

# Heat Hazards Outlooks for the Caribbean

**Date of Issue: 2025-01-21**

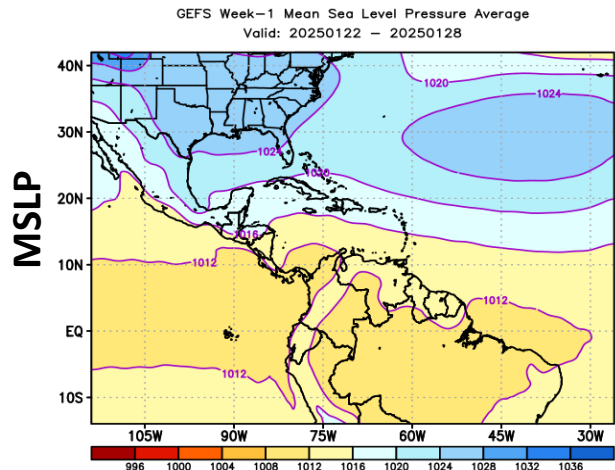
**Week-1, Valid for: 22 - 28 January 2025**

**Week-2, Valid for: 29 January - 04 February 2025**

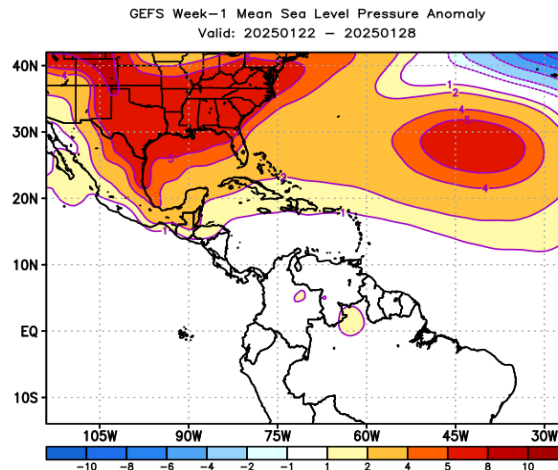


# Week-1, Mean Sea Level Pressure & 500-hPa Height

## 7-day Total



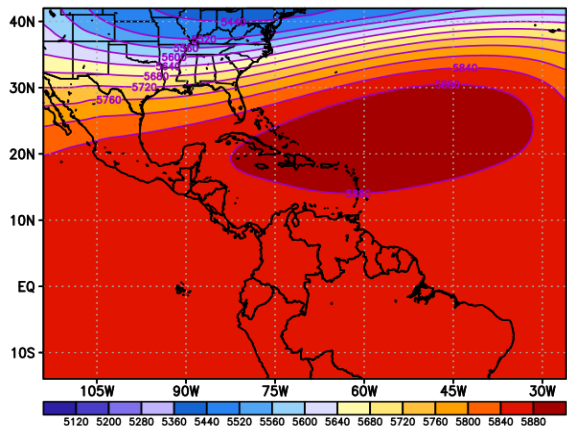
## 7-day Anomaly



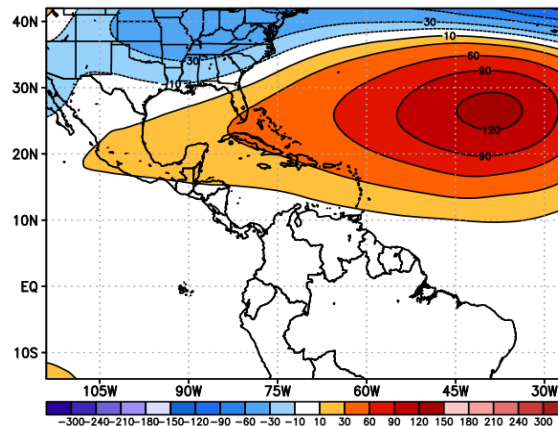
Next week, mean sea level pressure is forecasted to be slightly-above-average across northern Caribbean and near average in northern South America.

## Geop. Height (500-hPa)

GEFS Week-1 500-hPa Geo-Potential Height Average  
Valid: 20250122 - 20250128



GEFS Week-1 500-hPa Geo-Potential Height Anomaly  
Valid: 20250122 - 20250128



At 500 hPa, geopotential height anomalies in most of the Caribbean region are also expected to be above normal for next week. However, geopotential height anomalies are near normal in northern South America.

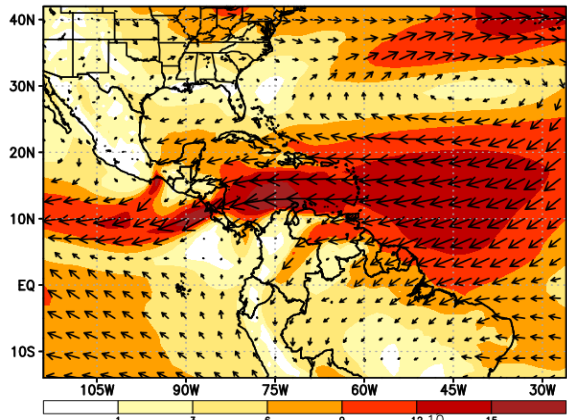
# Week-1, 925-hPa and 200-hPa Wind

## 7-day Total

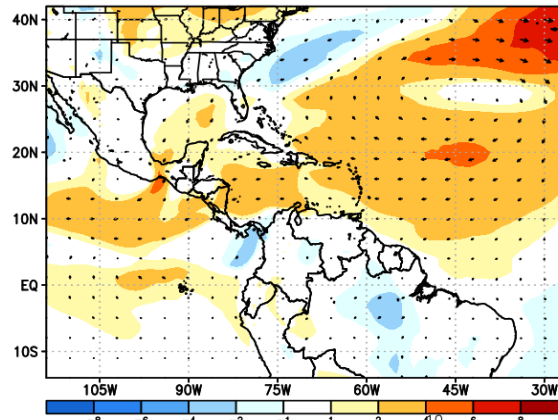
## 7-day Anomaly

Wind (925-hPa)

GEFS Week-1 925-hPa Wind Speed and Direction, Average  
Valid: 20250122 - 20250128



