

Heat Hazards Outlooks for the Caribbean

Date of Issue: 2025-01-28

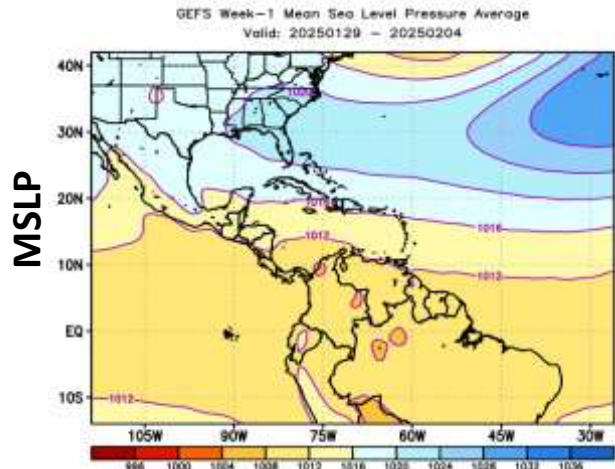
Week-1, Valid for: 29 January - 04 February 2025

Week-2, Valid for: 05 - 11 February 2025

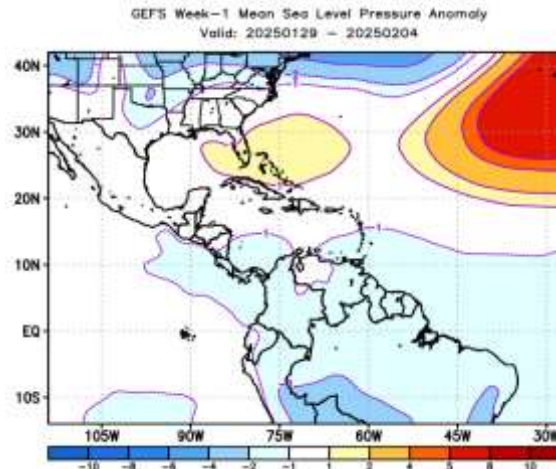


Week-1, Mean Sea Level Pressure & 500-hPa Height

7-day Total



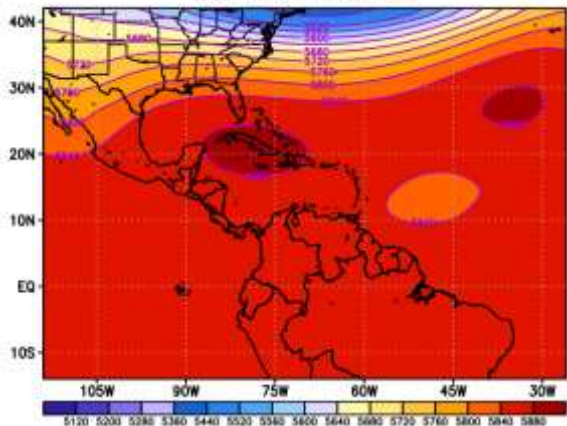
7-day Anomaly



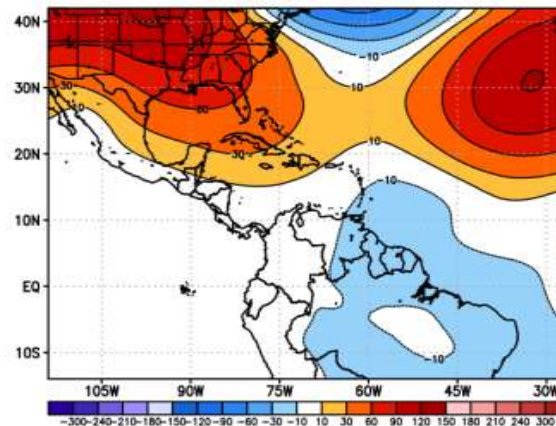
Next week, mean sea level pressure is forecasted to be slightly-above-average across northern Caribbean and to be slightly-below-average northern South America.

Geop. Height (500-hPa)

GEFS Week-1 500-hPa Geo-Potential Height Average
Valid: 20250129 - 20250204



GEFS Week-1 500-hPa Geo-Potential Height Anomaly
Valid: 20250129 - 20250204



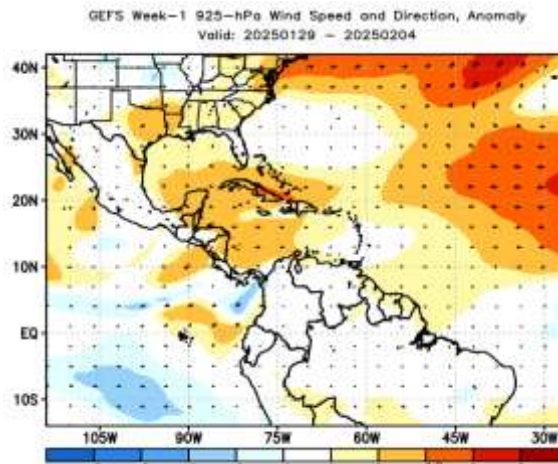
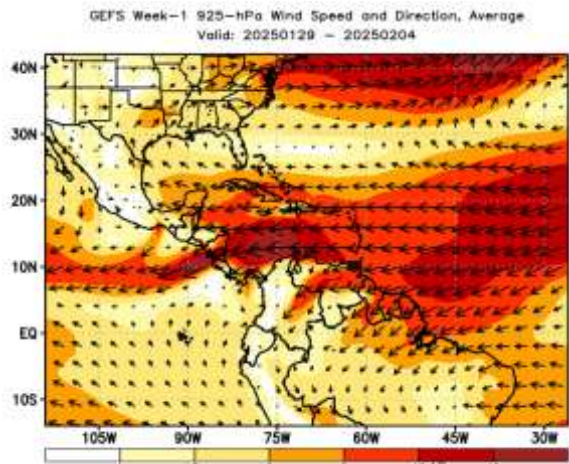
At 500-hPa, geopotential height anomalies forecasted to be slightly-above-average across northern Caribbean and to be slightly-below-average northern South America for next week.

