

Heat Hazards Outlooks for the Caribbean

Date of Issue: 2024-12-24

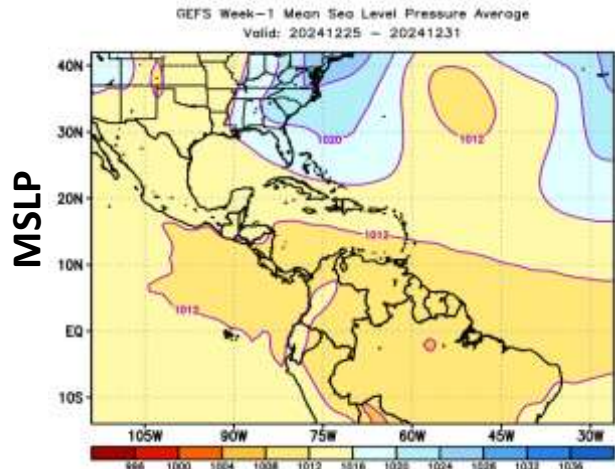
Week-1, Valid for: 25 - 31 December 2024

Week-2, Valid for: 01 - 07 January 2025

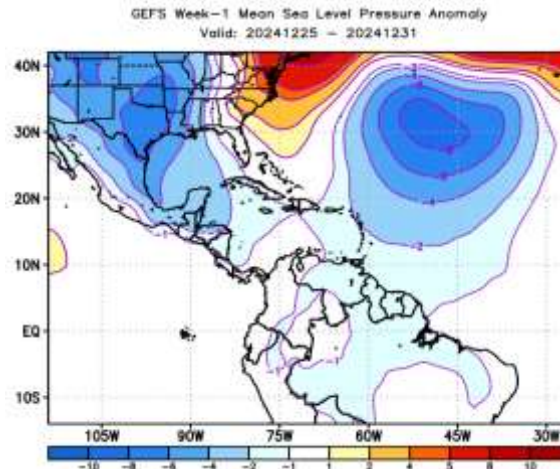


Week-1, Mean Sea Level Pressure & 500-hPa Height

7-day Total



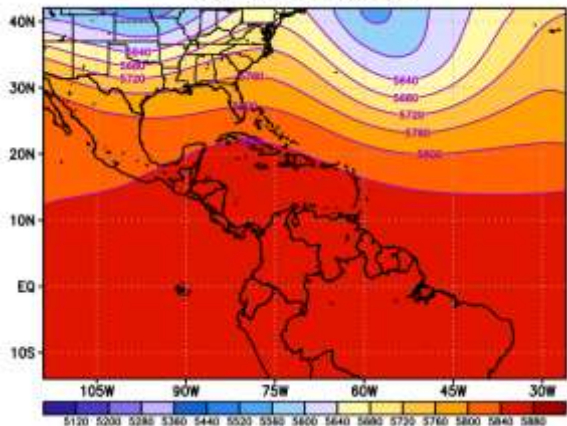
7-day Anomaly



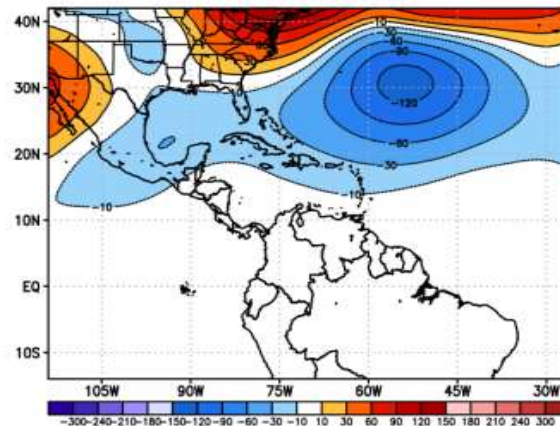
This week, mean sea level pressure is forecasted to be near-normal over much of the central Caribbean and slightly-below-average across western and eastern Caribbean.

Geop. Height (500-hPa)

GEFS Week-1 500-hPa Geo-Potential Height Average
Valid: 20241225 - 20241231



GEFS Week-1 500-hPa Geo-Potential Height Anomaly
Valid: 20241225 - 20241231



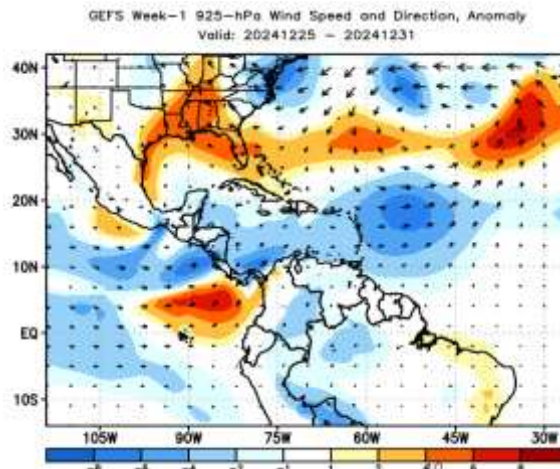
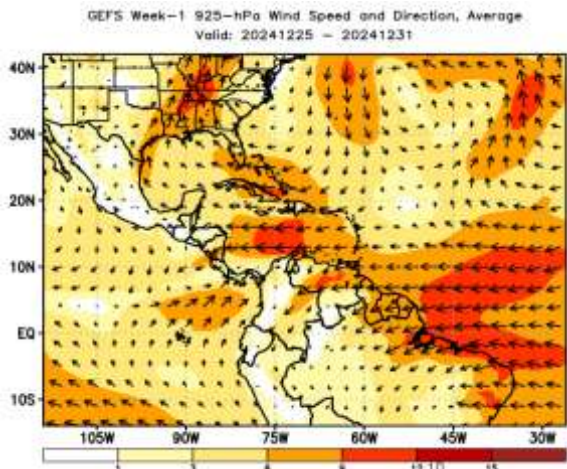
At 500-hPa, geopotential height anomalies in the region are expected to be slightly-below-average over much of the Caribbean and near-normal over southern Caribbean and northern South America for this week.

