Global Heat Hazards Outlooks

Date of Issuance: 21 Apr 2025

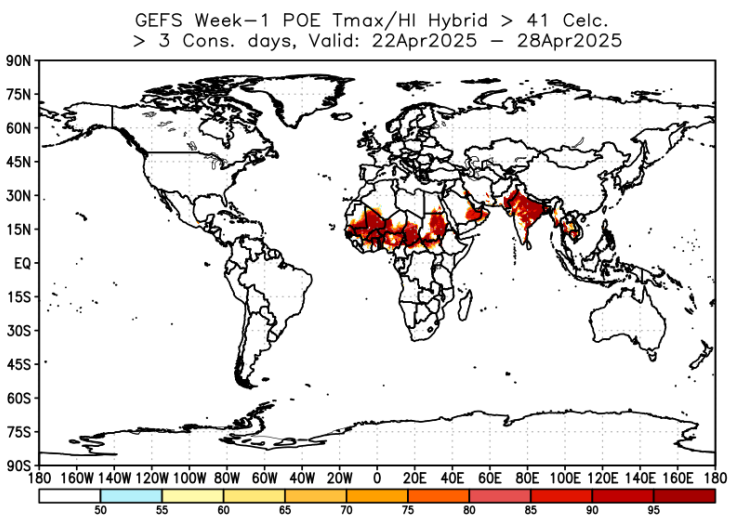
Week-1 Valid: 22 Apr 2025 – 28 Apr 2025

Week-2 Valid: 29 Apr 2025 – 05 May 2025

Numerical Weather Prediction Model: NCEP GEFS

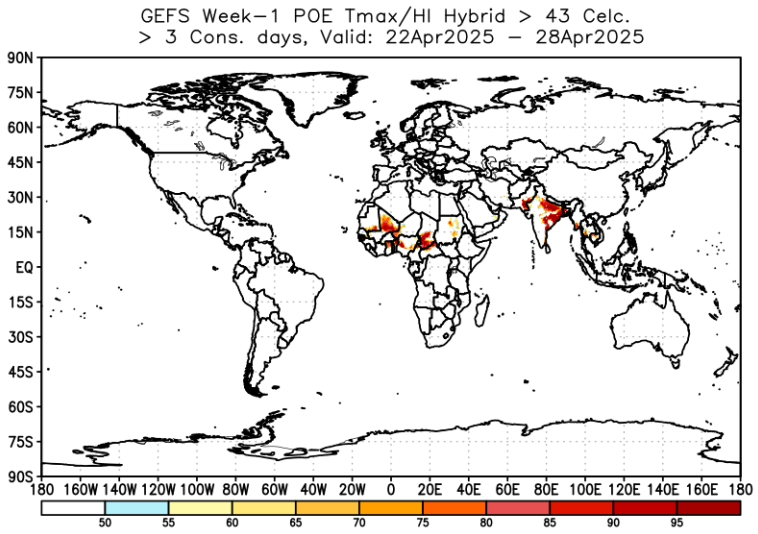
GEFS Week-1 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>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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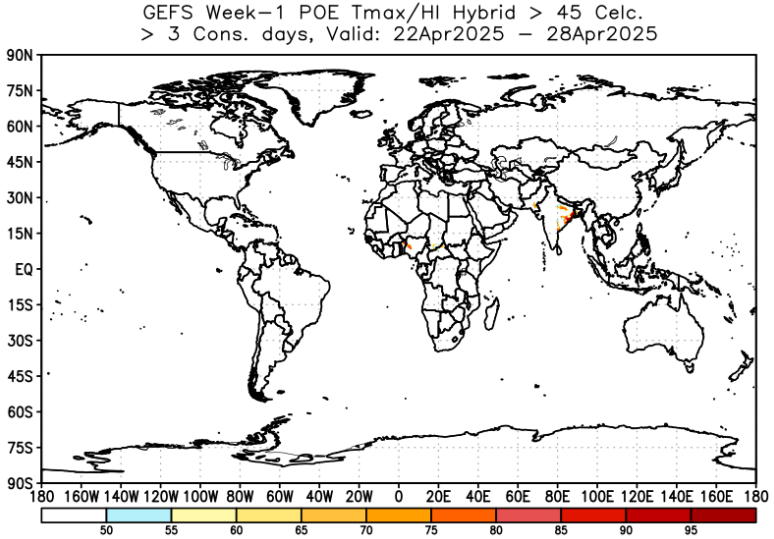
>45ºC & > 3 Consc. Days

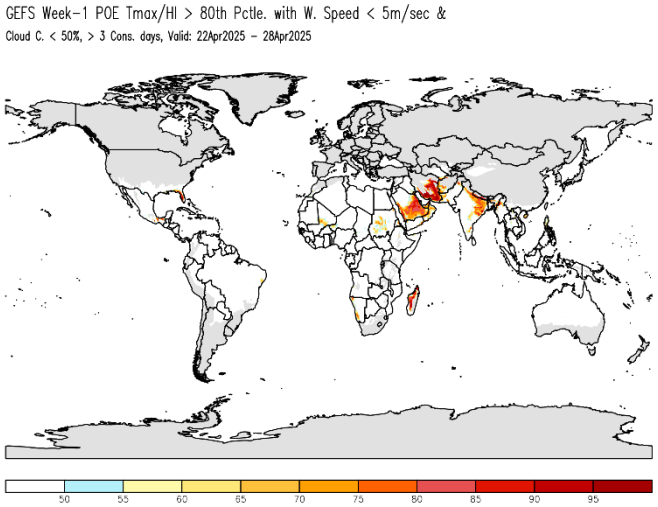


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_45.png

- Probabilities exceed 85% for the hybrid index to exceed 41ºC for at least three consecutive days in Senegal, Mauritania, Mali, Burkina fuso, Ghana, Nigeria, Southern Chad, Oman, southern Saudi Arabia, Pakistan and northeastern India.

