

Heat Hazards Outlooks for the Caribbean

Date of Issue: 2024-12-03

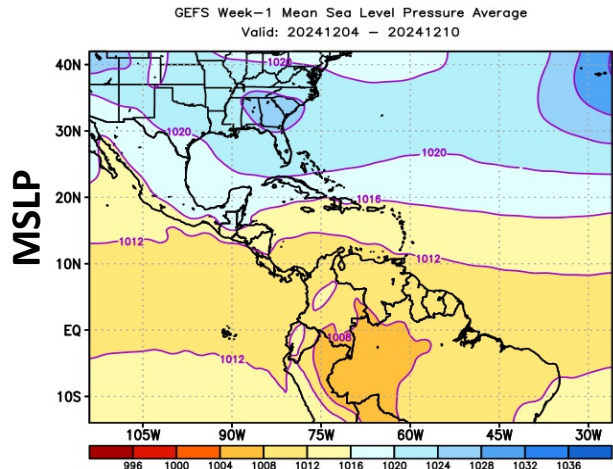
Week-1, Valid for: 04 - 10 December 2024

Week-2, Valid for: 11 - 17 December 2024

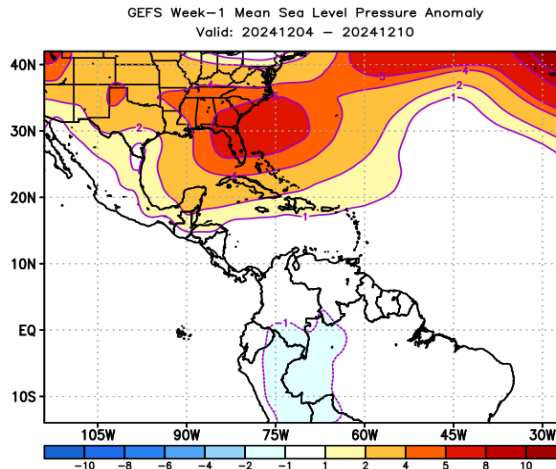


Week-1, Mean Sea Level Pressure & 500-hPa Height

7-day Total



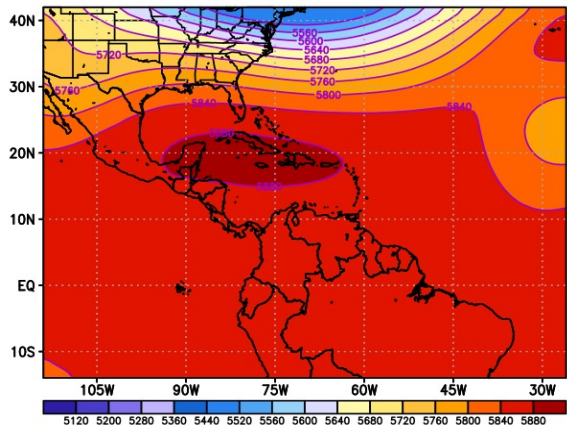
7-day Anomaly



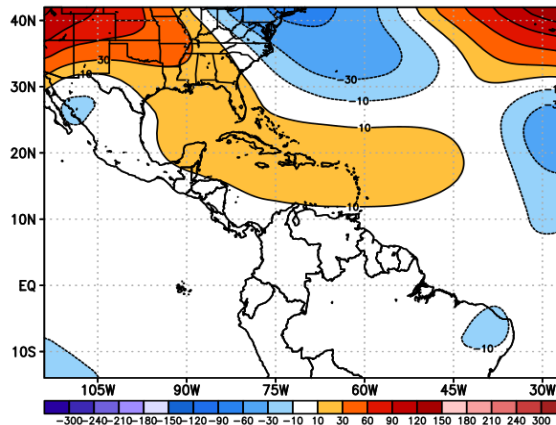
Next week, mean sea level pressure is forecasted to be slightly-above-average across the central-northern Caribbean and near-normal over the central-southern Caribbean and northern South America.

Geop. Height (500-hPa)

GEFS Week-1 500-hPa Geo-Potential Height Average
Valid: 20241204 - 20241210



GEFS Week-1 500-hPa Geo-Potential Height Anomaly
Valid: 20241204 - 20241210



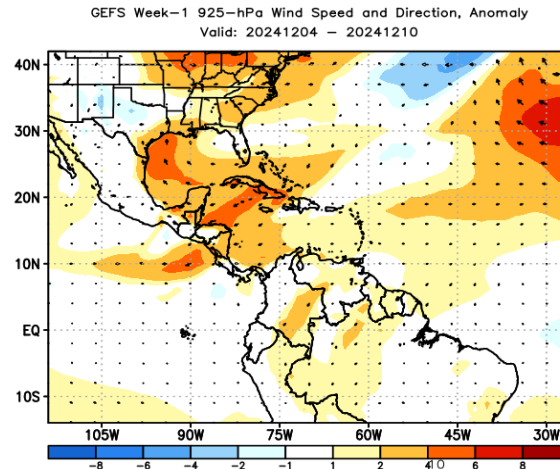
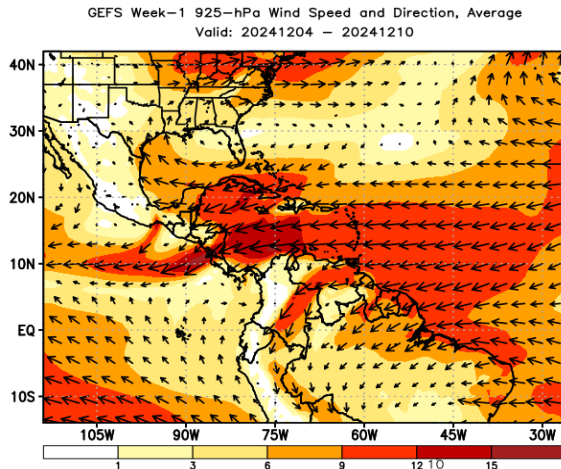
At 500-hPa, geopotential height anomalies in the region also expected to be slightly-above-average over much of the Caribbean and near-normal over northern South America next week.

