

Global Heat Hazards Outlooks

Date of Issuance: 03 Dec 2024

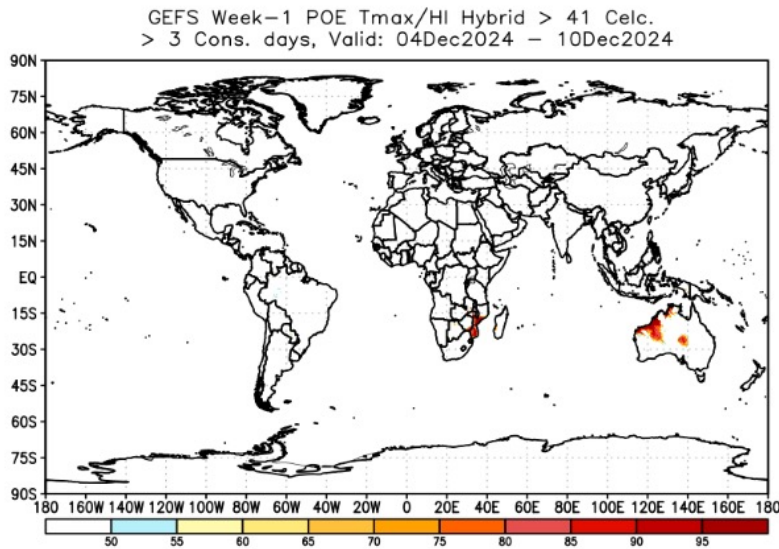
Week-1 Valid: 04 Dec – 10 Dec 2024

Week-2 Valid: 11 – 17 Dec 2024

Numerical Weather Prediction Model: NCEP GEFS

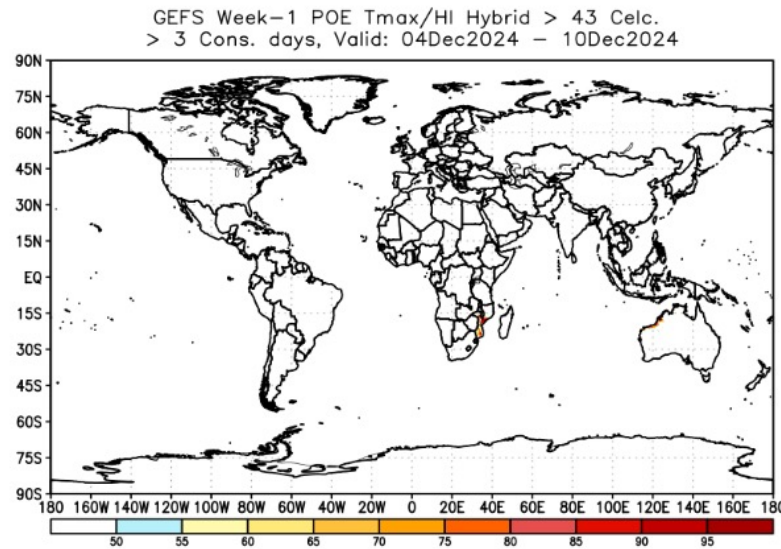
GEFS Week-1 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41°C & > 3 Consc. Days



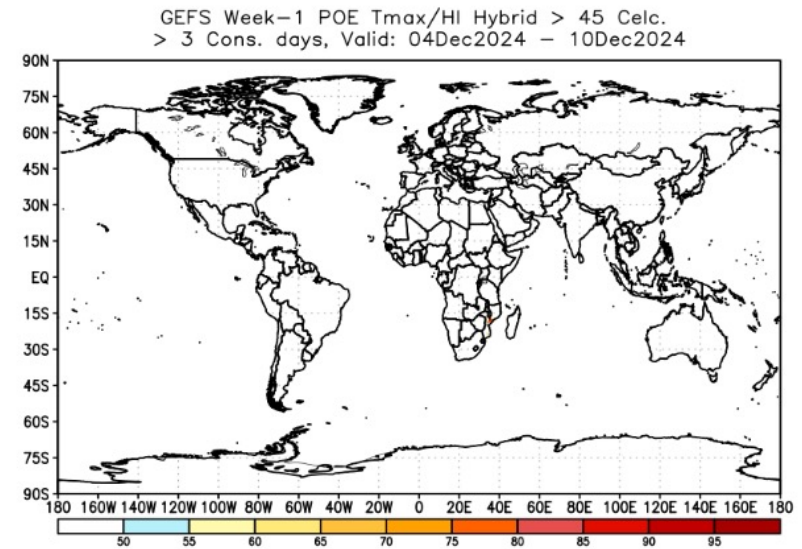
https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_41.png

