Global Heat Hazards Outlooks

Date of Issuance: 06 Jan 2025

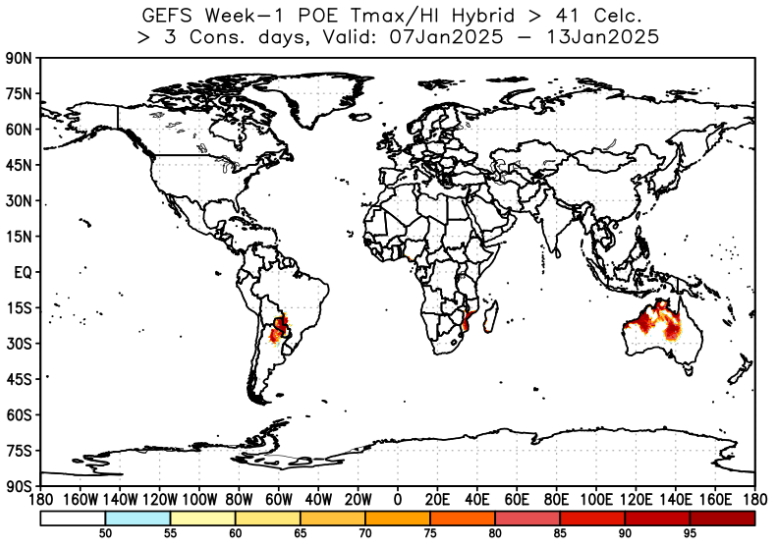
Week-1 Valid: 07 Jan 2025 – 13 Jan 2025

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

Numerical Weather Prediction Model: NCEP GEFS

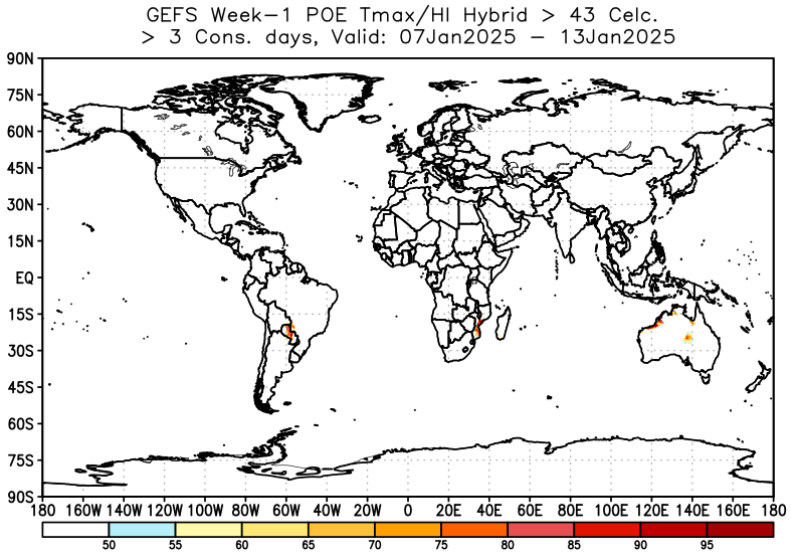
GEFS Week-1 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41ºC & > 3 Consc. Days



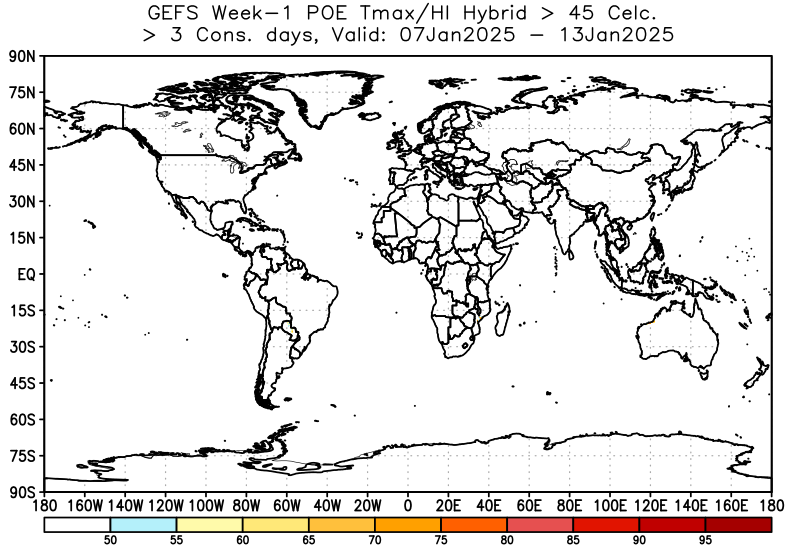
https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_41.png

>43ºC & > 3 Consc. Days



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

>45ºC & > 3 Consc. Days

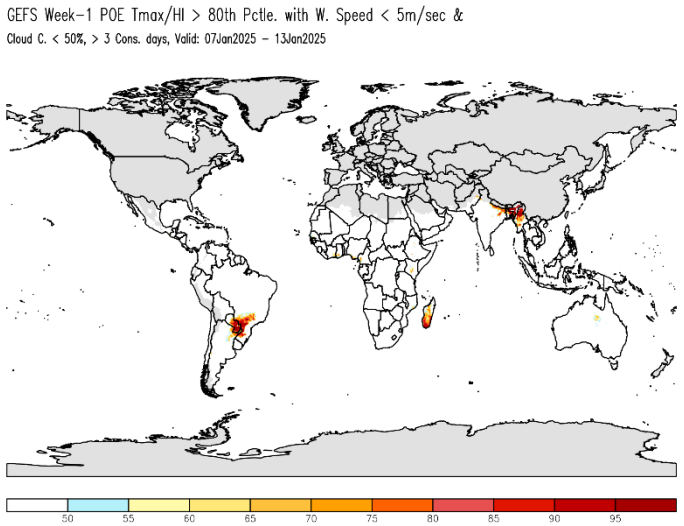


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_45.png

- There is an increased chance for the hybrid index to exceed 41ºC for at least three consecutive days in many parts of Paraguay, some parts of northeastern Argentina, central and southern Mozambique, and some parts of northern, central and western Australia.