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

7-day Total

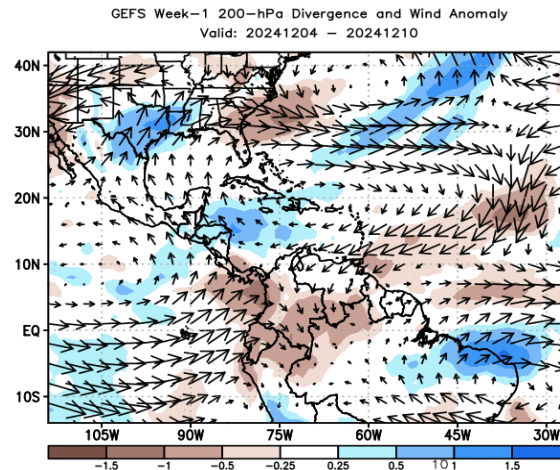
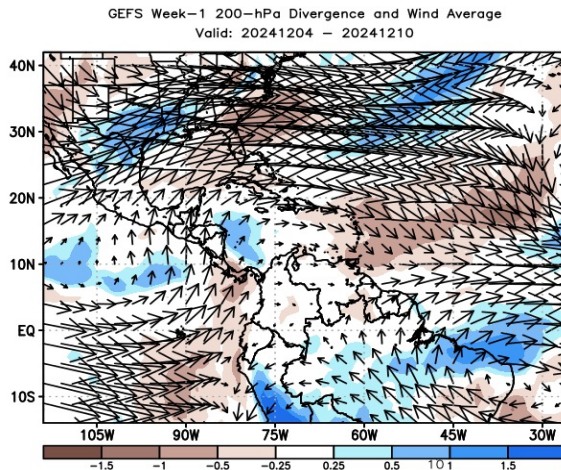
7-day Anomaly

Wind (925-hPa)



For week-1, low-level winds are expected to be above-average over much of the Caribbean.

Wind & Diverg. (200-hPa)

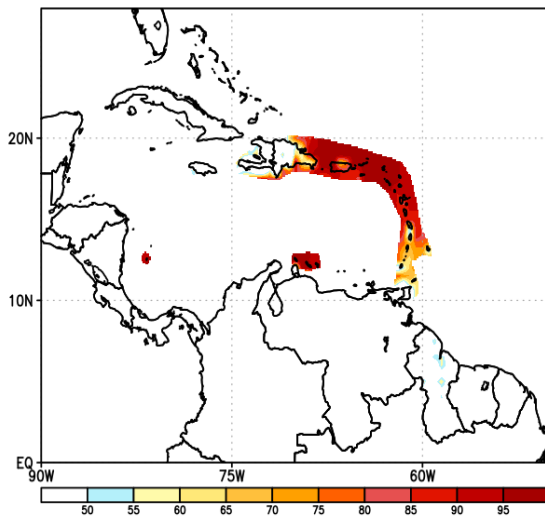


Upper-level divergence is expected over Jamaica, southeast Cuba and much of Hispaniola.

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

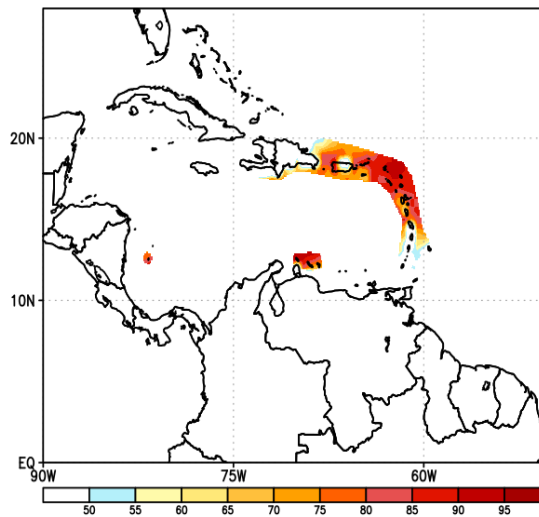
**hybrid > 80th percentile,
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20241204 – 20241210



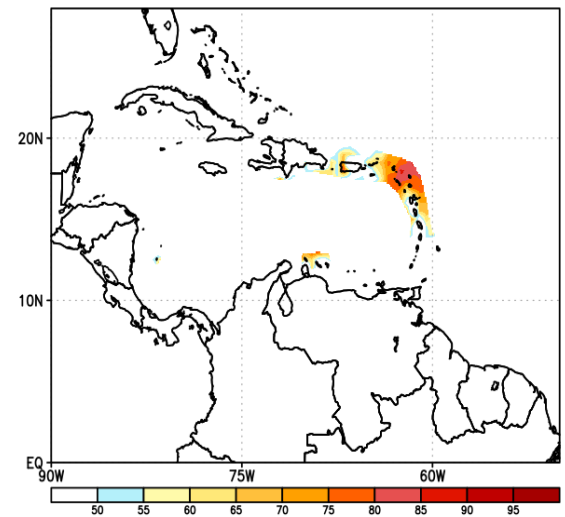
**hybrid > 90th percentile,
≥3 consecutive days**

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20241204 – 20241210



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

GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20241204 – 20241210

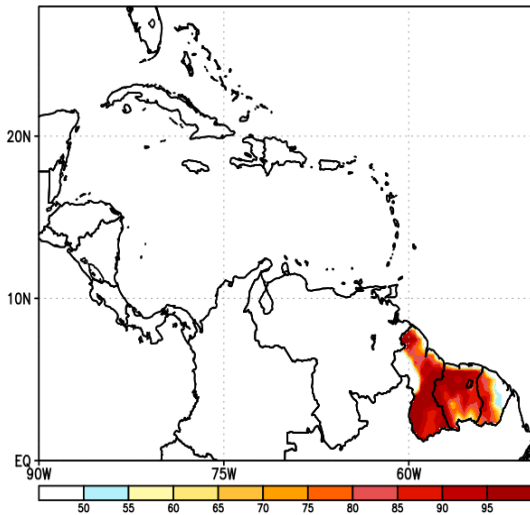


There is a high chance for daily Tmax/HI max hybrid index to exceed the 80th percentile for at least 3 consecutive days over the central-northern Lesser Antilles, and Aruba, Bonaire, and Curacao (ABC) islands. There is also a moderate to high chance for daily Tmax/HI max hybrid index to exceed the 95th percentile for at least 3 consecutive days over the northern Lesser Antilles.