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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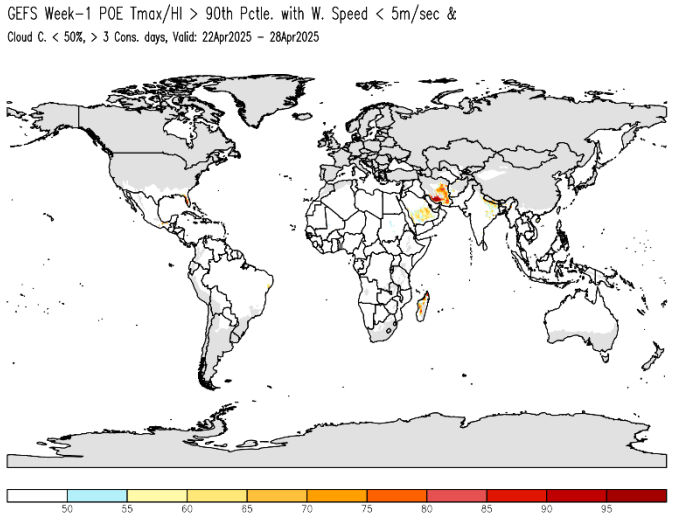
>90th & > 3 Consc. Days



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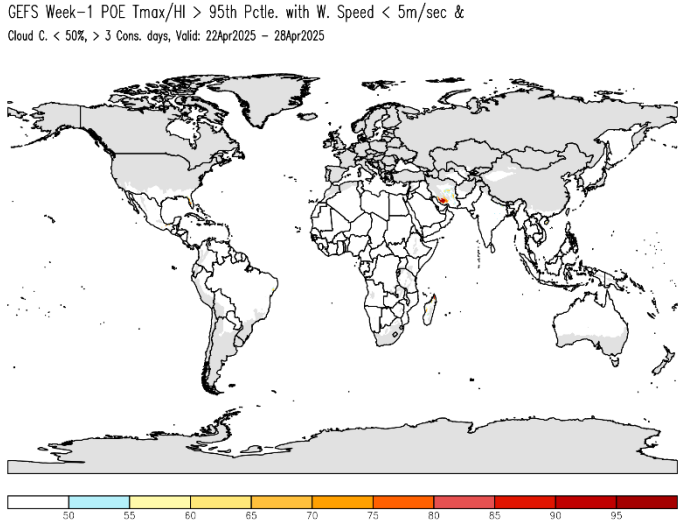
>95th & > 3 Consc. Days

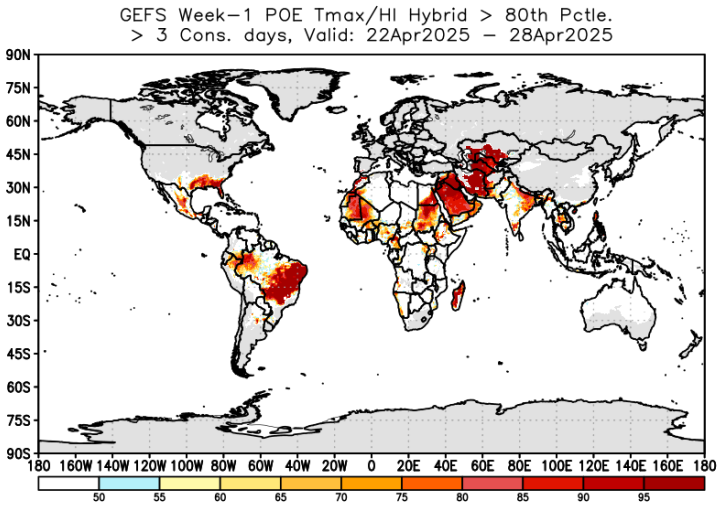


https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week1_glb_prob_95.gif

- 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 southern Saudi Arabia, and northeastern India.

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

>80th & > 3 Consc. Days



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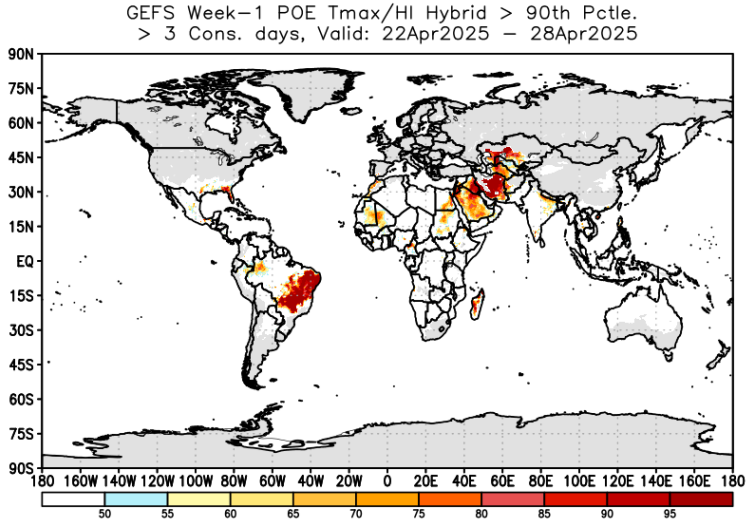
>90th & > 3 Consc. Days