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

7-day Total

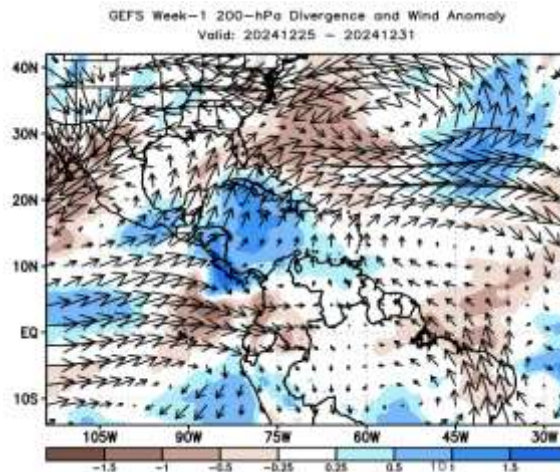
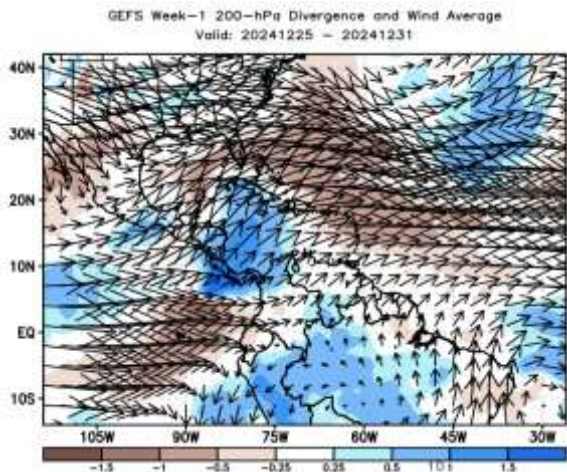
7-day Anomaly

Wind (925-hPa)



For week-1, low-level winds are expected to be above-average over northernmost Caribbean, and slightly-below-average over many central and southern locations.

Wind & Diverg. (200-hPa)

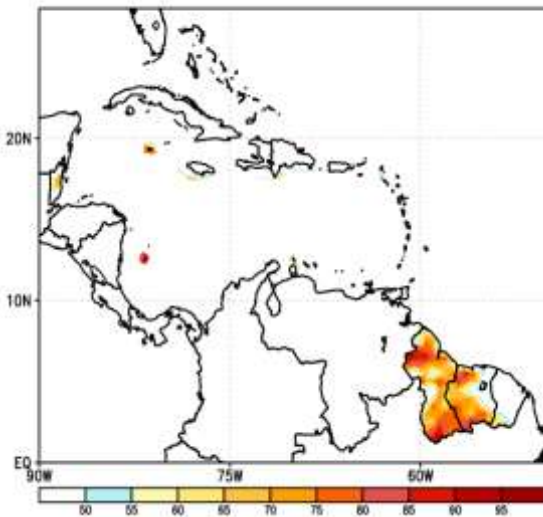


Upper-level divergence is expected over much of central and southern Caribbean this week.

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

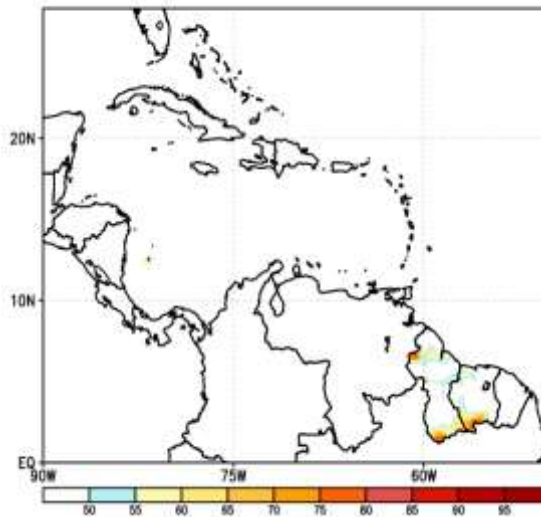
**hybrid > 80th percentile,
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20241225 - 20241231



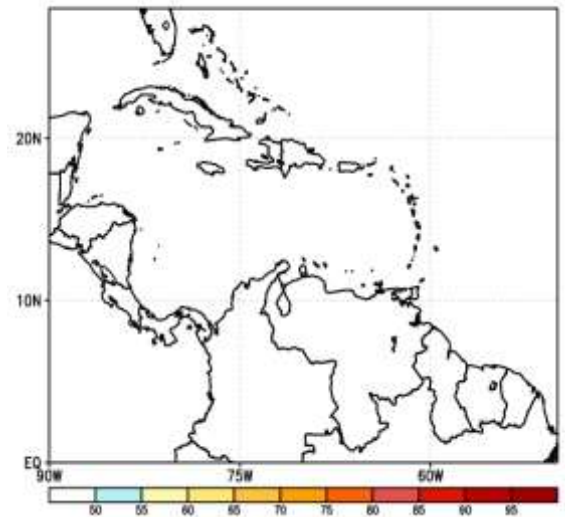
**hybrid > 90th percentile,
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20241225 - 20241231



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

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20241225 - 20241231

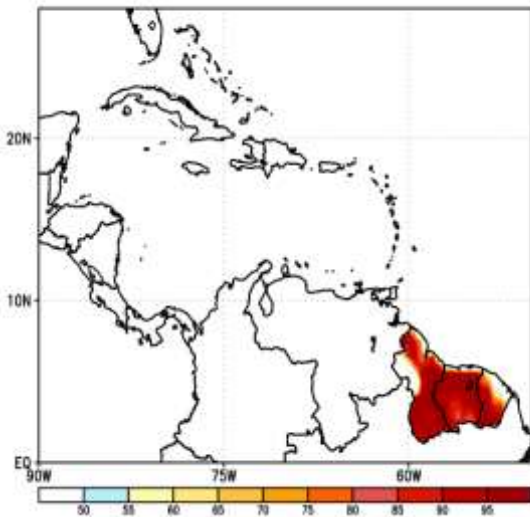


There is a high chance for daily Tmax/HI max hybrid index to exceed the 80th percentile for at least 3 consecutive days over many regions in Guyana and central-western Suriname. No locations exhibit a moderate to high chance for daily Tmax/HI max hybrid index to exceed the 95th percentile.