>43°C & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_43.png

>45°C & > 3 Consc. Days

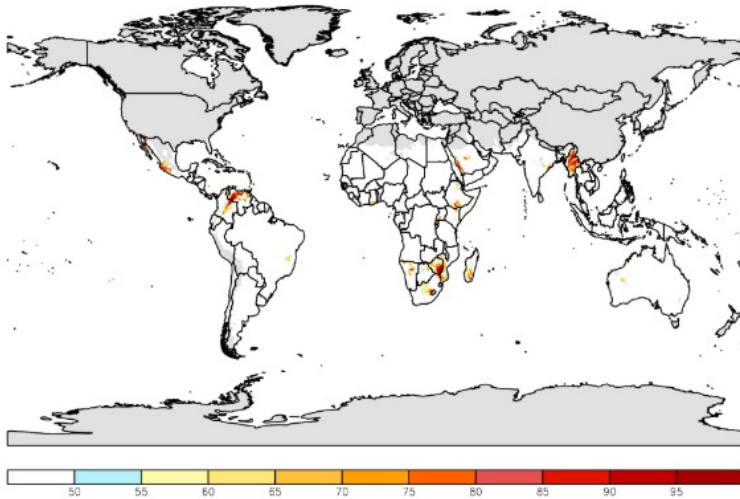


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_45.png

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

>80th & > 3 Consc. Days

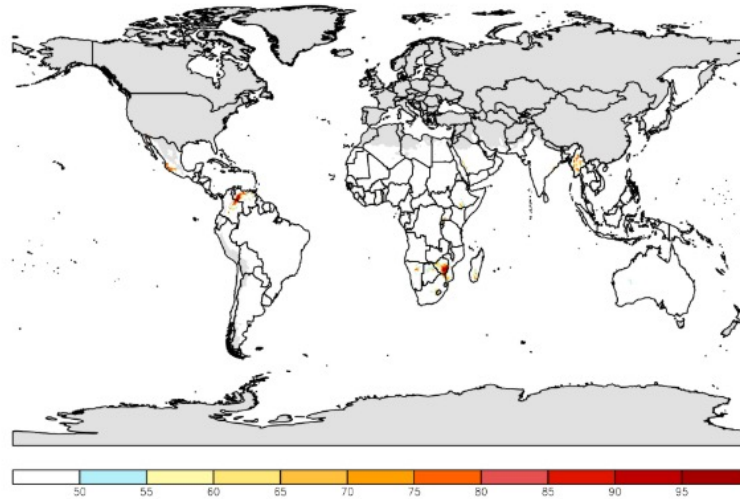
GEFS Week-1 POE Tmax/HI > 80th Pctle. with W. Speed $< 5\text{m/sec}$ & Cloud C. $< 50\%$, > 3 Cons. days, Valid: 04Dec2024 – 10Dec2024



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

>90th & > 3 Consc. Days

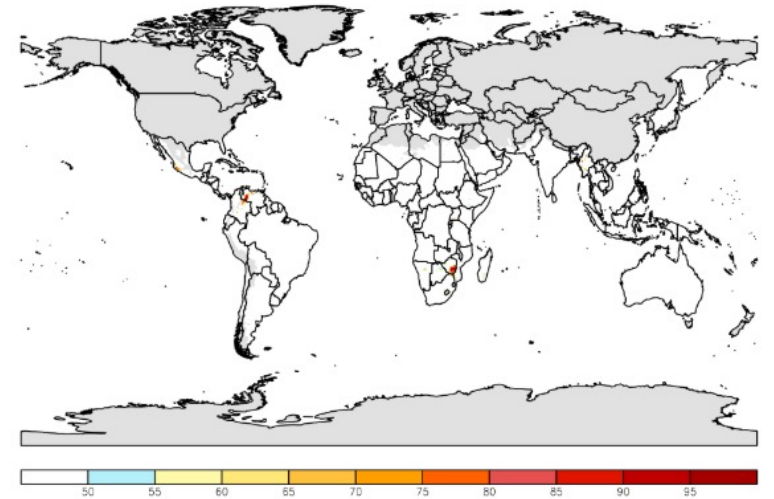
GEFS Week-1 POE Tmax/HI > 90th Pctle. with W. Speed $< 5\text{m/sec}$ & Cloud C. $< 50\%$, > 3 Cons. days, Valid: 04Dec2024 – 10Dec2024



https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week1_glb_prob_90.gif

>95th & > 3 Consc. Days

GEFS Week-1 POE Tmax/HI > 95th Pctle. with W. Speed $< 5\text{m/sec}$ & Cloud C. $< 50\%$, > 3 Cons. days, Valid: 04Dec2024 – 10Dec2024

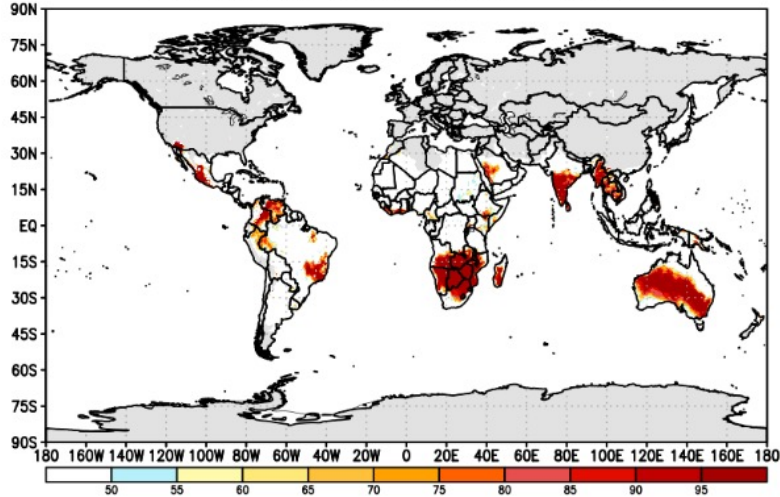


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GEFS Week-1 HI/Tmax Hybrid POE with Respect to Percentile Climo. Thresholds