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

7-day Total

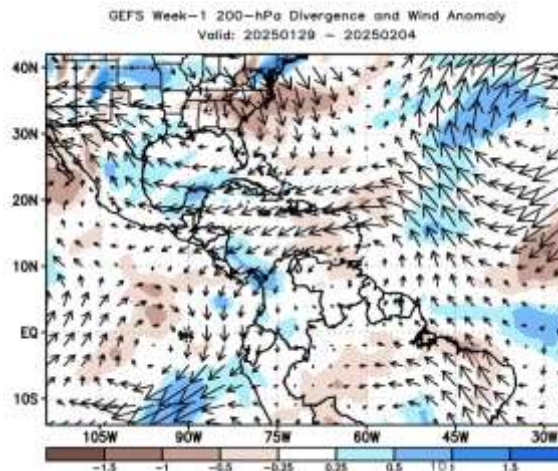
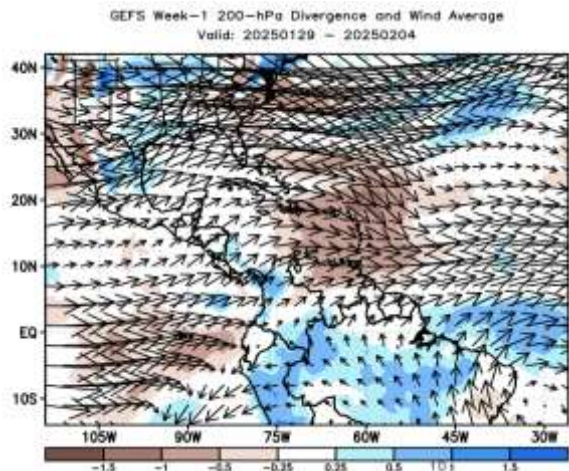
7-day Anomaly

Wind (925-hPa)



For week-1, low-level winds are easterly and expected to be stronger easterly over most of the region

Wind & Diverg. (200-hPa)

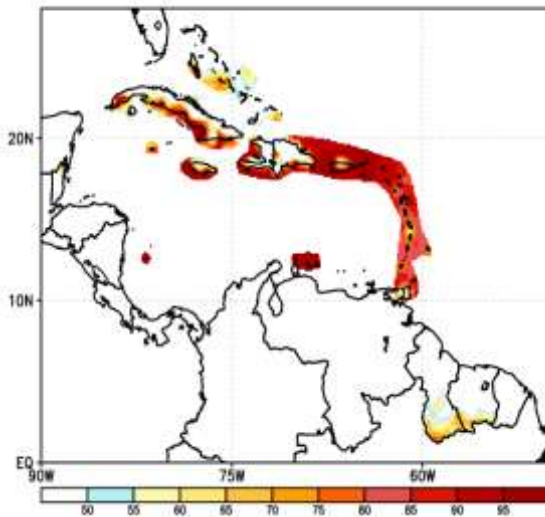


Upper-level convergence is expected over central Caribbean region.

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

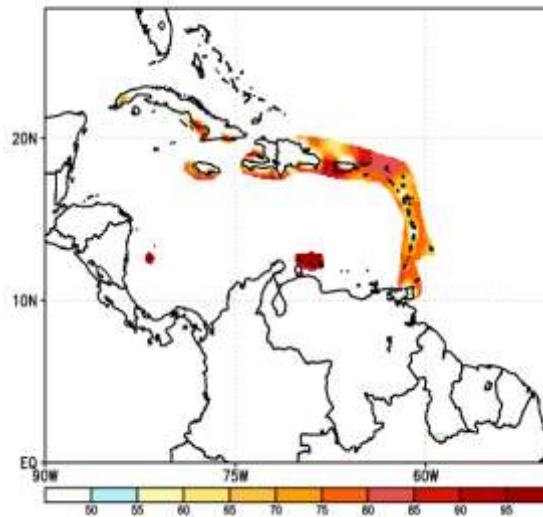
**hybrid > 80th percentile,
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20250129 - 20250204



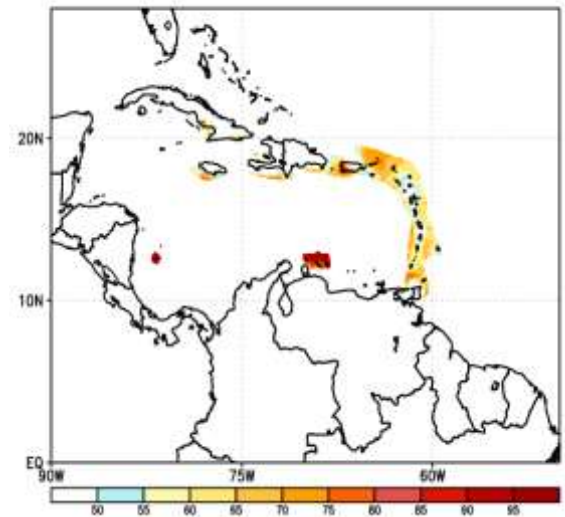
**hybrid > 90th percentile,
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20250129 - 20250204



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

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20250129 - 20250204

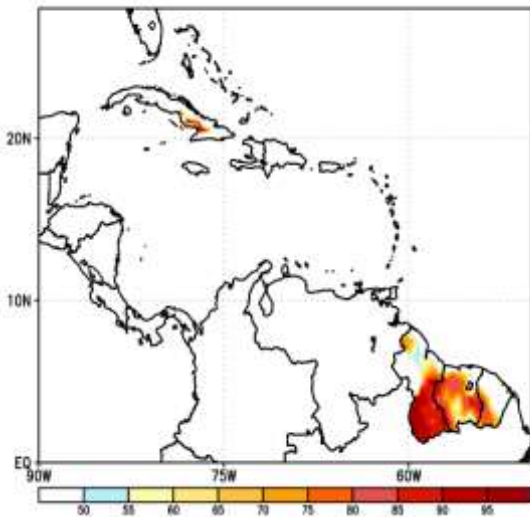


There is a high chance that the daily Tmax/HI hybrid index will exceed the 80th percentile for at least three consecutive days over southern Cuba, southern Jamaica, the Cayman Islands, Puerto Rico, the US Virgin Islands, the Lesser Antilles, Trinidad and Tobago, the ABC Islands, southern Guyana, and southern Suriname. There is also a moderate to high chance that the daily Tmax/HI hybrid index will exceed the 95th percentile for at least three consecutive days over the ABC Islands, eastern Puerto Rico, and the Lesser Antilles.