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

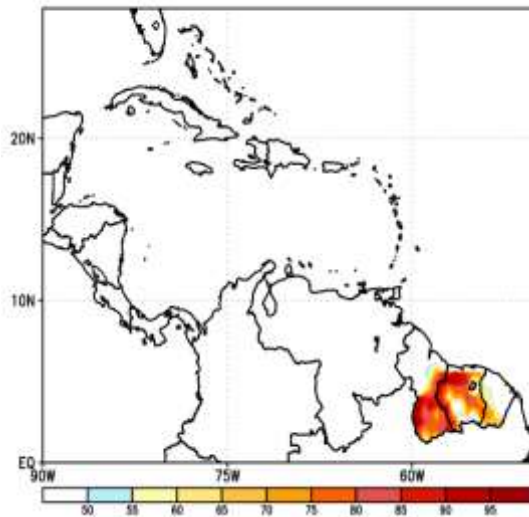
**hybrid > 33°C,
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20241225 - 20241231



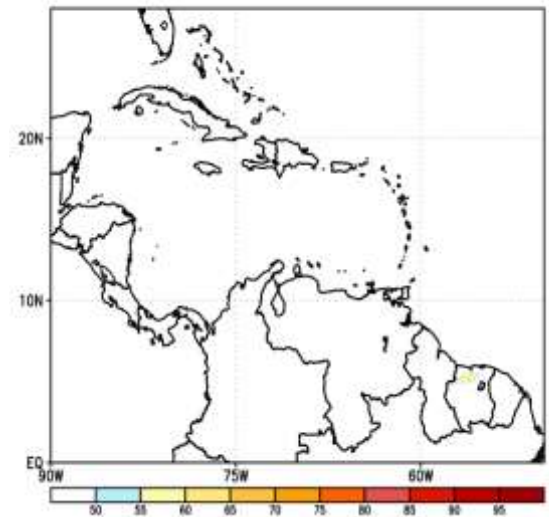
**hybrid > 35°C,
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20241225 - 20241231



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

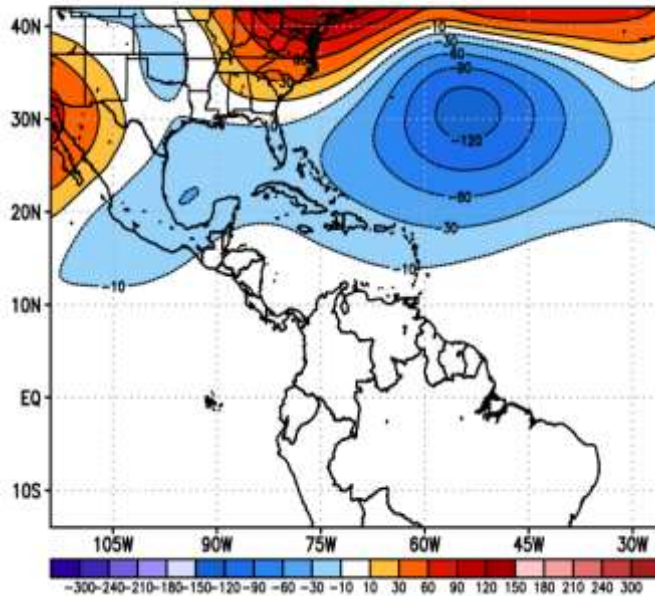
FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20241225 - 20241231



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

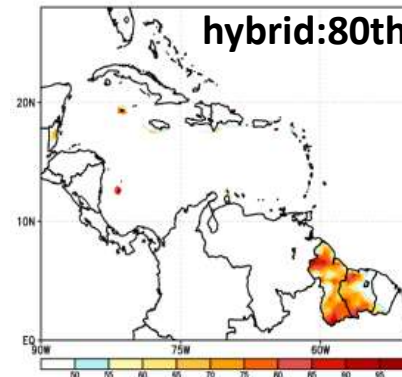
Week-1, Convergence of Evidences

GEFS Week-1 500-hPa Geo-Potential Height Anomaly
Valid: 20241225 - 20241231

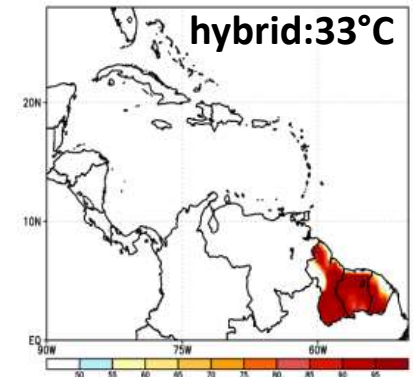


- At 500-hPa, model forecasts indicate geopotential height anomalies in the region are expected to be slightly-below-average over much of the Caribbean and near-normal over southern Caribbean and northern South America for this week.
- Hybrid index exceedance probability forecasts indicate:
 - High chances 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.

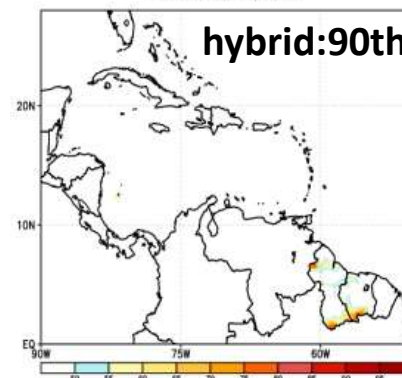
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20241225 - 20241231



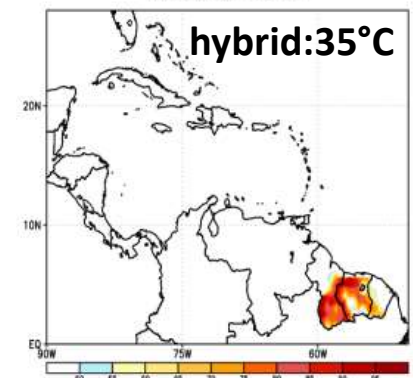
FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20241225 - 20241231