>80th & > 3 Consc. Days

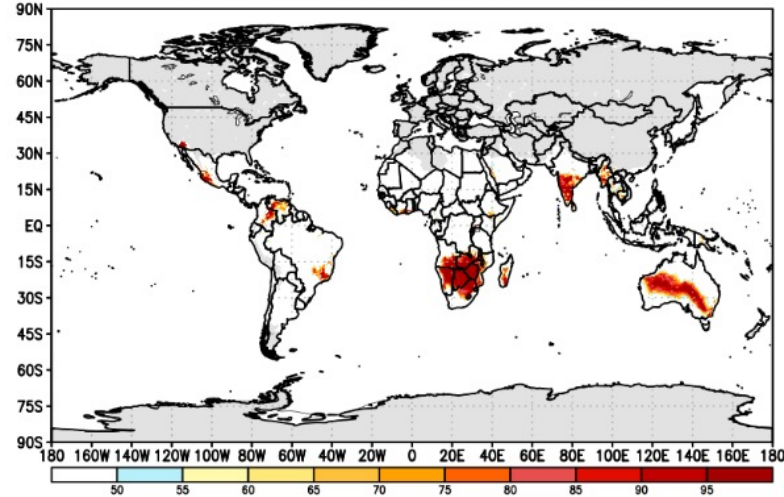
GEFS Week-1 POE Tmax/HI Hybrid > 80th Pctle.
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>90th & > 3 Consc. Days

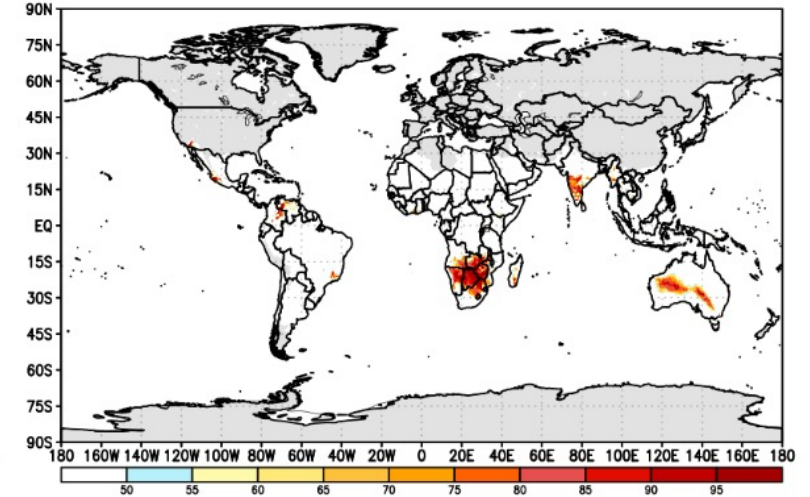
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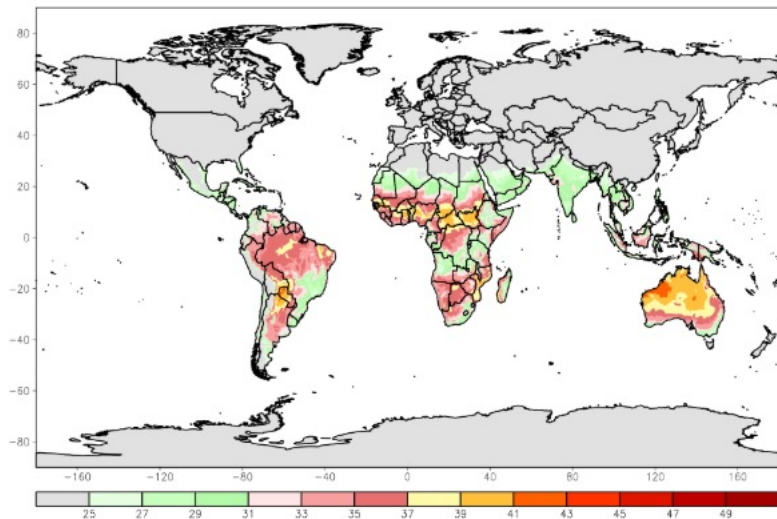


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GEFS Week-1 Tmax Percentile Climatology (°C)

Tmax 80th Percentile

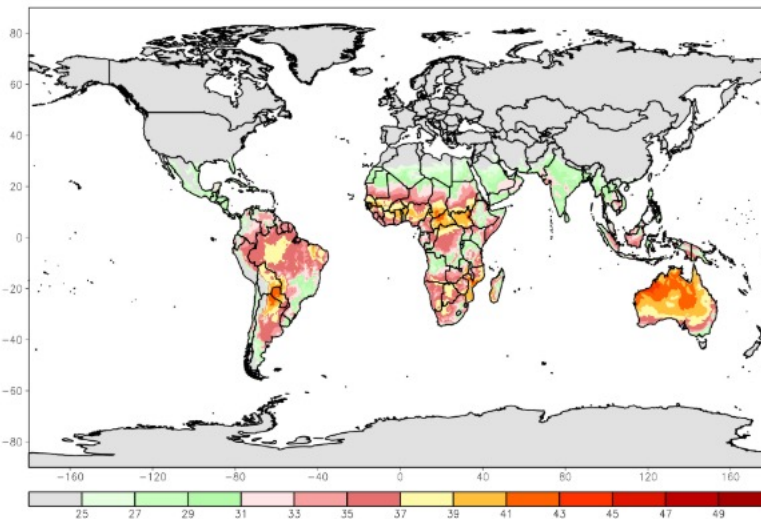
GEFS Week-1 Tmax Percentile Climo (Cels.), 80th Pctle.
Valid: 04Dec2024 - 10Dec2024