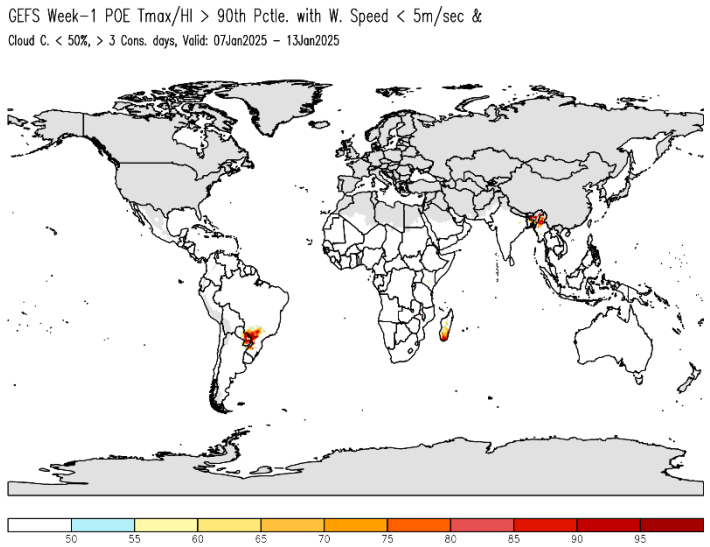
GEFS Week-1 POE, Tmax/HI with Calmer Wind (< 5m s-1) and less Cloud Cover (< 50%)

>80th & > 3 Consc. Days



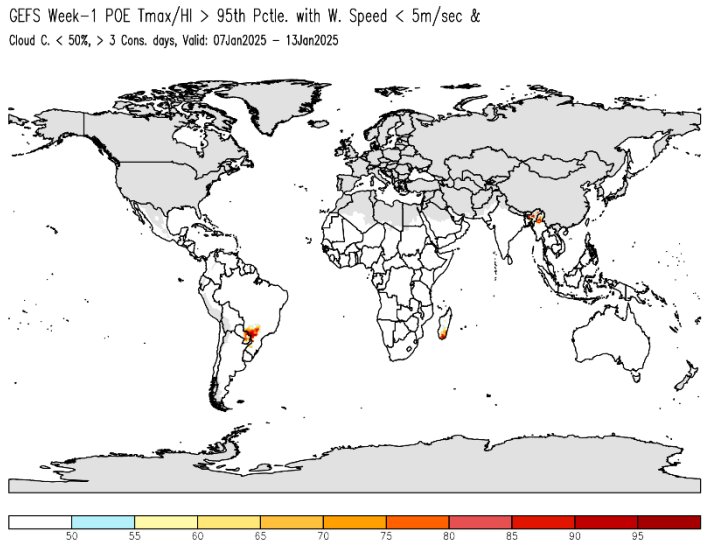
https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week1_glb_prob_80.gif

>90th & > 3 Consc. Days



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

>95th & > 3 Consc. Days

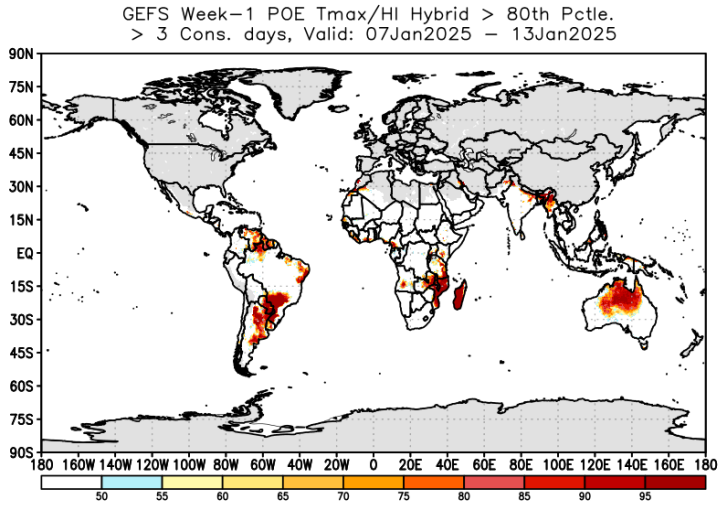


https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week1_glb_prob_95.gif

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

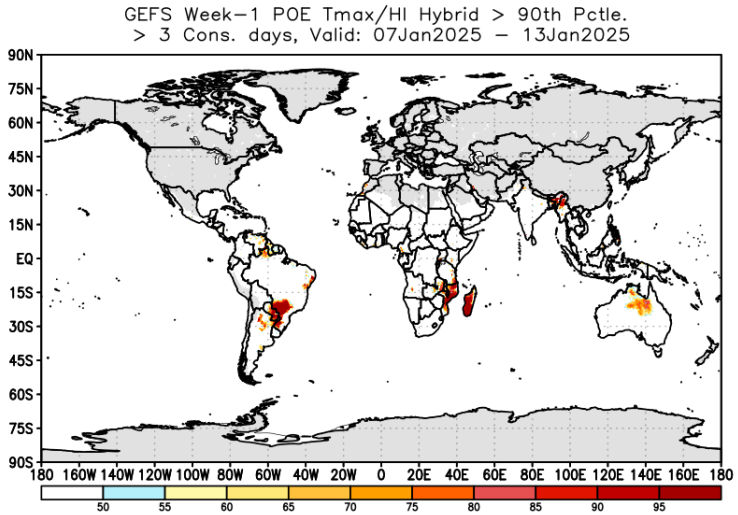
GEFS Week-1 HI/Tmax Hybrid POE with Respect to Percentile Climo. Thresholds