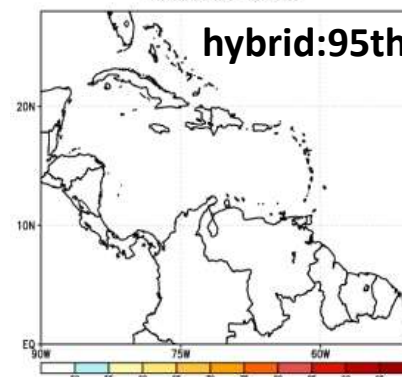
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20241225 - 20241231



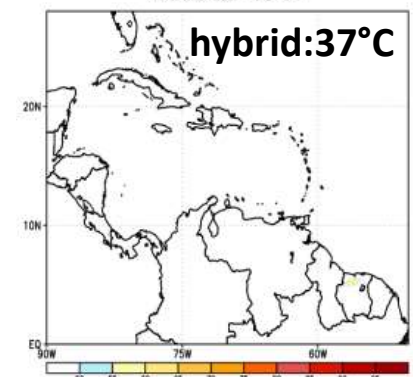
FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20241225 - 20241231



GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20241225 - 20241231

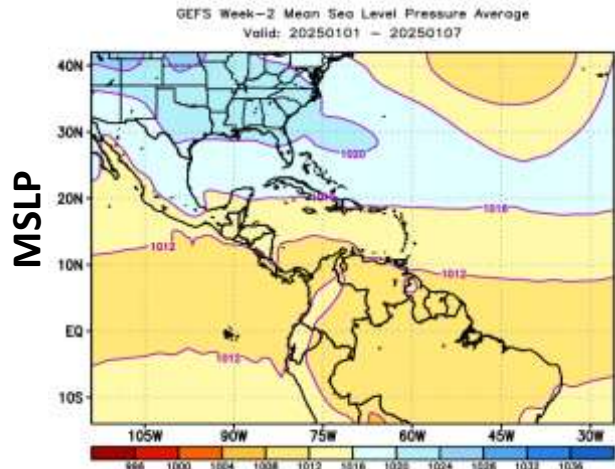


FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20241225 - 20241231

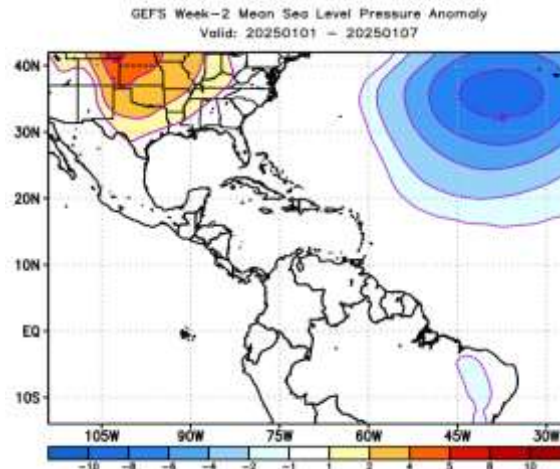


Week-2, Mean Sea Level Pressure & 500-hPa Height

7-day Total



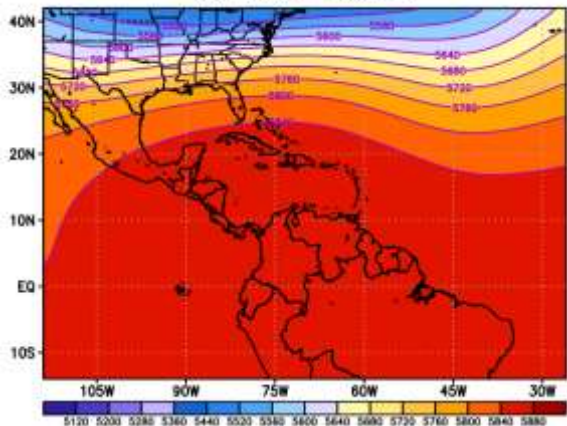
7-day Anomaly



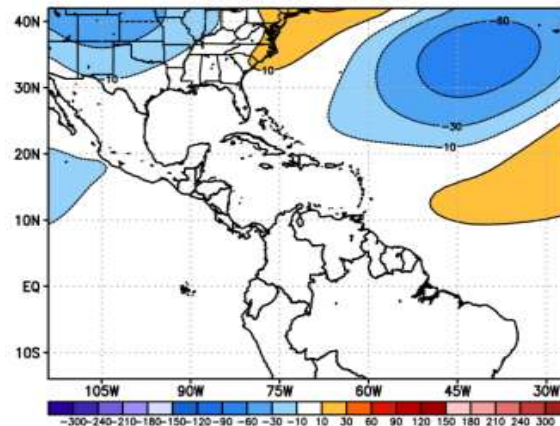
For week-2, mean sea level pressure is forecasted to be near-normal across the Caribbean and northern South America.

Geop. Height (500-hPa)

GEFS Week-2 500-hPa Geo-Potential Height Average
Valid: 20250101 - 20250107



GEFS Week-2 500-hPa Geo-Potential Height Anomaly
Valid: 20250101 - 20250107



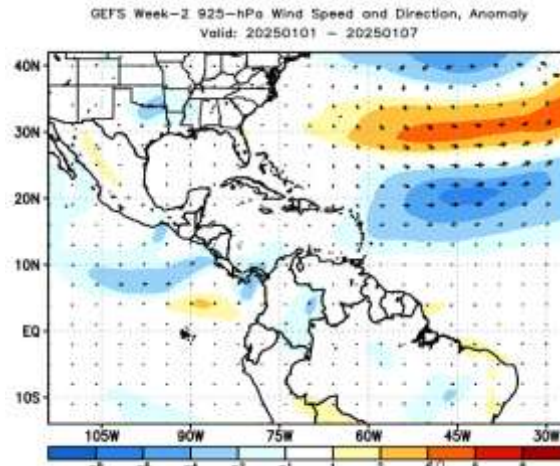
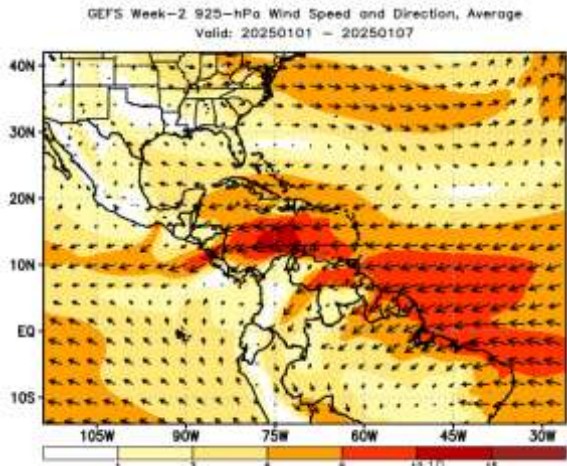
At 500-hPa, geopotential height anomalies in the region also expected to be near-normal for next week.

