

# Heat Hazards Outlooks for the Caribbean

**Date of Issue: 2024-12-31**

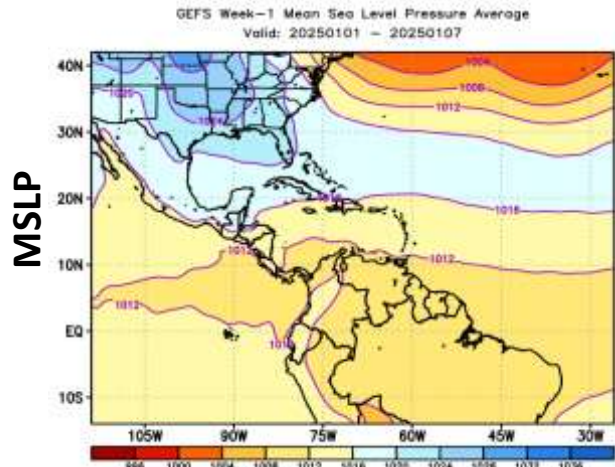
**Week-1, Valid for: 01 - 07 January 2025**

**Week-2, Valid for: 08 - 14 January 2025**

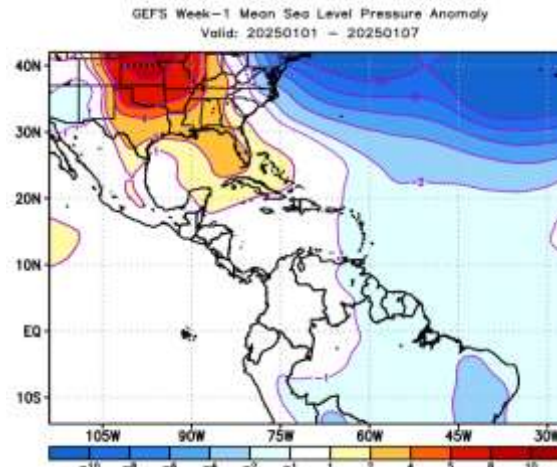


# Week-1, Mean Sea Level Pressure & 500-hPa Height

## 7-day Total



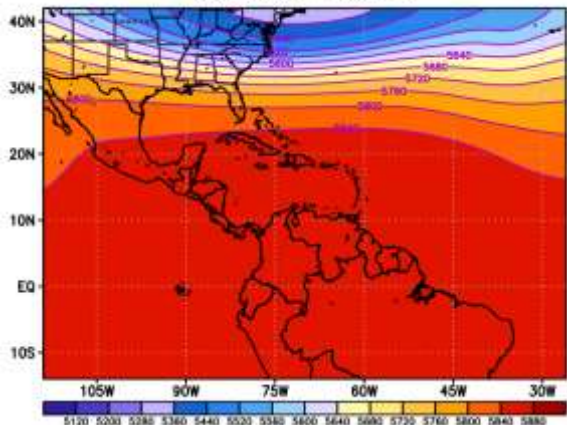
## 7-day Anomaly



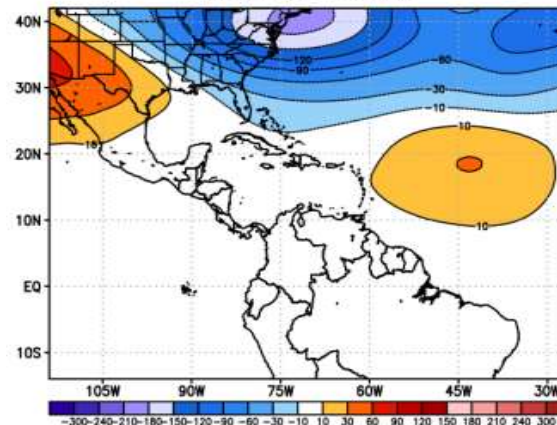
Next week, mean sea level pressure is forecasted to be slightly-above-average across Bahamas and Cuba, near-normal over central Caribbean and slightly-below-average over Lesser Antilles and eastern Caribbean locations.

## Geop. Height (500-hPa)

GEFS Week-1 500-hPa Geo-Potential Height Average  
Valid: 20250101 - 20250107



GEFS Week-1 500-hPa Geo-Potential Height Anomaly  
Valid: 20250101 - 20250107



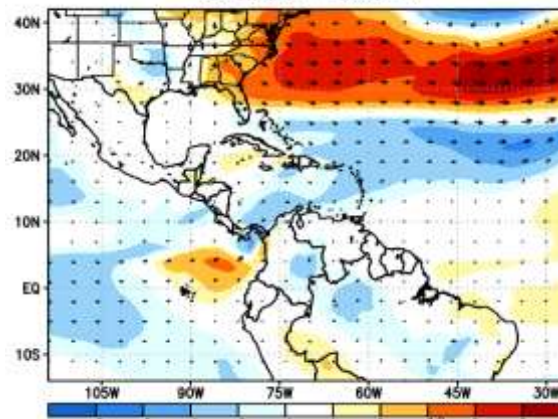
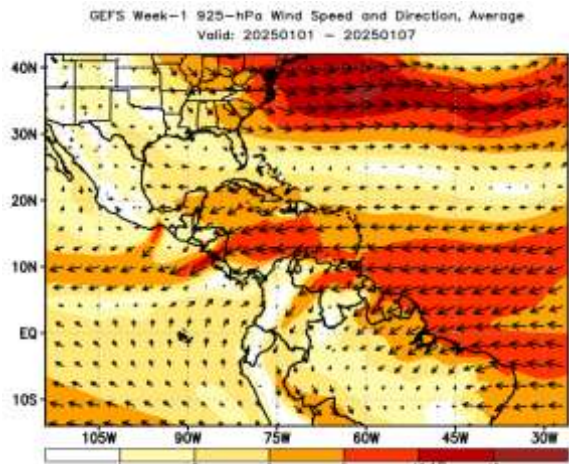
At 500-hPa, geopotential height anomalies in the region expected to be near-normal for much of the Caribbean next week and slightly-below-average over much of the Bahamas.