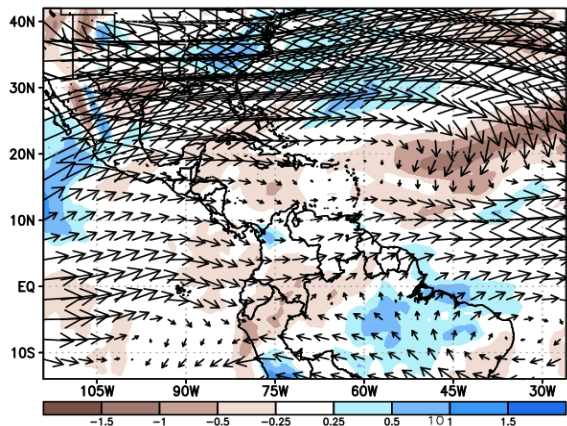
GEFS Week-1 925-hPa Wind Speed and Direction, Anomaly  
Valid: 20250122 - 20250128



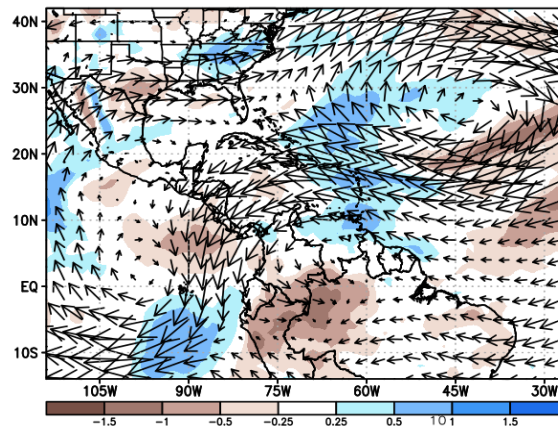
For week-1, low-level winds are expected easterly and to be above-average over northern and central Caribbean region and near average in northern South America.

Wind & Diverg. (200-hPa)

GEFS Week-1 200-hPa Divergence and Wind Average  
Valid: 20250122 - 20250128



GEFS Week-1 200-hPa Divergence and Wind Anomaly  
Valid: 20250122 - 20250128

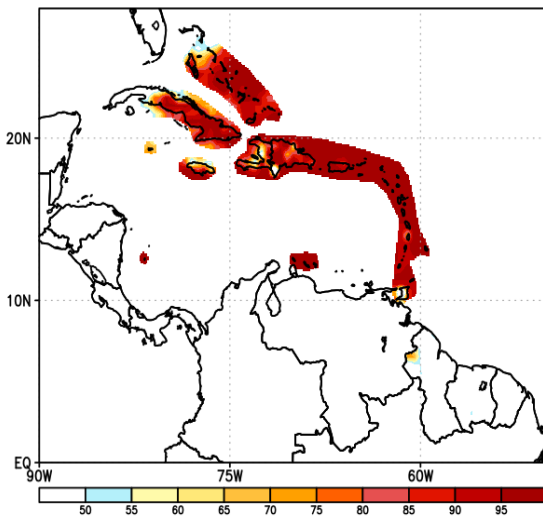


Upper-level convergence is expected over central Caribbean region.

# Week-1, Daily Tmax/HI Hybrid Index Exceedance Probability, with Respect to Percentile Thresholds

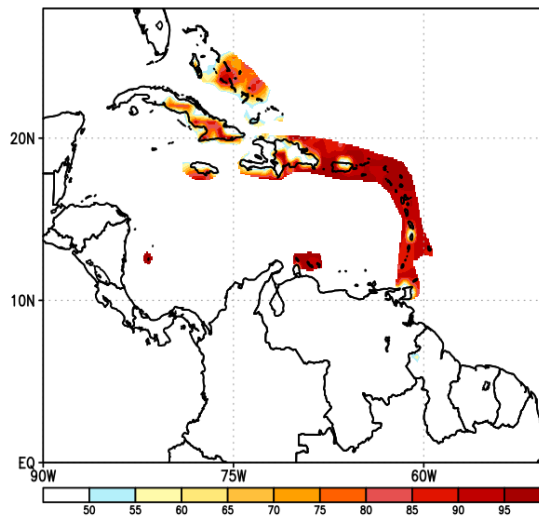
**hybrid > 80th percentile,  
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250122 - 20250128



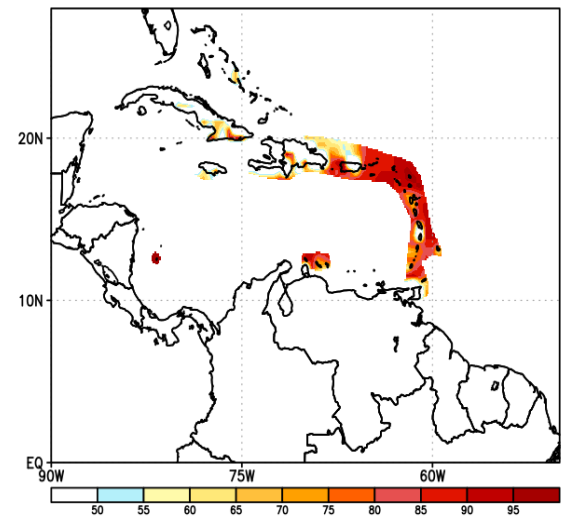
**hybrid > 90th percentile,  
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250122 - 20250128



**hybrid ≥ 95th percentile,  
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250122 - 20250128

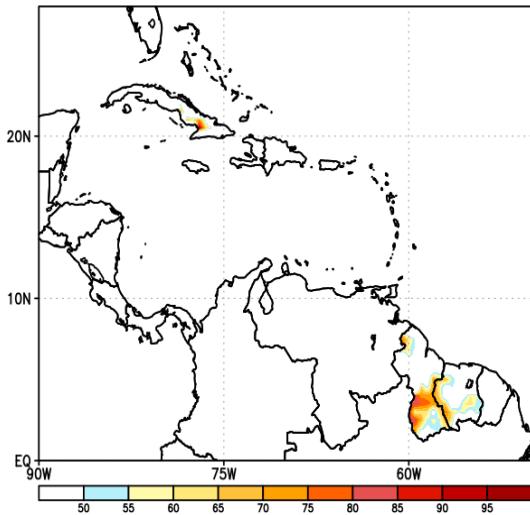


**During next week hybrid (Tmax/heat) heat index is expected to above 90th percentile for consecutive three days over the Bahamas, central Cuba, the Cayman Islands, Jamaica, much of the Lesser Antilles, ABC Islands, and much of northern South America. There are moderate to high chances of heat index to be above 95th percentile for three consecutive days over the southern Bahamas, the Lesser Antilles, and southern portions of northern South America.**