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

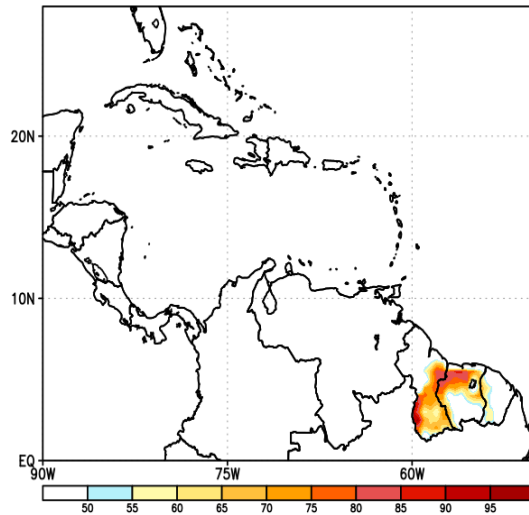
**hybrid > 33°C,
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20241204 - 20241210



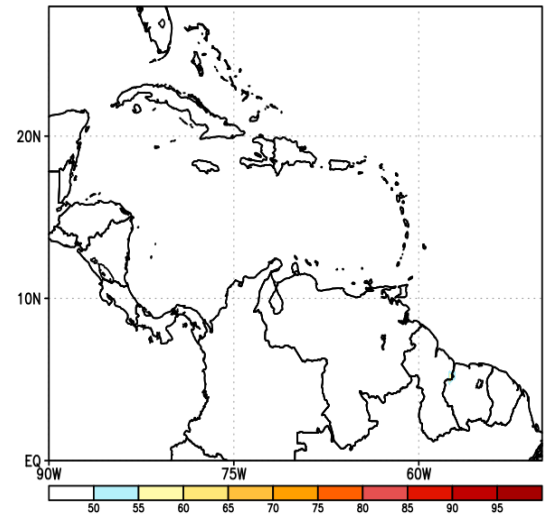
**hybrid > 35°C,
≥3 consecutive days**

FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20241204 - 20241210



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

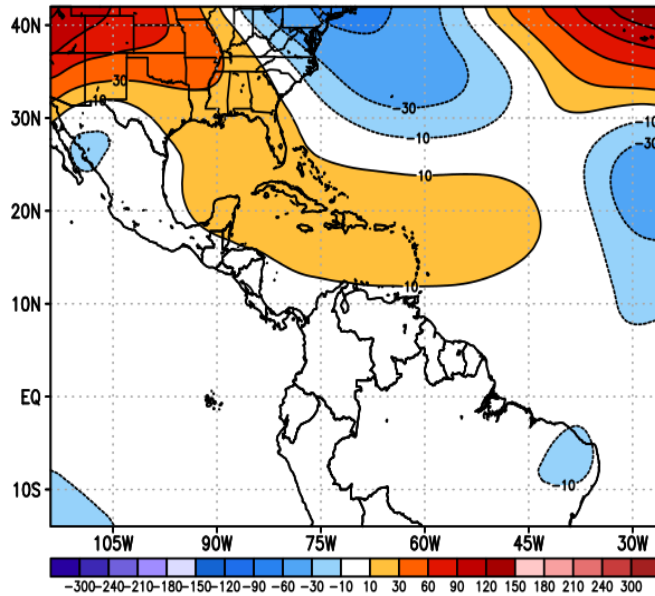
FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20241204 - 20241210



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 the western half of French Guiana. No locations show a moderate to high chance for daily Tmax/HI hybrid index to exceed 37°C.

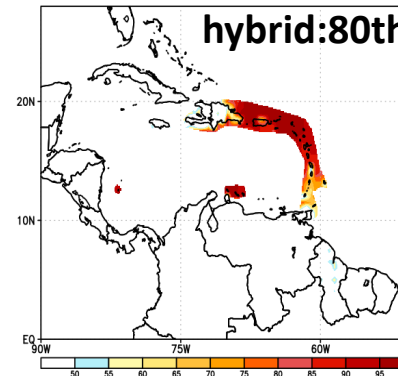
Week-1, Convergence of Evidences

GEFS Week-1 500-hPa Geo-Potential Height Anomaly
Valid: 20241204 - 20241210

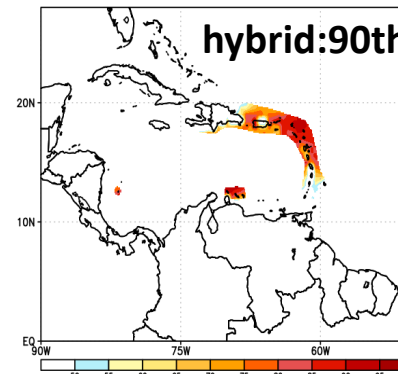


- At 500-hPa, model forecasts indicate slightly-above-average conditions over much of the Caribbean and near-normal conditions over northern South America next week.
- Hybrid index exceedance probability forecasts indicate:
 - High chances for the hybrid index to exceed the 95th percentile over some northern Lesser Antilles islands.
 - No locations indicate a high chance for the hybrid index to exceed 37°C.

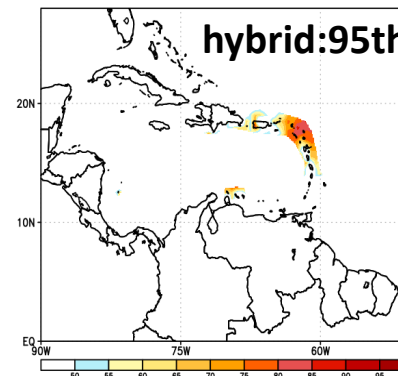
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20241204 - 20241210



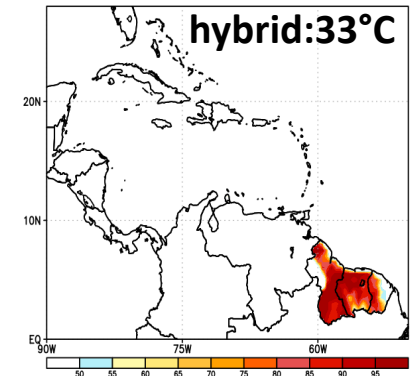
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20241204 - 20241210



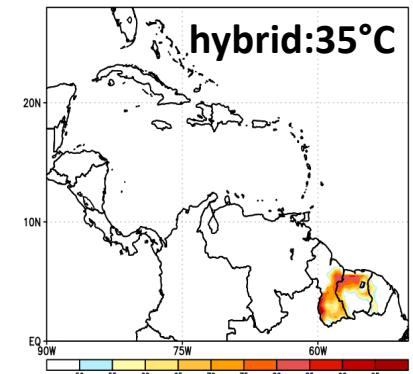
GEFS Week-1 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20241204 - 20241210