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

## 7-day Total

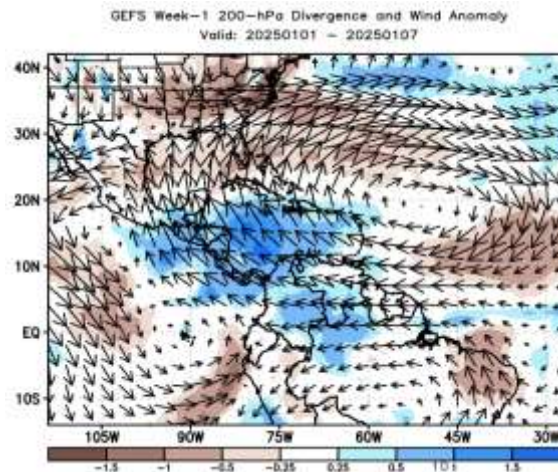
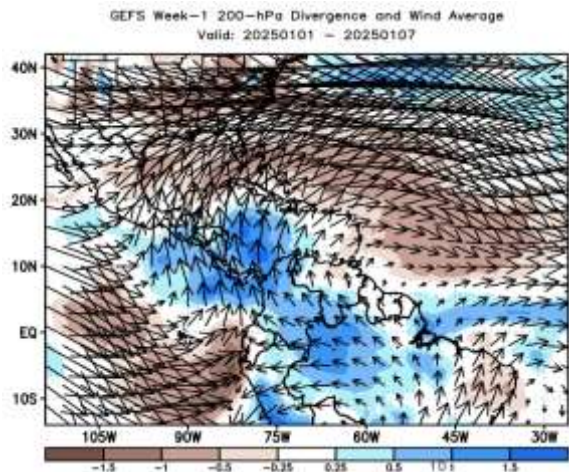
## 7-day Anomaly

Wind (925-hPa)



For week-1, low-level winds are expected to be near-normal over Cuba, the Bahamas and much of northern South America, and slightly-below-average over many central-southern locations in the Caribbean.

Wind & Diverg. (200-hPa)



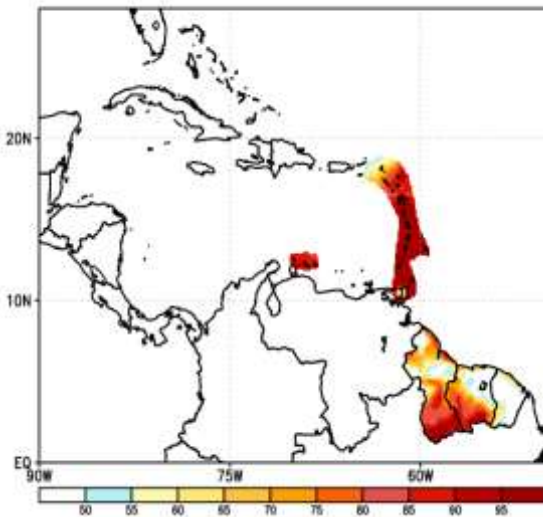
Upper-level divergence is expected over much of the central-southern Caribbean region.



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

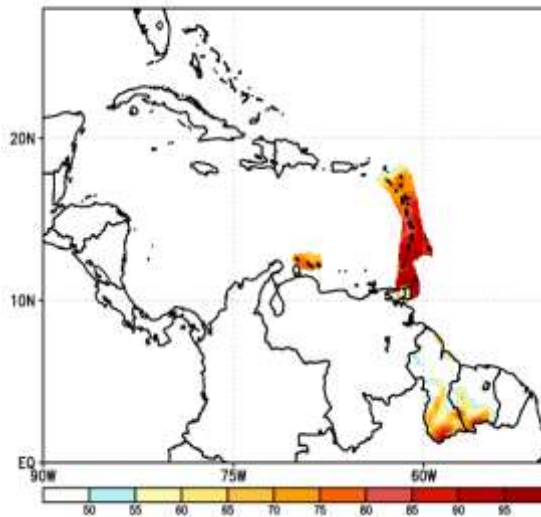
**hybrid > 80th percentile,  
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250101 - 20250107



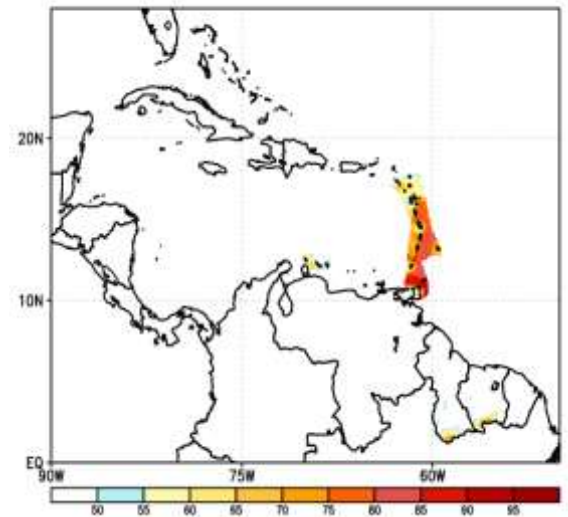
**hybrid > 90th percentile,  
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GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250101 - 20250107



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

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250101 - 20250107

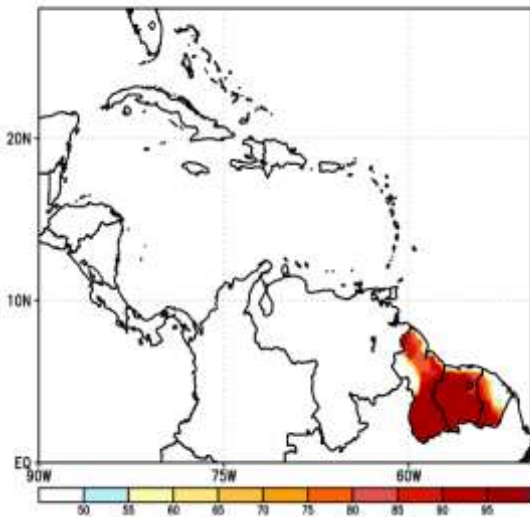


There is a high chance for daily Tmax/HI max hybrid index to exceed the 80th percentile for at least 3 consecutive days over Aruba, Bonaire, and Curacao, many Lesser Antilles islands, Trinidad and Tobago, much of Guyana and southwestern half of Suriname. There is also a moderate to high chance for daily Tmax/HI max hybrid index to exceed the 95th percentile for at least 3 consecutive days over many central-southern Lesser Antilles islands, and Tobago.