# Week-1, Daily Tmax/HI Hybrid Index Exceedance Probability, with Respect to Fixed Thresholds

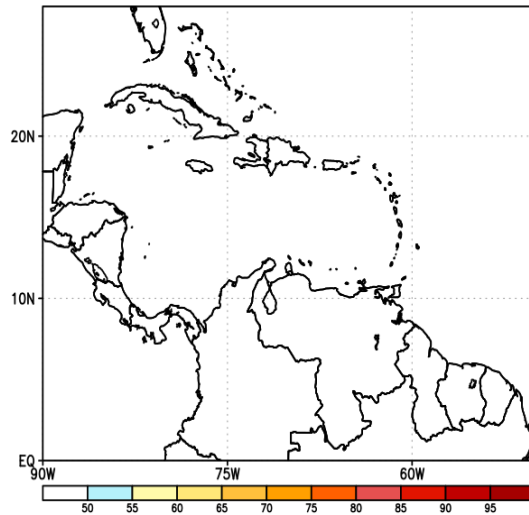
**hybrid > 33°C,  
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
Valid: 20250122 - 20250128



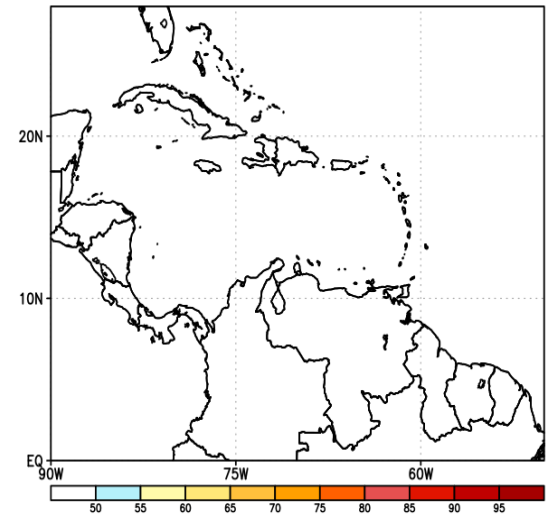
**hybrid > 35°C,  
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da  
Valid: 20250122 - 20250128



**hybrid > 37°C,  
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250122 - 20250128

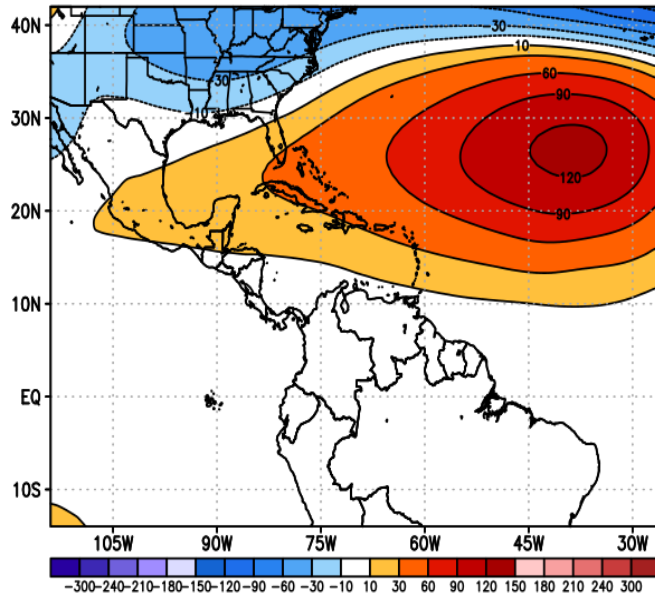


**For week-1, it is highly likely that temperatures will be above 33 °C for three consecutive days over central Cuba, Suriname, southern Guyana.**

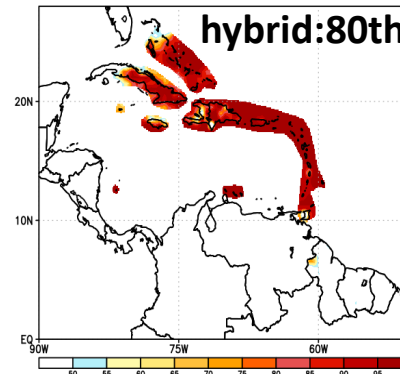
# Week-1, Convergence of Evidences

GEFS Week-1 500-hPa Geo-Potential Height Anomaly

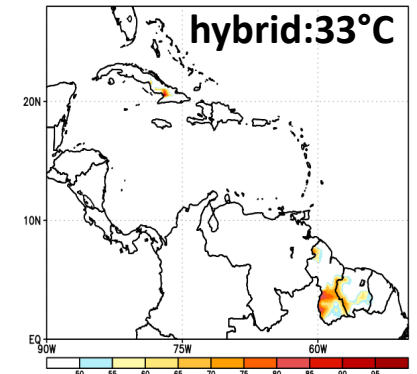
Valid: 20250122 - 20250128



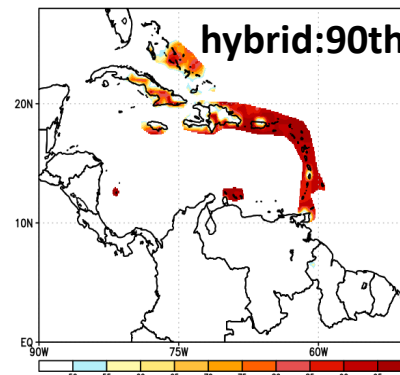
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250122 - 20250128



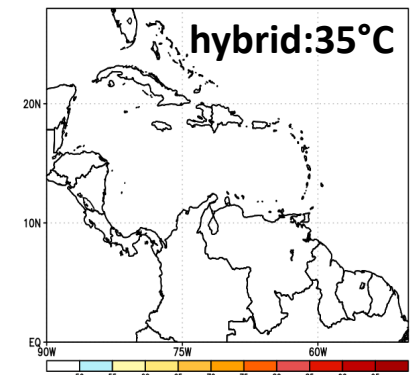
FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. days  
Valid: 20250122 - 20250128



GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250122 - 20250128

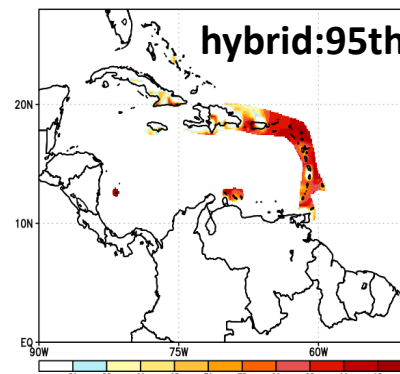


FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. days  
Valid: 20250122 - 20250128