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

7-day Total

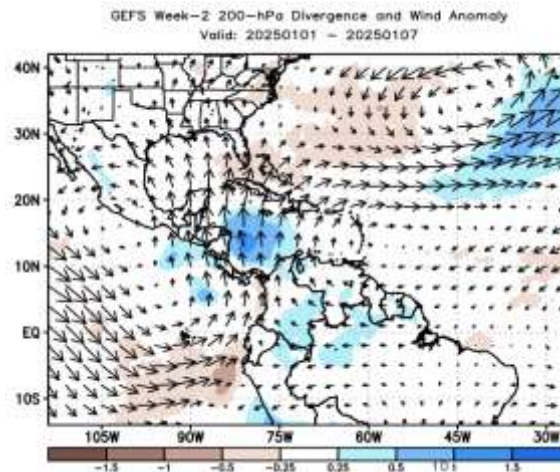
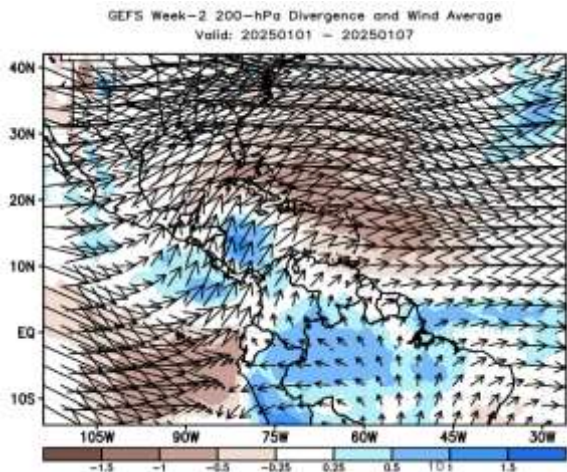
7-day Anomaly

Wind (925-hPa)



For week-2, low-level winds are expected to be near-normal over much of the Caribbean, but slightly-below-average over the Lesser Antilles.

Wind & Diverg. (200-hPa)

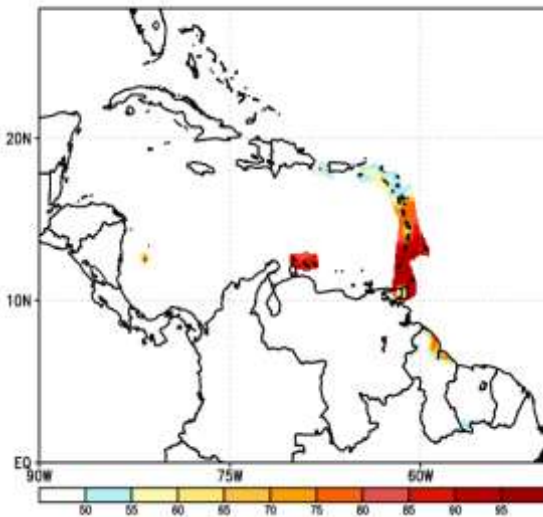


Upper-level divergence is expected over Caribbean locations just south of Cuba including Jamaica next week.

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

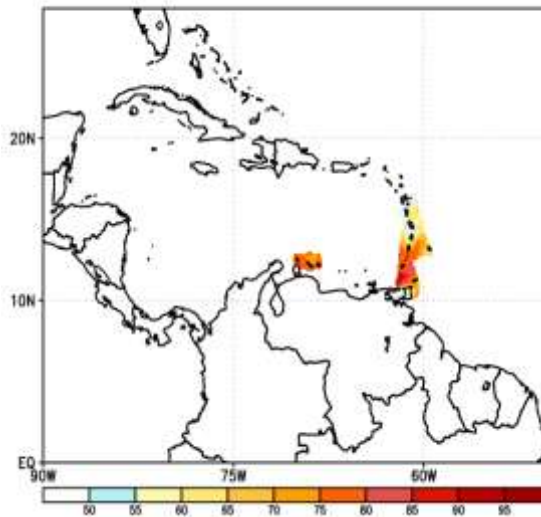
**hybrid > 80th percentile,
≥3 consecutive days**

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20250101 – 20250107



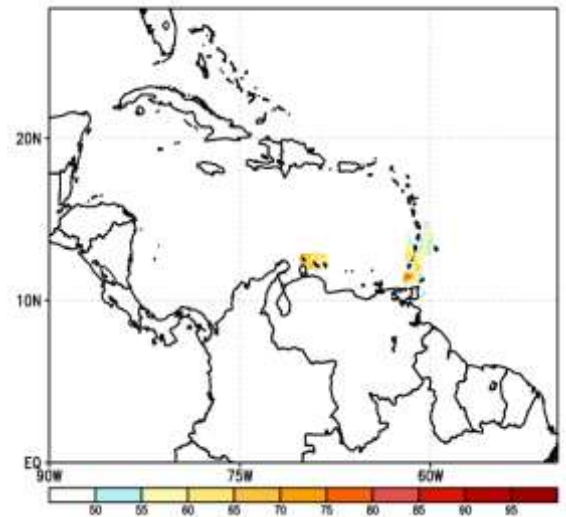
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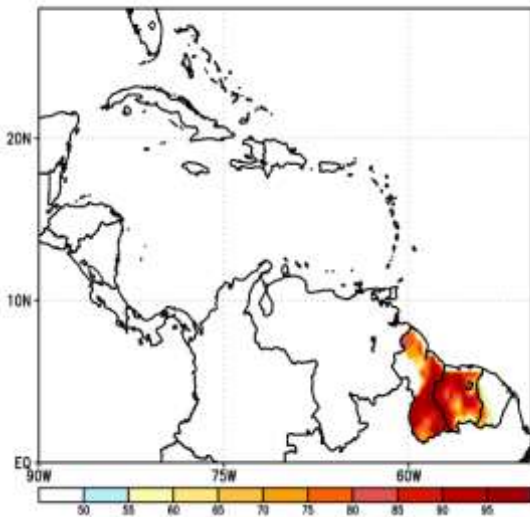