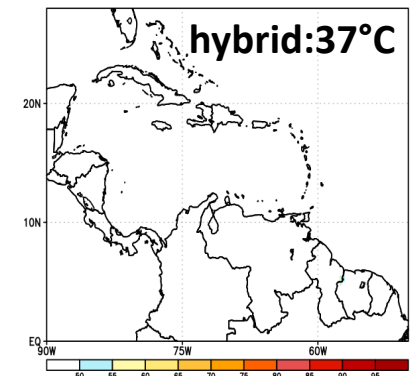
FS Week-1 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20241204 - 20241210



FS Week-1 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. da
Valid: 20241204 - 20241210

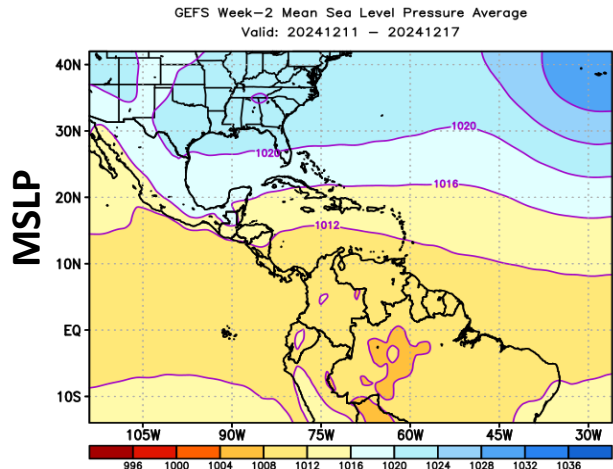


FS Week-1 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20241204 - 20241210

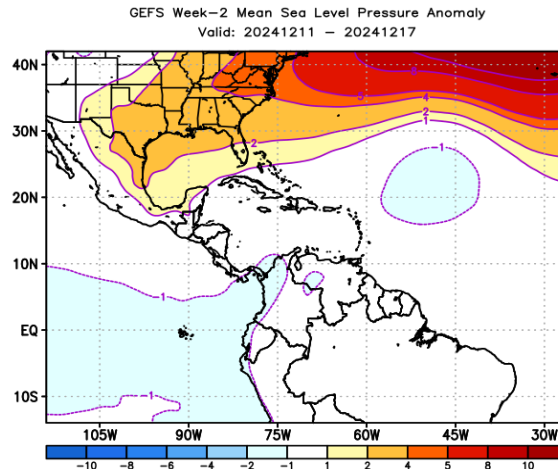


Week-2, Mean Sea Level Pressure & 500-hPa Height

7-day Total



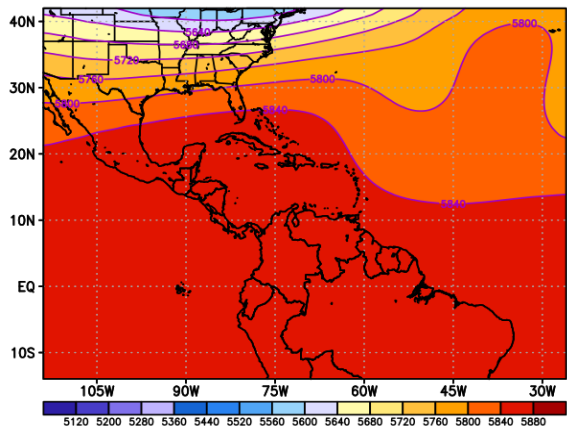
7-day Anomaly



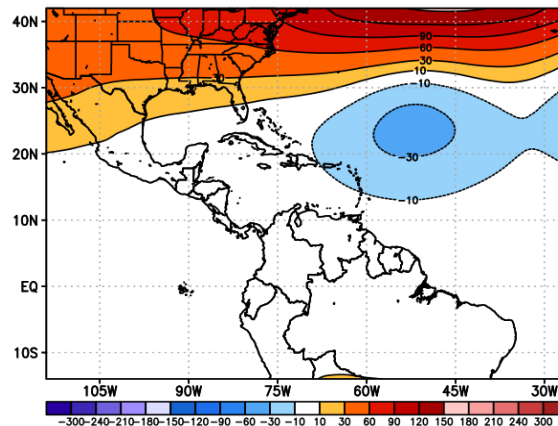
For week-2, mean sea level pressure is forecasted to be slightly-above-average across the northernmost Caribbean islands and near-normal over the rest of the region.

Geop. Height (500-hPa)

GEFS Week-2 500-hPa Geo-Potential Height Average
Valid: 20241211 - 20241217



GEFS Week-2 500-hPa Geo-Potential Height Anomaly
Valid: 20241211 - 20241217



At 500-hPa, geopotential height anomalies in the region also expected to be near-normal for next week over most of the region and slightly-below-normal over the central-northern Lesser Antilles.

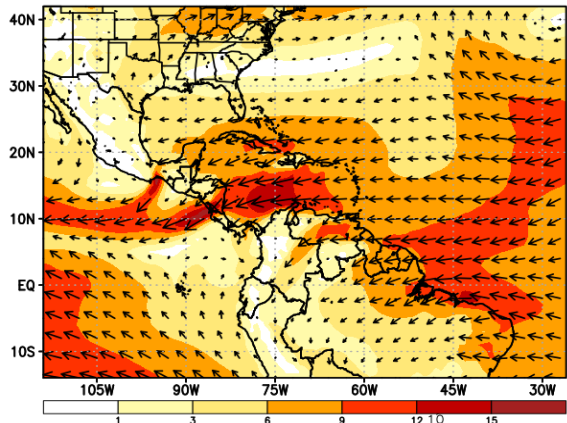
Week-2, 925-hPa and 200-hPa Wind

7-day Total

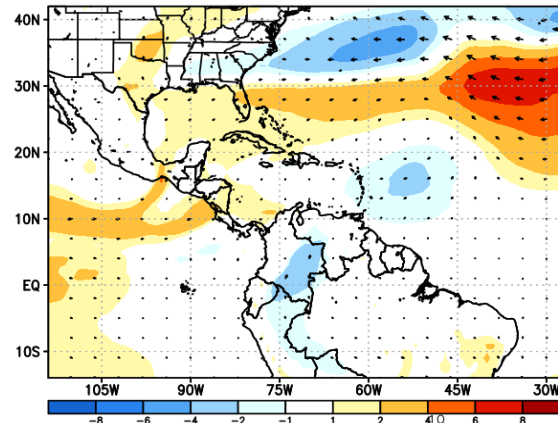
7-day Anomaly

Wind (925-hPa)