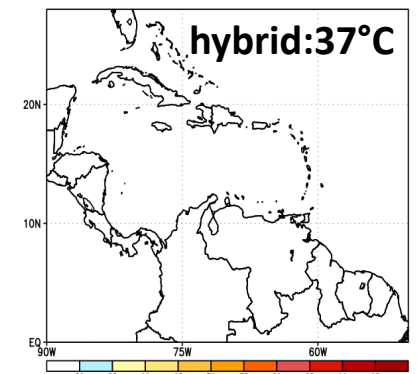


**Hybrid Index exceedance probability forecasts indicate high chances for the hybrid index to exceed the 80th percentile and 33°C over central Cuba, Suriname, southern Guyana**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250122 - 20250128

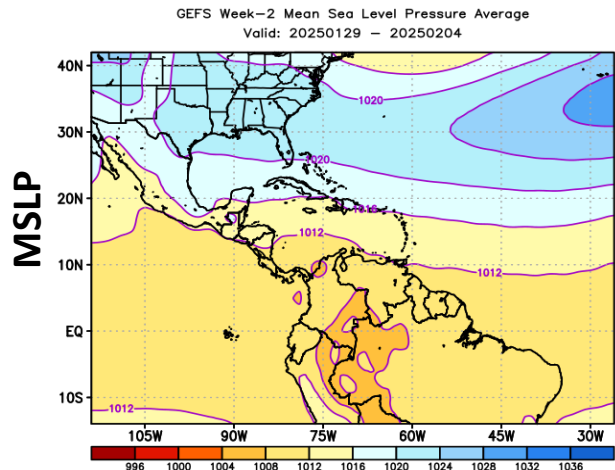


FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. days  
Valid: 20250122 - 20250128

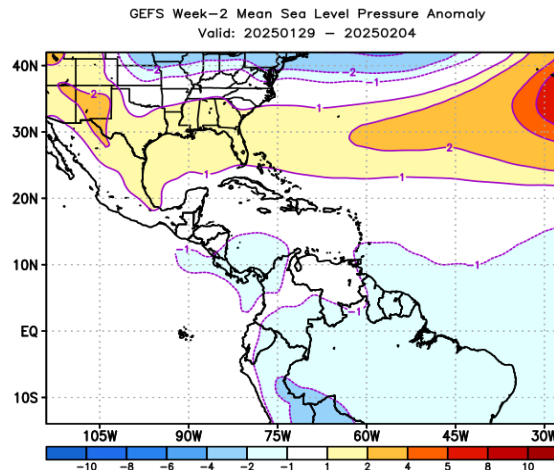


# Week-2, Mean Sea Level Pressure & 500-hPa Height

## 7-day Total



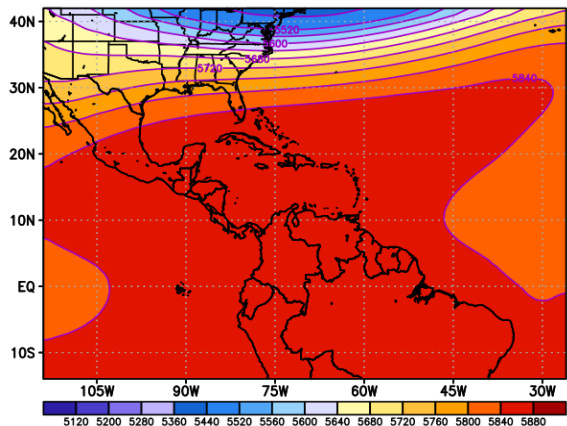
## 7-day Anomaly



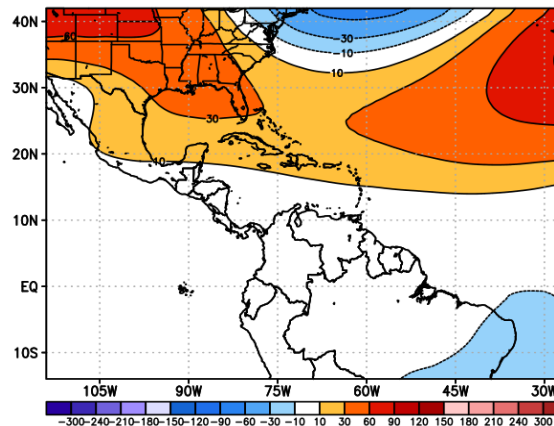
For week-2, GEFS model forecasts indicate near-normal mean sea level pressure over most of the Caribbean region.

## Geop. Height (500-hPa)

GEFS Week-2 500-hPa Geo-Potential Height Average  
Valid: 20250129 - 20250204



GEFS Week-2 500-hPa Geo-Potential Height Anomaly  
Valid: 20250129 - 20250204



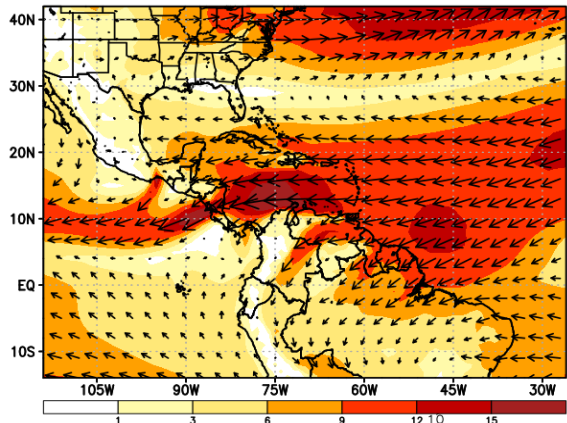
At 500-hPa near average heights are expected over much of the Caribbean and northern South America.

# Week-2, 925-hPa and 200-hPa Wind

## 7-day Total

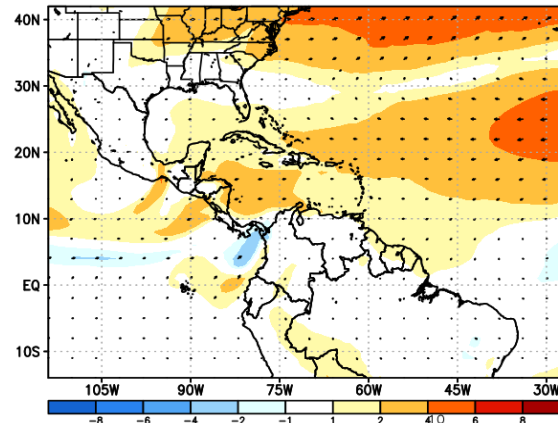
Wind (925-hPa)

GEFS Week-2 925-hPa Wind Speed and Direction, Average  
Valid: 20250129 - 20250204



