

# **Global Heat Hazards Outlooks**

**Date of Issuance: 07 Jan 2025**

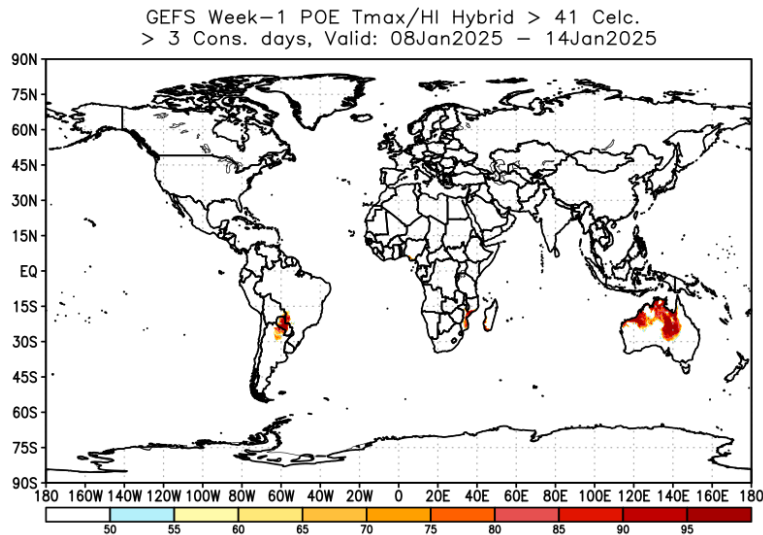
**Week-1 Valid: 08 Jan 2025 – 14 Jan 2025**

**Week-2 Valid: 15 Jan 2025 – 21 Jan 2025**

**Numerical Weather Prediction Model: NCEP GEFS**

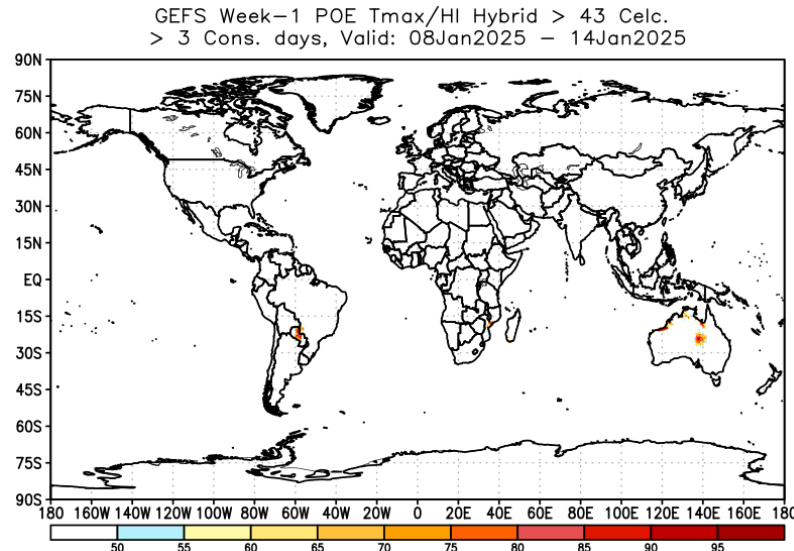
# GEFS Week-1 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

## >41°C & > 3 Consc. Days



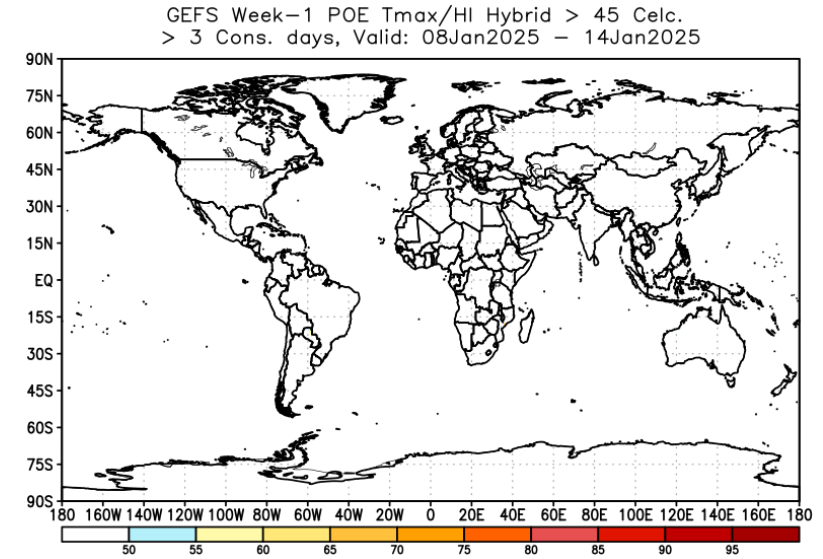
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## >43°C & > 3 Consc. Days



[https://ftp.cpc.ncep.noaa.gov/International/global\\_heat/gefs\\_week1\\_prob\\_hybrid\\_3\\_glb\\_43.png](https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_43.png)

## >45°C & > 3 Consc. Days



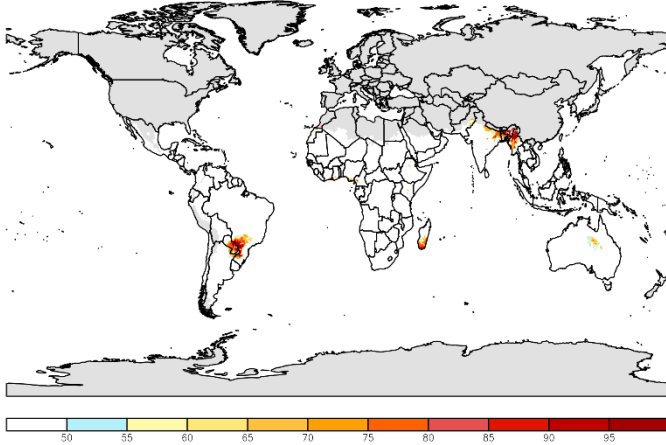
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- There is an increased chance for the hybrid index to exceed 41°C for at least three consecutive days in many parts of Paraguay, some parts of northeastern Argentina, central-eastern Mozambique, some localized regions in southwestern Madagascar, and parts of northern, central and western Australia.