>80th & > 3 Consc. Days



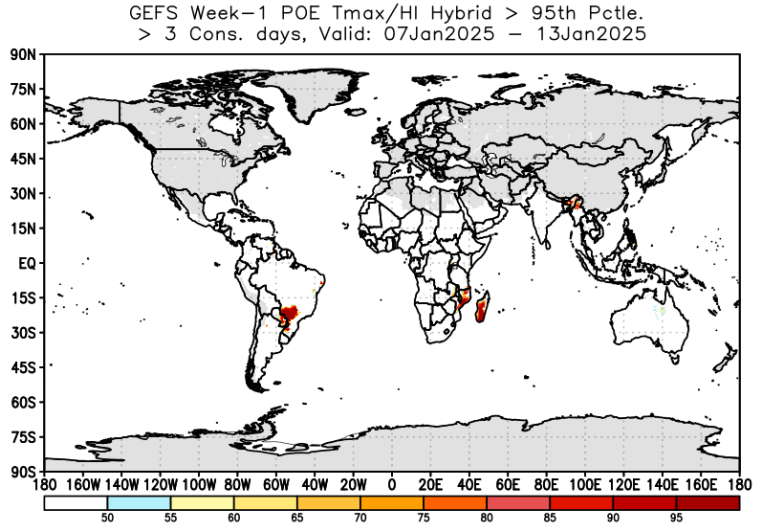
https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_80.png

>90th & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_90.png

>95th & > 3 Consc. Days

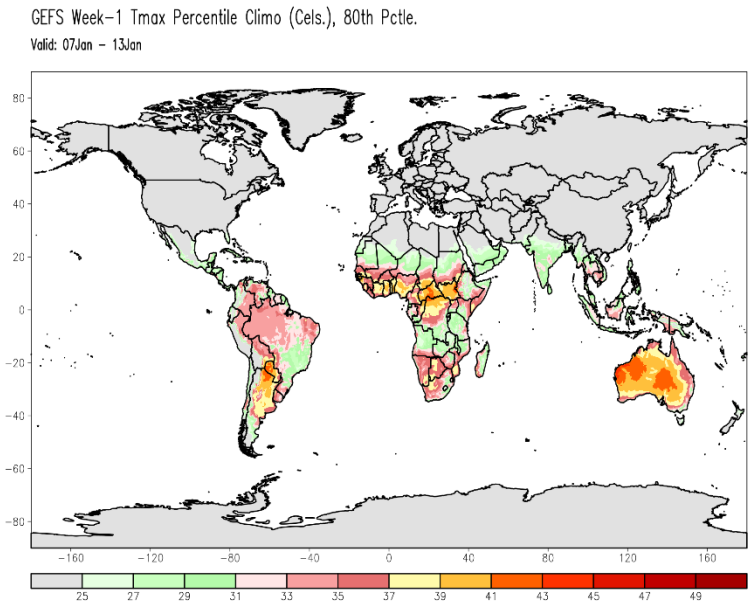


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week1_prob_hybrid_3_glb_95.png

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

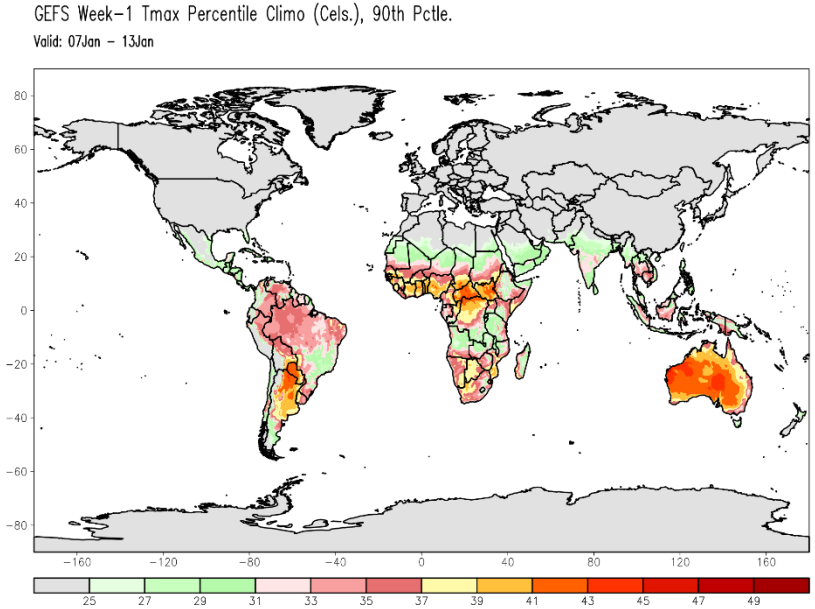
GEFS Week-1 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