## 7-day Anomaly

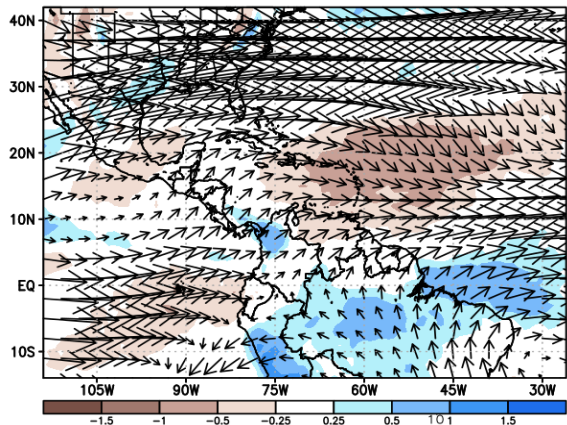
GEFS Week-2 925-hPa Wind Speed and Direction, Anomaly  
Valid: 20250129 - 20250204



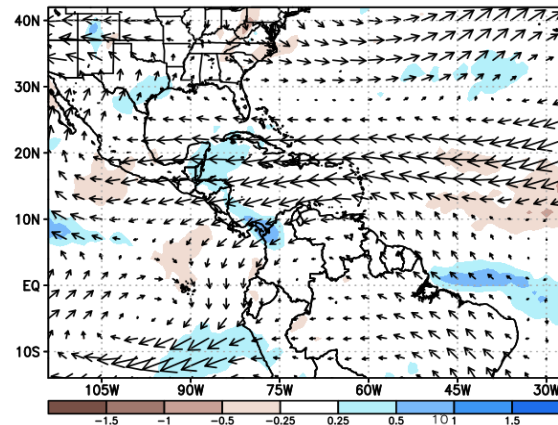
Near-normal 925-hPa wind speed is expected over northern South America; however, stronger-than-average easterly winds are expected over the Bahamas and northern Cuba.

Wind & Diverg. (200-hPa)

GEFS Week-2 200-hPa Divergence and Wind Average  
Valid: 20250129 - 20250204



GEFS Week-2 200-hPa Divergence and Wind Anomaly  
Valid: 20250129 - 20250204

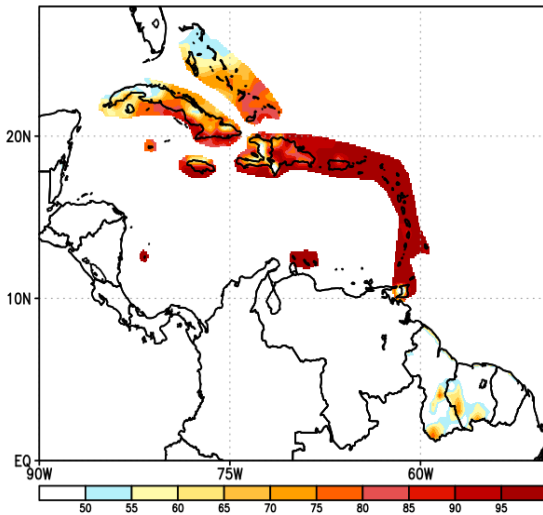


There is no significant upper level divergence or convergence is expected over Caribbean region.

# Week-2, Daily Tmax/HI Hybrid Index Exceedance Probability, with Respect to Percentile Thresholds

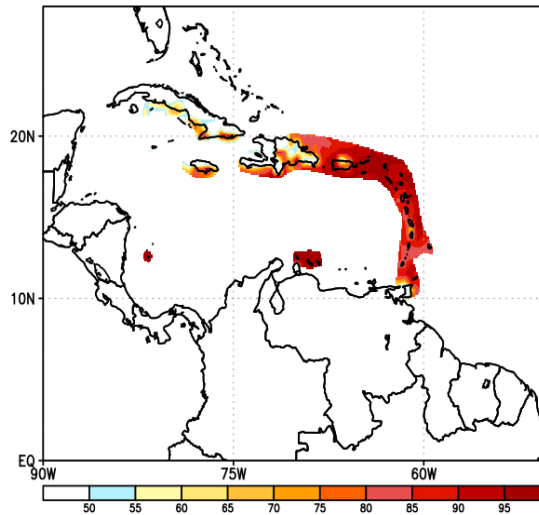
**hybrid > 80th percentile,  
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GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250129 – 20250204



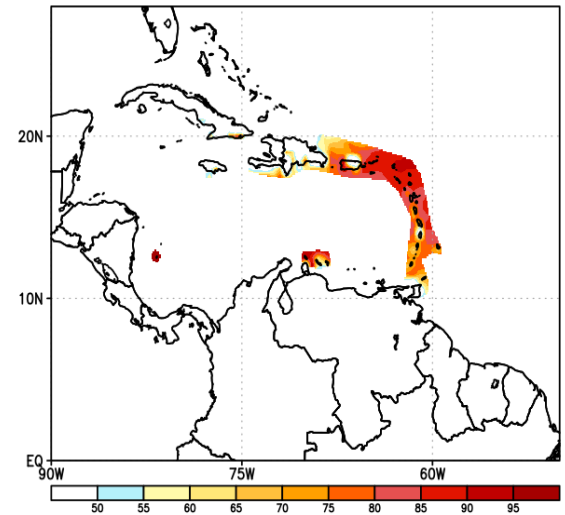
**hybrid > 90th percentile,  
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GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250129 – 20250204



**hybrid ≥ 95th percentile,  
≥3 consecutive days**

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250129 – 20250204

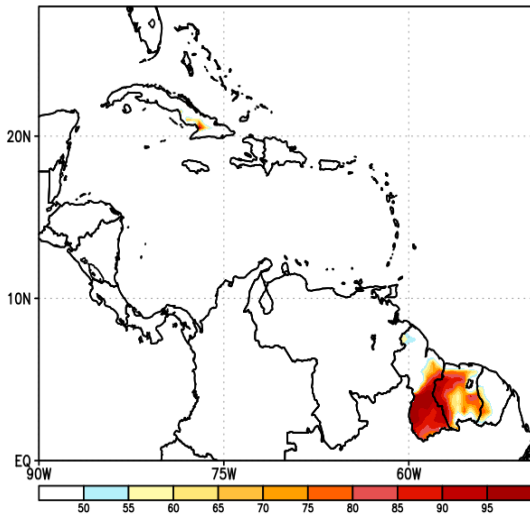


**There is a moderate to high chance that the daily Tmax/HI max hybrid index will exceed the 90th percentile for at least three consecutive days over the central Bahamas, central Cuba, the Cayman Islands, Jamaica, much of the Lesser Antilles, Aruba, Bonaire, and Curacao. There is also a moderate chance that the daily Tmax/HI max hybrid index will exceed the 95th percentile for at least three consecutive days over most of the Lesser Antilles.**