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

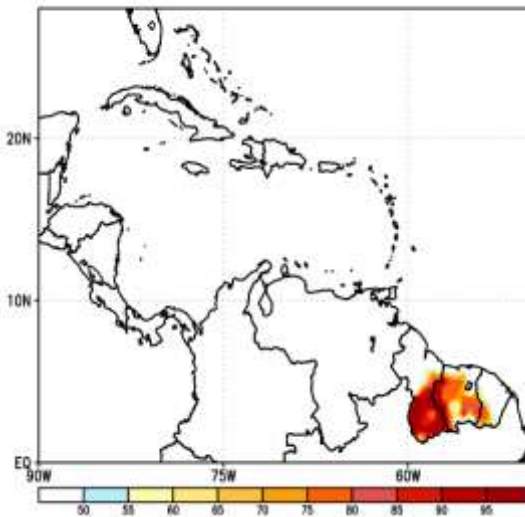
**hybrid > 33°C,  
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
Valid: 20250101 - 20250107



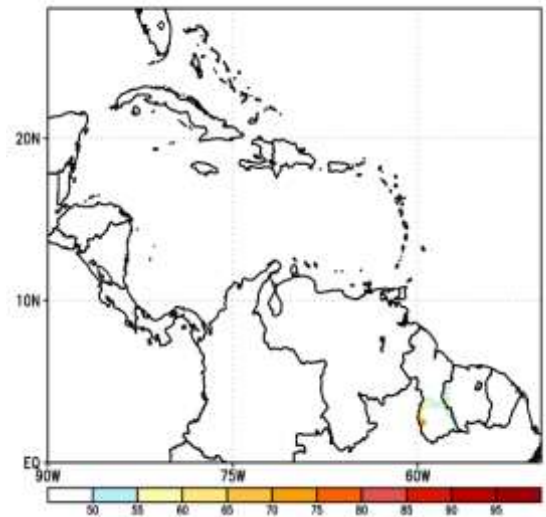
**hybrid > 35°C,  
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da  
Valid: 20250101 - 20250107



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

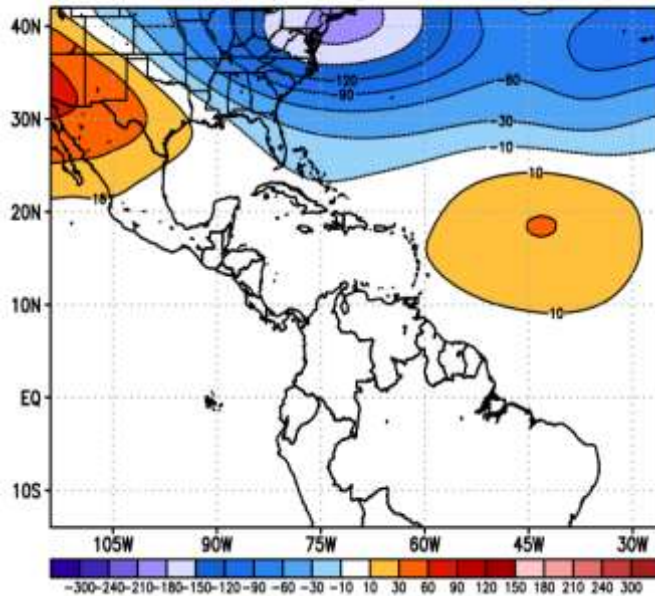
FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250101 - 20250107



**There is a high probability for daily Tmax/HImax hybrid index to exceed 33°C for at least 3 consecutive days over most of Guyana, Suriname, and southwest French Guiana. A small region in southwest Guyana shows a moderate to high chance for daily Tmax/HImax hybrid index to exceed 37°C.**

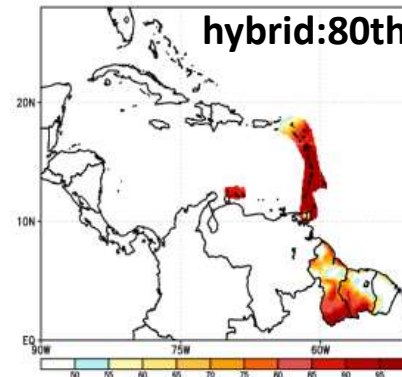
# Week-1, Convergence of Evidences

GEFS Week-1 500-hPa Geo-Potential Height Anomaly  
Valid: 20250101 - 20250107

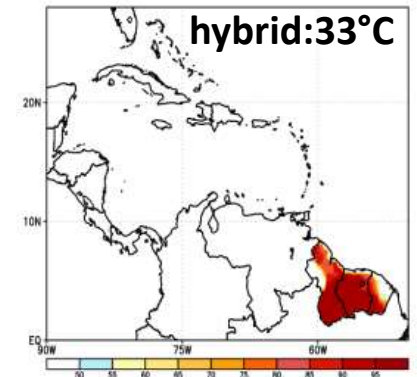


- At 500-hPa, geopotential height anomalies in the region expected to be near-normal for much of the Caribbean next week and slightly-below-average over much of the Bahamas.
- Hybrid index exceedance probability forecasts indicate:
  - High chances for the hybrid index to exceed the 95th percentile over many central-southern Lesser Antilles islands, and Tobago.
  - High chances for the hybrid index to exceed 37°C over a small region in southwest Guyana.

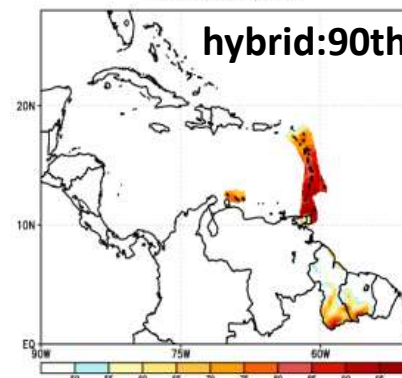
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250101 - 20250107



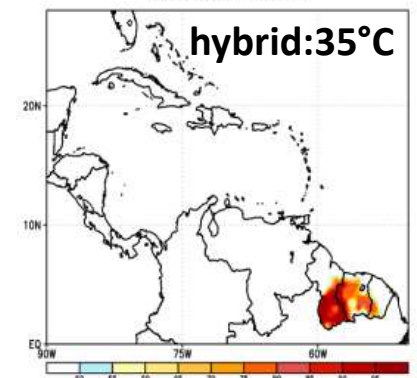
FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
Valid: 20250101 - 20250107