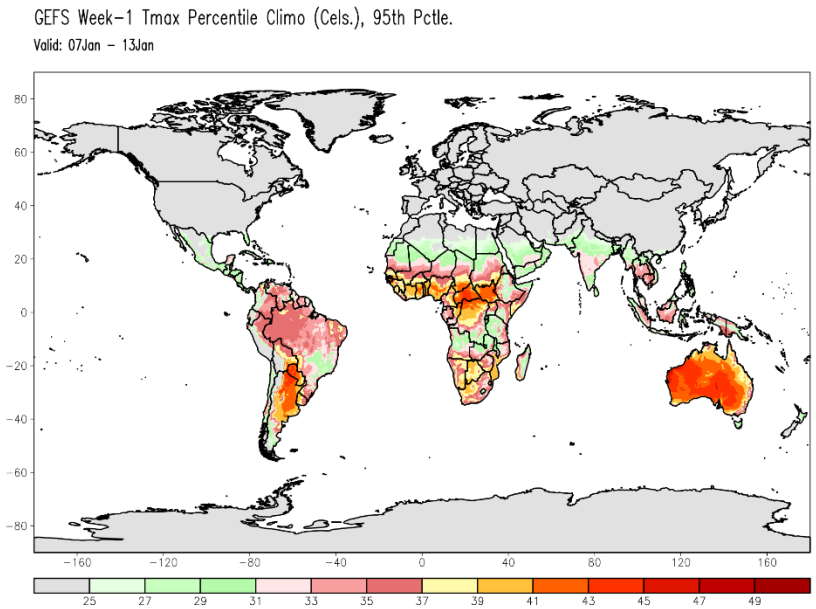
https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_hybrid_week1_glb_clm_80.gif

Tmax 90th Percentile



https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_hybrid_week1_glb_clm_90.gif

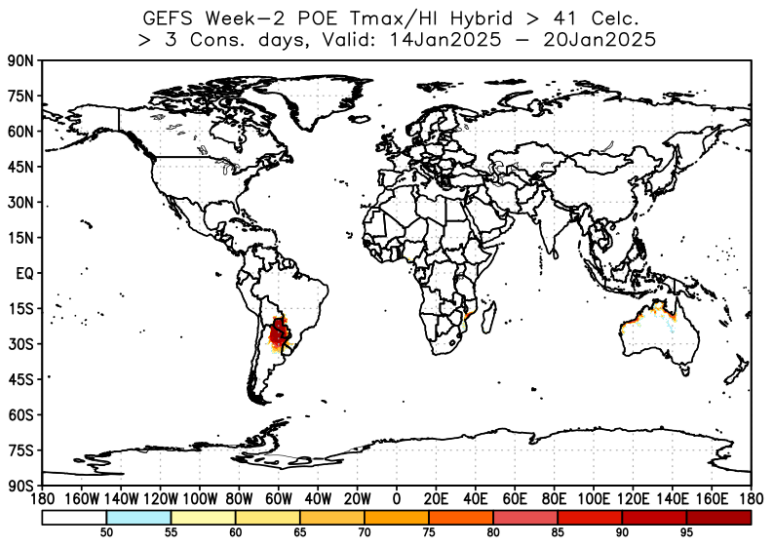
Tmax 95th Percentile



https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_hybrid_week1_glb_clm_95.gif

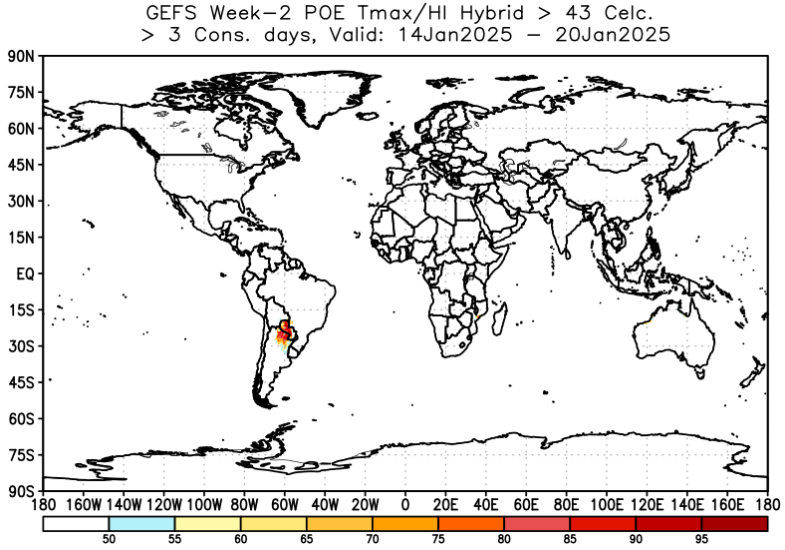
GEFS Week-2 HI/Tmax Hybrid POE with Respect to Fixed Thresholds

>41ºC & > 3 Consc. Days



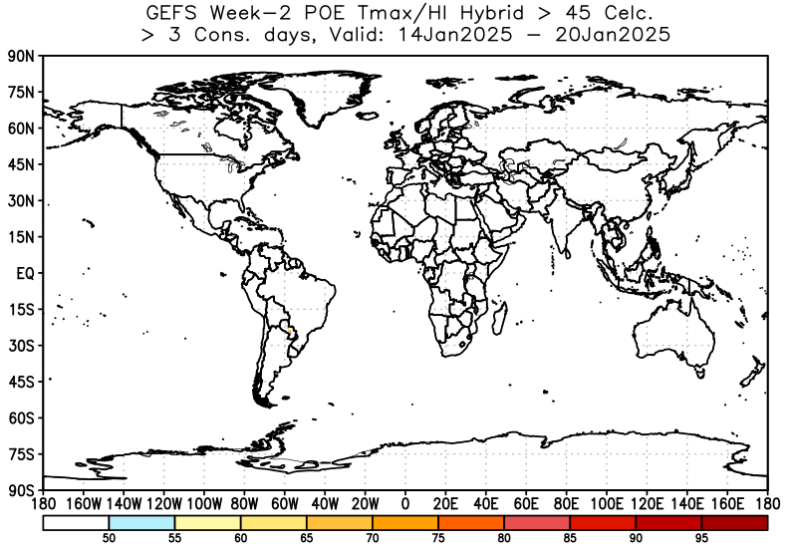
https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_41.png