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

## >80<sup>th</sup> & > 3 Consc. Days

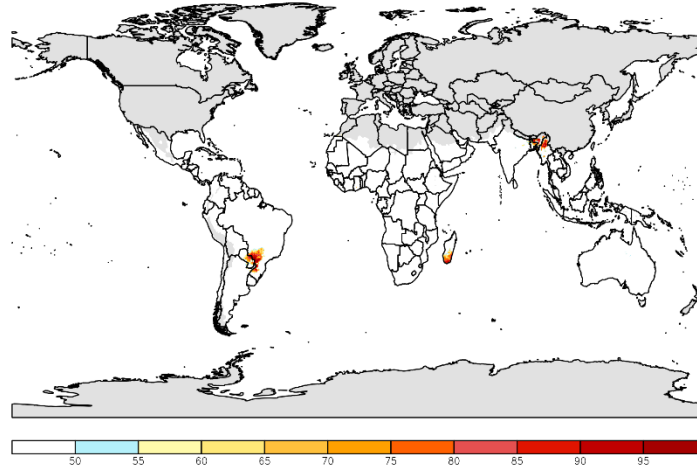
GEFS Week-1 POE Tmax/HI > 80th Pctle. with W. Speed < 5m/sec &  
Cloud C. < 50%, > 3 Cons. days, Valid: 08Jan2025 - 14Jan2025



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fc/st/gefs\\_heat/gefs\\_comb3\\_week1\\_glb\\_prob\\_80.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fc/st/gefs_heat/gefs_comb3_week1_glb_prob_80.gif)

## >90<sup>th</sup> & > 3 Consc. Days

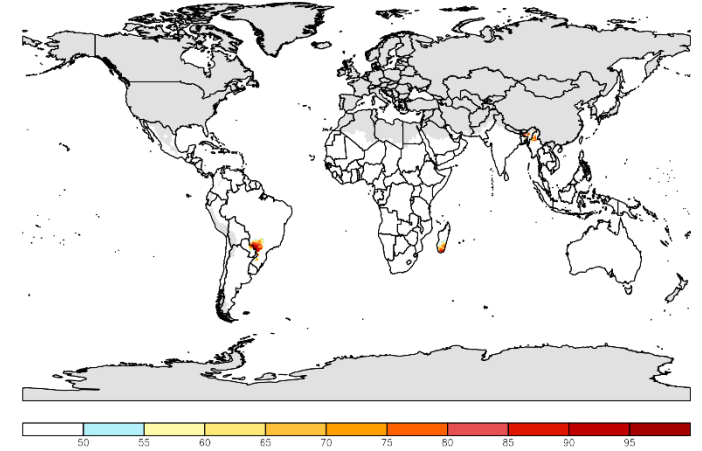
GEFS Week-1 POE Tmax/HI > 90th Pctle. with W. Speed < 5m/sec &  
Cloud C. < 50%, > 3 Cons. days, Valid: 08Jan2025 - 14Jan2025



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fc/st/gefs\\_heat/gefs\\_comb3\\_week1\\_glb\\_prob\\_90.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fc/st/gefs_heat/gefs_comb3_week1_glb_prob_90.gif)

## >95<sup>th</sup> & > 3 Consc. Days

GEFS Week-1 POE Tmax/HI > 95th Pctle. with W. Speed < 5m/sec &  
Cloud C. < 50%, > 3 Cons. days, Valid: 08Jan2025 - 14Jan2025



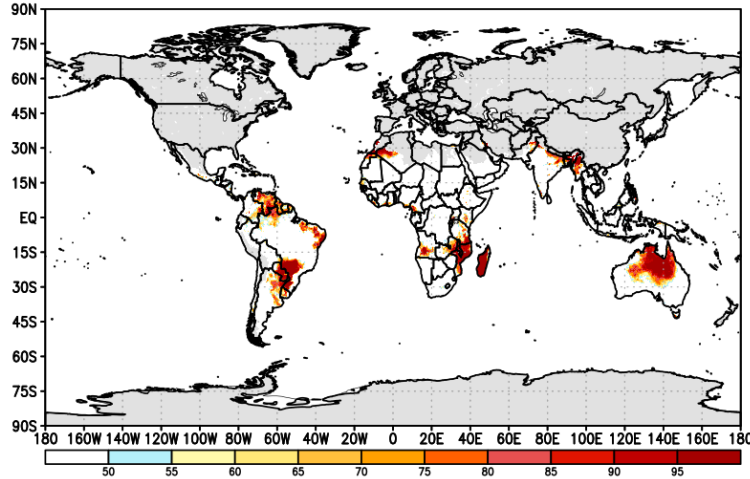
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- There is an increased chance for the hybrid index with calmer wind and less cloud cover to exceed the 80<sup>th</sup> percentile for at least three consecutive days in central and southern Paraguay, some parts of southwestern Brazil, parts of southern Madagascar, some parts of central Australia, and some parts of eastern India, Bangladesh and northern and central Myanmar. There is an increased chance for the index to exceed the 95<sup>th</sup> percentile for at least three consecutive days in some parts of eastern Paraguay and southwestern Brazil, southern Madagascar, and some parts of eastern India and northern Myanmar.

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

## >80<sup>th</sup> & > 3 Consc. Days

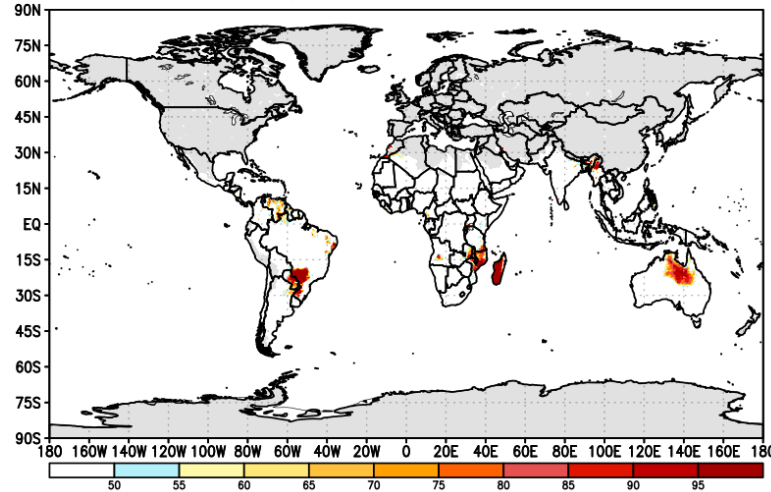
GEFS Week-1 POE Tmax/HI Hybrid > 80th Pctle.  
> 3 Cons. days, Valid: 08Jan2025 - 14Jan2025