GEFS Week-2 925-hPa Wind Speed and Direction, Average
Valid: 20241211 - 20241217



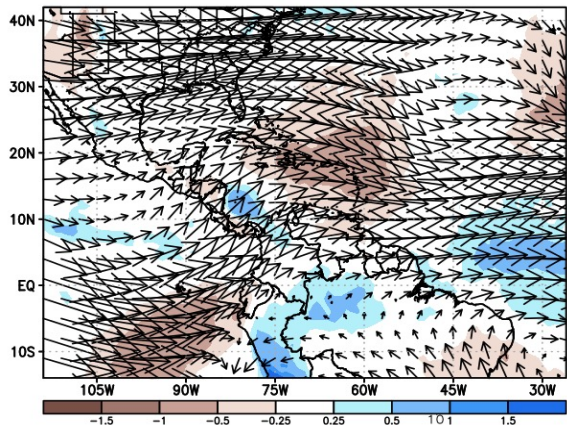
GEFS Week-2 925-hPa Wind Speed and Direction, Anomaly
Valid: 20241211 - 20241217



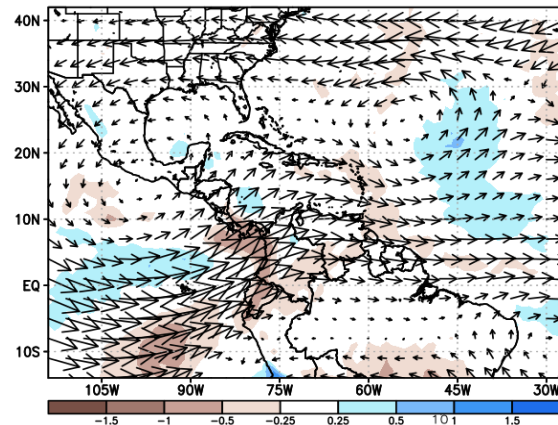
For week-2, low-level winds are expected to be above-average over Cuba and the Bahamas next week, slightly-below-normal over the Lesser Antilles, and near-normal over many central-southern locations.

Wind & Diverg. (200-hPa)

GEFS Week-2 200-hPa Divergence and Wind Average
Valid: 20241211 - 20241217



GEFS Week-2 200-hPa Divergence and Wind Anomaly
Valid: 20241211 - 20241217

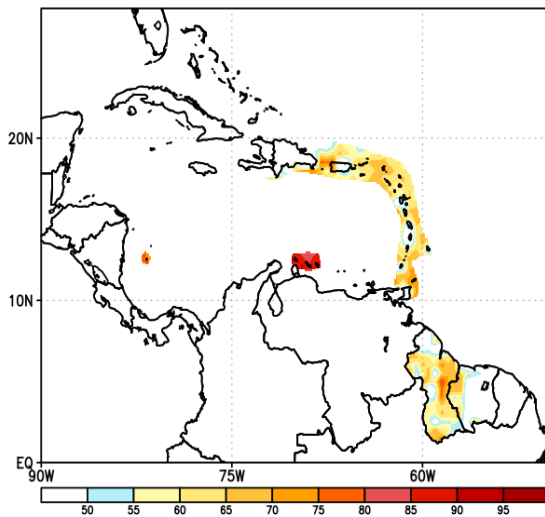


Minimal upper-level divergence is expected over the Caribbean region and northern South America.

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

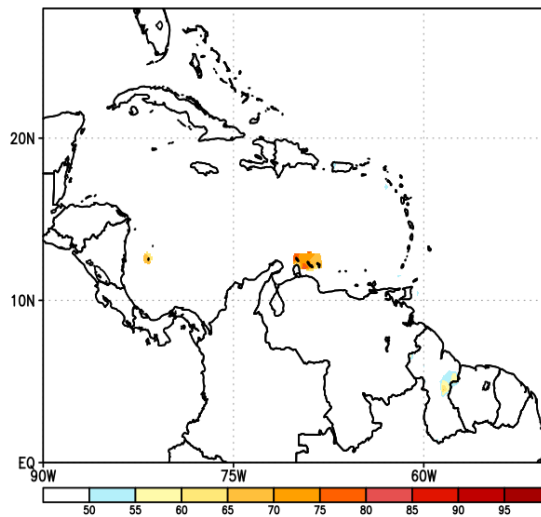
**hybrid > 80th percentile,
≥3 consecutive days**

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20241211 – 20241217



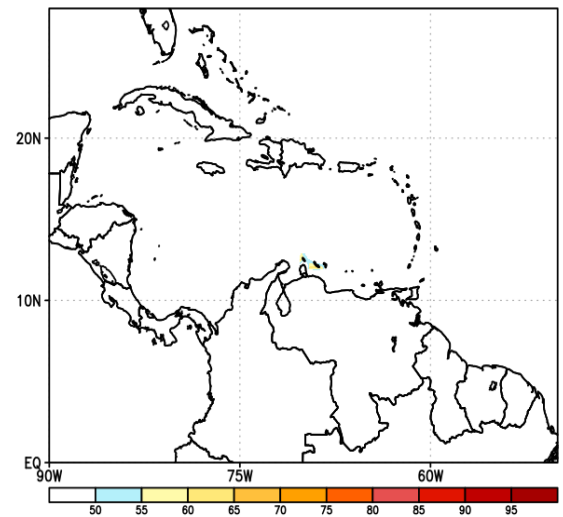
**hybrid > 90th percentile,
≥3 consecutive days**

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20241211 – 20241217



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≥3 consecutive days**

GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20241211 – 20241217

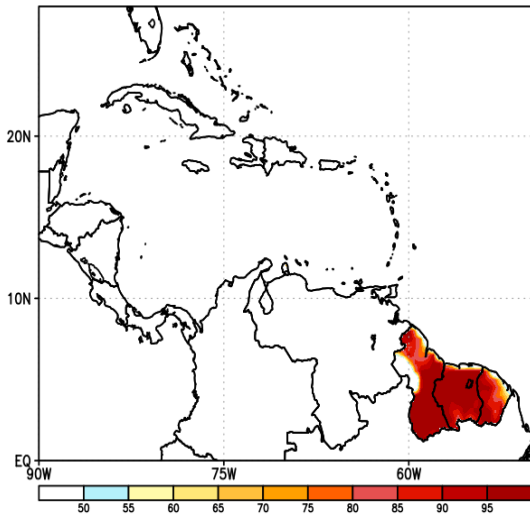


There is a high chance for daily Tmax/HI hybrid index to exceed the 80th percentile for at least 3 consecutive days over the ABC islands. No locations have a moderate to high chance for daily Tmax/HI hybrid index to exceed the 95th percentile for at least 3 consecutive days.