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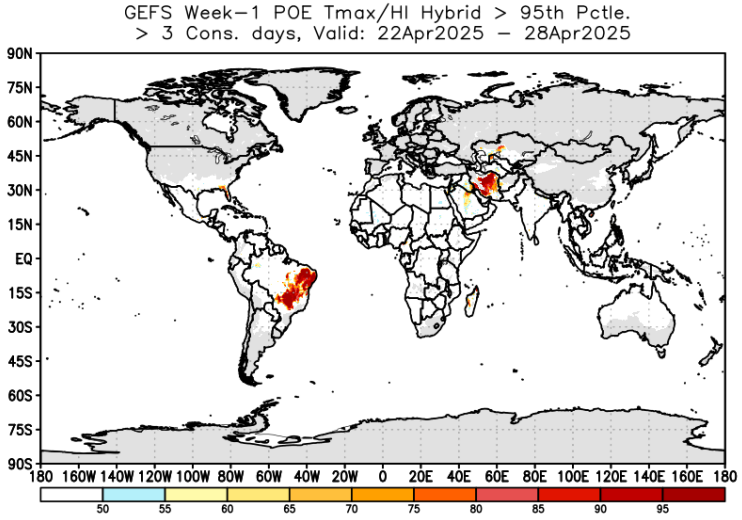
>95th & > 3 Consc. Days

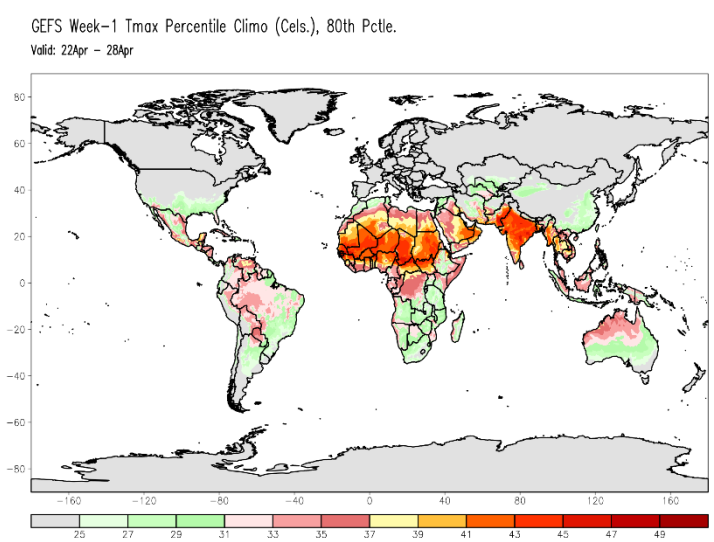


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_95.png

- Probabilities exceed 90% for the hybrid index to exceed the 80th percentile for at least three consecutive days in eastern and western Brazil, Mexico, western Madagascar, eastern and wester Africa including western Sahara, Mauritania, Mali, Egypt, Sudan, Eritrea, isolated part of Ethiopia, Saudi Arabia, Oman, Iran, Uzbekistan, Turkmenistan, Iran, South Asia including Afghanistan, northeastern India and Pakistan.

GEFS Week-1 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



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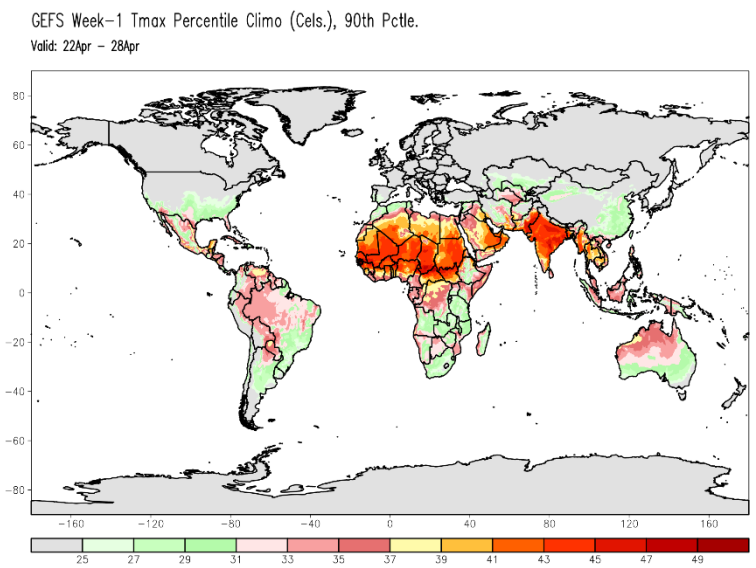
Tmax 90th Percentile