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## >90<sup>th</sup> & > 3 Consc. Days

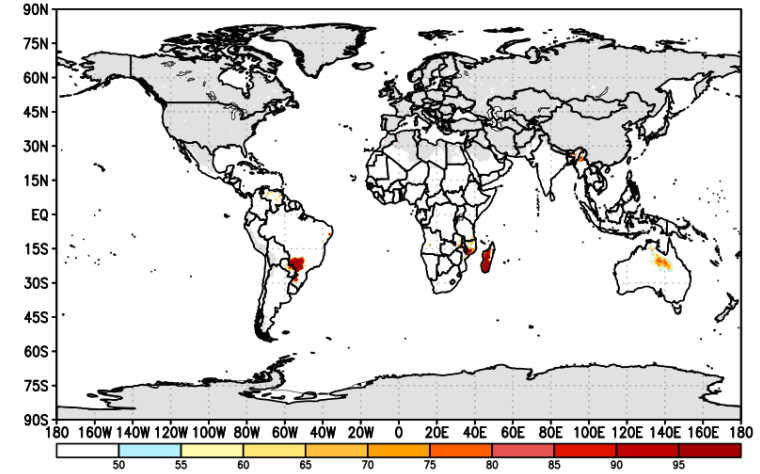
GEFS Week-1 POE Tmax/HI Hybrid > 90th Pctle.  
> 3 Cons. days, Valid: 08Jan2025 - 14Jan2025



[https://ftp.cpc.ncep.noaa.gov/International/global\\_hett/gefs\\_week1\\_prob\\_hybrid\\_3\\_glb\\_90.png](https://ftp.cpc.ncep.noaa.gov/International/global_hett/gefs_week1_prob_hybrid_3_glb_90.png)

## >95<sup>th</sup> & > 3 Consc. Days

GEFS Week-1 POE Tmax/HI Hybrid > 95th Pctle.  
> 3 Cons. days, Valid: 08Jan2025 - 14Jan2025



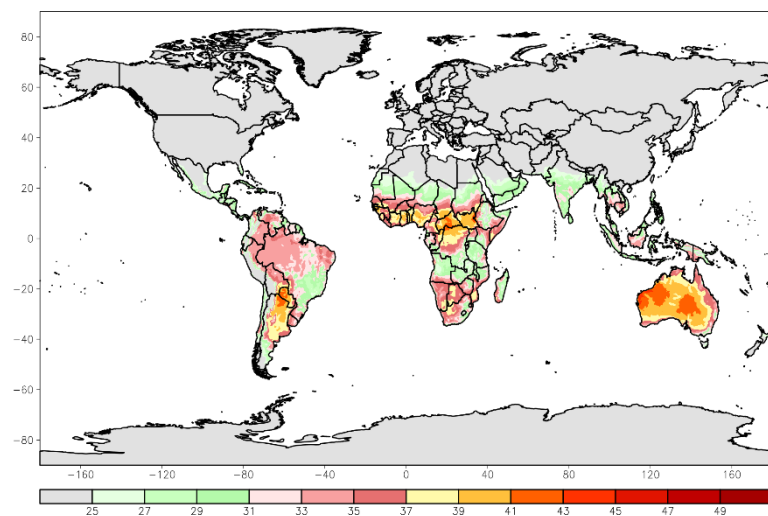
[https://ftp.cpc.ncep.noaa.gov/International/global\\_hett/gefs\\_week1\\_prob\\_hybrid\\_3\\_glb\\_95.png](https://ftp.cpc.ncep.noaa.gov/International/global_hett/gefs_week1_prob_hybrid_3_glb_95.png)

- There is an increased chance for the hybrid index to exceed the 80<sup>th</sup> percentile for at least three consecutive days in much of Venezuela, Guyana, Suriname, French Guiana, and some parts of northern, eastern and southwestern Brazil, many parts of Paraguay, western and central Uruguay, northeastern Argentina, Mozambique, Malawi, eastern Zambia, southern Angola, southeastern Tanzania, western Algeria, Madagascar, some parts of eastern India, Bangladesh, Myanmar, and northern and central Australia. There is also an increased chance for the index to exceed the 95<sup>th</sup> percentile over some parts of southwestern Brazil and eastern Paraguay, northern and central Mozambique, western, central and southern Madagascar, and some parts of eastern India, northern Myanmar and northern Australia.

# GEFS Week-1 Tmax Percentile Climatology (°C)

## Tmax 80<sup>th</sup> Percentile

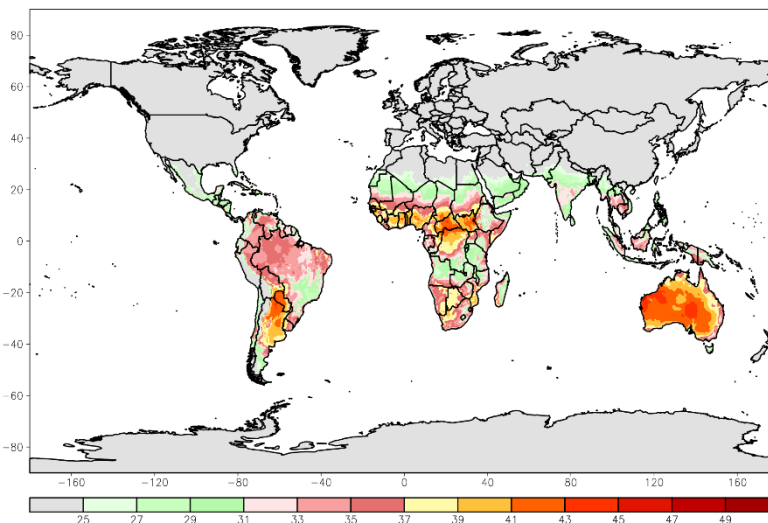
GEFS Week-1 Tmax Percentile Climo (Cels.), 80th Pctle.  
Valid: 08Jan - 14Jan



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fc/st/gefs\\_heat/gefs\\_hybrid\\_week1\\_glb\\_clm\\_80.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fc/st/gefs_heat/gefs_hybrid_week1_glb_clm_80.gif)