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Tmax 90th Percentile

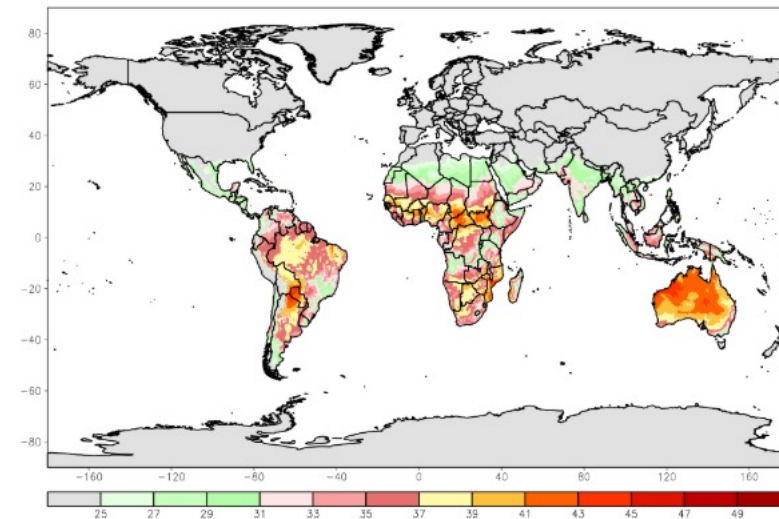
GEFS Week-1 Tmax Percentile Climo (Cels.), 90th Pctle.
Valid: 04Dec2024 - 10Dec2024



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Tmax 95th Percentile

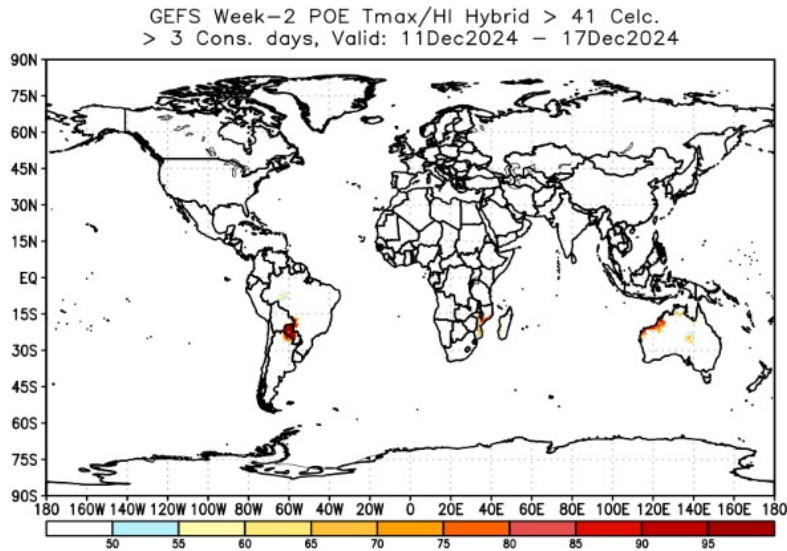
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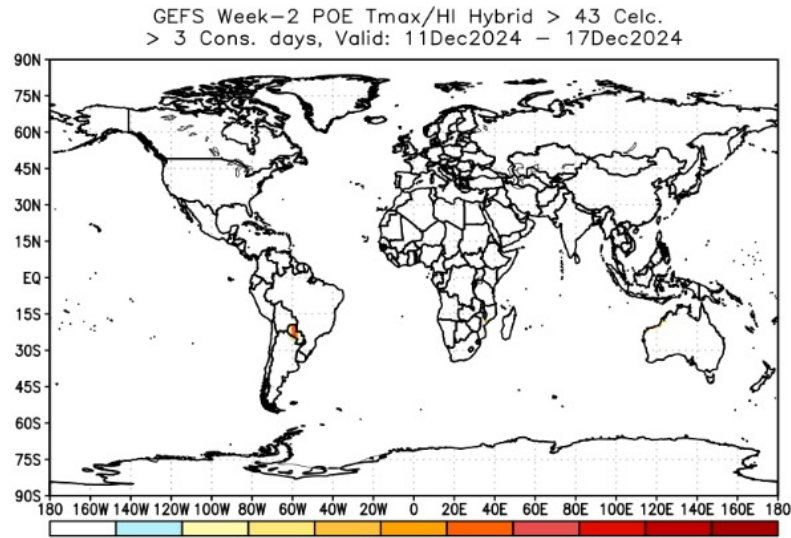
GEFS Week-2 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41°C & > 3 Consc. Days



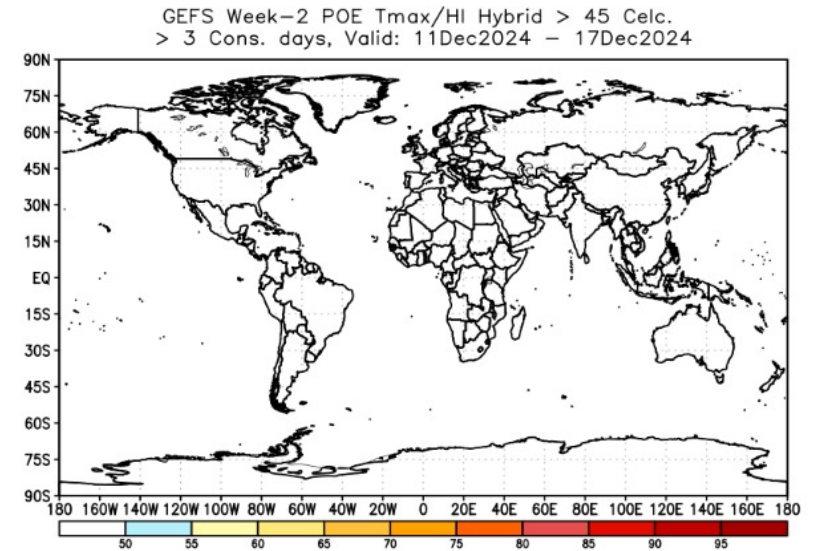
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>45°C & > 3 Consc. Days