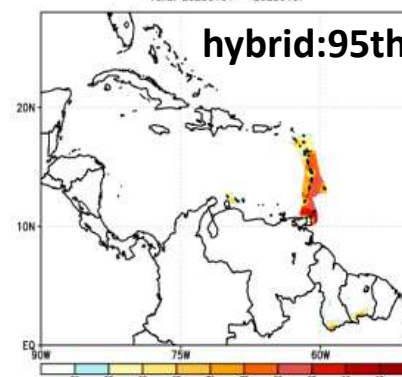
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250101 - 20250107



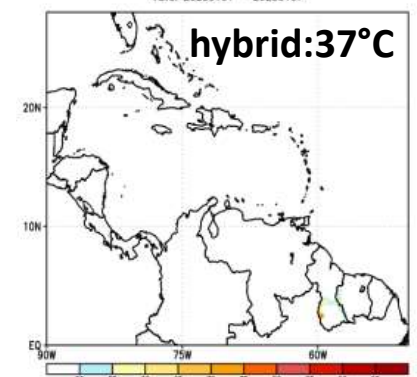
FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da  
Valid: 20250101 - 20250107



GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250101 - 20250107



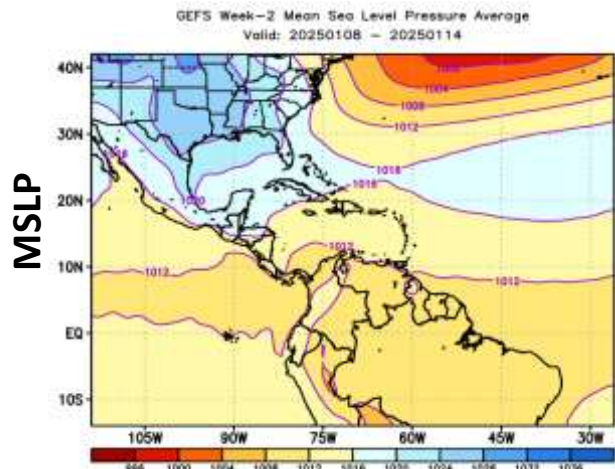
FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250101 - 20250107



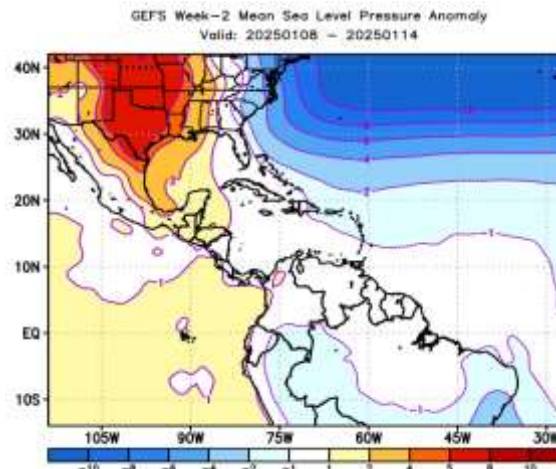


# Week-2, Mean Sea Level Pressure & 500-hPa Height

## 7-day Total



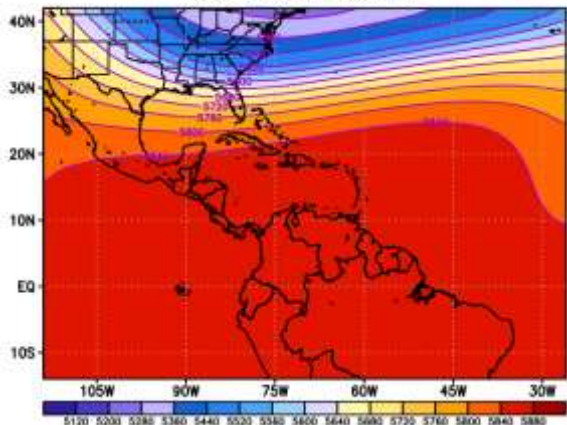
## 7-day Anomaly



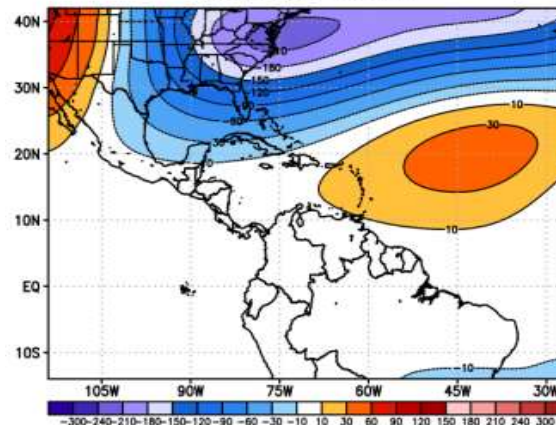
For week-2, mean sea level pressure is forecasted to be near-normal over central Caribbean locations and slightly-below-average across many eastern locations in the Caribbean.

## Geop. Height (500-hPa)

GEFS Week-2 500-hPa Geo-Potential Height Average  
Valid: 20250108 - 20250114



GEFS Week-2 500-hPa Geo-Potential Height Anomaly  
Valid: 20250108 - 20250114



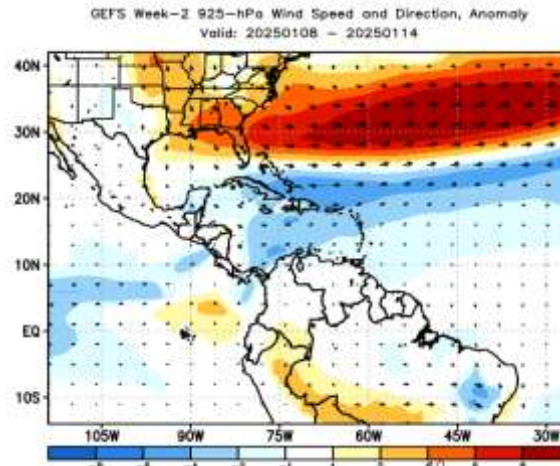
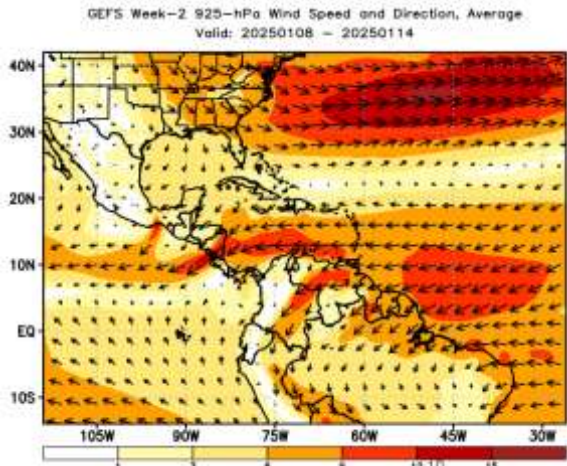
At 500-hPa, geopotential height anomalies in the region expected to be slightly-below-normal over more northern locations, near-normal in more central regions and over northern South America, and above-average over much of the Lesser Antilles next week.