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

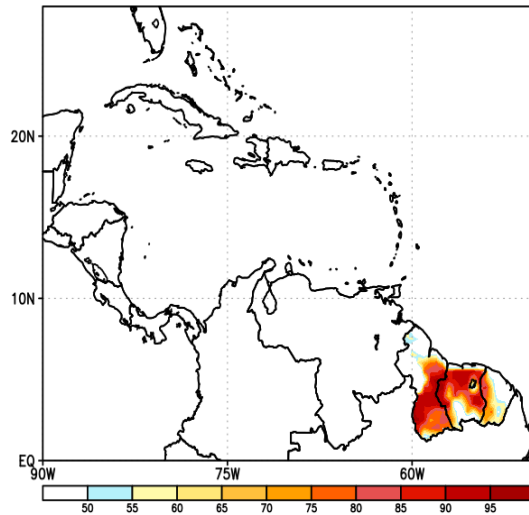
**hybrid > 33°C,
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FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. da
Valid: 20241211 - 20241217



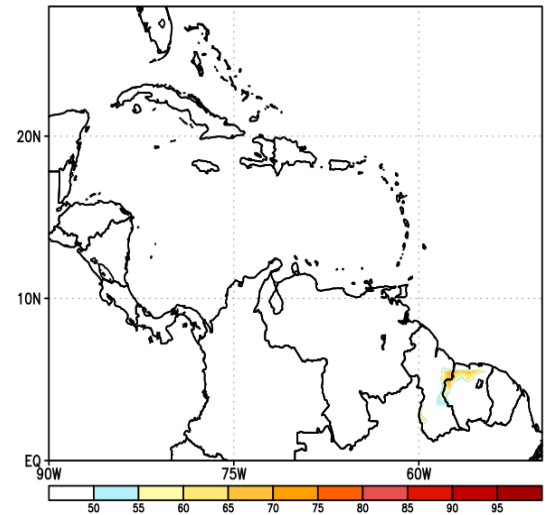
**hybrid > 35°C,
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**hybrid > 37°C,
≥3 consecutive days**

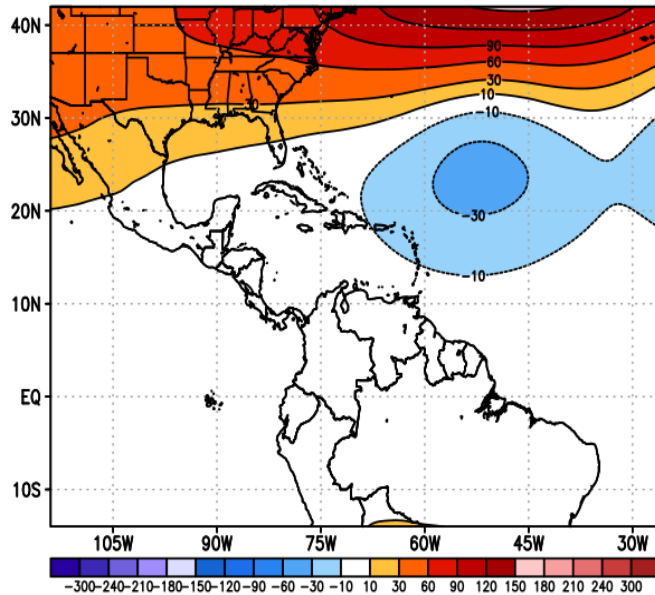
FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. da
Valid: 20241211 - 20241217



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

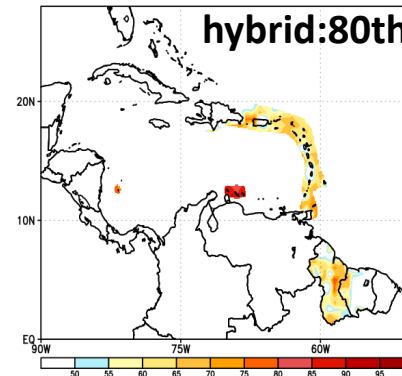
Week-2, Convergence of Evidences

GEFS Week-2 500-hPa Geo-Potential Height Anomaly
Valid: 20241211 - 20241217

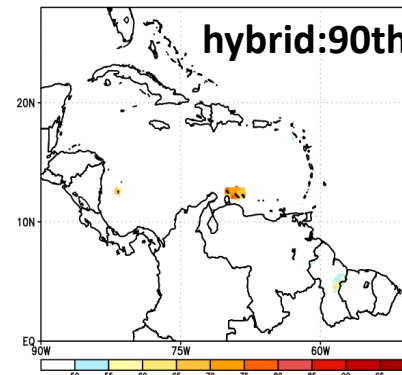


- At 500-hPa, model forecasts indicate near-normal conditions for next week over most of the region and slightly-below-normal conditions over the central-northern Lesser Antilles.
- Hybrid index exceedance probability forecasts indicate:
 - No locations show a high chance for the hybrid index to exceed the 95th percentile.
 - No locations show a high chance for the hybrid index to exceed 37°C.

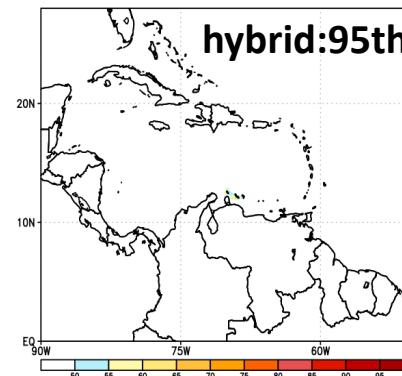
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 80th, > 3 consec. days
Valid: 20241211 - 20241217



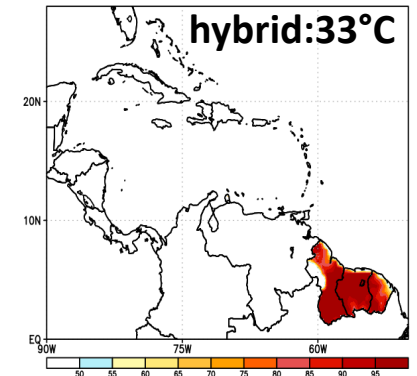
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 90th, > 3 consec. days
Valid: 20241211 - 20241217