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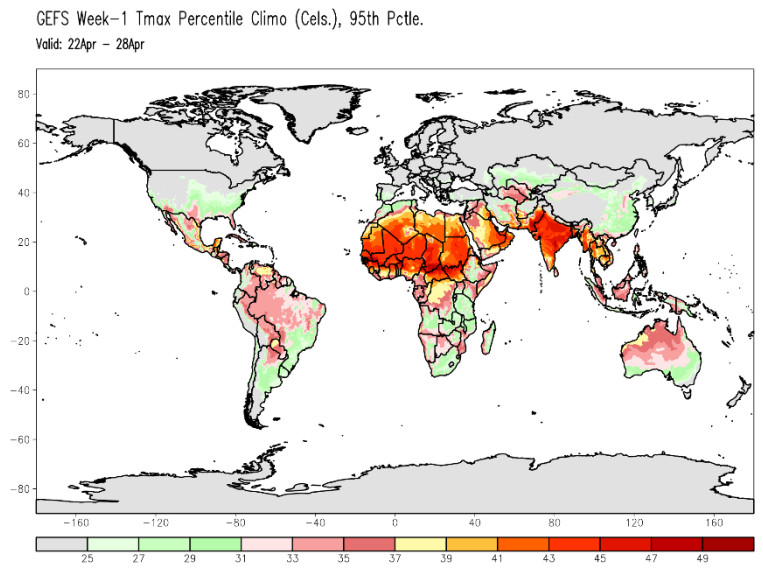
Tmax 95th Percentile



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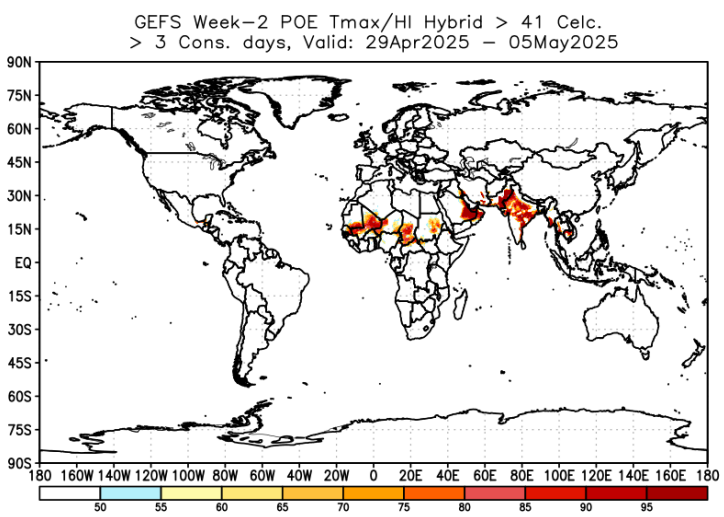
GEFS Week-2 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41ºC & > 3 Consc. Days



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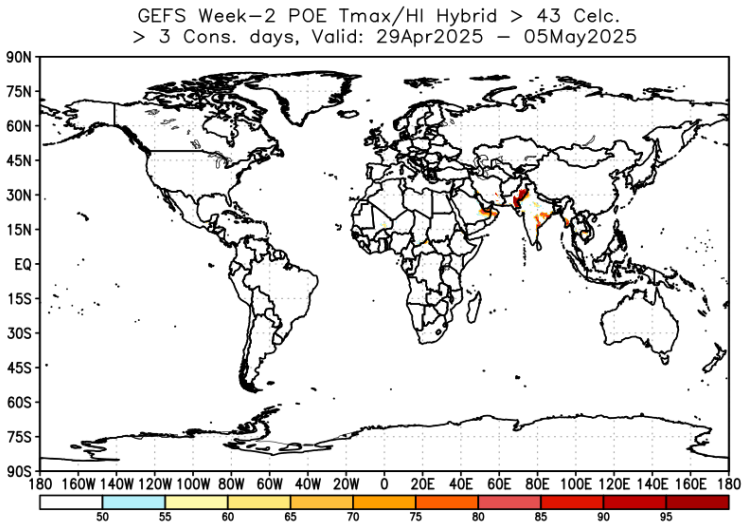
>43ºC & > 3 Consc. Days



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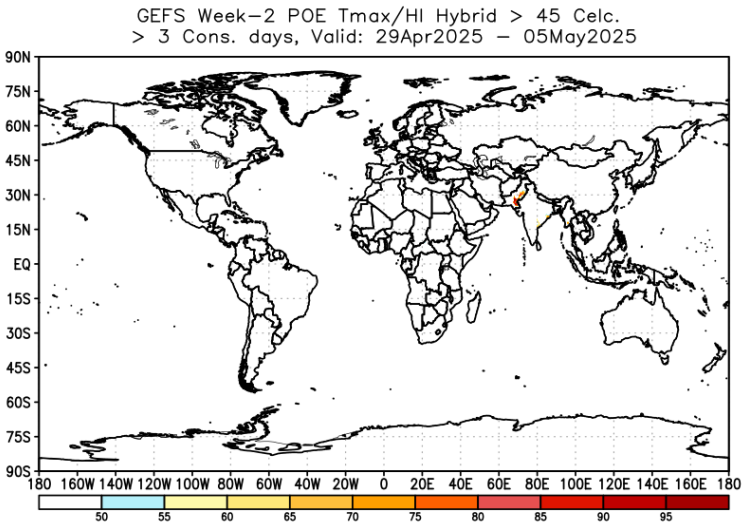
>45ºC & > 3 Consc. Days