There is a high chance for daily Tmax/HI max hybrid index to exceed the 80th percentile for at least 3 consecutive days over Aruba, Bonaire, and Curaçao, many Lesser Antilles, Tobago, and a small region in northeast Guyana. There is also a moderate to high chance for daily Tmax/HI max hybrid index to exceed the 95th percentile for at least 3 consecutive days over Aruba and Bonaire, and some southern Lesser Antilles islands.

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

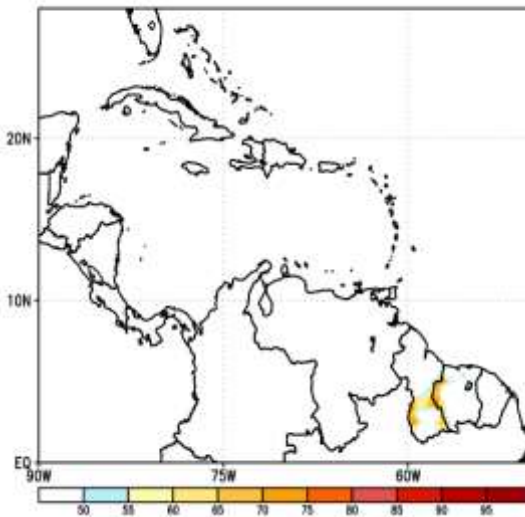
**hybrid > 33°C,
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Valid: 20250101 - 20250107



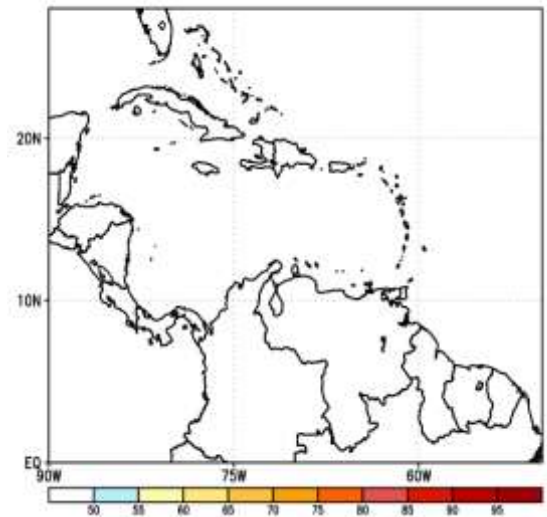
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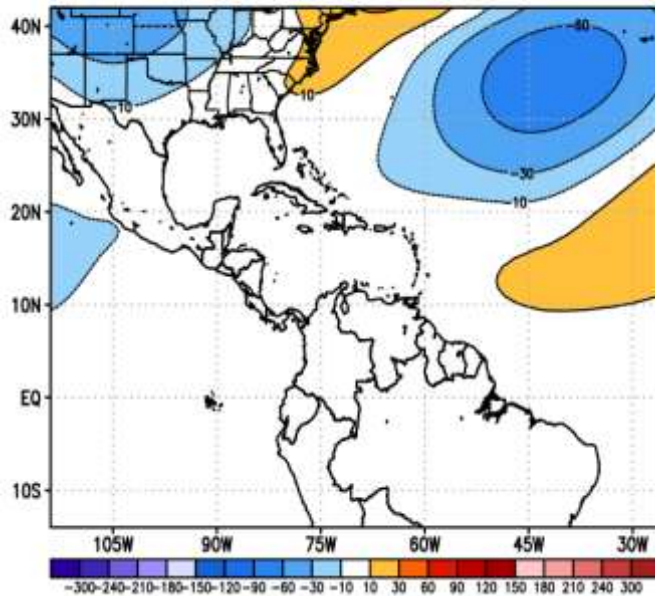
FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20250101 - 20250107



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 and Suriname into southwest French Guiana. No locations exhibit a moderate to high chance for daily Tmax/HI max hybrid index to exceed 37°C.

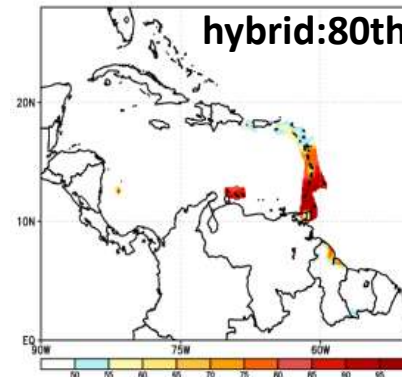
Week-2, Convergence of Evidences

GEFS Week-2 500-hPa Geo-Potential Height Anomaly
Valid: 20250101 - 20250107

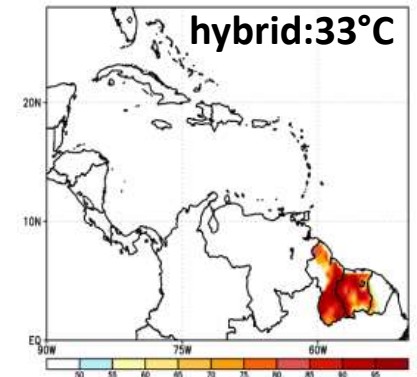


- At 500-hPa, model forecasts indicate geopotential height anomalies in the region are expected to be near-normal for next week
- Hybrid index exceedance probability forecasts indicate:
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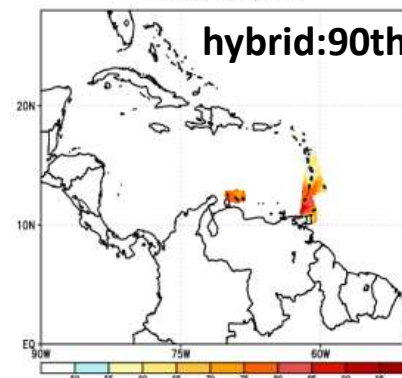
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20250101 - 20250107