## Tmax 90<sup>th</sup> Percentile

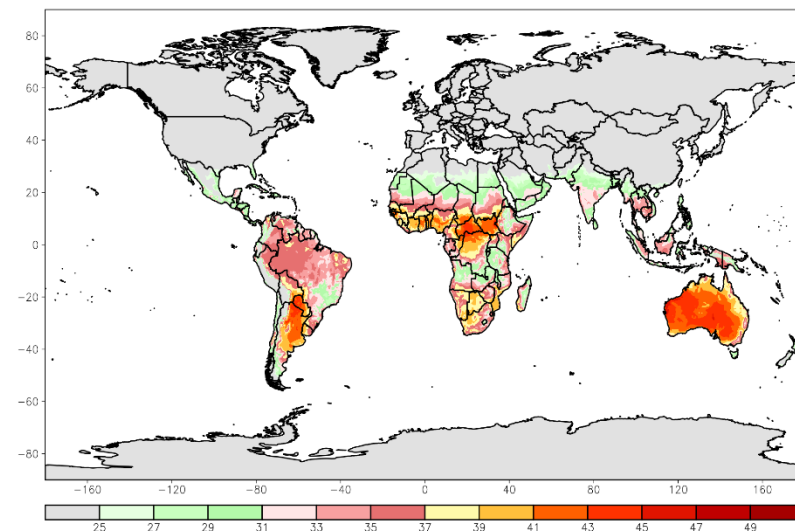
GEFS Week-1 Tmax Percentile Climo (Cels.), 90th Pctle.  
Valid: 08Jan - 14Jan



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## Tmax 95<sup>th</sup> Percentile

GEFS Week-1 Tmax Percentile Climo (Cels.), 95th Pctle.  
Valid: 08Jan - 14Jan

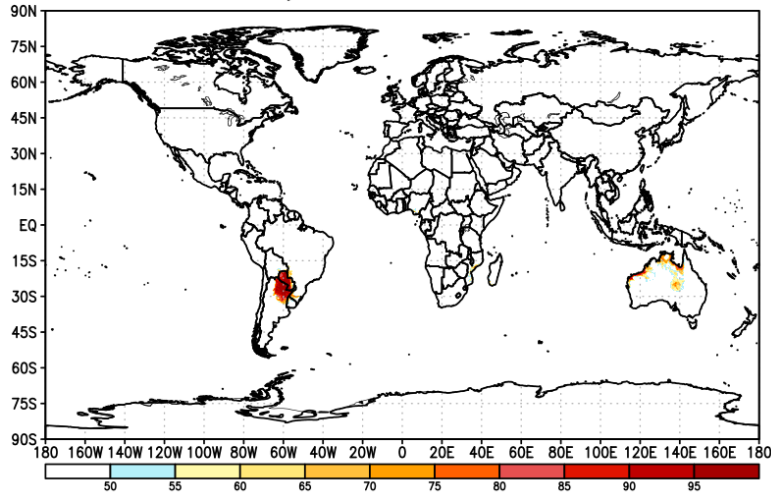


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# GEFS Week-2 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

## >41°C & > 3 Consc. Days

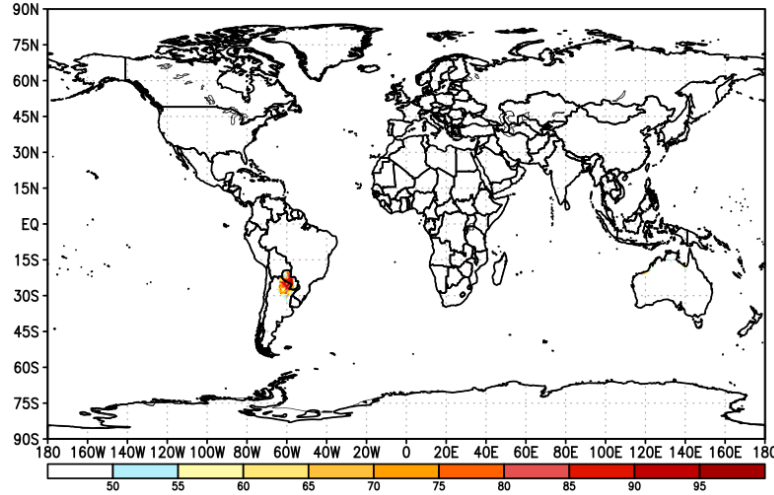
GEFS Week-2 POE Tmax/HI Hybrid > 41 Celc.  
> 3 Cons. days, Valid: 15Jan2025 – 21Jan2025



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## >43°C & > 3 Consc. Days

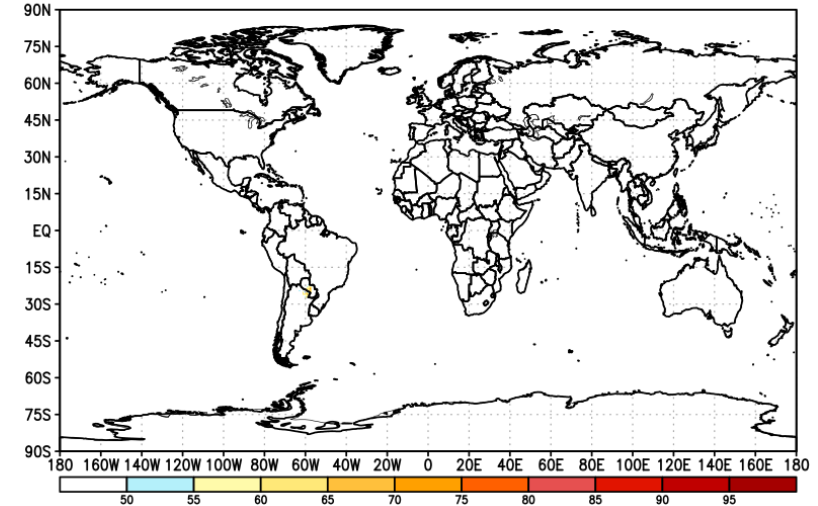
GEFS Week-2 POE Tmax/HI Hybrid > 43 Celc.  
> 3 Cons. days, Valid: 15Jan2025 – 21Jan2025