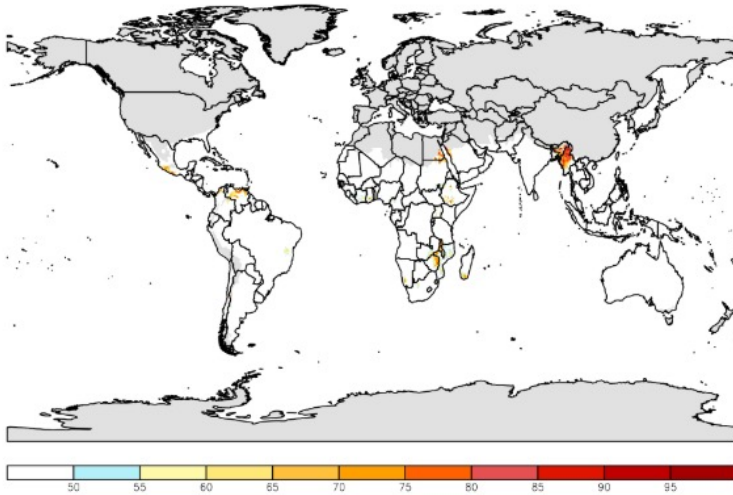


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GEFS Week-2 POE, Tmax/HI with Calmer Wind ($< 5\text{m s}^{-1}$) and less Cloud Cover ($< 50\%$)

$>80^{\text{th}}$ & > 3 Consc. Days

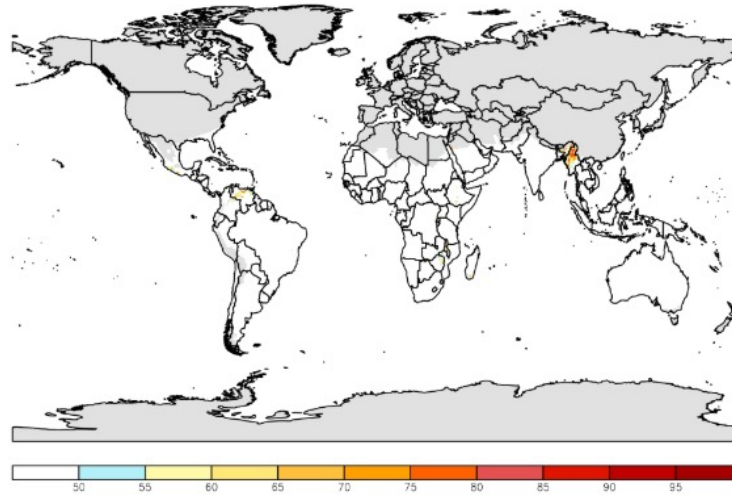
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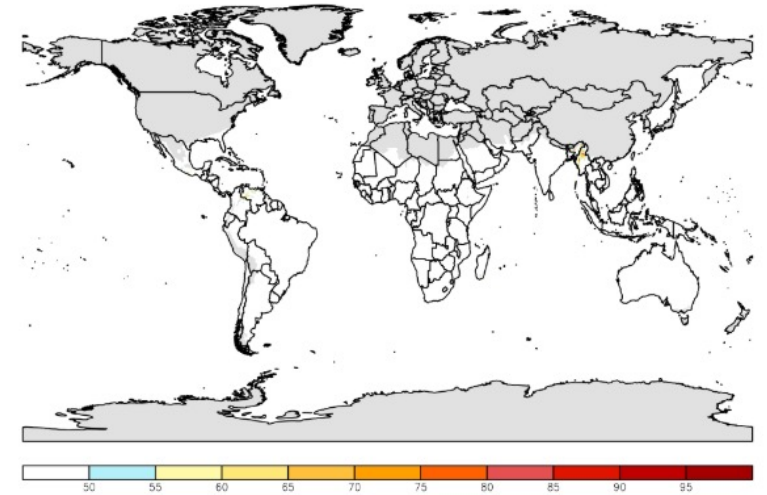
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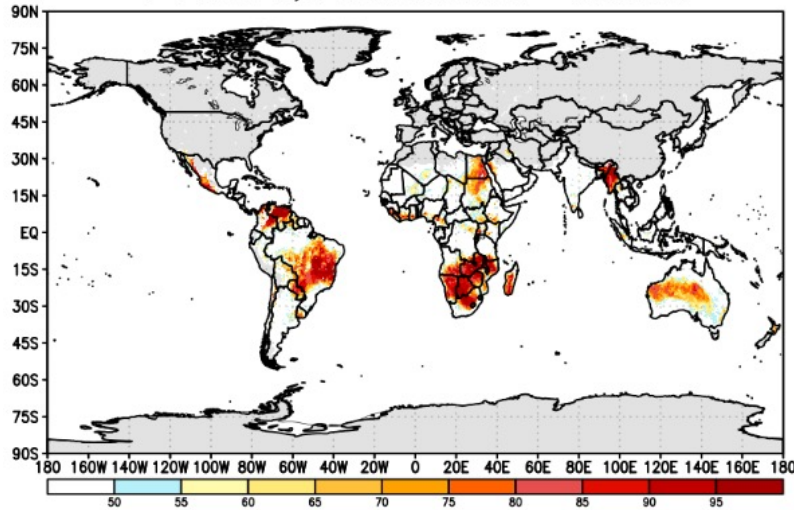