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

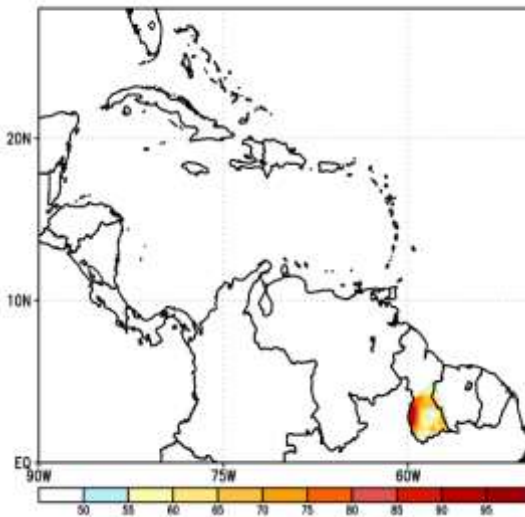
**hybrid > 33°C,
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20250129 - 20250204



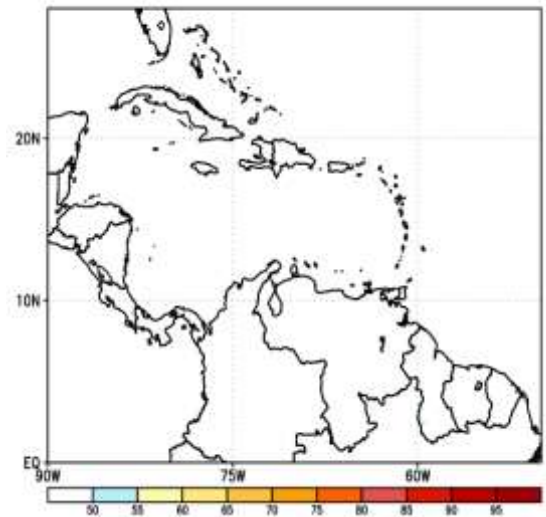
**hybrid > 35°C,
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20250129 - 20250204



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

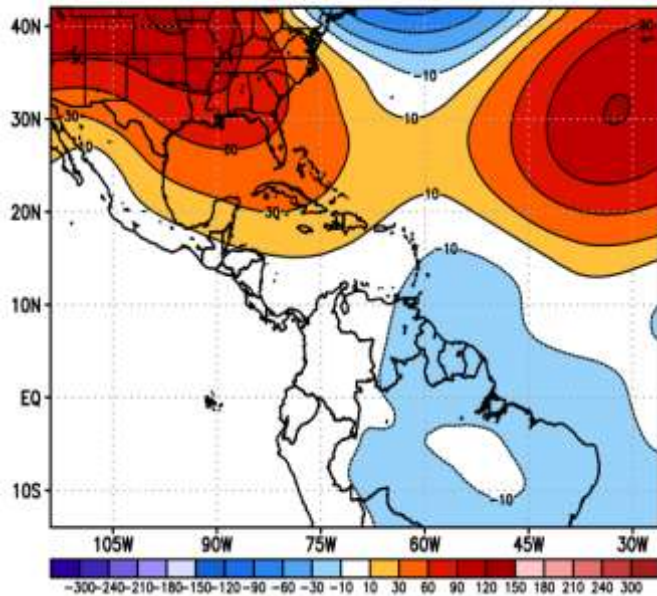
FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20250129 - 20250204



There is a high probability for daily Tmax/HI max hybrid index to exceed 33°C for at least 3 consecutive days over central and southern Guyana, central Suriname and southeastern French Guiana. There is also a moderate to high chance for daily Tmax/HI max hybrid index to exceed 35°C over southern Guyana.

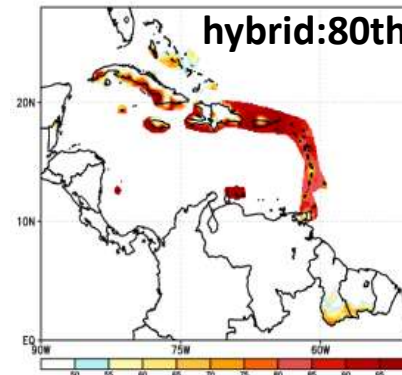
Week-1, Convergence of Evidences

GEFS Week-1 500-hPa Geo-Potential Height Anomaly
Valid: 20250129 - 20250204

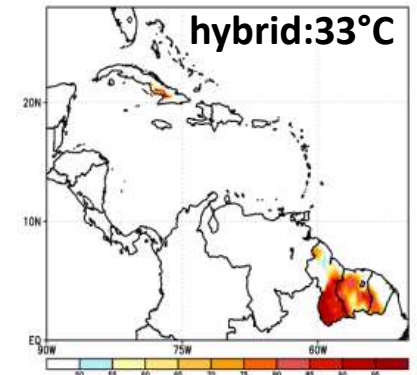


- At 500 hPa, model forecasts indicate that geopotential height anomalies will be slightly above average across the northern Caribbean and slightly below average over northern South America for the next week.
- Hybrid index exceedance probability forecasts indicate: High chances for the hybrid index to exceed the 80th percentile and for the hybrid index to exceed 33°C over southern Guyana and southern Suriname.
- Therefore, a heat hazard warning for excessive heat will be issued for these regions.