[https://ftp.cpc.ncep.noaa.gov/International/global\\_hett/gefs\\_week2\\_prob\\_hybrid\\_3\\_glb\\_43.png](https://ftp.cpc.ncep.noaa.gov/International/global_hett/gefs_week2_prob_hybrid_3_glb_43.png)

## >45°C & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI Hybrid > 45 Celc.  
> 3 Cons. days, Valid: 15Jan2025 – 21Jan2025



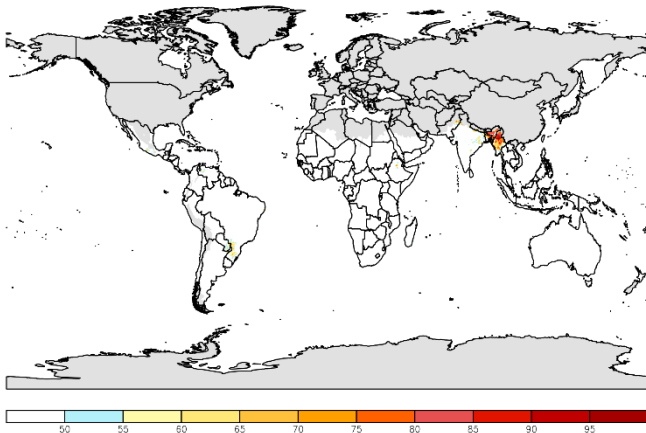
[https://ftp.cpc.ncep.noaa.gov/International/global\\_hett/gefs\\_week2\\_prob\\_hybrid\\_3\\_glb\\_45.png](https://ftp.cpc.ncep.noaa.gov/International/global_hett/gefs_week2_prob_hybrid_3_glb_45.png)

- There is an increased chance for the hybrid index to exceed 41°C for at least three consecutive days in Paraguay, some parts of northeastern Argentina, and some scatter localized regions in northern and western Australia.

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

## >80<sup>th</sup> & > 3 Consc. Days

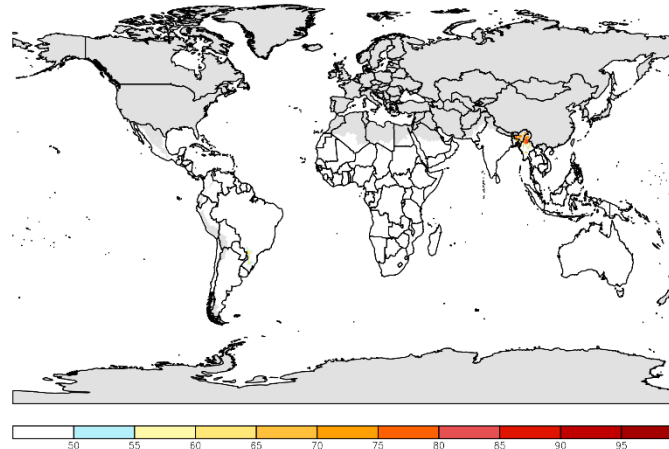
GEFS Week-2 POE Tmax/HI > 80th Pctle. with W. Speed < 5m/sec &  
Cloud C. < 50%, > 3 Cons. days, Valid: 15Jan2025 – 21Jan2025



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fcst/gefs\\_heat/gefs\\_comb3\\_week2\\_glb\\_prob\\_80.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week2_glb_prob_80.gif)

## >90<sup>th</sup> & > 3 Consc. Days

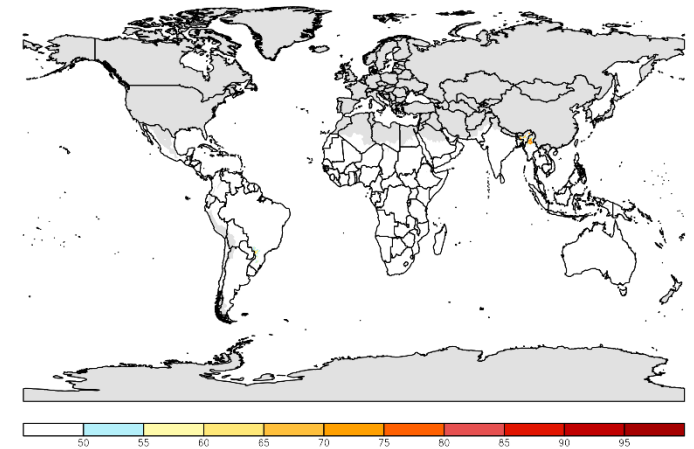
GEFS Week-2 POE Tmax/HI > 90th Pctle. with W. Speed < 5m/sec &  
Cloud C. < 50%, > 3 Cons. days, Valid: 15Jan2025 – 21Jan2025



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fcst/gefs\\_heat/gefs\\_comb3\\_week2\\_glb\\_prob\\_90.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week2_glb_prob_90.gif)

## >95<sup>th</sup> & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI > 95th Pctle. with W. Speed < 5m/sec &  
Cloud C. < 50%, > 3 Cons. days, Valid: 15Jan2025 – 21Jan2025

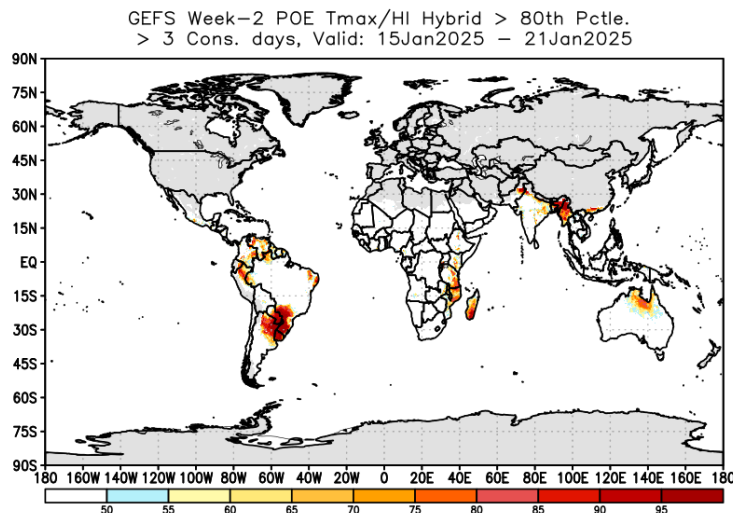


[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fcst/gefs\\_heat/gefs\\_comb3\\_week2\\_glb\\_prob\\_95.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week2_glb_prob_95.gif)

- There is an increased chance for the hybrid index with calmer wind and less cloud cover to exceed the 80<sup>th</sup> percentile for at least three consecutive days in some parts of southwestern Brazil, parts of eastern India and Bangladesh, Myanmar, and some localized regions in northern Ethiopia and eastern Pakistan. There is an increased chance for the index to exceed the 95<sup>th</sup> percentile for at least three consecutive days in some localized regions eastern India, and northern Myanmar.