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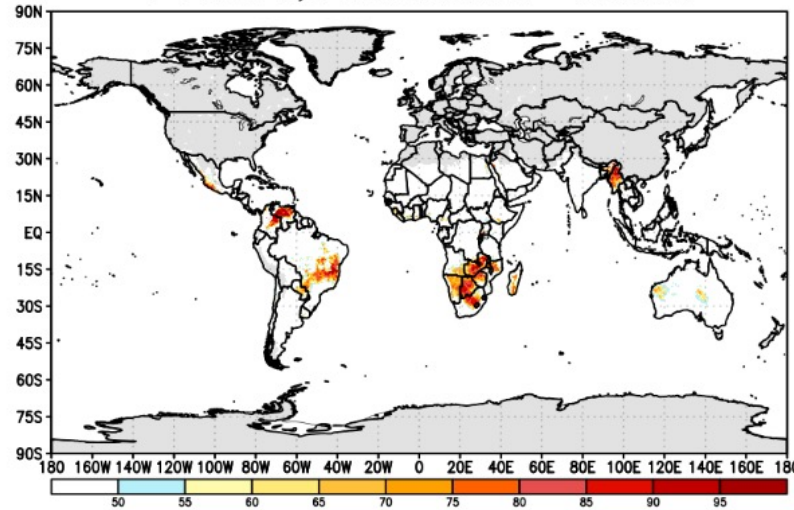
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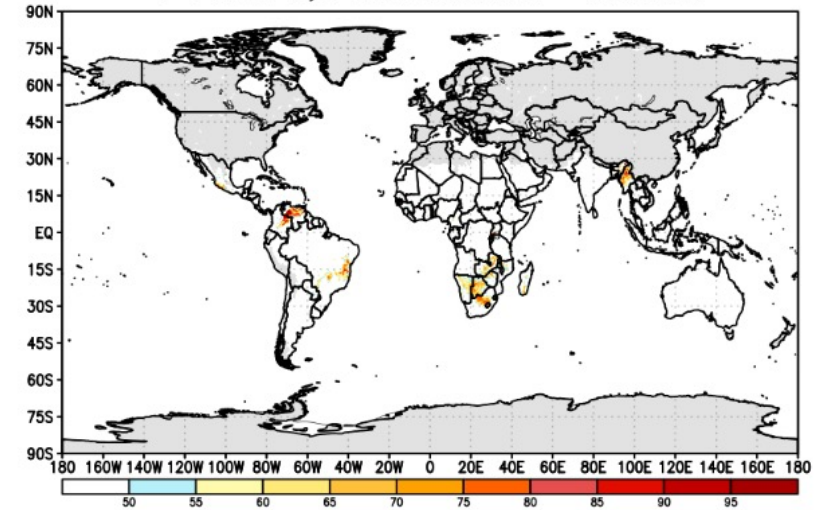
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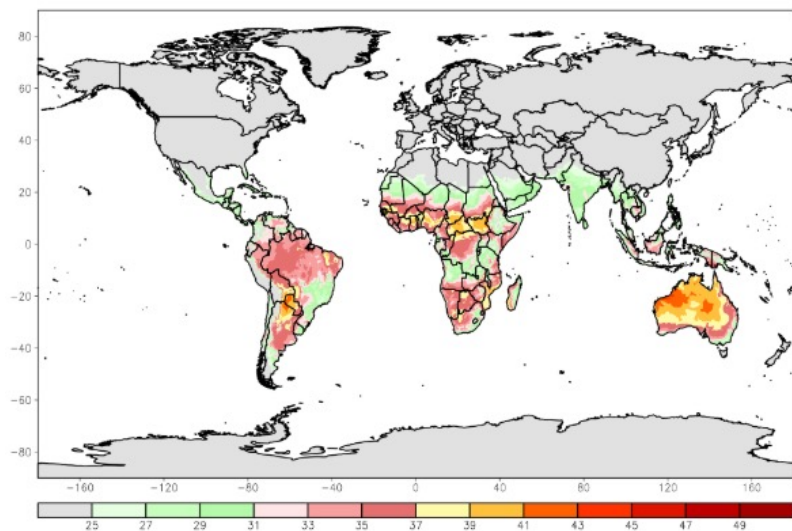


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GEFS Week-2 Tmax Percentile Climatology (°C)

Tmax 80th Percentile

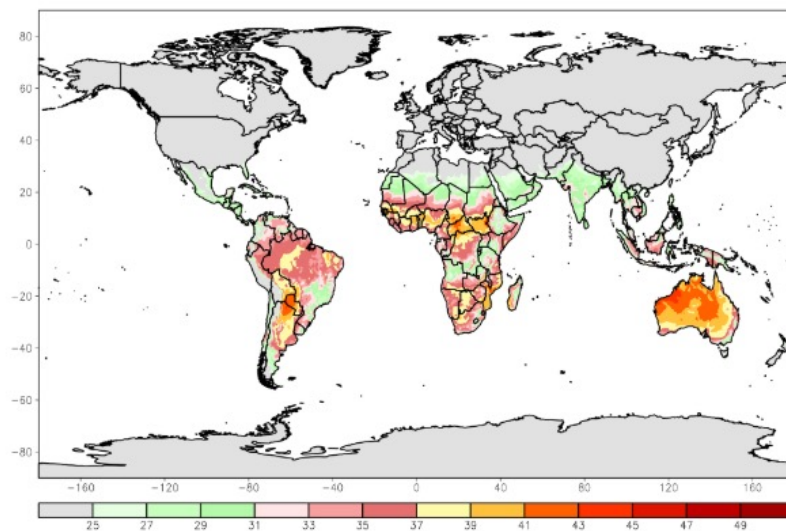
GEFS Week-2 Tmax Percentile Climo (Cels.), 80th Pctle.
Valid: 11Dec2024 - 17Dec2024