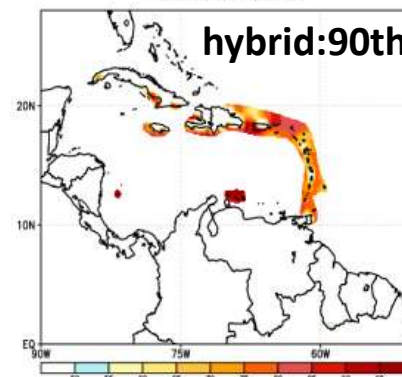
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20250129 - 20250204



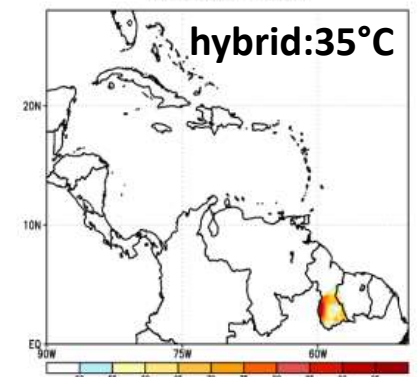
FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20250129 - 20250204



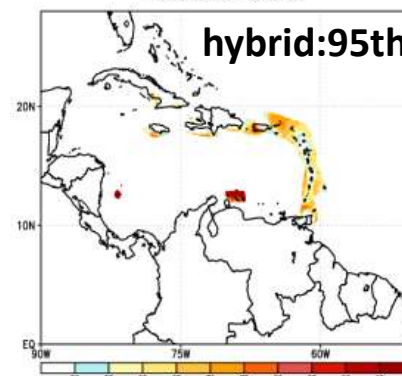
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20250129 - 20250204



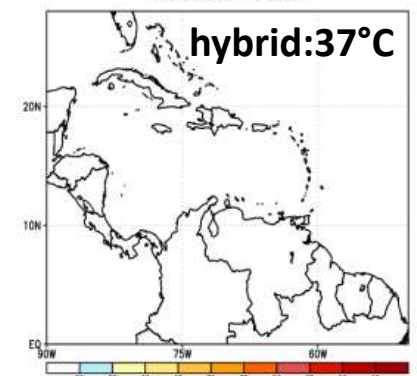
FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20250129 - 20250204



GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20250129 - 20250204

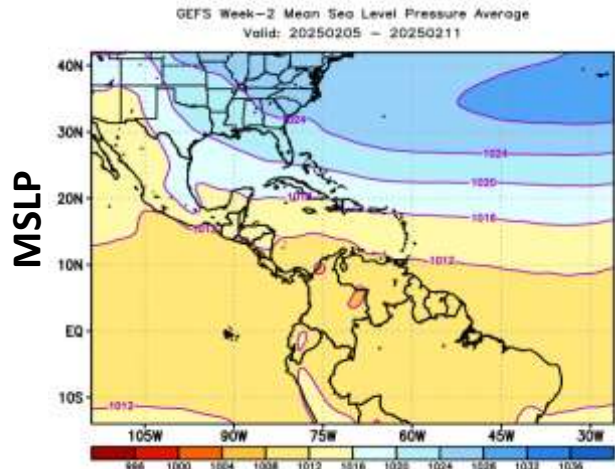


FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20250129 - 20250204

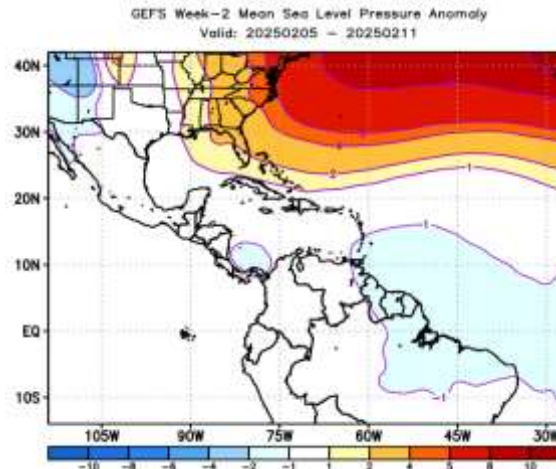


Week-2, Mean Sea Level Pressure & 500-hPa Height

7-day Total



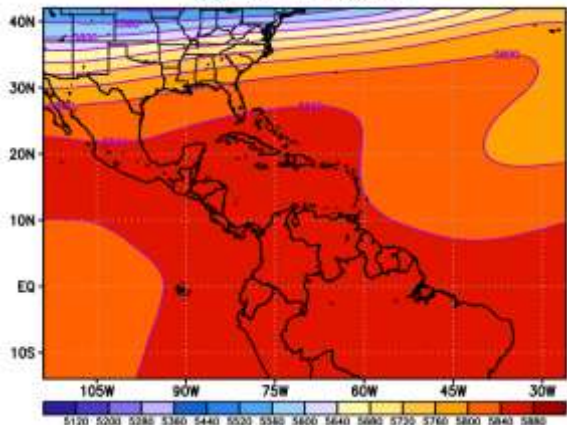
7-day Anomaly



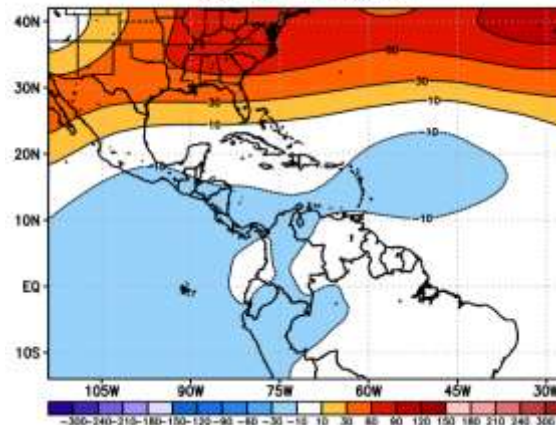
For week-2, mean sea level pressure is forecasted to be slightly-above-average over Bahamas and slightly-below-average across northern South America.