# Week-2, Daily Tmax/HI Hybrid Index Exceedance Probability, with Respect to Fixed Thresholds

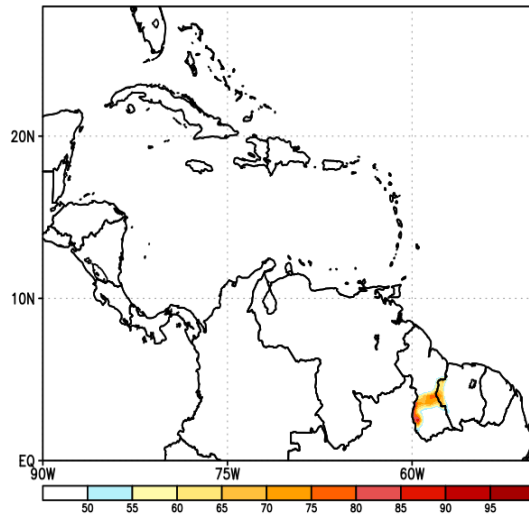
**hybrid > 33°C,  
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FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
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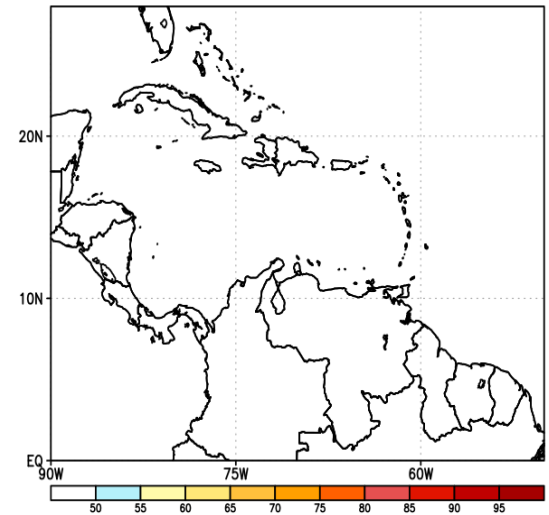
**hybrid > 35°C,  
≥3 consecutive days**

FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da  
Valid: 20250129 - 20250204



**hybrid > 37°C,  
≥3 consecutive days**

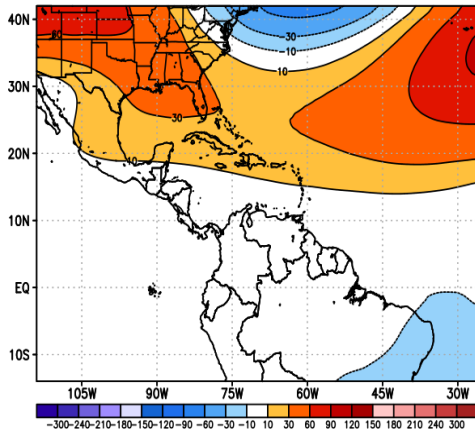
FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250129 - 20250204



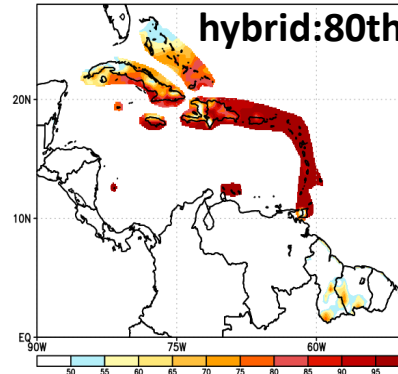
**There is a moderate to high chance that the daily Tmax/HI<sub>max</sub> hybrid index will exceed 33°C for at least three consecutive days over central Cuba, southern Guyana, and central Suriname. There is also a moderate chance that the daily hybrid index will exceed 35°C for three consecutive days over western Guyana.**

# Week-2, Convergence of Evidences

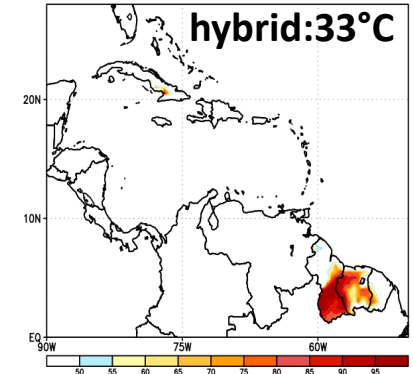
GEFS Week-2 500-hPa Geo-Potential Height Anomaly  
Valid: 20250129 - 20250204



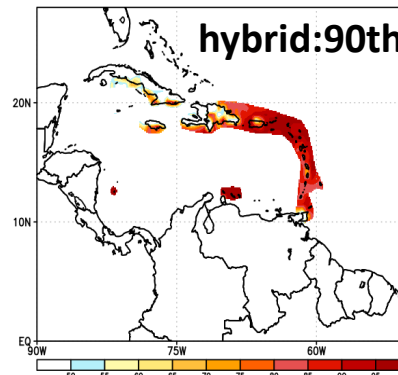
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250129 - 20250204



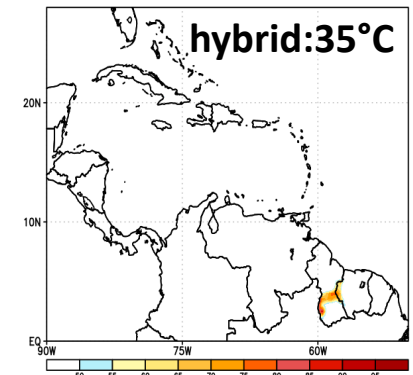
FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
Valid: 20250129 - 20250204



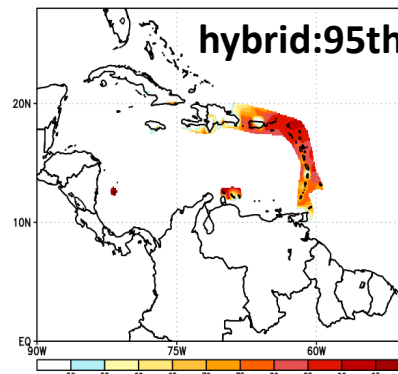
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250129 - 20250204