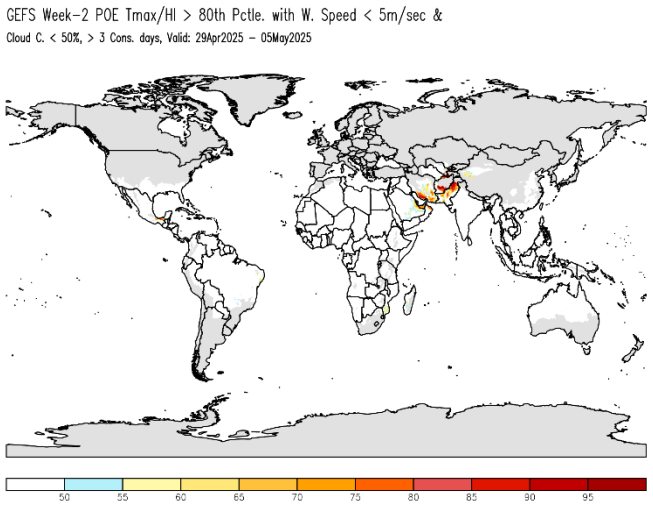


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_45.png

- There is an increased chance for the hybrid index to exceed 41ºC for at least three consecutive days in Senegal, Mauritania, Mali, Burkina Faso, Ghana, Saudi Arabia, Oman, Pakistan, and northeastern India.

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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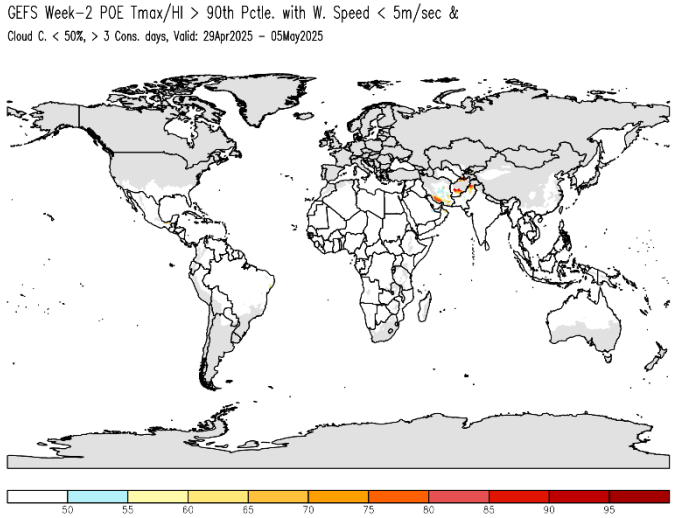
>90th & > 3 Consc. Days



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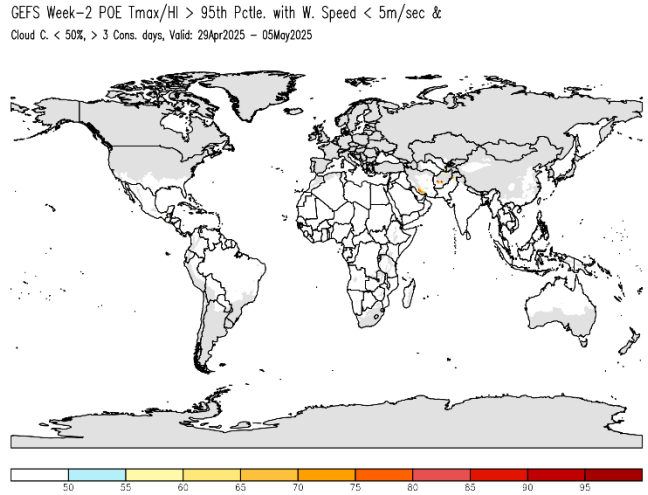
>95th & > 3 Consc. Days



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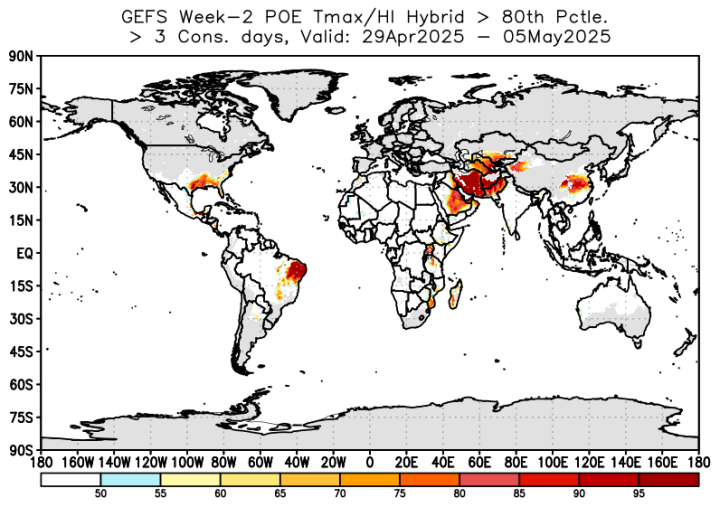
- Probabilities exceed 70% for the hybrid index with calmer wind and less cloud cover to exceed the 80th percentile for at least three consecutive days in isolated place of Pakistan.