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

## 7-day Total

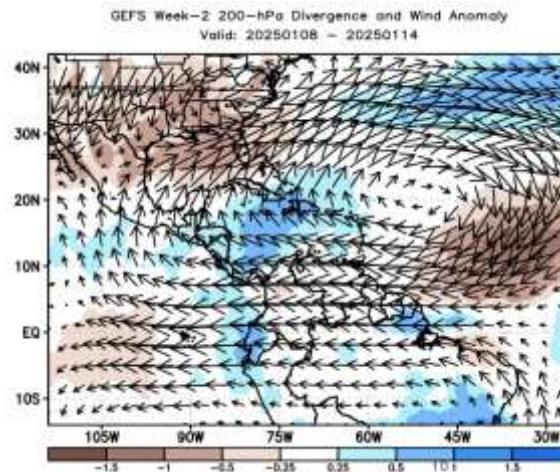
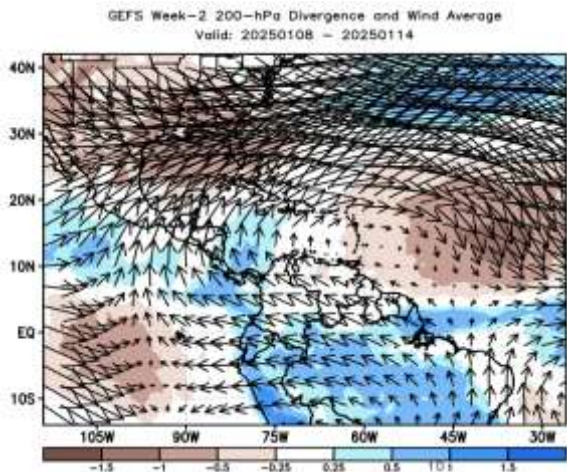
## 7-day Anomaly

Wind (925-hPa)



For week-2, low-level easterly winds are expected to be below-average over much of the Caribbean next week.

Wind & Diverg. (200-hPa)



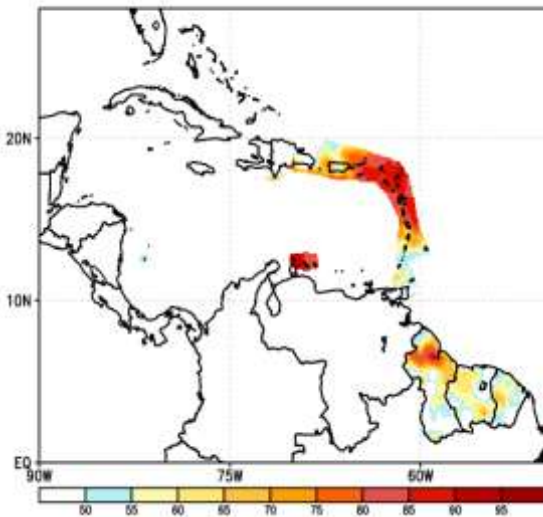
Upper-level divergence is expected over many locations in the Caribbean next week.



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

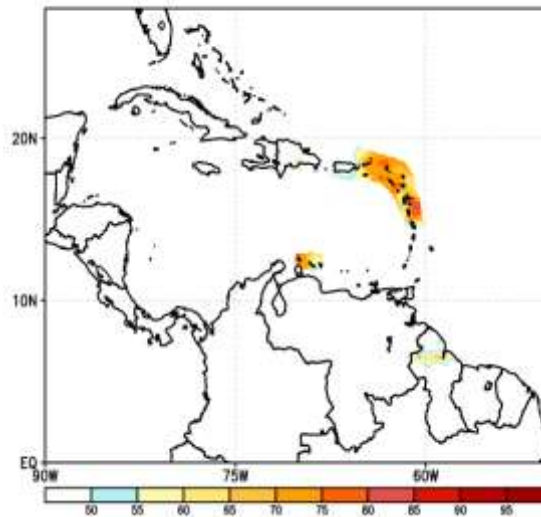
**hybrid > 80th percentile,  
≥3 consecutive days**

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250108 – 20250114



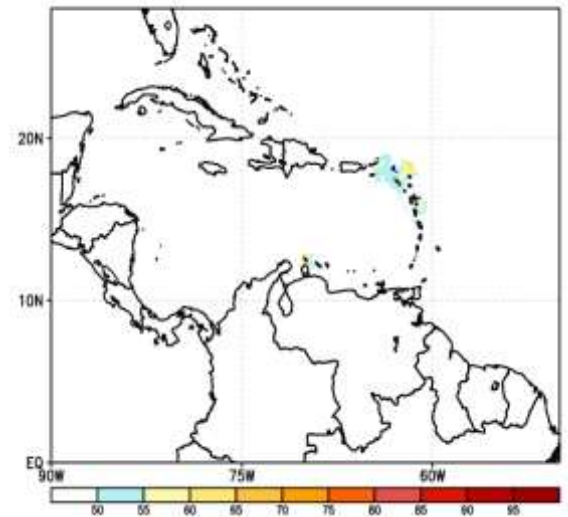
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Valid: 20250108 – 20250114