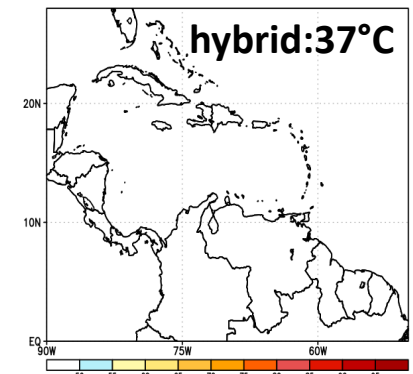
FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da  
Valid: 20250129 - 20250204



GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250129 - 20250204



FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250129 - 20250204



- At 500 hPa, model forecasts indicate above-average heights across the northern Caribbean region, and Hybrid Index exceedance probability forecasts show a high chance for the hybrid index to exceed the 95th percentile over most of the Lesser Antilles. However, as the mean temperature is below 33°C, no heat hazard is expected in the northern Caribbean.
- There is a high likelihood that the hybrid index will exceed 33°C over central Cuba, southern Guyana, and central Suriname. Although temperatures remain below the percentile threshold for excessive heat, they consistently stay above the absolute temperature threshold for excessive heat in the region. As a result, an excessive heat warning is in effect for these areas.

# Urban Heat Island Alerts for Caribbean



[https://www.cpc.ncep.noaa.gov/products/international/UHI/UHI\\_alert\\_Caribbean.html](https://www.cpc.ncep.noaa.gov/products/international/UHI/UHI_alert_Caribbean.html)

# Urban Heat Island Forecasts Week-1

## Urban Heat Island Forecasts

NCEP Global Ensemble Forecast System

Initial: 20250120Z00

International Desks

Climate Prediction Center

National Centers for Environmental Prediction

NO	Stations	80th Pctl Clim	Jan-22-2025			Jan-23-2025			Jan-24-2025			Jan-25-2025			Jan-26-2025		
			Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert
1	Barquisimeto	28.2 degC															
2	Barranquilla	29.0 degC															
3	Cartagena	31.0 degC															
4	Chaguanas	28.9 degC															
5	Maracaibo_La_Chinita	31.8 degC															

T: Daily High Temperature

T > 80th Percentile

T < 80th Percentile

R: Rain

Dry

Wet

[https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb\\_day\\_80.html](https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_day_80.html)

# Urban Heat Island Forecasts Weeks-2, 3, & 4

## Urban Heat Island Forecasts

NCEP Global Ensemble Forecast System

Initial: 20250120Z00


International Desks

Climate Prediction Center

National Centers for Environmental Prediction

		Week 2: 27Jan2025 - 02Feb2025				Week 3: 03Feb2025 - 09Feb2025				Week 4: 10Feb2025 - 16Feb2025			
NO	Stations	80th Pctl Clim	Tmax	Rain	Alert	80th Pctl Clim	Tmax	Rain	Alert	80th Pctl Clim	Tmax	Rain	Alert
1	Barranquilla	29.1 degC				29.1 degC				29.1 degC			
2	Cartagena	30.7 degC				31.1 degC				31.5 degC			
3	Chaguanas	28.5 degC				28.7 degC				29.0 degC			
4	Havana	28.3 degC				27.2 degC				28.2 degC			
5	Maracaibo_La_Chinita	31.6 degC				31.7 degC				32.0 degC			
6	Miami_FI	28.4 degC				26.8 degC				27.9 degC			

T: Daily High Temperature

 T > 80th Percentile

 T < 80th Percentile

R: Rain

 Dry

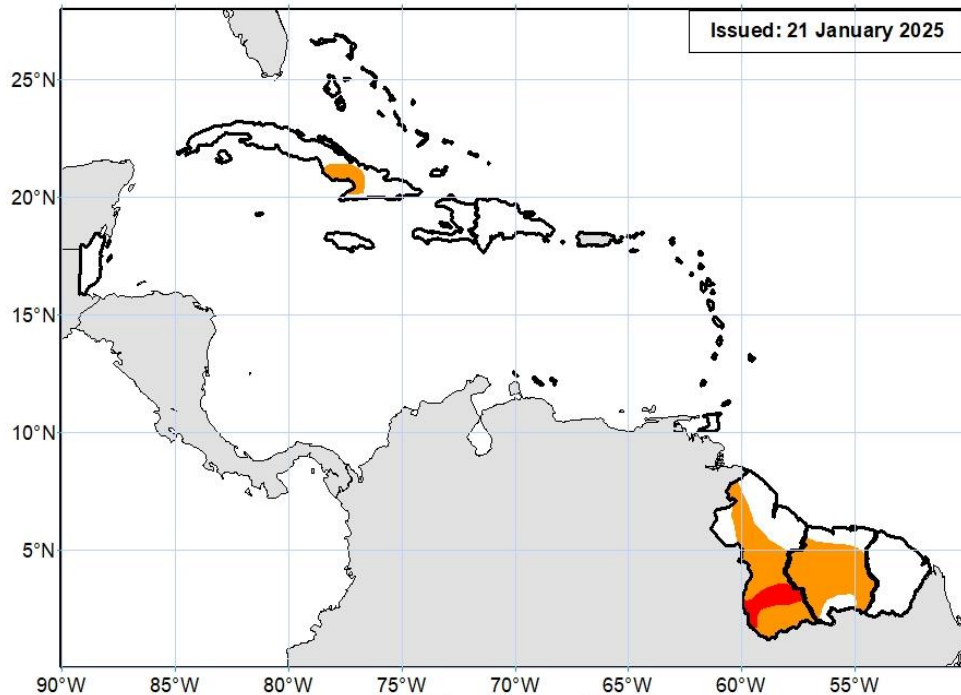
 Wet

[https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb\\_week234\\_80.html](https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_week234_80.html)