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

>80th & > 3 Consc. Days



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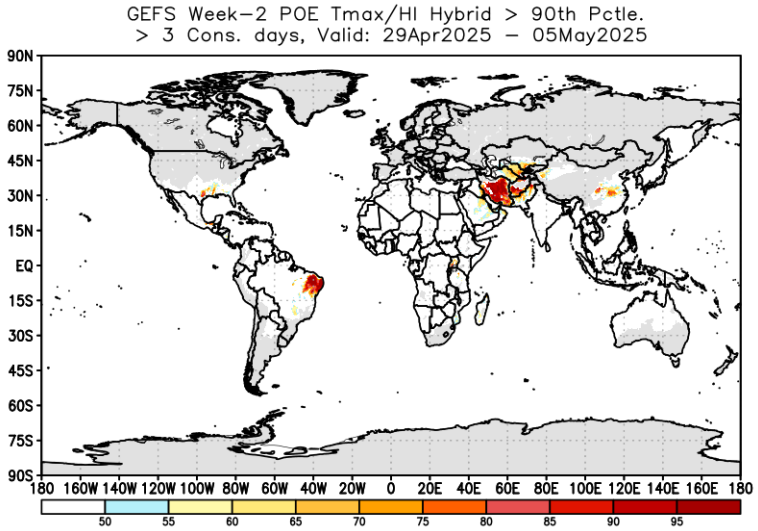

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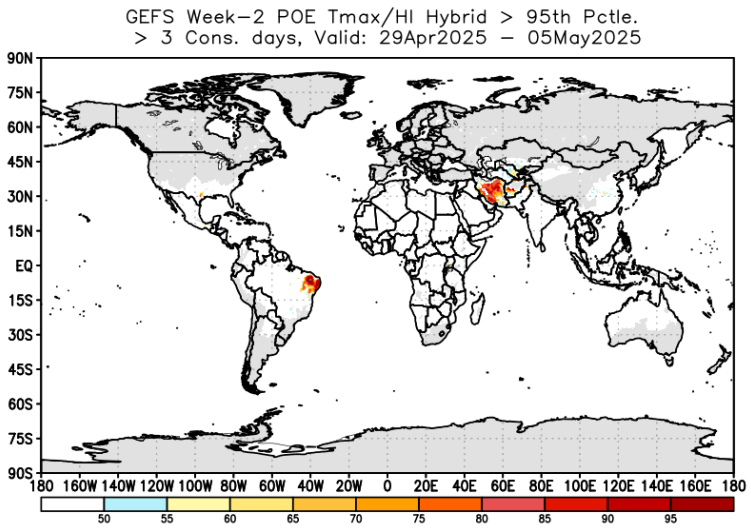
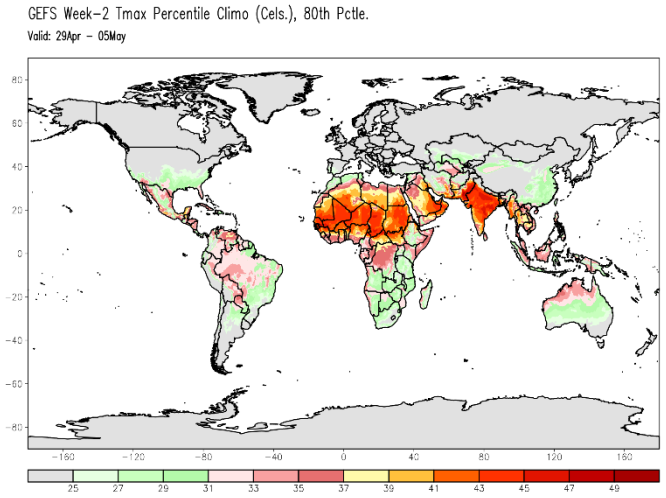


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_95.png

- There is an increased chance (> 80%) for the hybrid index to exceed the 80th percentile for at least three consecutive days in Mexico, and northeastern Brazil, northern Tanzania, Uganda, southeastern Zimbabwe, Southern Mozambique, and western Madagascar, Saudi Arabia, Oman, Turkmenistan, Uzbekistan, northern, Turkmenistan, Iran South Asia including Afghanistan, and Pakistan.

GEFS Week-2 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



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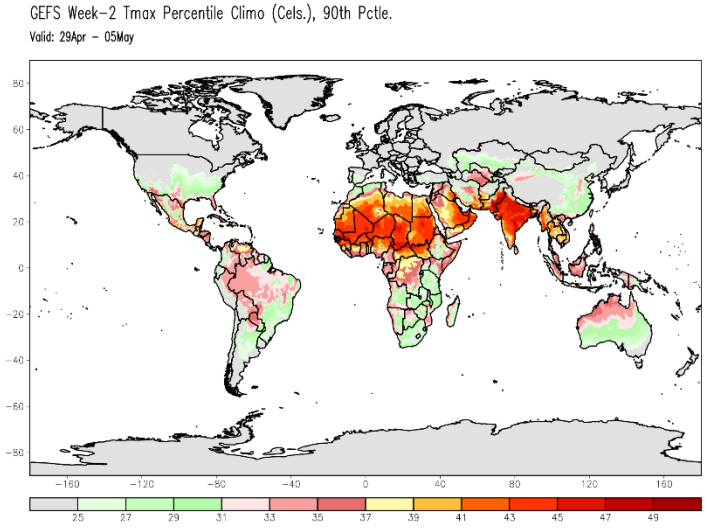
Tmax 90th Percentile