>43ºC & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_43.png

>45ºC & > 3 Consc. Days

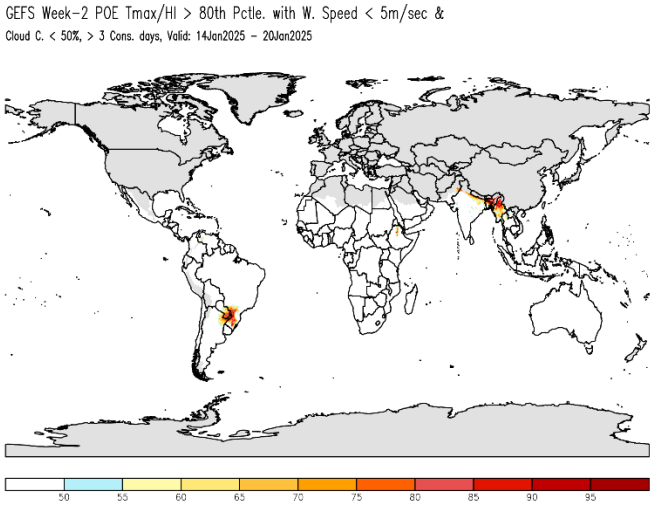


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_45.png

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

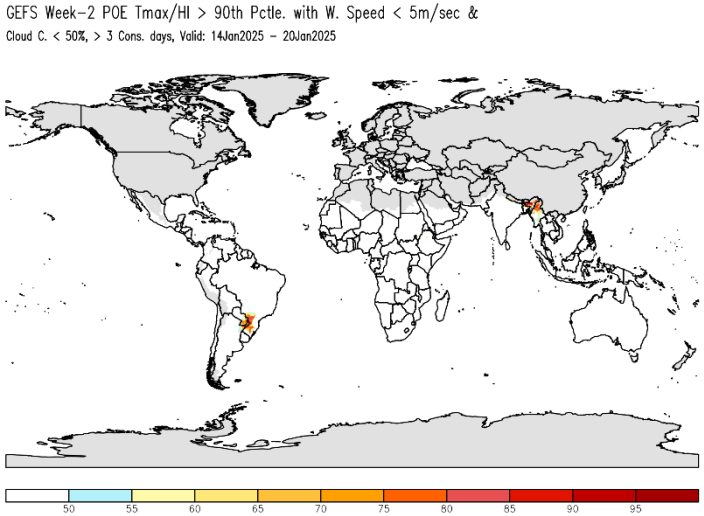
GEFS Week-2 POE, Tmax/HI with Calmer Wind (< 5m s-1) and less Cloud Cover (< 50%)

>80th & > 3 Consc. Days



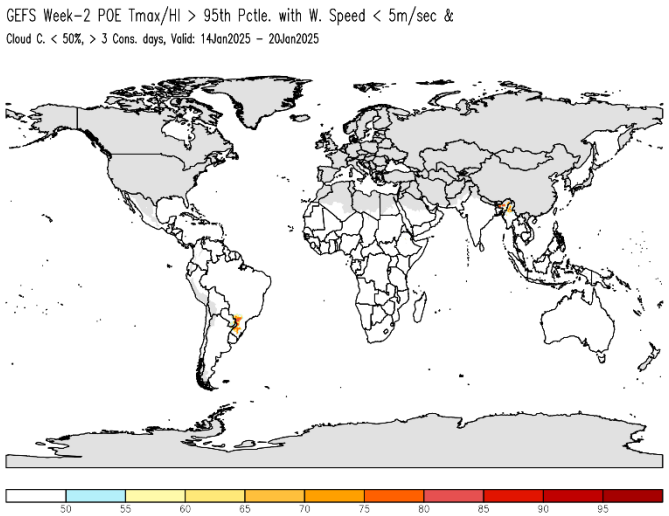
https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week2_glb_prob_80.gif

>90th & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week2_glb_prob_90.gif

>95th & > 3 Consc. Days

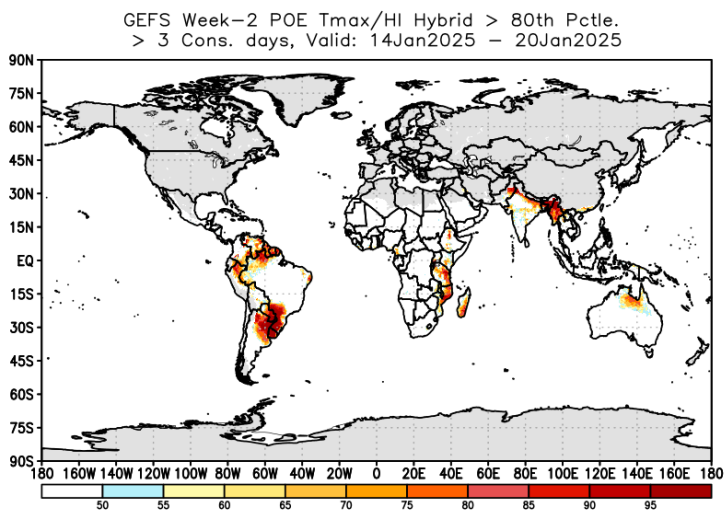


https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_comb3_week2_glb_prob_95.gif