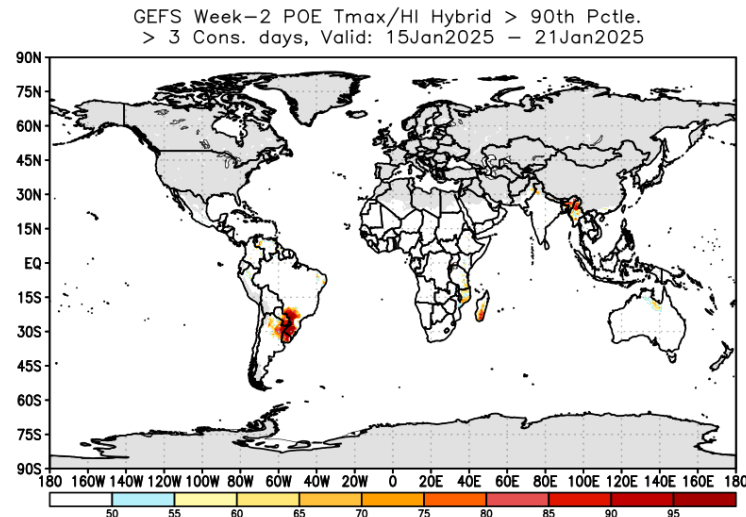
# GEFS Week-2 HI/Tmax Hybrid POE with Respect to Percentile Climo. Thresholds

## >80<sup>th</sup> & > 3 Consc. Days



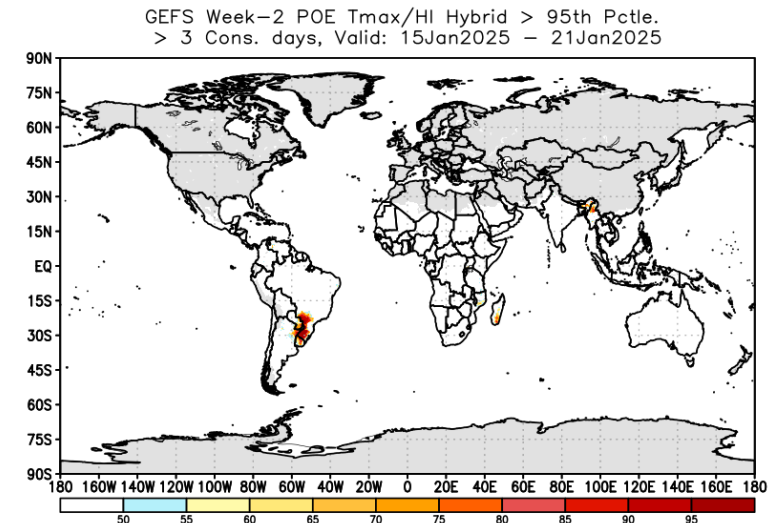
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## >90<sup>th</sup> & > 3 Consc. Days



[https://ftp.cpc.ncep.noaa.gov/International/global\\_hett/gefs\\_week2\\_prob\\_hybrid\\_3\\_glb\\_90.png](https://ftp.cpc.ncep.noaa.gov/International/global_hett/gefs_week2_prob_hybrid_3_glb_90.png)

## >95<sup>th</sup> & > 3 Consc. Days



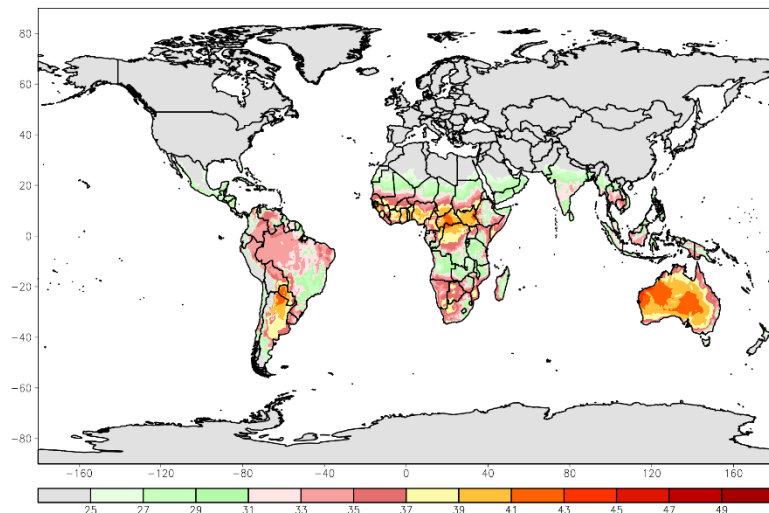
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- There is an increased chance for the hybrid index to exceed the 80<sup>th</sup> percentile for at least three consecutive days in some parts of southern Colombia, many parts of Venezuela, some localized regions in Guyana, Suriname and French Guiana, and some parts of northern and southwestern Brazil, northeastern Peru, central and southern Paraguay, northeastern Argentina, Uruguay, central and eastern Tanzania, northern Mozambique, central, eastern and southern Madagascar, northern Australia, central-eastern Pakistan, and parts of northeastern and eastern India, Bangladesh, Myanmar and some parts of southern China. There is also an increased chance for the index to exceed the 95<sup>th</sup> percentile over some parts of southwestern Brazil, northern-central Uruguay and southern Paraguay, southern Madagascar, and some parts of eastern India and northern Myanmar.