# Week-1 Heat Hazards Outlook

## Week-1 Caribbean Heat Hazard Outlooks Valid: 22-28 Jan 2025

Issued: 21 January 2025



### Heat Levels

Moderately Severe Severe Extremely Severe

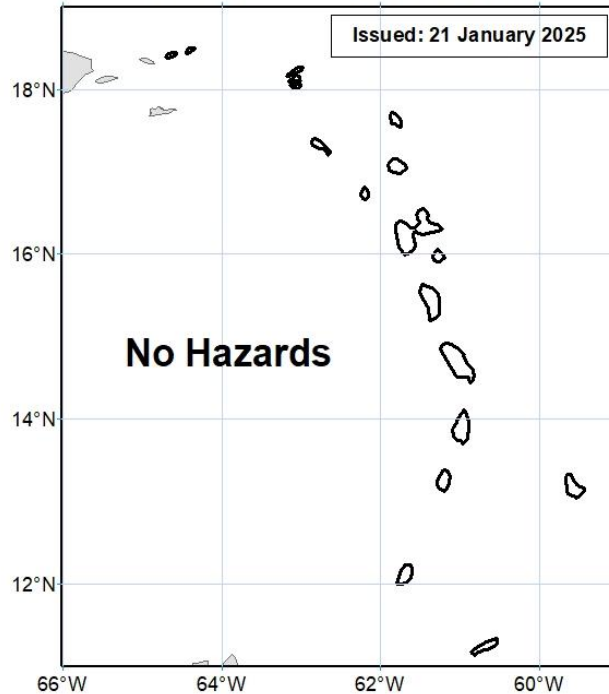
There is an increased chance for **moderately severe heat** over central Cuba, central, southern Guyana and central Suriname

An increased chance for **severe heat** exists over south central Guyana

Hybrid index probability of exceedance forecasts also suggest high chances for persistent heat in the orange and red shaded areas.

# Week-1 Lesser Antilles Heat Hazards Outlook

## Week-1 Lesser Antilles Heat Hazard Outlooks Valid: 22 - 28 Jan 2025



### Heat Levels

Moderately Severe

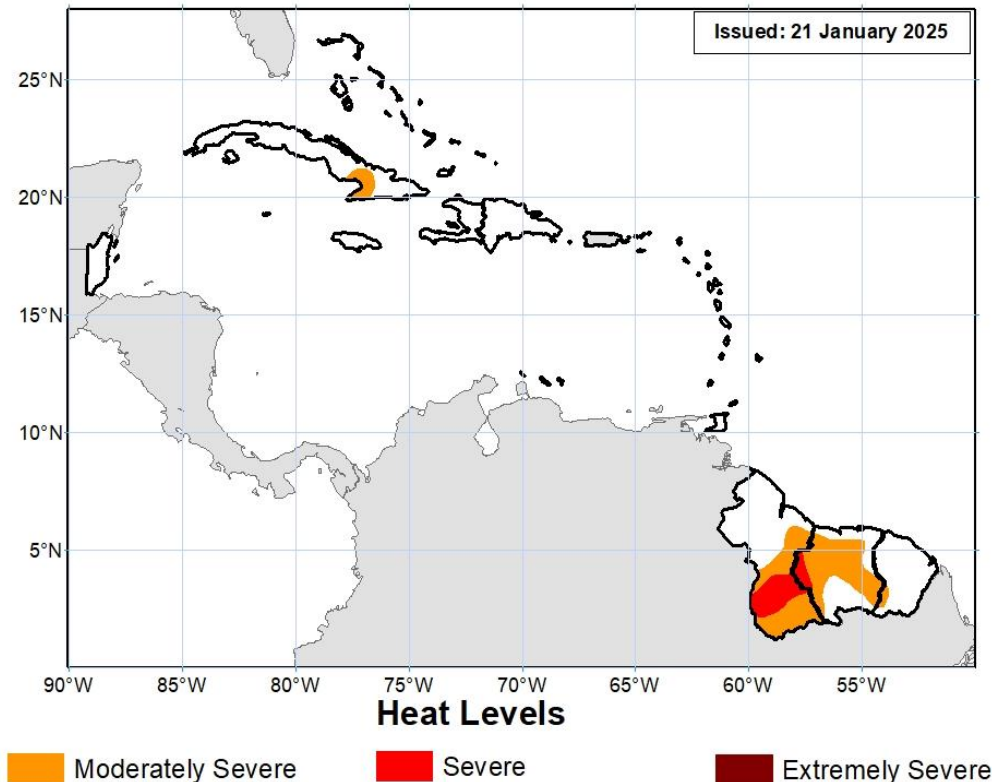
Severe

Extremely Severe

There are no heat hazards forecast for week 1.

# Week-2 Heat Hazards Outlook

## Week-2 Caribbean Heat Hazard Outlooks Valid: 29 Jan - 04 Feb 2025

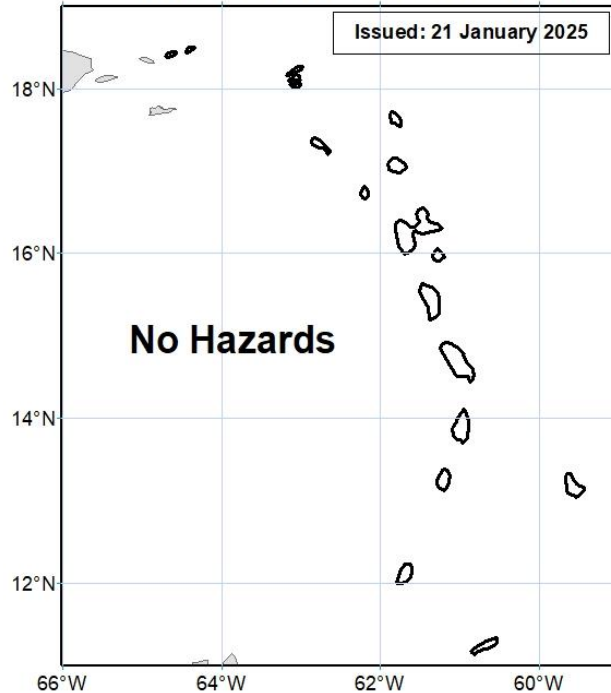


There is an increased chance for **moderately severe heat** over south central Cuba, southern Guyana and central Suriname. An increased chance for **severe heat** exists over south-central Guyana and western-central Suriname

Hybrid index probability of exceedance forecasts also suggest high chances for persistent heat in the orange and red shaded areas.

# Week-2 Lesser Antilles Heat Hazards Outlook

## Week-2 Lesser Antilles Heat Hazard Outlooks Valid: 29 Jan - 04 Feb 2025



### Heat Levels

Moderately Severe

Severe

Extremely Severe

**There are no heat hazards forecast for week 2.**

# For More Information Please Visit

## **Forecasting Tools:**

[https://www.cpc.ncep.noaa.gov/products/international/endalk/climate\\_health/heat-health\\_forecasts\\_alt.shtml](https://www.cpc.ncep.noaa.gov/products/international/endalk/climate_health/heat-health_forecasts_alt.shtml)

## **Urban Heat Island Alerts:**

[https://www.cpc.ncep.noaa.gov/products/international/UHI/UHI\\_alert\\_map.html](https://www.cpc.ncep.noaa.gov/products/international/UHI/UHI_alert_map.html)