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

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250108 – 20250114

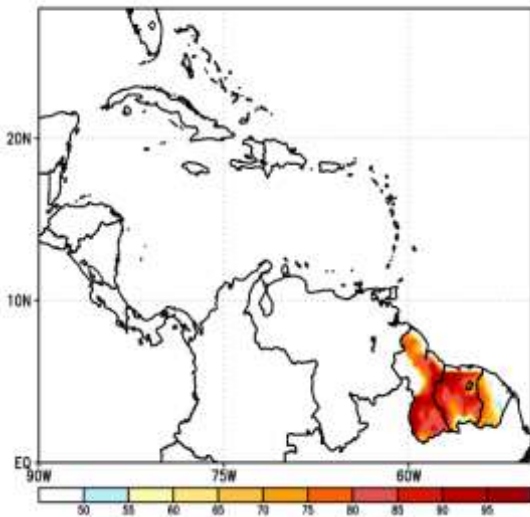


**There is a high chance for daily Tmax/HI max hybrid index to exceed the 80th percentile for at least 3 consecutive days over Aruba, Bonaire, and Curacao, much of the Lesser Antilles islands, and much of northern Guyana. No locations show a moderate to high chance for daily Tmax/HI max hybrid index to exceed the 95th percentile for at least 3 consecutive days.**

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

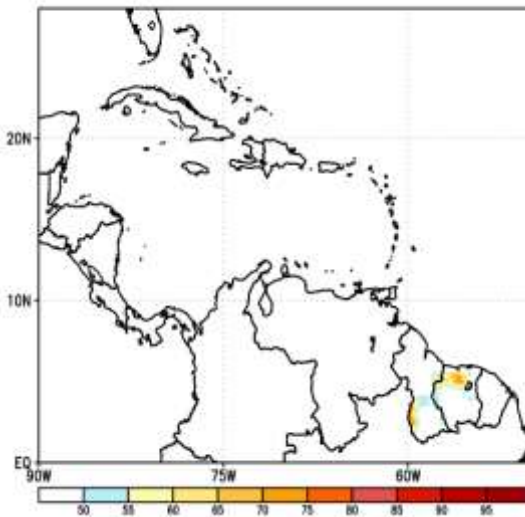
**hybrid > 33°C,  
≥3 consecutive days**

FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
Valid: 20250108 - 20250114



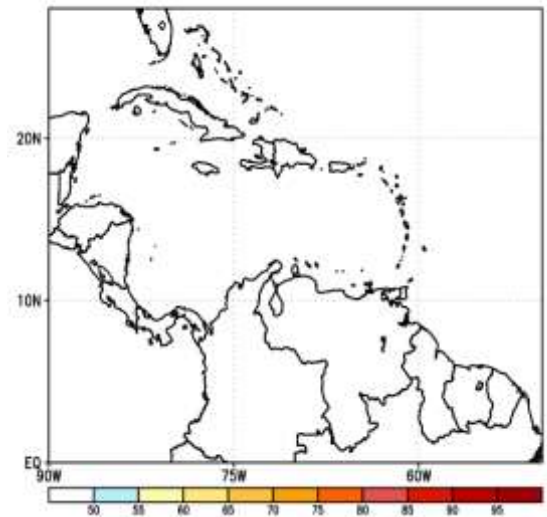
**hybrid > 35°C,  
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**hybrid > 37°C,  
≥3 consecutive days**

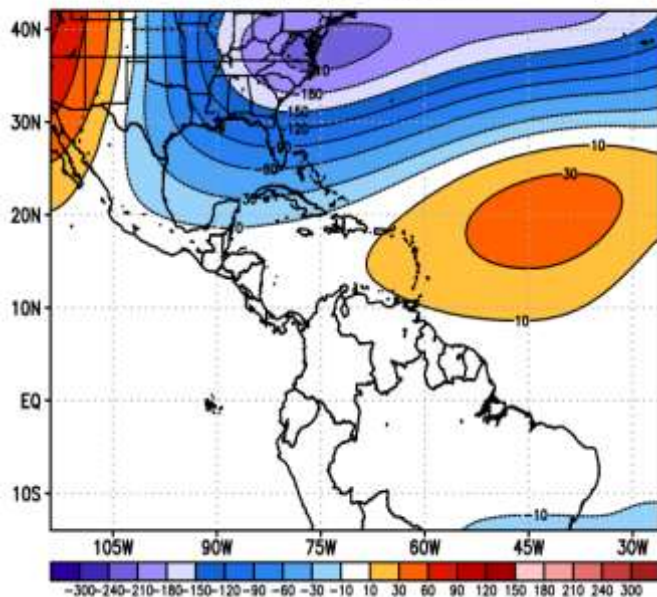
FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250108 - 20250114



**There is a high probability for daily Tmax/HI max hybrid index to exceed 33°C for at least 3 consecutive days over much of Guyana, Suriname, and much of southwestern French Guiana. No locations show a moderate to high chance for daily Tmax/HI max hybrid index to exceed 37°C.**

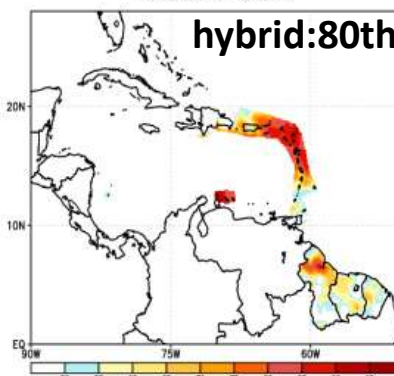
# Week-2, Convergence of Evidences

GEFS Week-2 500-hPa Geo-Potential Height Anomaly  
Valid: 20250108 - 20250114

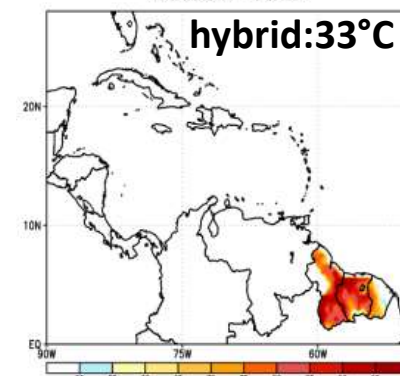


- At 500-hPa, geopotential height anomalies in the region expected to be slightly-below-normal over more northern locations, near-normal in more central regions and over northern South America, and above-average over much of the Lesser Antilles next week.
- Hybrid index exceedance probability forecasts indicate:
  - High chances for the hybrid index to exceed the 95th percentile over no locations
  - High chances for the hybrid index to exceed 37°C over no locations

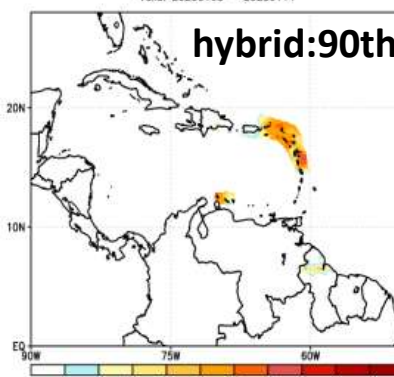
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days  
Valid: 20250108 - 20250114