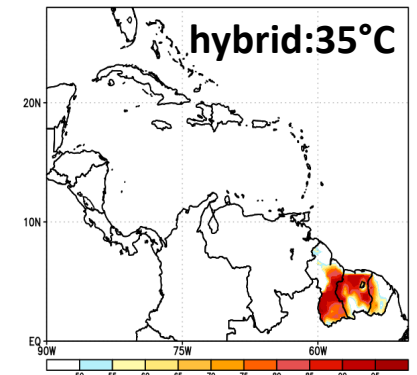
GEFS Week-2 Tmax/HI hybrid exceedance Prob. > 95th, > 3 consec. days
Valid: 20241211 - 20241217



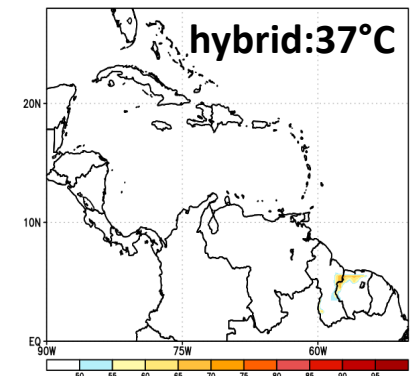
FS Week-2 Tmax/HI hybrid exceedance Prob. > 33 deg. Cels., > 3 consec. days
Valid: 20241211 - 20241217



FS Week-2 Tmax/HI hybrid exceedance Prob. > 35 deg. Cels., > 3 consec. days
Valid: 20241211 - 20241217



FS Week-2 Tmax/HI hybrid exceedance Prob. > 37 deg. Cels., > 3 consec. days
Valid: 20241211 - 20241217



Urban Heat Island Alerts for Caribbean

NCEP Global Ensemble Forecast System



Urban Heat Island Alert: active

click icon to see the forecast detail

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

Urban Heat Island Forecasts Week-1

			Dec-04-2024			Dec-05-2024			Dec-06-2024			Dec-07-2024			Dec-08-2024		
NO	Stations	80th Pctl Clim	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert
1	Barranquilla	29.2 degC															
2	Cartagena	30.1 degC															
3	Chaguanas	28.1 degC															
4	Maracaibo_La_Chinita	31.4 degC															
5	Miami_FI	28.1 degC															



Conditions conducive to Heat Hazards



Conditions not conducive to Heat Hazards



Heat Alert Activated



Heat Alert Not Activated

T: Daily High Temperature



T > 80th Percentile



T < 80th Percentile

R: Rain



Dry

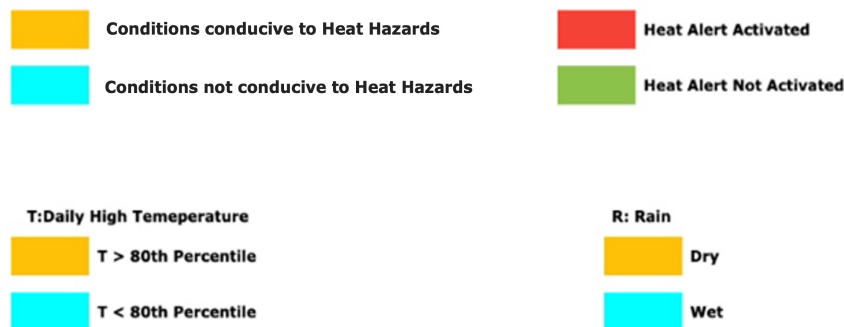


Wet

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

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

		Week 2: 09Dec2024 - 15Dec2024				Week 3: 16Dec2024 - 22Dec2024				Week 4: 23Dec2024 - 29Dec2024			
NO	Stations	80th Pctl Clim	Tmax	Rain	Alert	80th Pctl Clim	Tmax	Rain	Alert	80th Pctl Clim	Tmax	Rain	Alert
1	Barranquilla	29.0 degC				29.3 degC				29.2 degC			
2	Cartagena	30.7 degC				31.0 degC				31.2 degC			
3	Maracaibo_La_Chinita	31.1 degC				31.6 degC				31.8 degC			
4	Miami_FI	28.2 degC				27.3 degC				27.7 degC			