Geop. Height (500-hPa)

GEFS Week-2 500-hPa Geo-Potential Height Average
Valid: 20250205 - 20250211



GEFS Week-2 500-hPa Geo-Potential Height Anomaly
Valid: 20250205 - 20250211



At 500-hPa, geopotential height anomalies to be slightly-above-average over Bahamas and slightly-below-average across northern South America for next week.

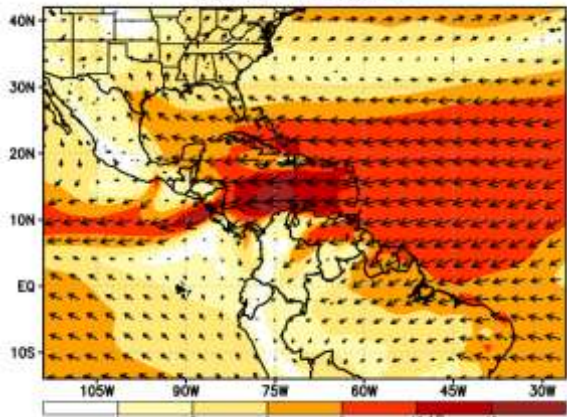
Week-2, 925-hPa and 200-hPa Wind

7-day Total

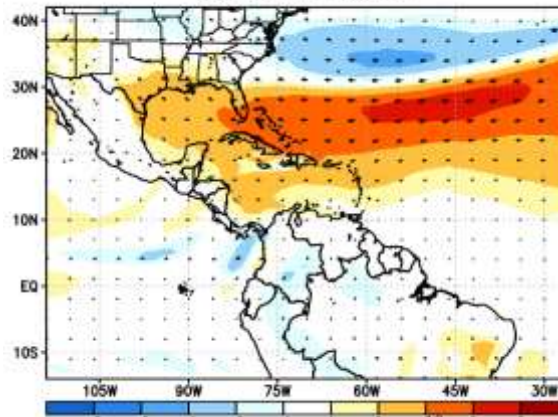
7-day Anomaly

Wind (925-hPa)

GEFS Week-2 925-hPa Wind Speed and Direction, Average
Valid: 20250205 - 20250211



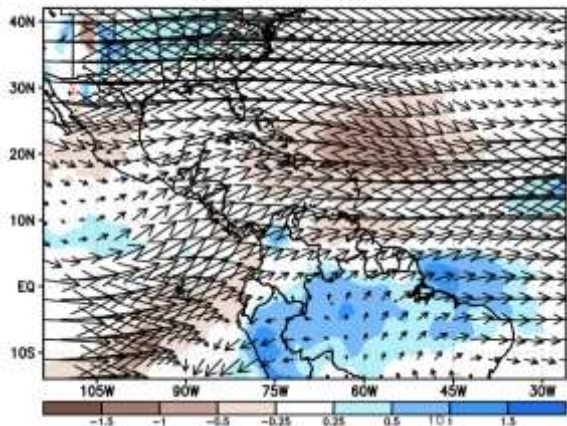
GEFS Week-2 925-hPa Wind Speed and Direction, Anomaly
Valid: 20250205 - 20250211



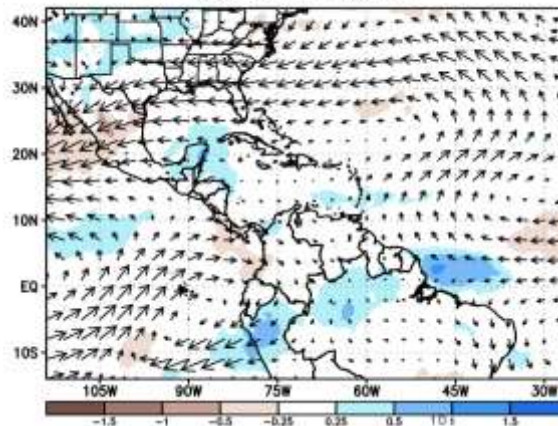
For week-2, low-level winds are expected to be easterly and above-average over central Caribbean region and easterly and near average over northern South America

Wind & Diverg. (200-hPa)

GEFS Week-2 200-hPa Divergence and Wind Average
Valid: 20250205 - 20250211



GEFS Week-2 200-hPa Divergence and Wind Anomaly
Valid: 20250205 - 20250211

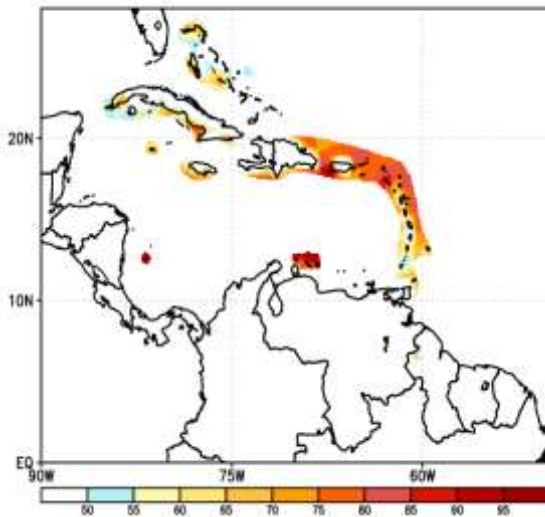


Upper-level convergence is expected over much of the central Caribbean region.