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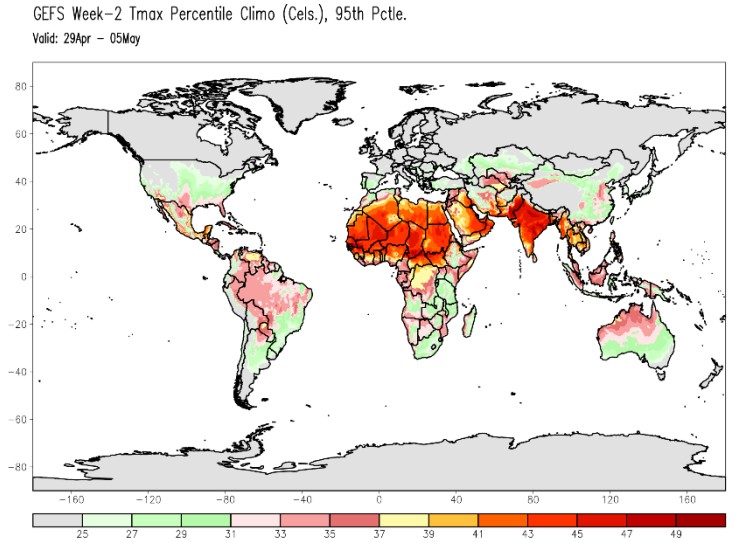
Tmax 95th Percentile



