Global Heat Hazards Outlooks

Date of Issuance: 21 Jan 2025

Week-I Valid: 22 Jan 2025 – 28 Jan 2025 Week-2 Valid: 29 Jan 2025 – 04 Feb 2025

Numerical Weather Prediction Model: NCEP GEFS

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

>41°C & > 3 Consc. Days >43°C & > 3 Consc. Days >45°C & > 3 Consc. Days GEFS Week-1 POE Tmax/HI Hybrid > 45 Celc. GEFS Week-1 POE Tmax/HI Hybrid > 43 Celc. GEFS Week-1 POE Tmax/HI Hybrid > 41 Celc. > 3 Cons. days, Valid: 22Jan2025 - 28Jan2025 > 3 Cons. days, Valid: 22Jan2025 - 28Jan2025 > 3 Cons. days, Valid: 22Jan2025 - 28Jan2025 75N 45N 45N 30N 30N 305 30S 45S -45S 60S · 60S 60S 755 V 120W 100W 80W 60W 40W 20W 0 20E 40E 60E 80E 100E 120E 140E 160E 18 4**0**W 20W 2ÓW https://ftp.cpc.ncep.noaa.gov/International/global hea https://ftp.cpc.ncep.noaa.gov/International/global hea https://ftp.cpc.ncep.noaa.gov/International/global hea t/gefs week1 prob hybrid 3 glb 41.png t/gefs week1 prob hybrid 3 glb 43.png t/gefs week1 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 many parts of Paraguay, some parts of northeastern Argentina, and some parts of northern, western and central Australia.

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

>80th & > 3 Consc. Days

GEFS Week-1 POE Trnax/HI > 80th Pctle. with W. Speed < 5m/sec & Cloud C. < 50%, > 3 Cons. days, Valid: 22Jan2025 - 28Jan2025



https://ftp.cpc.ncep.noaa.gov/International/extreme_fc st/gefs heat/gefs comb3 week1 glb prob 80.gif

>90th & > 3 Consc. Days

GEFS Week-1 POE Tmax/HI > 90th Pctle. with W. Speed < 5m/sec & Cloud C. < 50%, > 3 Cons. days, Valid: 22Jan2025 - 28Jan2025



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

>95th & > 3 Consc. Days

GEFS Week-1 POE Tmax/HI > 95th Pctle. with W. Speed < 5m/sec & Cloud C. < 50%, > 3 Cons. days, Valid: 22Jan2025 - 28Jan2025



https://ftp.cpc.ncep.noaa.gov/International/extreme fc st/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 some parts of southwestern Mexico, central Colombia and northwestern Venezuela, southern Mali, northern Niger, southeastern Mauritania, southern Algeria, some parts of southern Africa, Lesotho, eastern and southeastern Pakistan, many parts of western, central and eastern India, Bangladesh, Myanmar, northern Thailand, and northern Laos. There is an increased chance for the index to exceed the 95th percentile for at least three consecutive days in eastern India, Bangladesh and 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_he at/gefs_week1_prob_hybrid_3_glb_80.png

>90th & > 3 Consc. Days



>95th & > 3 Consc. Days



There is an increased chance for the hybrid index to exceed the 80th percentile for at least three consecutive days in some parts western Mexico, northern and southern Colombia, some parts of northern and central Venezuela, northeastern Peru, eastern Ecuador, southern and parts central-southeastern Brazil, much of Paraguay, Uruguay, northern and northeastern Argentina, Morocco, Mauritania, Mali, much of Algeria, central Kenya, central and southern South Africa, southern Namibia, central-eastern and southeastern Pakistan, many parts of India, Bangladesh, Myanmar, Laos, parts of Thailand, western Papua New Guinea, and many parts northern, western, central and eastern Australia. There is also an increased chance for the index to exceed the 95th percentile over parts of southern Brazil, eastern Mauritania, northern Mali, central and southwestern Algeria, central-eastern Pakistan, eastern India, Myanmar and parts of Laos.