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

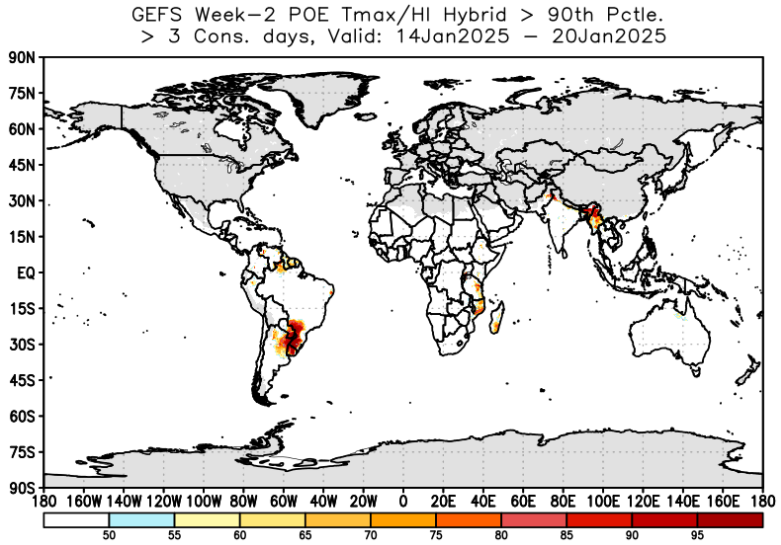
GEFS Week-2 HI/Tmax Hybrid POE with Respect to Percentile Climo. Thresholds

>80th & > 3 Consc. Days



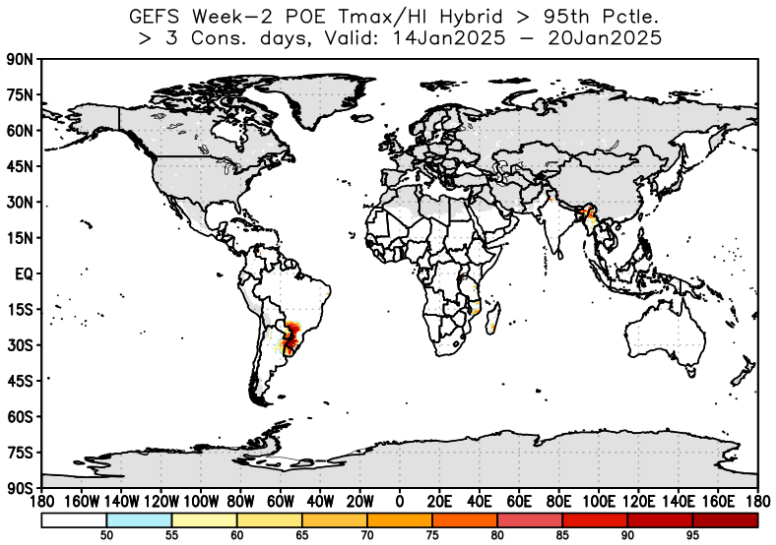
https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_80.png

>90th & > 3 Consc. Days



https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_90.png

>95th & > 3 Consc. Days

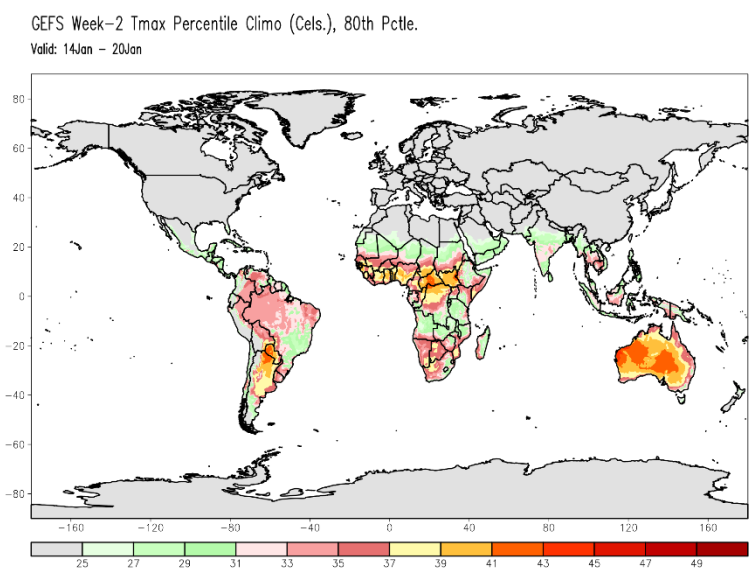


https://ftp.cpc.ncep.noaa.gov/International/global_heat/gefs_week2_prob_hybrid_3_glb_95.png

- There is an increased chance for the hybrid index to exceed the 80th percentile for at least three consecutive days in some parts of southern Colombia and central-eastern and southern Venezuela, Guyana, Suriname, 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, eastern and southern Madagascar, northern Australia, central-eastern Pakistan, and parts of northeastern and eastern India, Bangladesh, and Myanmar. There is also an increased chance for the index to exceed the 95th percentile over some parts of southwestern Brazil, northern-central Uruguay and southern Paraguay, and some parts of eastern India and northern Myanmar.