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

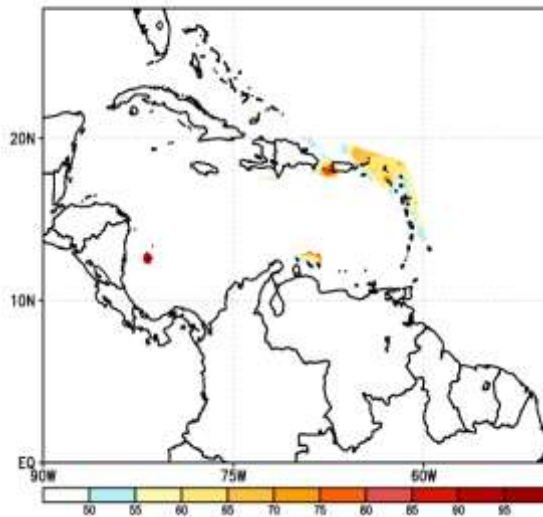
**hybrid > 80th percentile,
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GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20250205 - 20250211



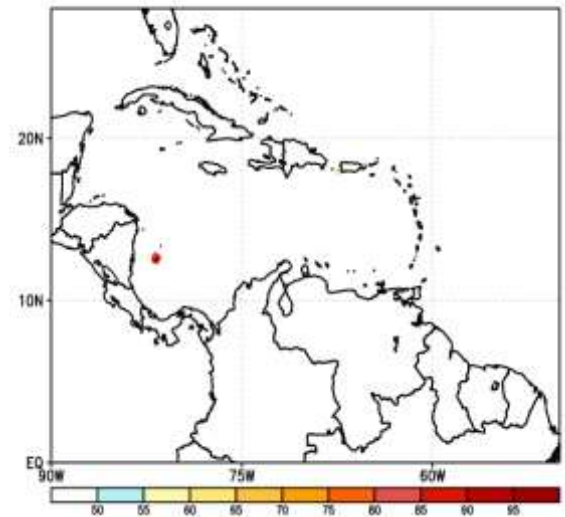
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**hybrid ≥ 95th percentile,
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GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20250205 - 20250211

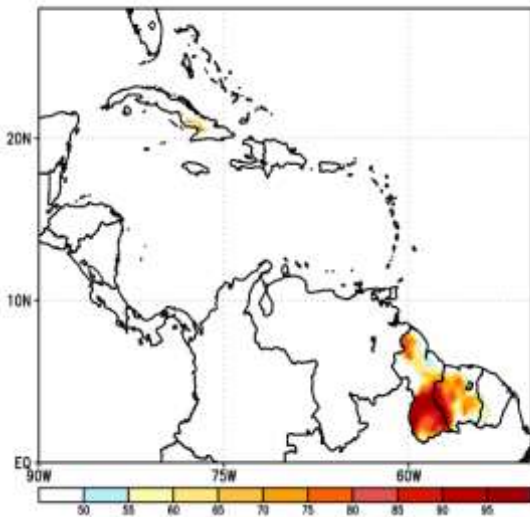


There is a high chance for daily Tmax/HI max hybrid index to exceed the 80th percentile for at least 3 consecutive days over Puerto Rico, Us Virgin Islands, ABC Island and Lesser Antilles. There is also a moderate to high chance for daily Tmax/HI max hybrid index to exceed the 90th percentile for at least 3 consecutive days over northern Lesser Antiles.

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

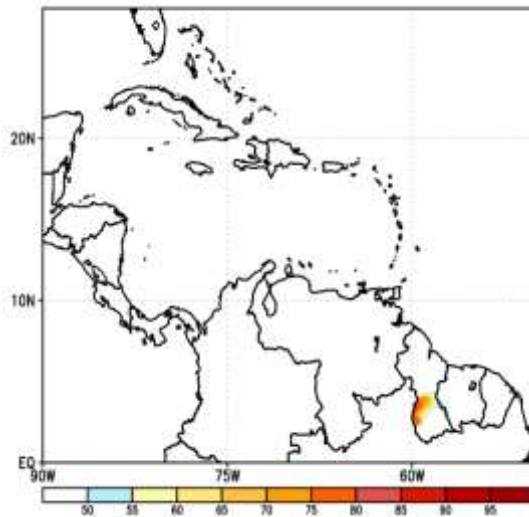
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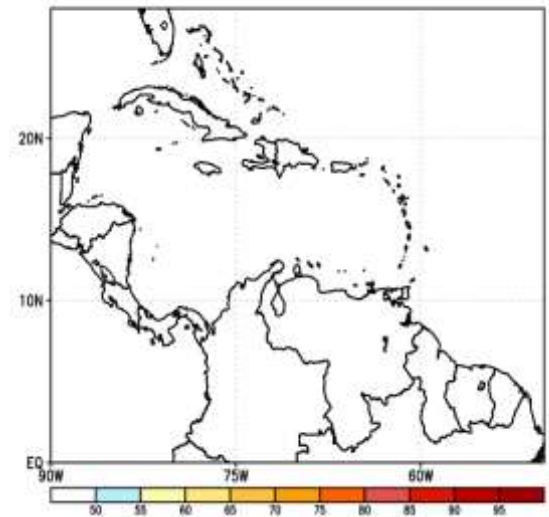
**hybrid > 35°C,
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FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
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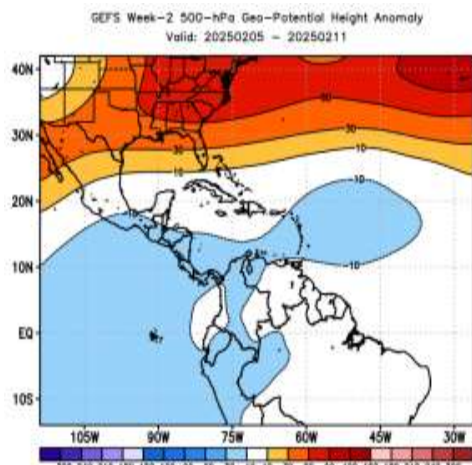
**hybrid > 37°C,
≥3 consecutive days**

FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20250205 - 20250211



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

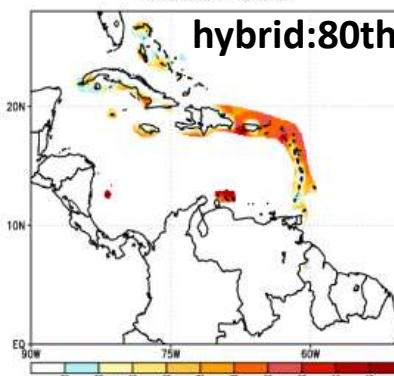
Week-2, Convergence of Evidences



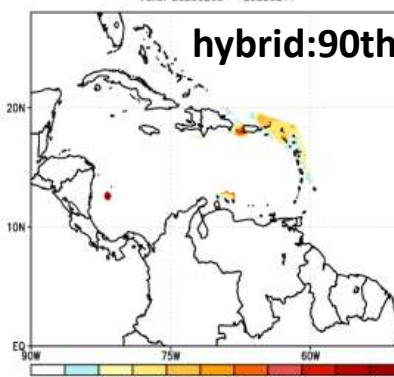
- At 500 hPa, model forecasts indicate slightly above average conditions over the Bahamas and slightly below average conditions across northern South America.
- Hybrid index exceedance probability forecasts indicate:
 - High chances for the hybrid index to exceed the 80th percentile over Puerto Rico, the US Virgin Islands, the ABC Islands, and the Lesser Antilles, but temperatures remain below 33°C in these regions.
 - High chances for the hybrid index to exceed 33°C over northern and southern Guyana and central Suriname, and to exceed 35°C over central-western Guyana, but it remains below the 80th percentile.

Based on absolute temperature thresholds, excessive and severe heat warnings are issued for northern and southern Guyana and central Suriname.

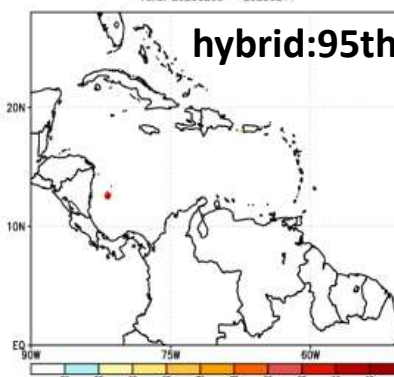
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20250205 - 20250211



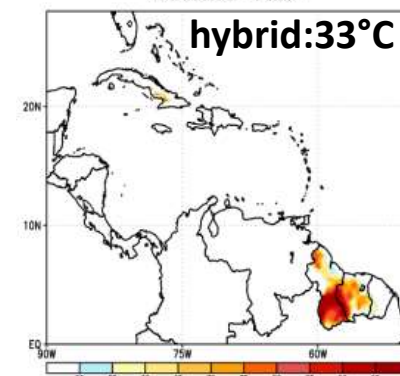
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20250205 - 20250211



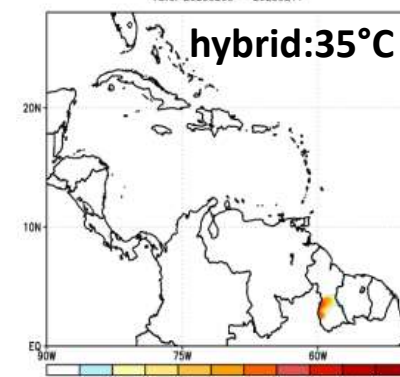
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20250205 - 20250211



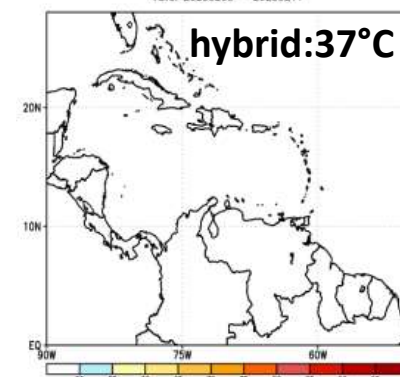
FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20250205 - 20250211



FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20250205 - 20250211



FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20250205 - 20250211



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

NCEP Global Ensemble Forecast System

Initial: 20250127200

International Desks

Climate Prediction Center

National Centers for Environmental Prediction

NO	Stations	80th Pct Clim	Jan-29-2025			Jan-30-2025			Jan-31-2025			Feb-01-2025			Feb-02-2025		
			Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert
1	Barquisimeta	28.2 degC															
2	Barranquilla	29.0 degC															
3	Cartagena	31.0 degC															
4	Chaguanas	28.5 degC															
5	Maracaibo_La_Chinita	31.8 degC															



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

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

NCEP Global Ensemble Forecast System

Initial: 20250127Z00

International Desks

Climate Prediction Center

National Centers for Environmental Prediction

NO	Stations	Week 2: 03Feb2025 - 09Feb2025				Week 3: 10Feb2025 - 16Feb2025				Week 4: 17Feb2025 - 23Feb2025			
		80th Pct Clim	Tmax	Rain	Alert	80th Pct Clim	Tmax	Rain	Alert	80th Pct 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				28.4 degC				28.2 degC			
4	Maracabo_La_Chinita	31.6 degC				31.7 degC				31.9 degC			