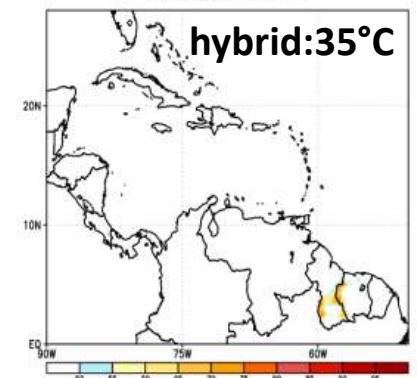
FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
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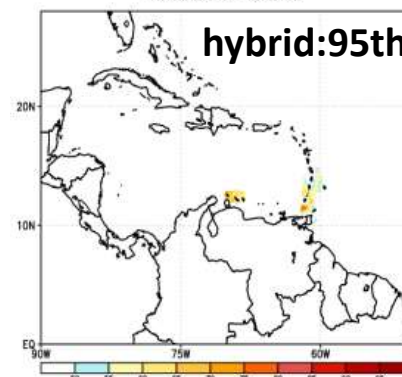
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20250101 - 20250107



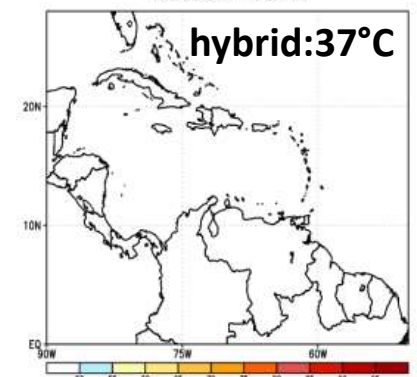
FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20250101 - 20250107



GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20250101 - 20250107



FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20250101 - 20250107



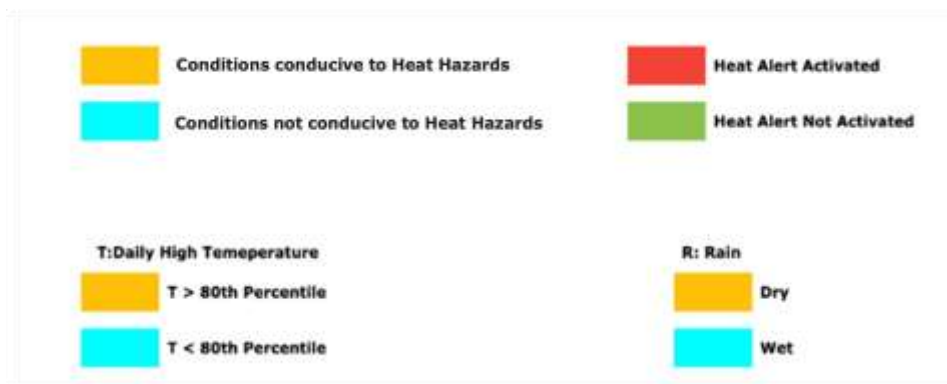
Urban Heat Island Alerts for Caribbean



https://www.cpc.ncep.noaa.gov/products/international/UHI/UHI_alert_Caribbean.html

Urban Heat Island Forecasts Week-1

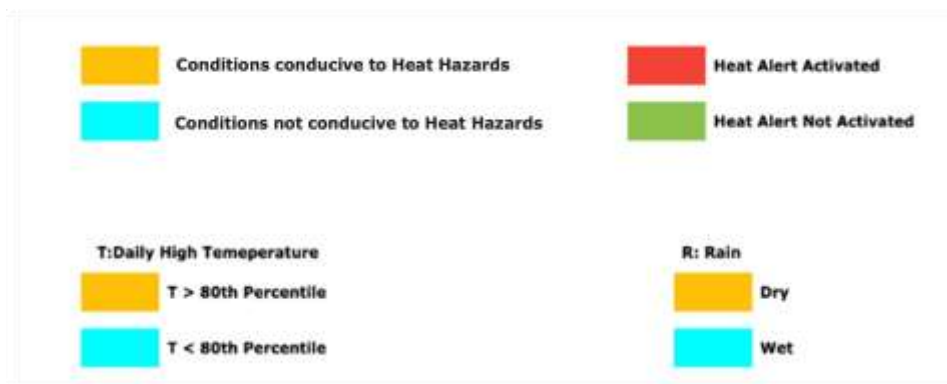
NO	Stations	80th Pctl Clim	Dec-25-2024			Dec-26-2024			Dec-27-2024			Dec-28-2024			Dec-29-2024		
			Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert
1	Barquisimeto	28.3 degC															
2	Barranquilla	29.5 degC															
3	Cartagena	31.2 degC															
4	Chaguanas	28.8 degC															
5	Maracaibo_La_Chinita	32.1 degC															



https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_day_80.html

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

		Week 2: 30Dec2024 - 05Jan2025				Week 3: 06Jan2025 - 12Jan2025				Week 4: 13Jan2025 - 19Jan2025			
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			