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Tmax 90th Percentile

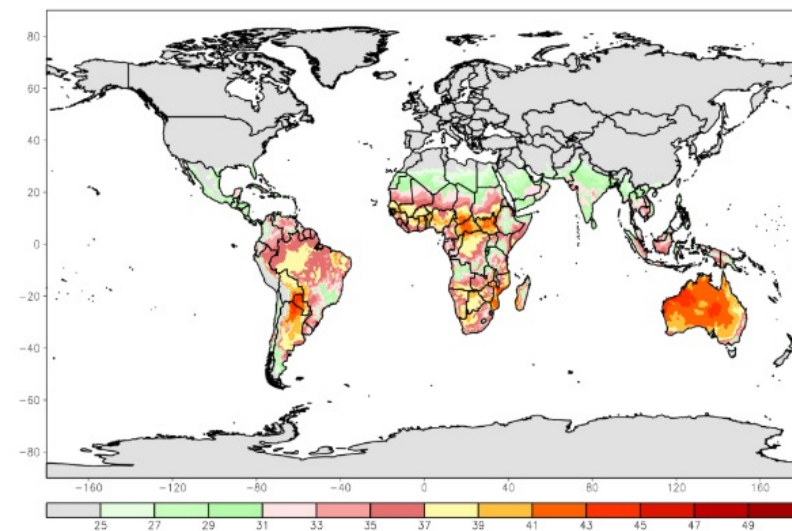
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Valid: 11Dec2024 - 17Dec2024



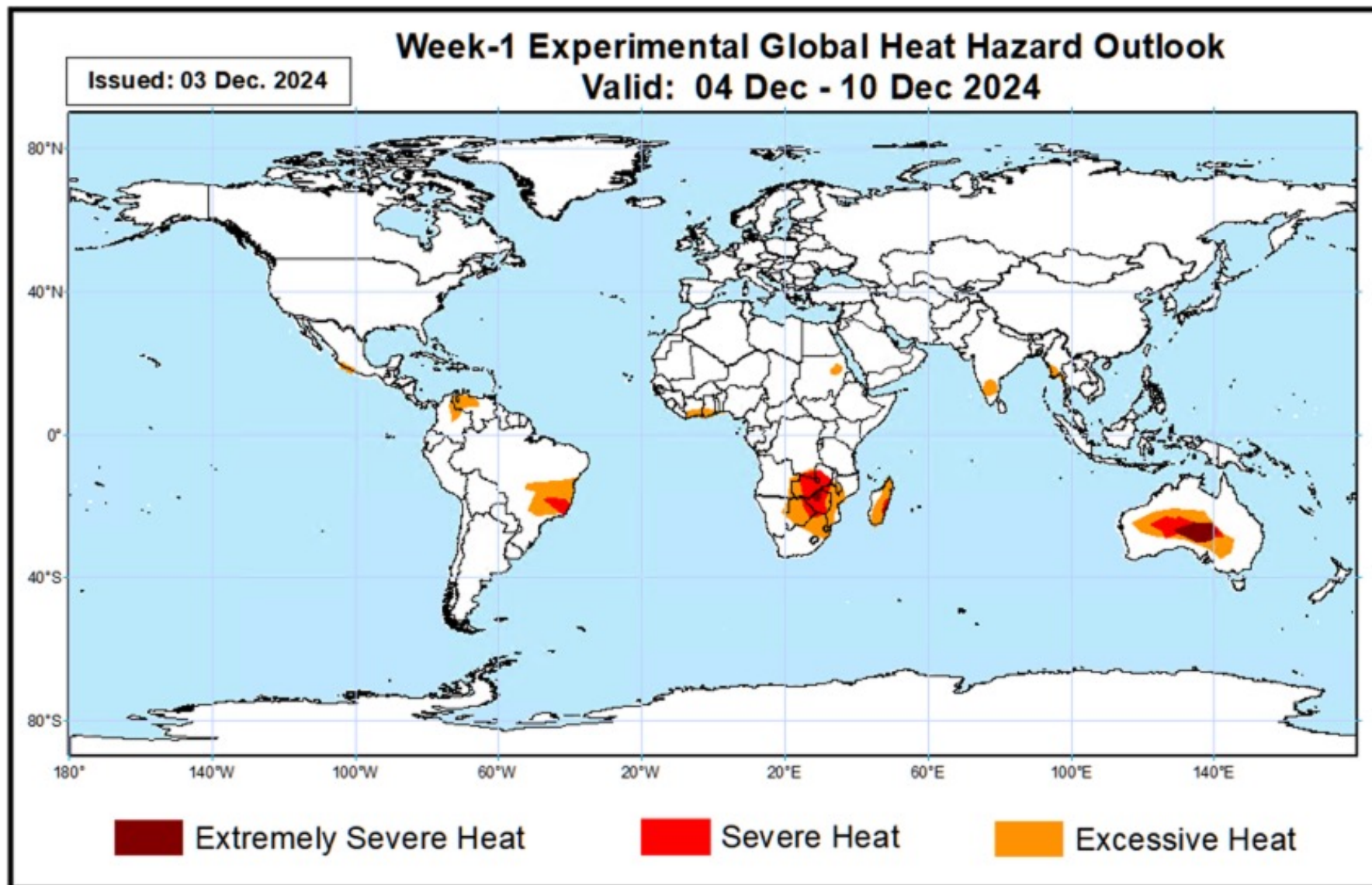
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Tmax 95th Percentile