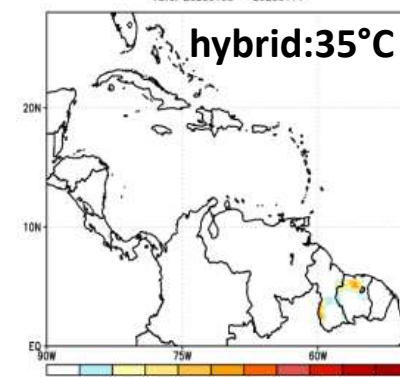
FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da  
Valid: 20250108 - 20250114



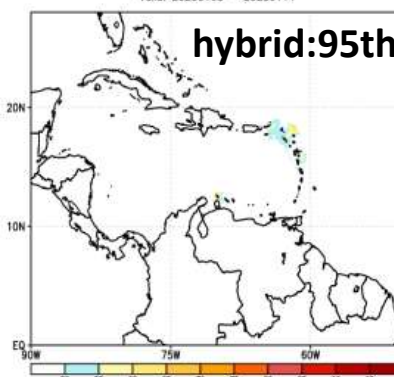
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days  
Valid: 20250108 - 20250114



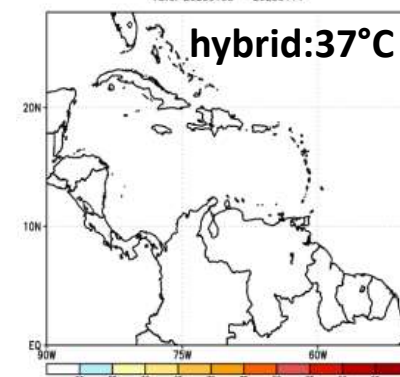
FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da  
Valid: 20250108 - 20250114



GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days  
Valid: 20250108 - 20250114



FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da  
Valid: 20250108 - 20250114





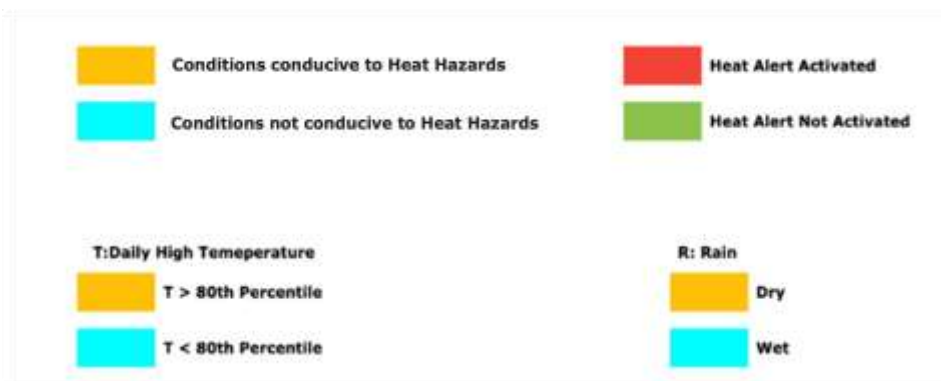
# Urban Heat Island Alerts for Caribbean



[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

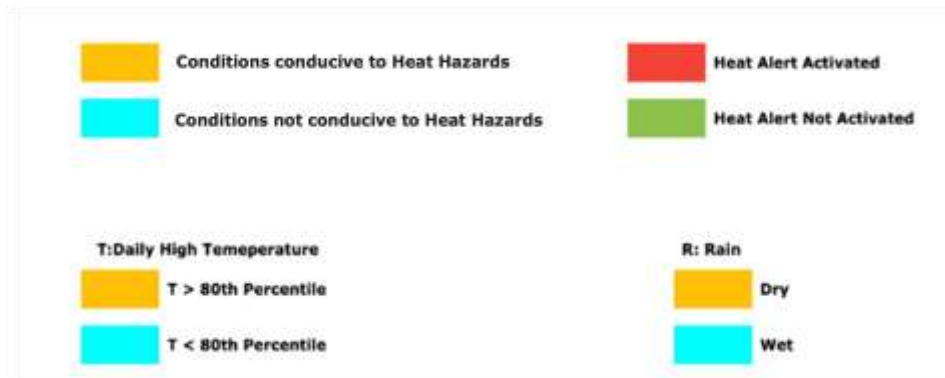
NO	Stations	80th Pctl Clim	Jan-01-2025			Jan-02-2025			Jan-03-2025			Jan-04-2025			Jan-05-2025		
			Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert
1	Barquisimeto	28.3 degC															
2	Barranquilla	29.5 degC															
3	Cartagena	31.2 degC															
4	Chaguanas	28.8 degC															
5	Maracaibo_La_Chinita	32.1 degC															
6	Miami_FI	28.6 degC															



[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

		Week 2: 06Jan2025 - 12Jan2025				Week 3: 13Jan2025 - 19Jan2025				Week 4: 20Jan2025 - 26Jan2025			
NO	Stations	80th Pctl Clim	Tmax	Rain	Alert	80th Pctl Clim	Tmax	Rain	Alert	80th Pctl Clim	Tmax	Rain	Alert
1	Barquisimeto	28.3 degC				28.5 degC				28.6 degC			
2	Barranquilla	29.3 degC				29.5 degC				29.8 degC			
3	Cartagena	31.1 degC				31.6 degC				31.8 degC			
4	Chaguanas	28.5 degC				28.5 degC				28.2 degC			
5	Maracaibo_La Chinita	31.4 degC				31.9 degC				32.7 degC			