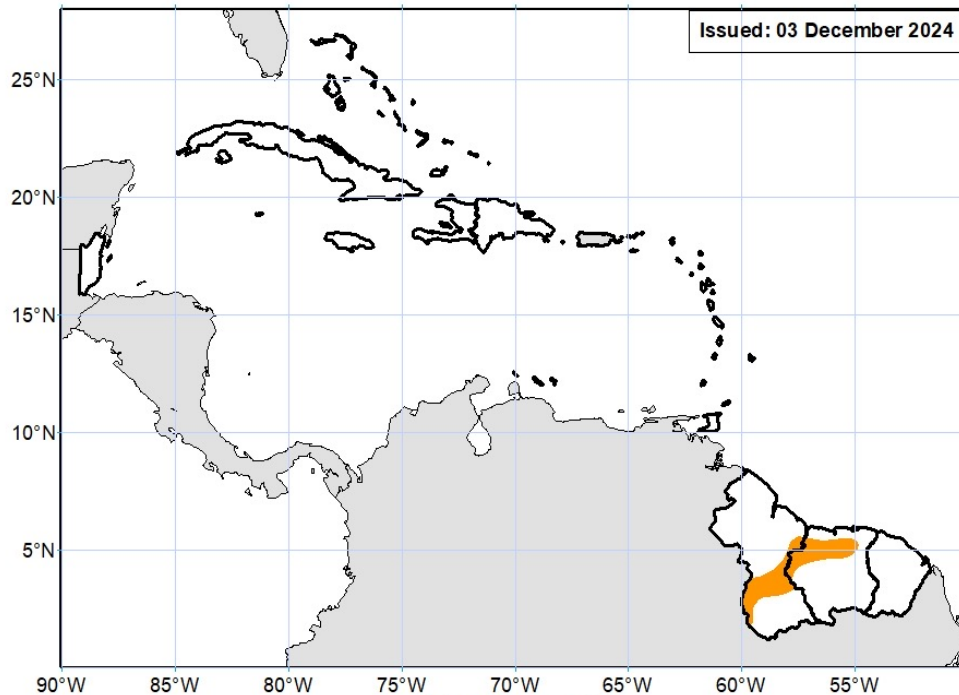


https://www.cpc.ncep.noaa.gov/products/international/UHI/Caribb_week234_80.html

Week-1 Heat Hazards Outlook

Week-1 Caribbean Heat Hazard Outlooks Valid: 04 - 10 Dec 2024

Issued: 03 December 2024



Heat Levels

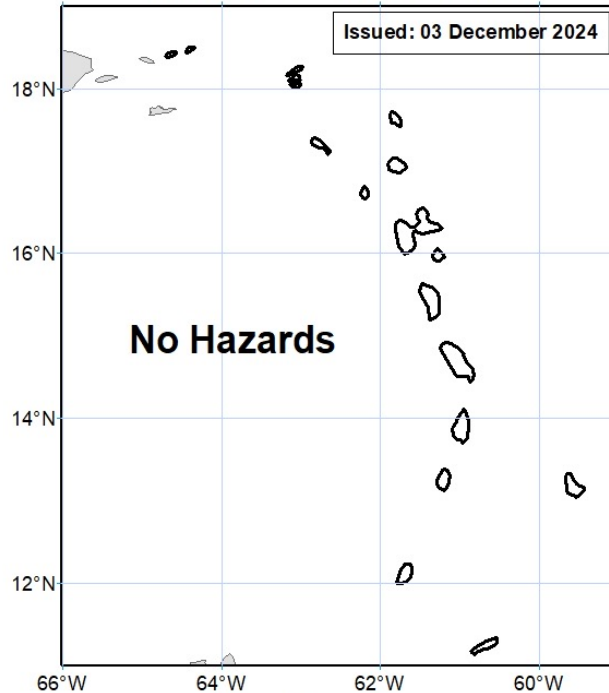
Moderately Severe Severe Extremely Severe

There is an increased chance for **moderately severe heat** over central Guyana and across northern portions of Suriname, where the hybrid index indicates high chances of temperatures exceeding 35°C for at least 3 consecutive days this week.

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: 04 - 10 Dec 2024



Heat Levels

Moderately Severe

Severe

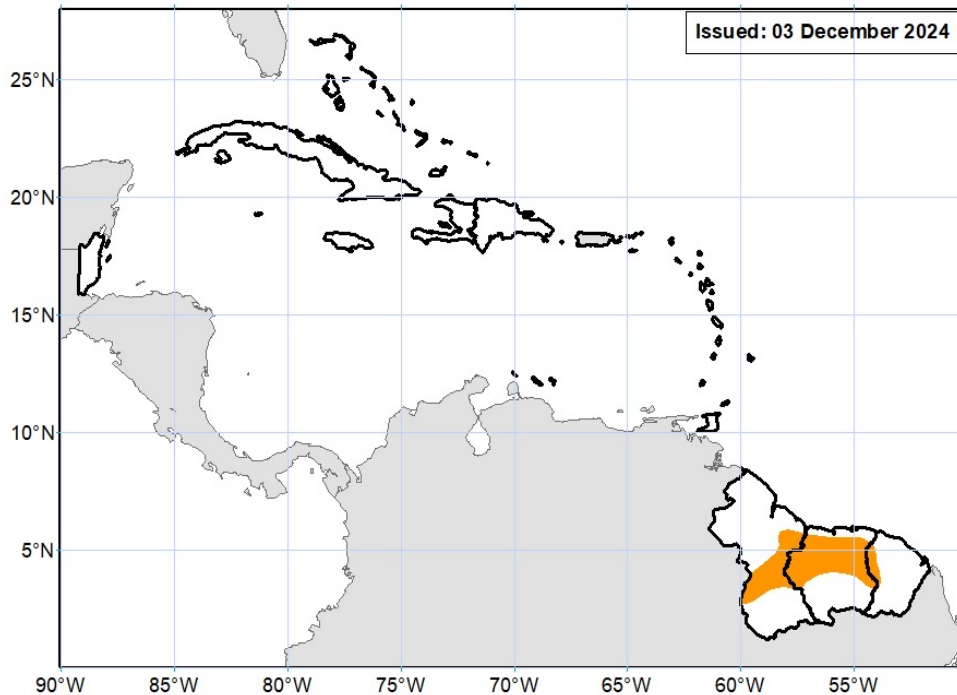
Extremely Severe

There are no heat hazards forecast for the Lesser Antilles this week. Although some northern islands may exceed the 95th percentile on the hybrid heat index this upcoming week, no island is expected to exceed 33°C for at least 3 consecutive days.

Week-2 Heat Hazards Outlook

Week-2 Caribbean Heat Hazard Outlooks Valid: 11 - 17 December 2024

Issued: 03 December 2024



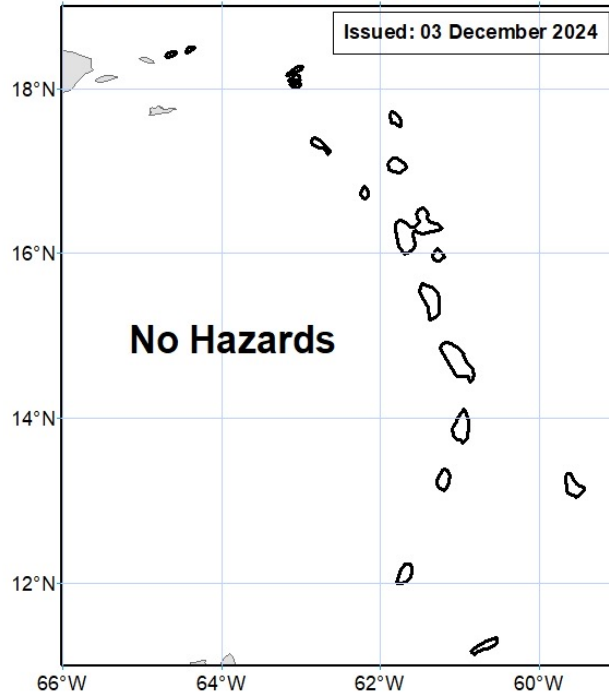
Moderately Severe Severe Extremely Severe

There is an increased chance for **moderately severe heat** over a band crossing central Guyana and Suriname into western French Guiana where the hybrid index indicates high chances of temperatures exceeding 35°C for at least 3 consecutive days in week 2.

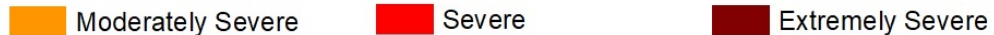
Hybrid index probability of exceedance forecasts also suggest high chances for persistent heat in the orange and red shaded areas.

Week-2 Lesser Antilles Heat Hazards Outlook

Week-2 Lesser Antilles Heat Hazard Outlooks Valid: 11 - 17 December 2024



Heat Levels



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

Urban Heat Island Alerts:

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