GEFS Week-1 Tmax Percentile Climatology (°C)

Tmax 80th Percentile

GEFS Week—1 Tmax Percentile Climo (Cels.), 80th Pctle. Valid: 22Jan – 28Jan



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

Tmax 90th Percentile

GEFS Week—1 Tmax Percentile Climo (Cels.), 90th Pctle. Valid: 22Jan — 28Jan



https://ftp.cpc.ncep.noaa.gov/International/extreme fc st/gefs_heat/gefs_hybrid_week1_glb_clm_90.gif

Tmax 95th Percentile

GEFS Week-1 Tmax Percentile Climo (Cels.), 95th Pctle. Valid: 22Jan - 28Jan



https://ftp.cpc.ncep.noaa.gov/International/extreme fc st/gefs heat/gefs hybrid_week1_glb_clm_95.gif

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



 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 parts of western Australia.

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

>80th & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI > 80th Pctle. with W. Speed < 5m/sec &

Cloud C. < 50%, > 3 Cons. days, Valid: 29Jan2025 - 04Feb2025

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

>90th & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI > 90th Pctle. with W. Speed < 5m/sec & Cloud C. < 50%, > 3 Cons. days, Valid: 29Jan2025 - 04Feb2025



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

>95th & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI > 95th Pctle. with W. Speed < 5m/sec & Cloud C. < 50%, > 3 Cons. days, Valid: 29Jan2025 - 04Feb2025



https://ftp.cpc.ncep.noaa.gov/International/extreme fc st/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 some parts of western Mexico, Dominican Republic, eastern and southeastern Pakistan, many parts of India, Bangladesh, Myanmar, northern Thailand, and northern Laos. There is an increased chance for the index to exceed the 95th percentile for at least three consecutive days in some part of eastern Pakistan and parts of central and eastern India.

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_hea t/gefs week2 prob hybrid 3 glb 80.png

>90th & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI Hybrid > 90th Pctle. > 3 Cons. days, Valid: 29Jan2025 - 04Feb2025



>95th & > 3 Consc. Days

GEFS Week-2 POE Tmax/HI Hybrid > 95th Pctle. > 3 Cons. days, Valid: 29Jan2025 - 04Feb2025



There is an increased chance for the hybrid index to exceed the 80th percentile for at least three consecutive days in western Mexico, northern Venezuela, southwestern and some pockets of region in eastern Brazil, much of Paraguay, northeastern Argentine, western and northern Uruguay, Morocco, northern Mauritania, central and southeastern Kenya, central South Africa, Lesotho, eastern Madagascar, central, eastern and southeastern Pakistan, much of India, Bangladesh, Myanmar, and parts of western, central and southern Australia. There is also an increased chance for the index to exceed the 95th percentile over some parts of southwestern Brazil, some parts of eastern Pakistan, parts of northern, eastern, central and southern India, Bangladesh and western Myanmar.

GEFS Week-2 Tmax Percentile Climatology (°C)

Tmax 80th Percentile

GEFS Week—2 Tmax Percentile Climo (Cels.), 80th Pctle. Valid: 29Jan — 04Feb



https://ftp.cpc.ncep.noaa.gov/International/extreme_fc st/gefs heat/gefs hybrid week2 glb clm 80.gif

Tmax 90th Percentile

GEFS Week-2 Tmax Percentile Climo (Cels.), 90th Pctle. Valid: 29Jan - 04Feb



https://ftp.cpc.ncep.noaa.gov/International/extreme_fc st/gefs_heat/gefs_hybrid_week2_glb_clm_90.gif **Tmax 95th Percentile**

GEFS Week—2 Tmax Percentile Climo (Cels.), 95th Pctle. Valid: 29Jan — 04Feb



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

There is an increased chance of moderately severe over heat northeastern Peru, eastern Ecuador, southern Brazil, much of Paraguay, northeastern Argentina, much of Mali, southeastern Mauritania, central southern South Africa. Kenya, southern Angola, western and central India, southern Myanmar, Thailand, Cambodia, western Papua New Guinea, and western, northern, central and eastern Australia.

 There is an increased chance of extremely severe heat over southwestern Brazil, some parts of southwestern South Africa and western Mali, and parts of western and northeastern Australia.

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



Severe Heat:

Moderately Severe Heat Extremely Severe Heat: Tmax/HI are among the 5% highest values over the 30-year period 1991-2020 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 some parts northern Venezuela, Guyana, of Suriname, eastern Peru, southwestern Brazil, much of Paraguay, some parts of northeastern Argentina, some parts of western-central South Africa, central Kenya, parts of western, central and southern India, southern Myanmar, Thailand, and parts of western, central and southern Australia.

There is an increased chance for extremely severe heat over some parts of central India.

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