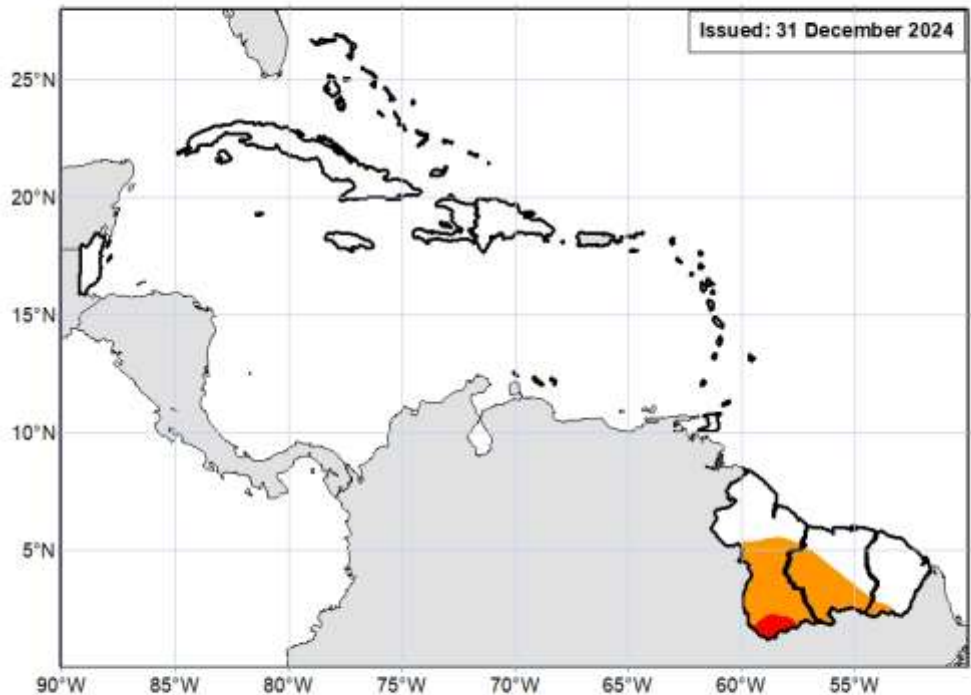
[https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb\\_week234\\_80.html](https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_week234_80.html)



# Week-1 Heat Hazards Outlook

## Week-1 Caribbean Heat Hazard Outlooks Valid: 1 - 7 Jan 2024

Issued: 31 December 2024

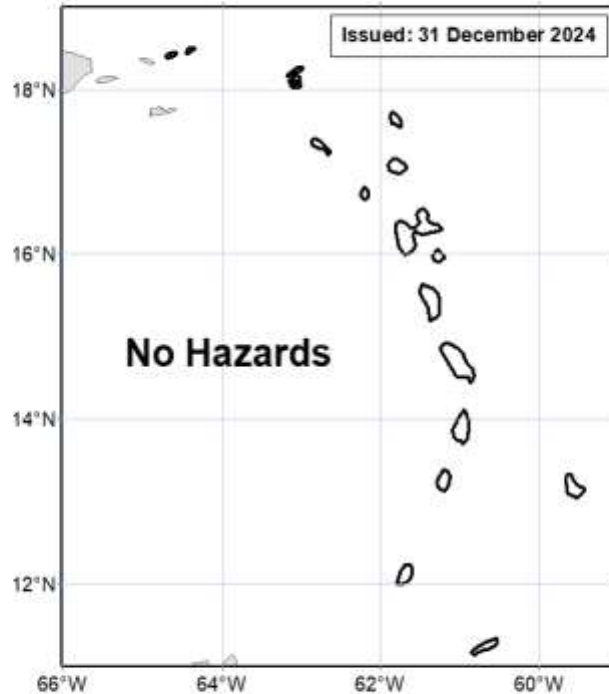


- There is an increased chance for **moderately severe heat** over central-southern Guyana, southwestern half of Suriname into a southwest corner of French Guiana.
- An increased chance for **severe heat** exists over a small region in southern Guyana.

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: 1 - 7 Dec 2024

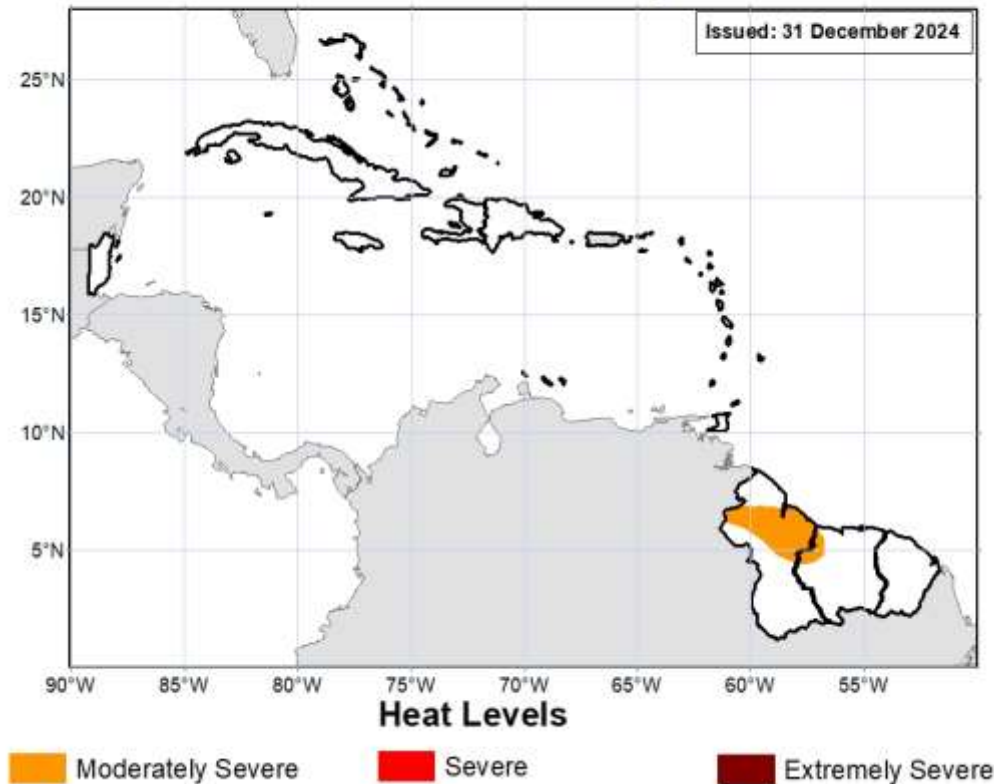


Moderately Severe Severe Extremely Severe

There are no heat hazards forecast for week 1.

# Week-2 Heat Hazards Outlook

## Week-2 Caribbean Heat Hazard Outlooks Valid: 8 - 14 January 2024



There is an increased chance for **moderately severe heat** over a band crossing northern Guyana into northwestern 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: 8 - 14 January 2024



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)