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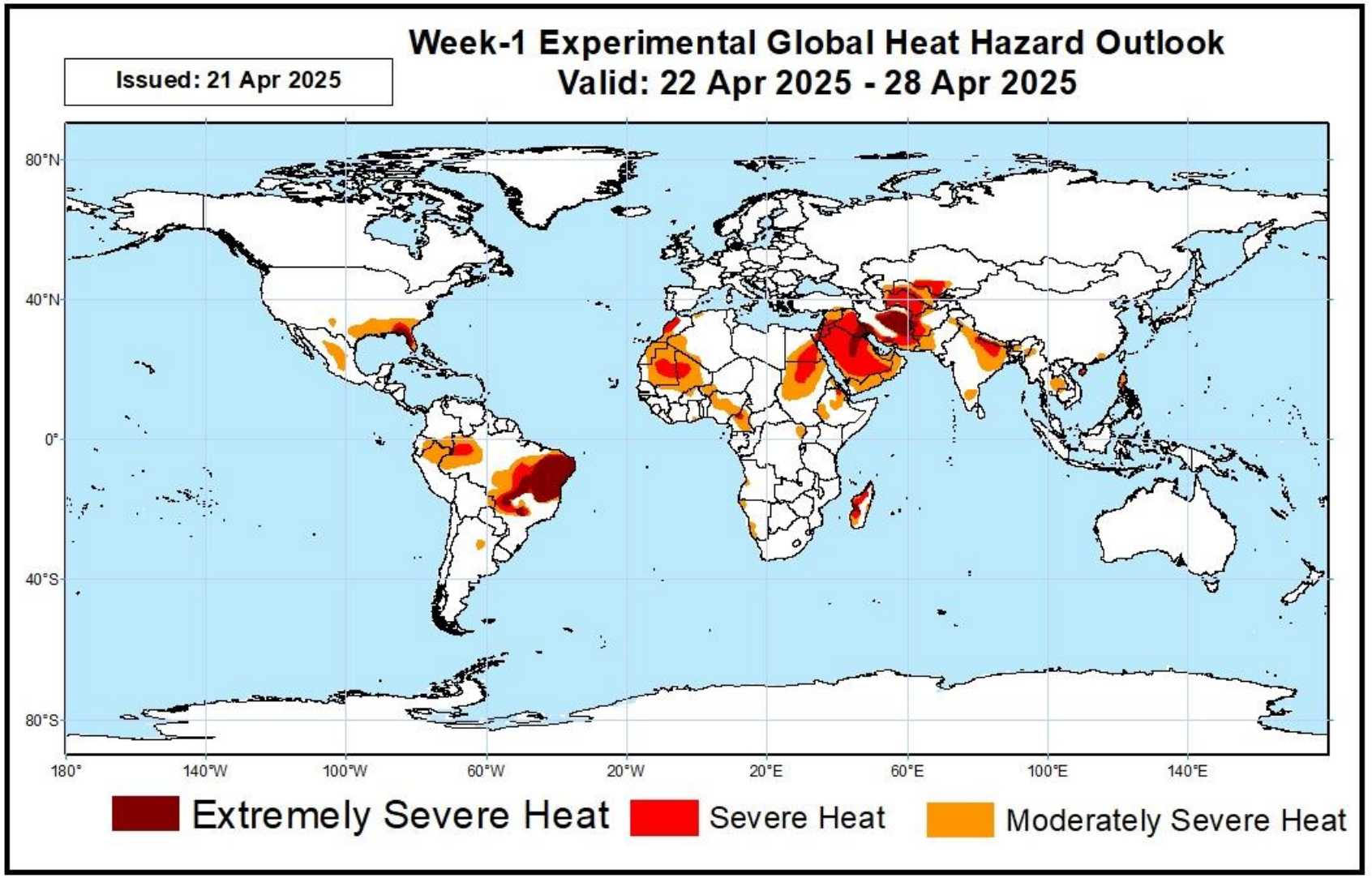
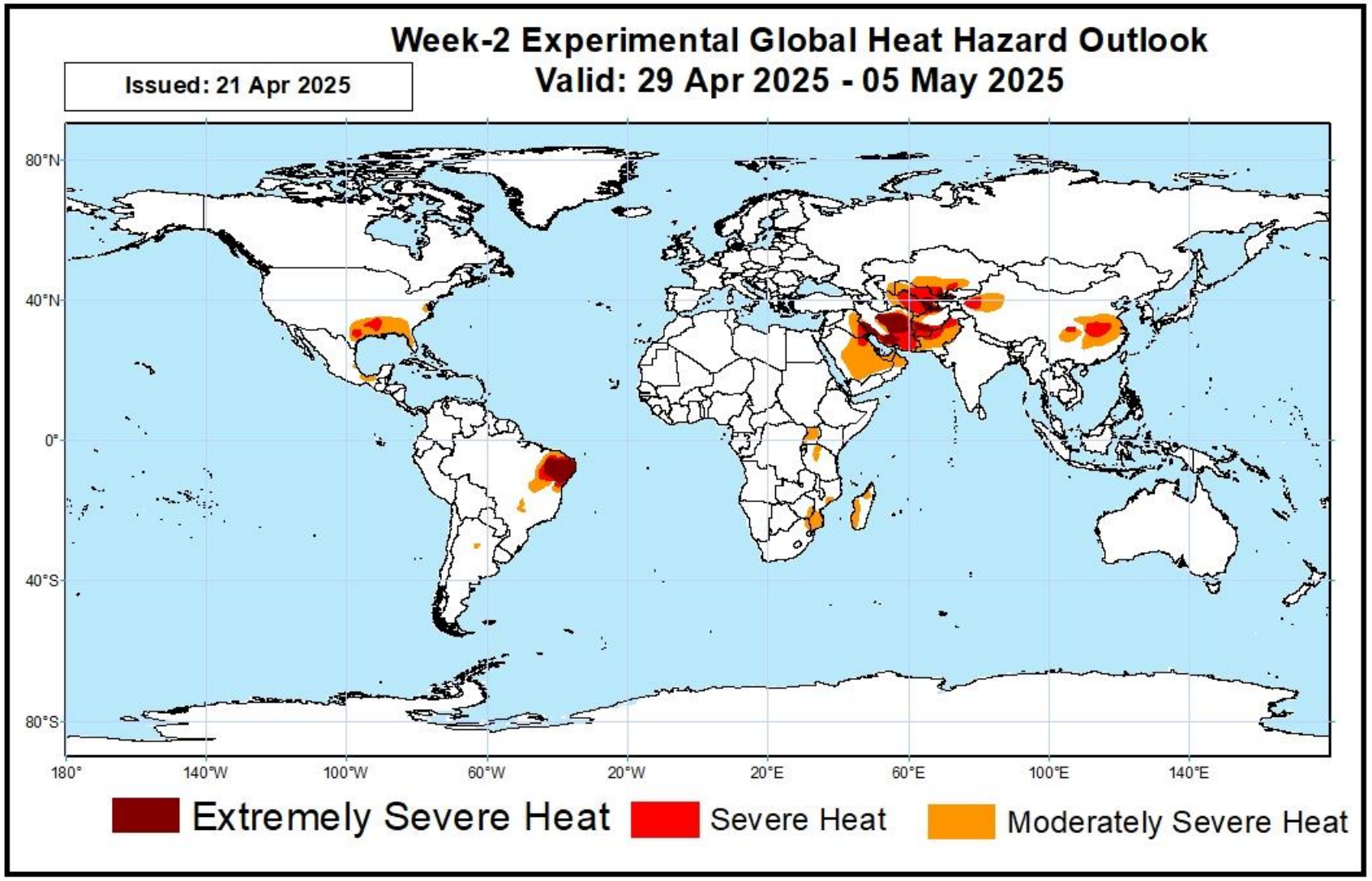


- **There is an increased chance of *moderately severe heat* in central part of Mexico, Southern United states of America, eastern and western Brazil, northern Peru, southern Colombia, northeastern Ecuador, eastern and wester Africa including western Sahara, Mauritania, Mali, Egypt, Sudan, Eritrea, isolated part of Ethiopia, Saudi Arabia, Oman, Iran, Uzbekistan, Turkmenistan, Iran, South Asia including Afghanistan, northeastern India and Pakistan.**
- **There is an increased chance for *extremely severe heat* in northeastern Brazil, Saudi Arabia, Iraq, Iran, and Western Madagascar.**

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 eastern part of Mexico, and northeastern Brazil, northern Tanzania, Uganda, southeastern Zimbabwe, Southern Mozambique, and western Madagascar, Saudi Arabia, Oman, Turkmenistan, Uzbekistan, northern, Turkmenistan, Iran South Asia including Afghanistan, and Pakistan.**
- **There is an increased chance for *extremely severe heat* in northeastern Brazil, Southern Afghanistan, Iran, isolated parts of Turkmenistan, and Uzbekistan,**

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**