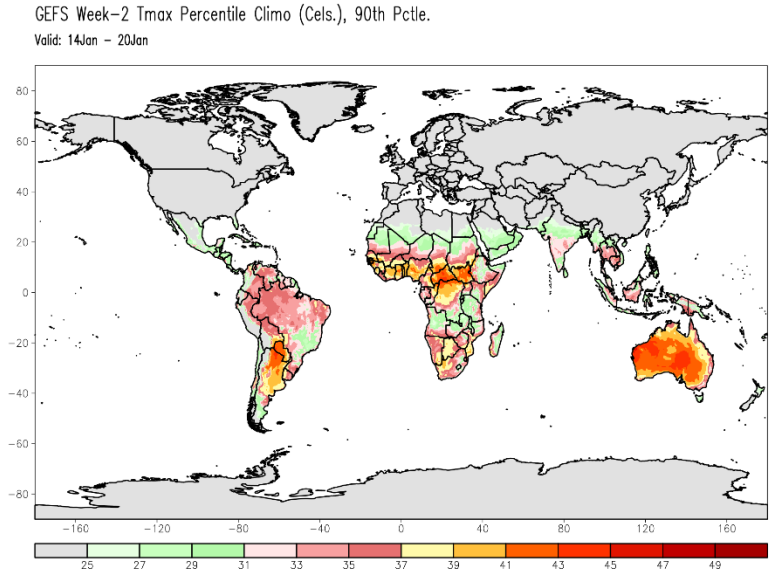
GEFS Week-2 Tmax Percentile Climatology (°C)

Tmax 80th Percentile



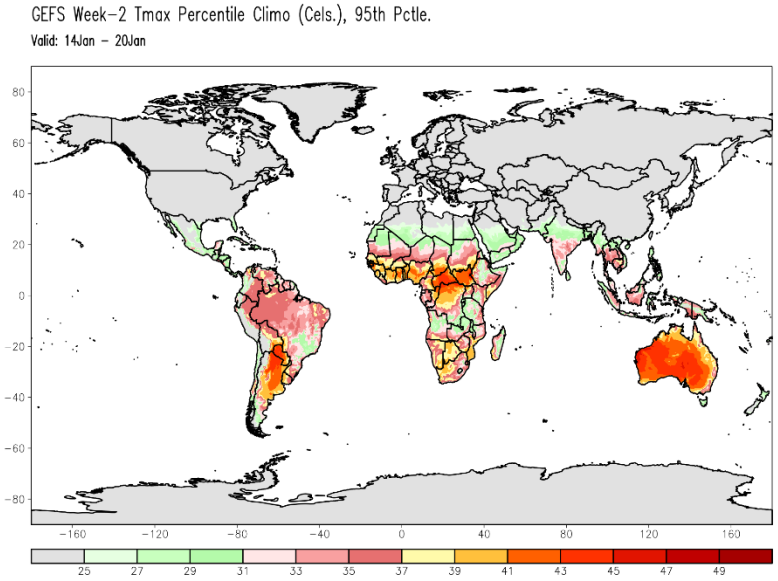
https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_hybrid_week2_glb_clm_80.gif