GEFS Week-2 Tmax Percentile Climo (Cels.), 95th Pctle.
Valid: 11Dec2024 - 17Dec2024



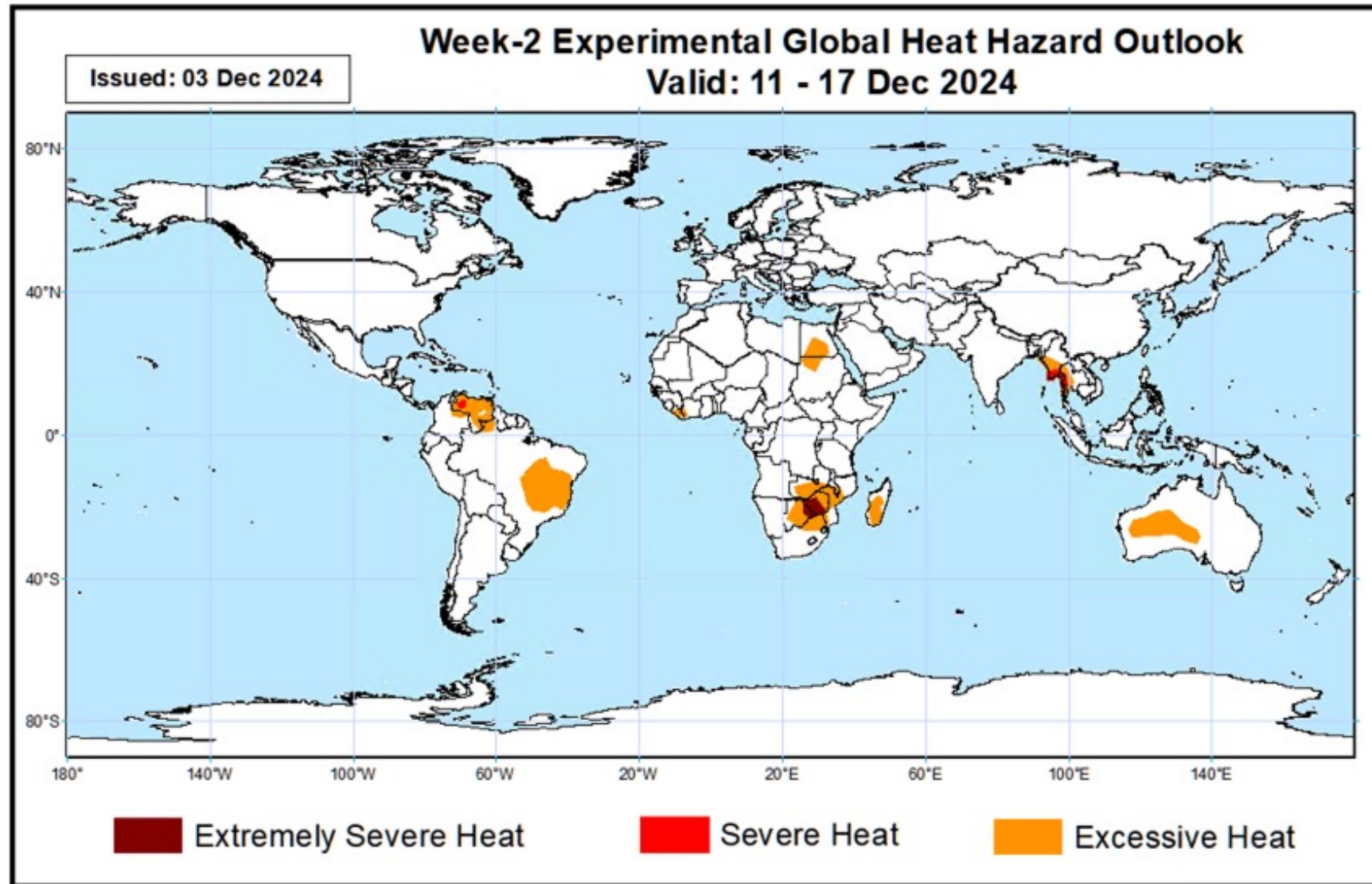
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Extremely Severe Heat: Tmax/HI are among the 5% highest values over the 30-year period 1991-2020
Severe Heat: Tmax/HI are among the 10% highest values over the 30-year period 1991-2020
Moderately Severe Heat: Tmax/HI are among the 20% highest values 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 *moderately severe heat* over the northern portions and central part of South America, parts of Mexico, large part of Southern Africa, Madagascar and Central part of Australia.
- There is an elevated likelihood of *extremely severe heat* over parts of the far northern South America and Central Australia.



- There is an increased chance for *moderately severe heat* over portions of the northern and central areas of South America, South Egypt and Sudan, large part of South Africa, Madagascar, some of South Asia and pockets of Australia.
- There is an increased chance for *Severe Heat* over parts of the South Africa.

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**