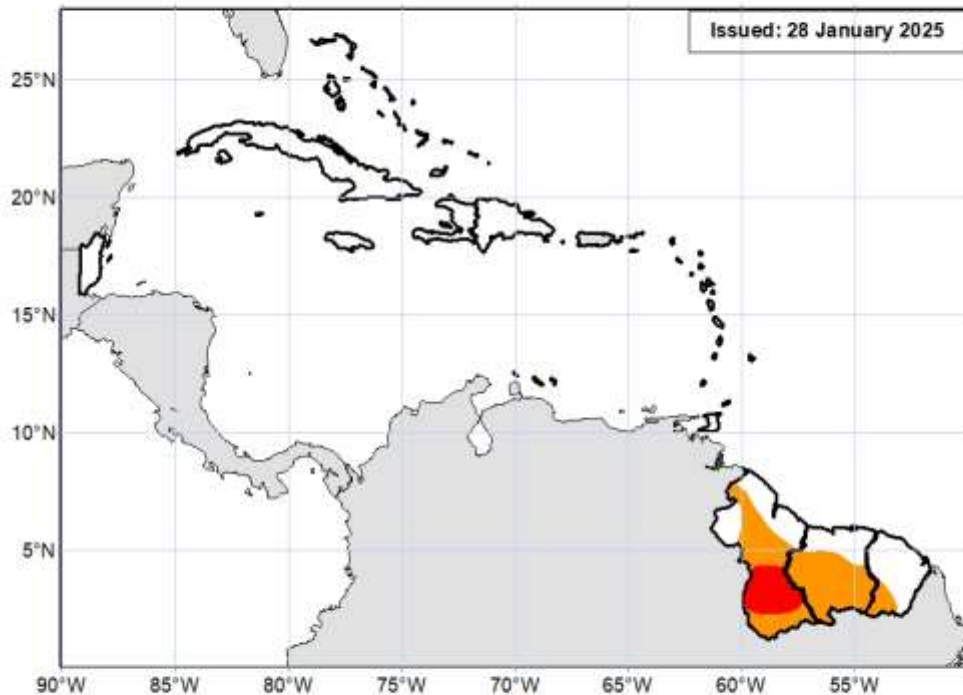


https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_week234_80.html

Week-1 Heat Hazards Outlook

Week-1 Caribbean Heat Hazard Outlooks Valid: 29 Jan-04 Feb 2025

Issued: 28 January 2025



Heat Levels

Moderately Severe

Severe

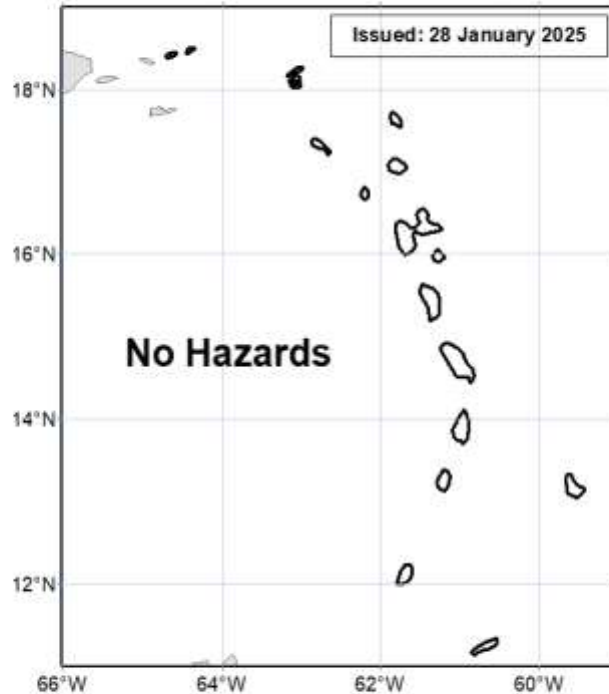
Extremely Severe

There is an increased chance for moderately severe heat over Guyana, southern Suriname and French Guiana. An increased chance for severe heat exists over 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: 29 Jan - 05 Feb 2025



Heat Levels

Moderately Severe

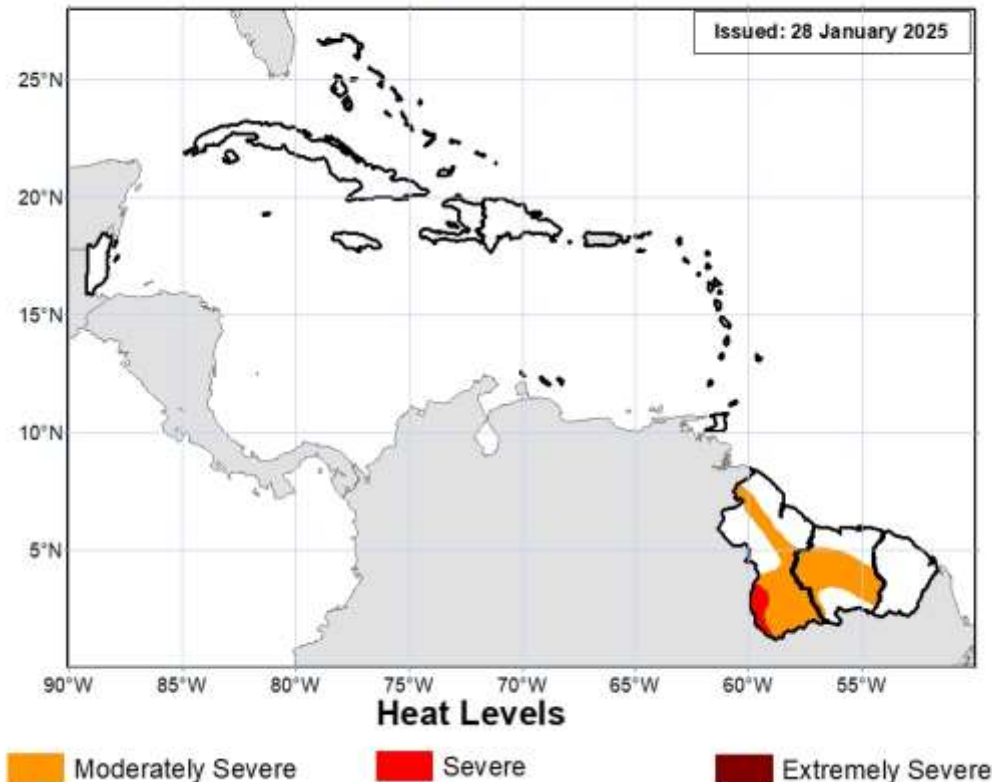
Severe

Extremely Severe

No heat hazard expected over Lesser Antilles during this week

Week-2 Heat Hazards Outlook

Week-2 Caribbean Heat Hazard Outlooks Valid: 5 - 11 Feb 2025



There is an increased chance for moderately severe heat over northern and southern Guyana and in central Suriname. An increased chance for severe heat exists over southwestern Guyana

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: 5 - 11 Feb 2025



Heat Levels

Moderately Severe

Severe

Extremely Severe

No heat hazard is expected over the Lesser Antilles during week 2 of the forecast.

For More Information Please Visit

Forecasting Tools:

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