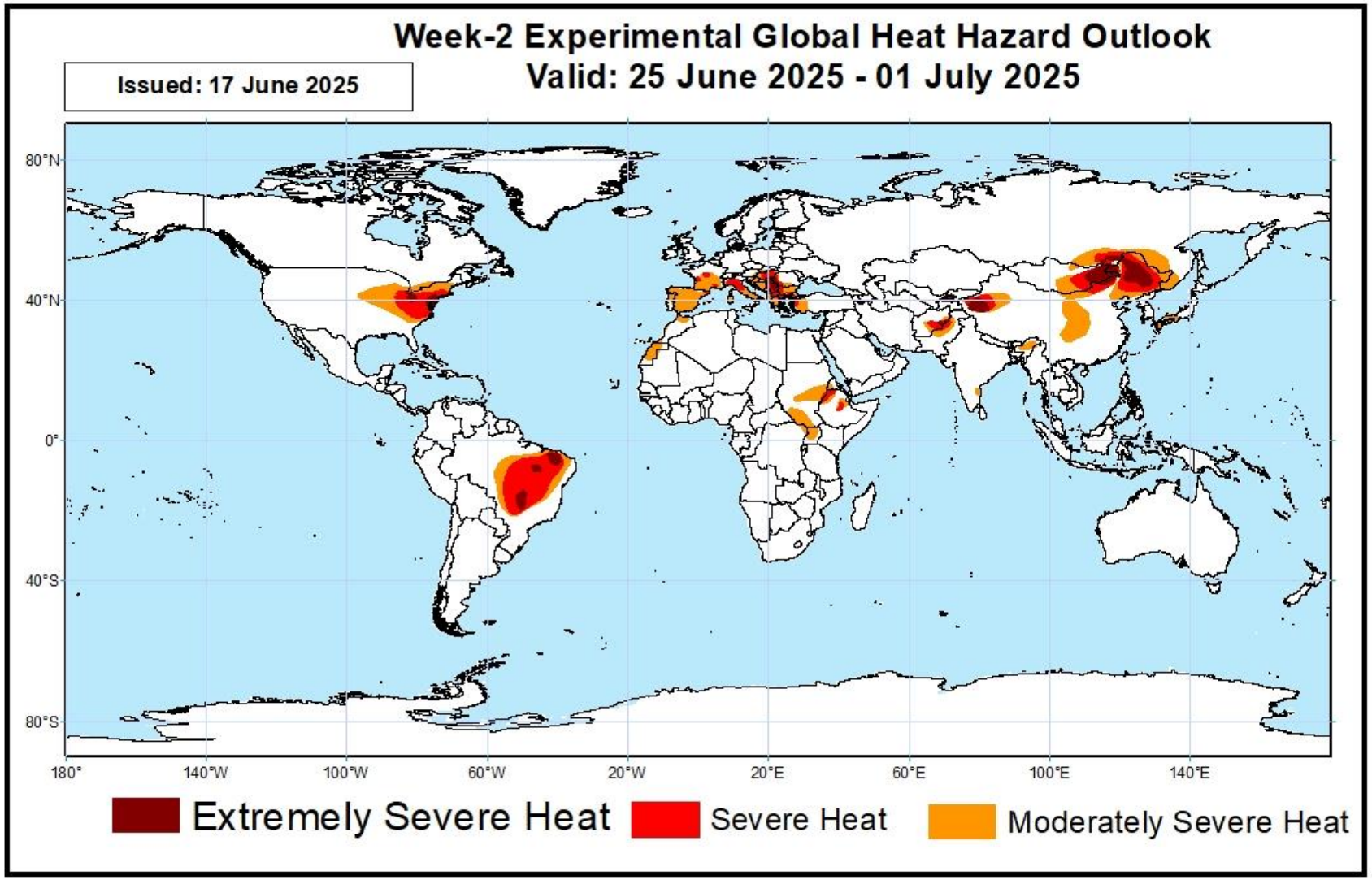


- **There is an increased chance of moderately to severe heat over southwestern/mid-western and eastern USA, northern Mexico, small parts of northern Colombia, northern Venezuela, central/eastern Brazil, southern Europe, western Sahara, Morocco, eastern Ethiopia, Zambia, eastern Sudan, southwestern South Sudan, Malawi, Mozambique, western Iran, northern/eastern Kazakhstan, southern Russia, north/western Pakistan, central/southern Afghanistan, northwestern China and eastern Mongolia.**
- **There is an increased chance for extremely severe heat, over Midwest USA, eastern Brazil, northwest Pakistan, southern Afghanistan, eastern Kazakhstan, eastern Mongolia and northwestern China.**

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 of heat over eastern USA, over central/eastern Brazil, southern Europe, eastern Sudan, southwestern South Sudan, eastern Ethiopia. Southern Russia, eastern Mongolia, northern Pakistan, southern Afghanistan and western/eastern China.**
- **There is an increased chance of severe heat , over eastern USA, central/eastern Brazil, eastern Mongolia, northern Pakistan, southern Afghanistan and western/eastern China.**
- **There is an increased chance for extremely severe heat some pockets of southern/eastern Brazil, western/eastern China and eastern Mongolia.**

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**