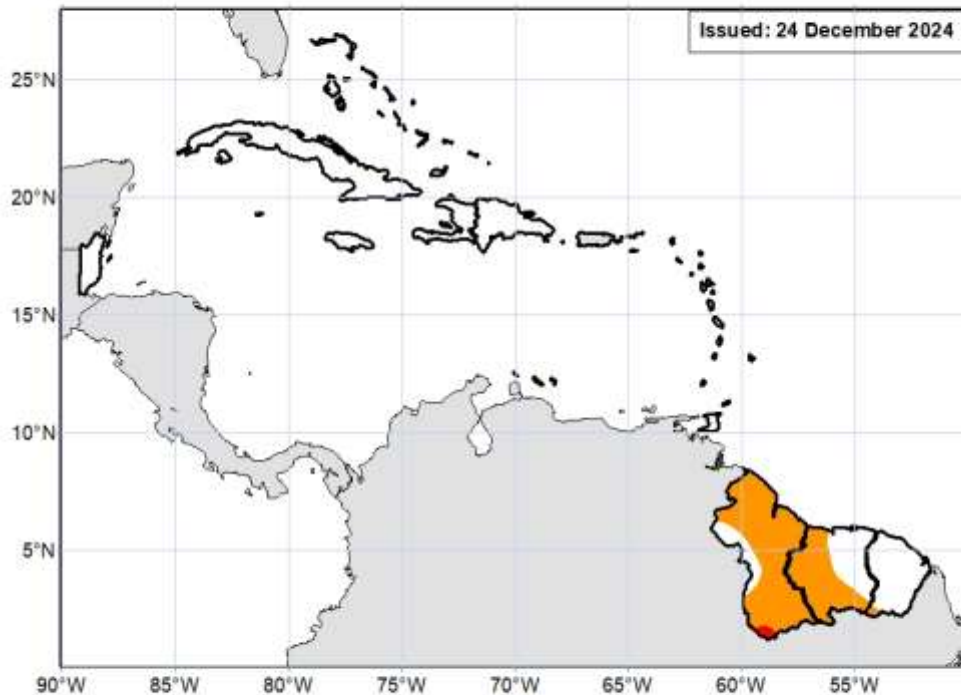


https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_week234_80.html

Week-1 Heat Hazards Outlook

Week-1 Caribbean Heat Hazard Outlooks Valid: 25 - 31 Dec 2024

Issued: 24 December 2024

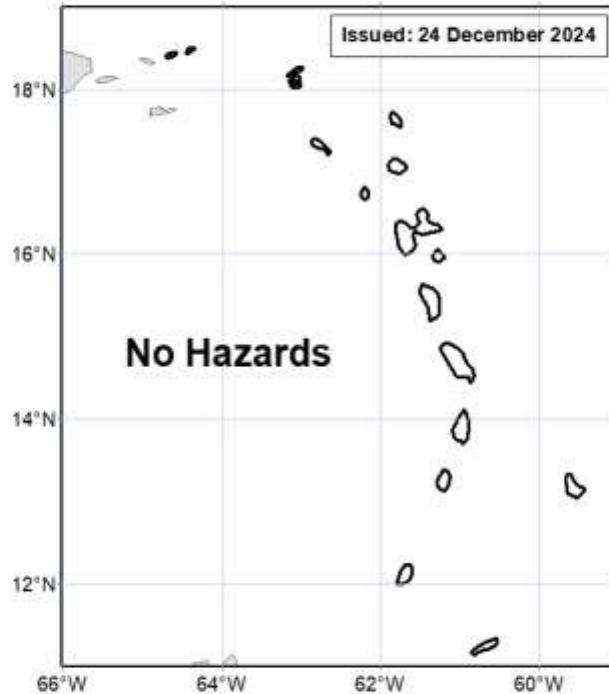


- There is an increased chance for **moderately severe heat** over most of Guyana and western and southern Suriname into the southwest corner of French Guiana.
- There is an increased chance for **severe heat** over a southwest region in Guyana.

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: 25 - 31 Dec 2024

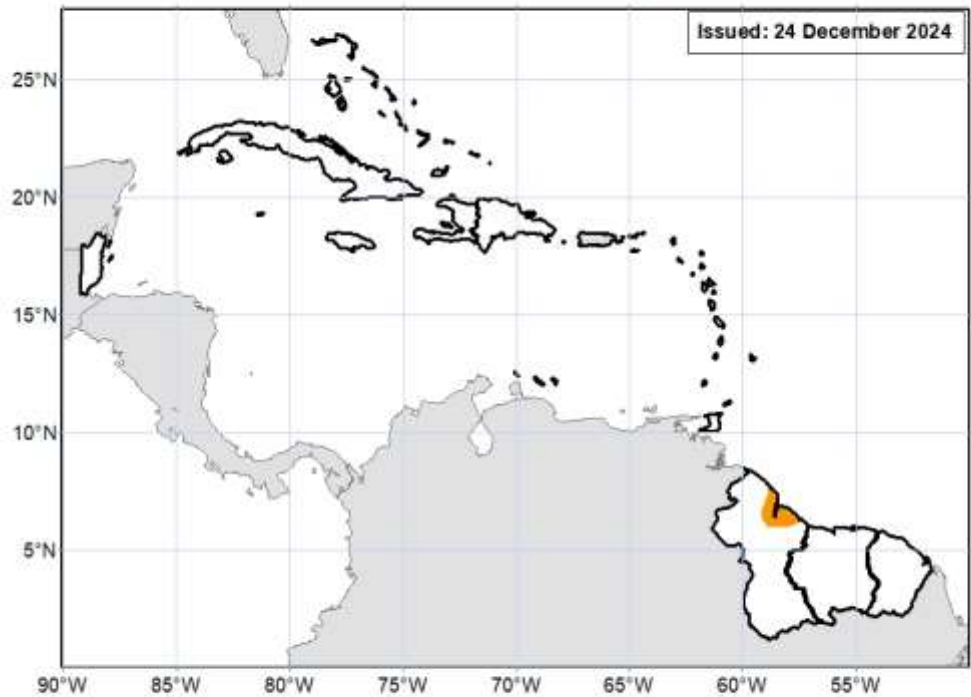


There are no heat hazards forecast over the Lesser Antilles in week 1.

Week-2 Heat Hazards Outlook

Week-2 Caribbean Heat Hazard Outlooks Valid: 1 - 7 January 2024

Issued: 24 December 2024



Heat Levels

Moderately Severe Severe Extremely Severe

There is an increased chance for **moderately severe heat** over a northeastern region of Guyana in week 2.

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: 1 - 7 January 2024



There are no heat hazards forecast over the Lesser Antilles in 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