# GEFS Week-2 Tmax Percentile Climatology (°C)

## Tmax 80<sup>th</sup> Percentile

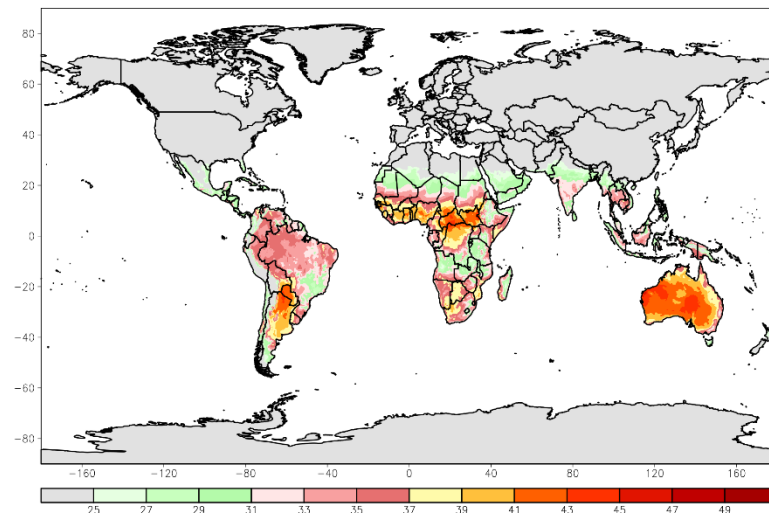
GEFS Week-2 Tmax Percentile Climo (Cels.), 80th Pctle.  
Valid: 15Jan - 21Jan



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fc/st/gefs\\_heat/gefs\\_hybrid\\_week2\\_glb\\_clm\\_80.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fc/st/gefs_heat/gefs_hybrid_week2_glb_clm_80.gif)

## Tmax 90<sup>th</sup> Percentile

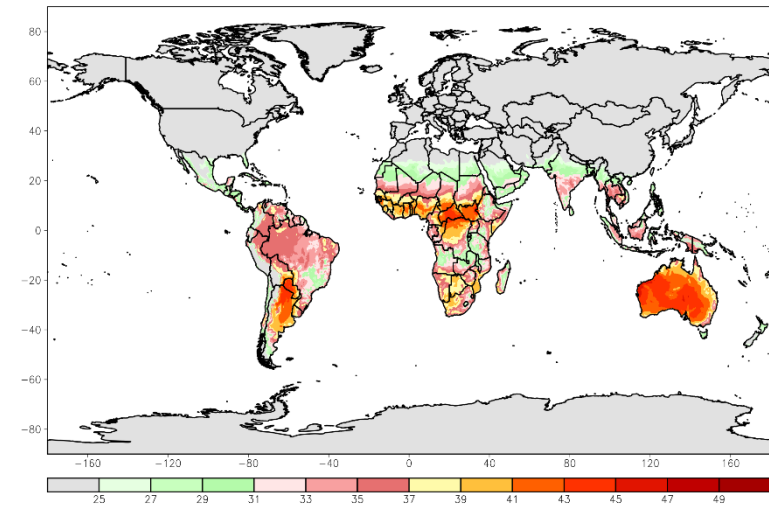
GEFS Week-2 Tmax Percentile Climo (Cels.), 90th Pctle.  
Valid: 15Jan - 21Jan



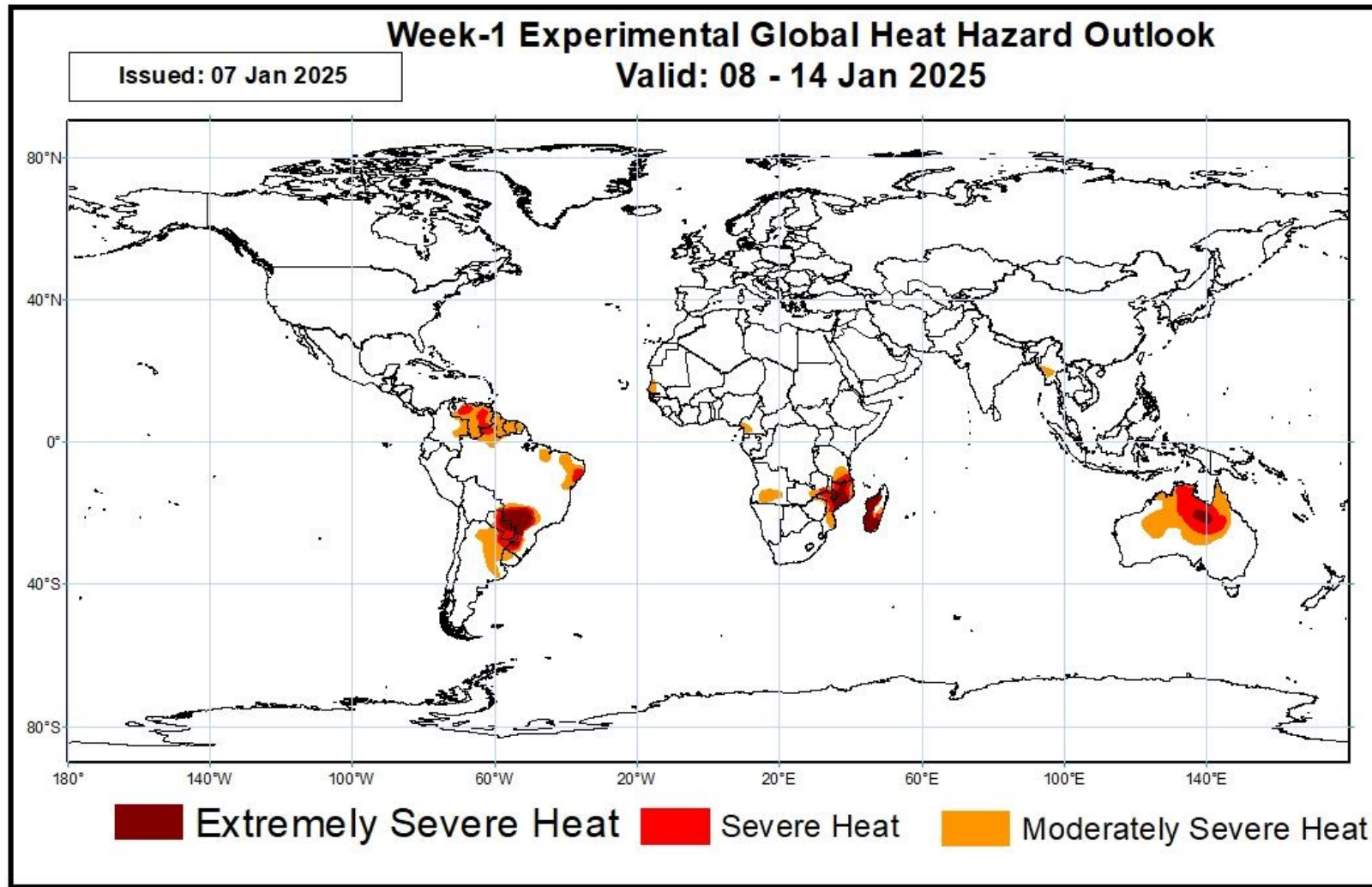
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## Tmax 95<sup>th</sup> Percentile