Tmax 90th Percentile

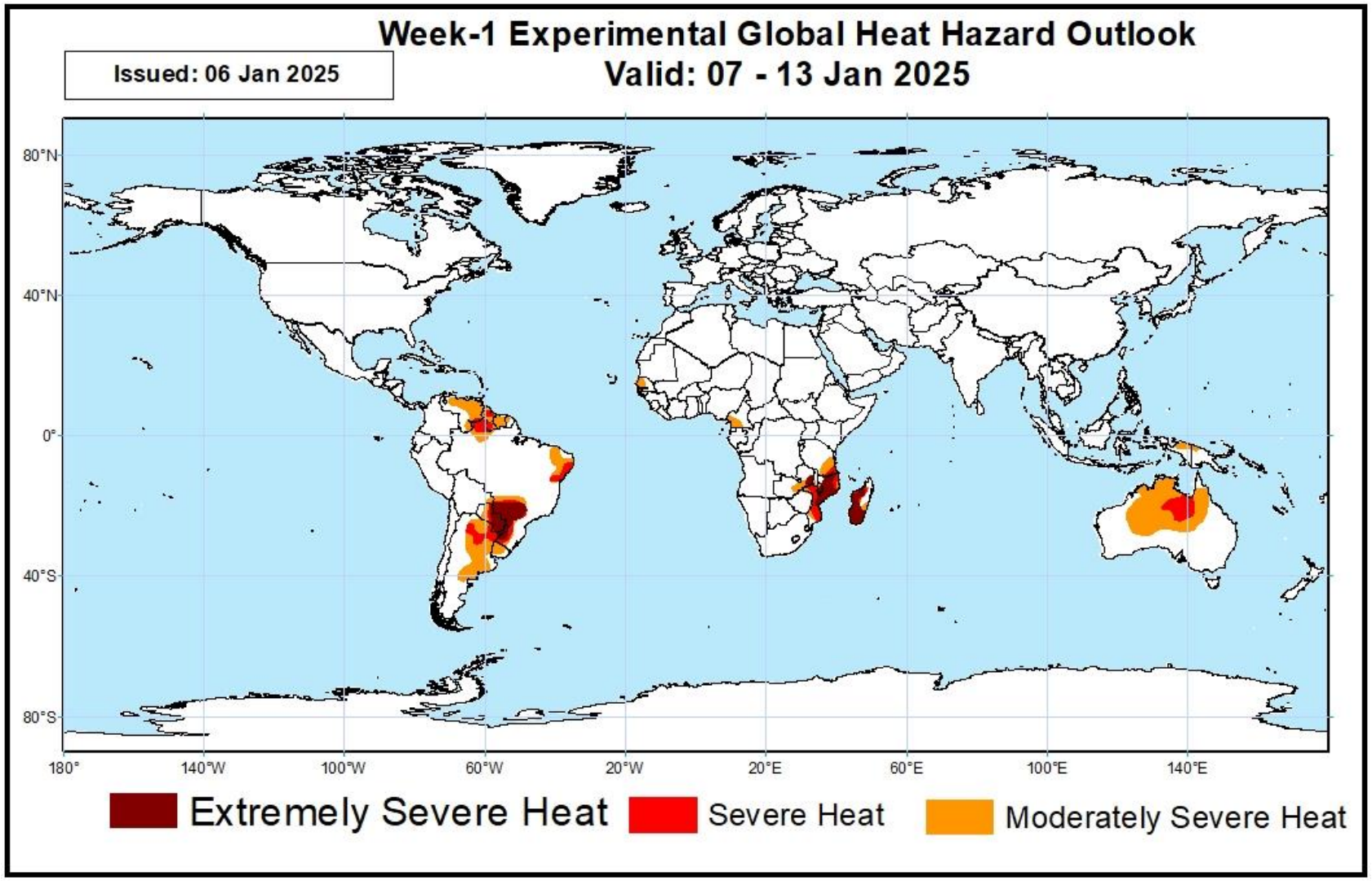


https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_hybrid_week2_glb_clm_90.gif

Tmax 95th Percentile



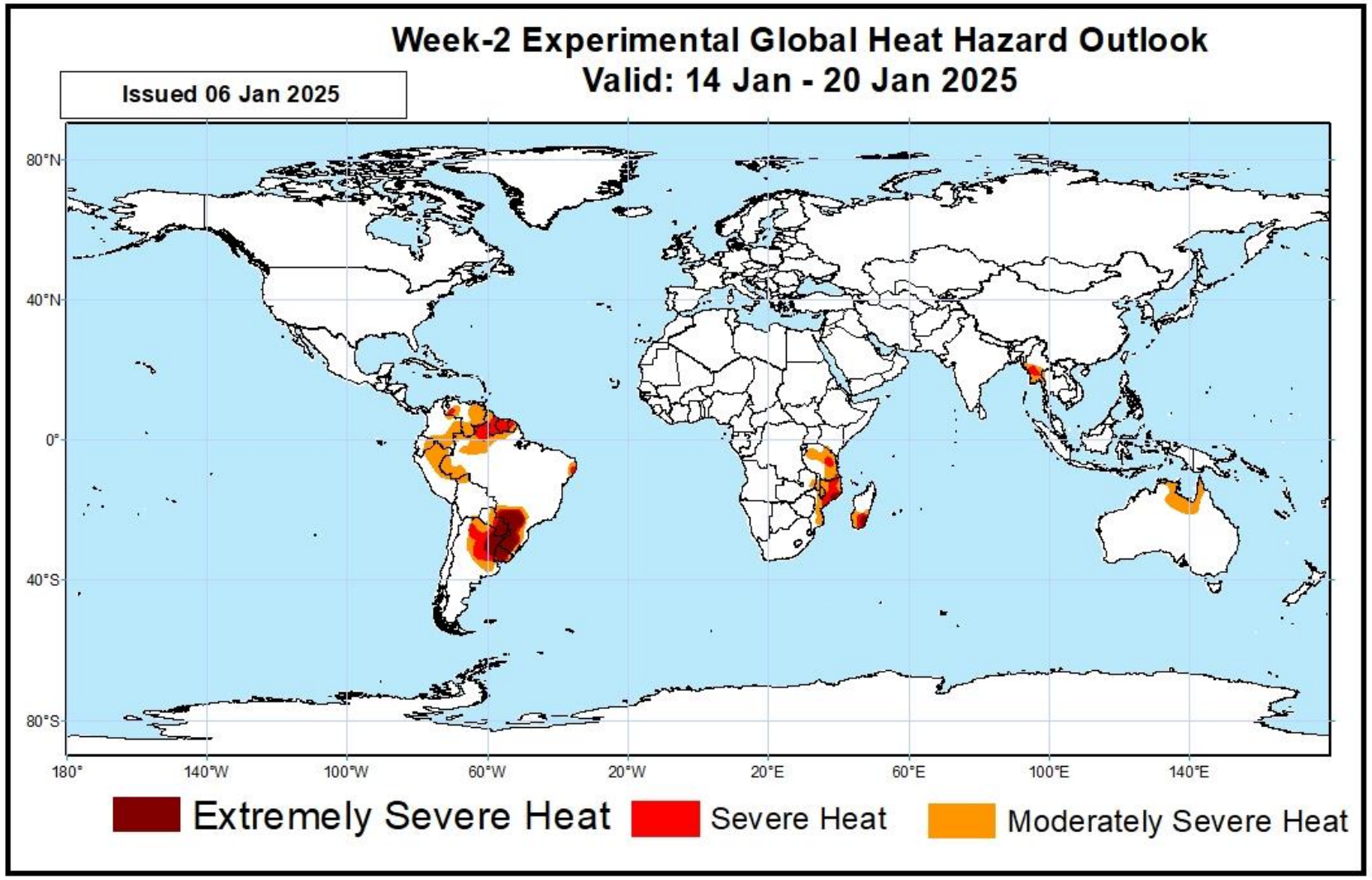
https://ftp.cpc.ncep.noaa.gov/International/extreme_fcst/gefs_heat/gefs_hybrid_week2_glb_clm_95.gif



- There is an increased chance of *moderately severe heat* over the parts of Venezuela, Guyana, Suriname, French Guiana, and some parts of northern, eastern and southwestern Brazil, Paraguay, western and central Uruguay, northeastern and eastern Argentina, 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, and western and southern 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**



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

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**