GEFS Week-2 Tmax Percentile Climo (Cels.), 95th Pctle.  
Valid: 15Jan - 21Jan



[https://ftp.cpc.ncep.noaa.gov/International/extreme\\_fc/st/gefs\\_heat/gefs\\_hybrid\\_week2\\_glb\\_clm\\_95.gif](https://ftp.cpc.ncep.noaa.gov/International/extreme_fc/st/gefs_heat/gefs_hybrid_week2_glb_clm_95.gif)



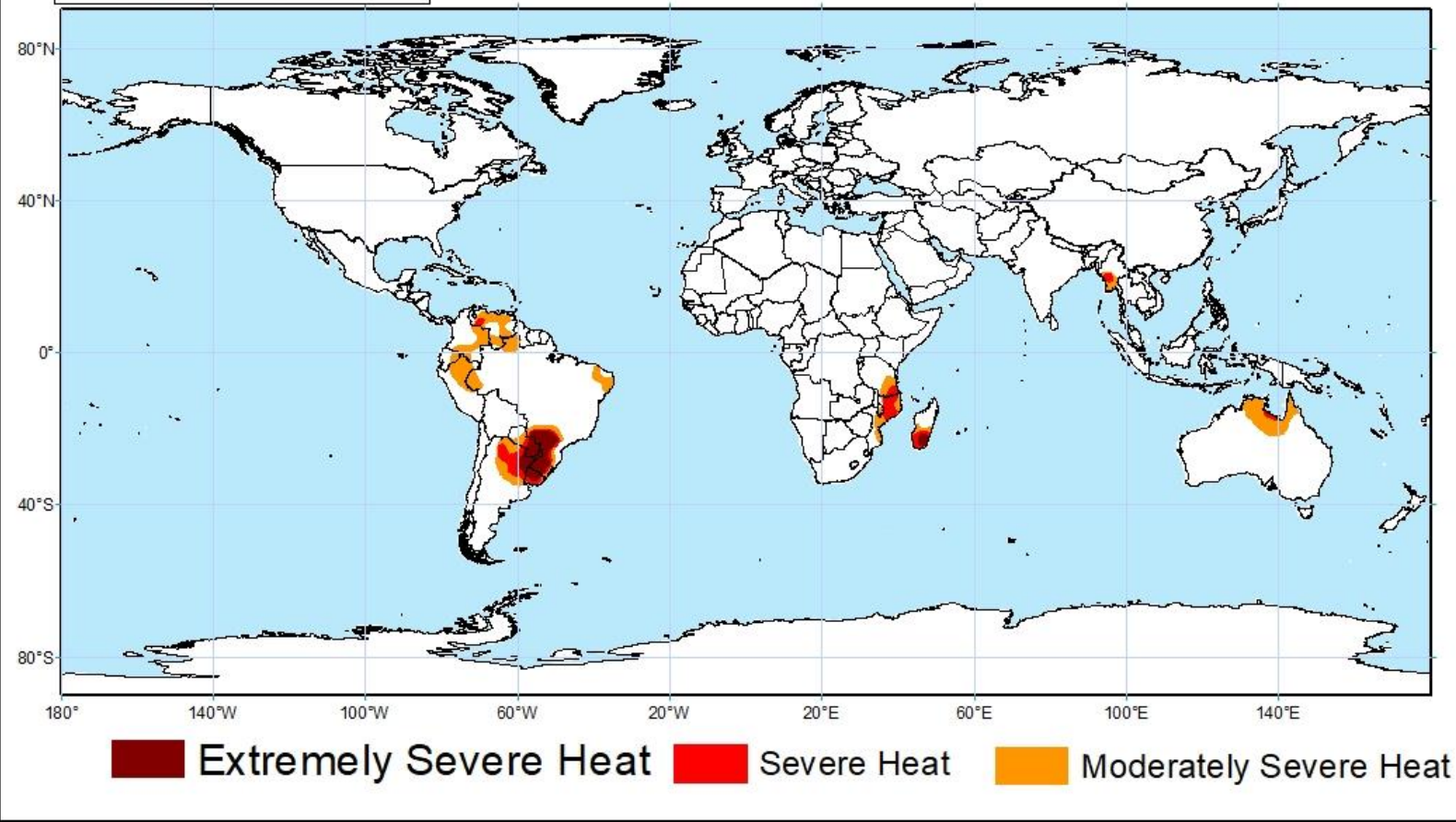
**Extremely Severe Heat:** Tmax/HI are among the 5% highest values over the 30-year period 1991-2020  
**Severe Heat:** Tmax/HI are among the 10% highest values over the 30-year period 1991-2020  
**Moderately Severe Heat:** Tmax/HI are among the 20% highest values over the 30-year period 1991-2020

**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 Venezuela, Guyana, Suriname, French Guiana, and some parts of northern, eastern and southwestern Brazil, Paraguay, western Uruguay, northeastern Argentina, southern Angola, Mozambique, Malawi, western and southern Madagascar, and northern and central Australia.
- There is an increased chance of *extremely severe heat* over some parts of southwestern Brazil and southern Paraguay, northern and central Mozambique, western and southern Madagascar, and some parts of northern Australia.

## Week-2 Experimental Global Heat Hazard Outlook Valid: 15 Jan - 21 Jan 2025

Issued 07 Jan 2025



**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

- There is an increased chance for *moderately severe heat* in many parts of Venezuela, southwestern Brazil, northeastern Peru, central and southern Paraguay, northeastern Argentina, Uruguay, southeastern Tanzania, northern and central Mozambique, southern Madagascar, northern Australia, and southern Myanmar.
- There is an increased chance for *extremely severe heat* over some parts of southwestern Brazil, western-central Uruguay, southern Paraguay, some parts of northeastern Argentina and some parts of southern Madagascar.

**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**