Heat Hazards Outlooks for the Caribbean

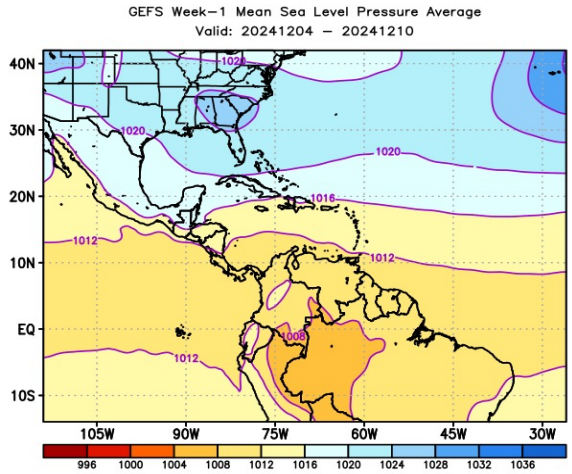
Date of Issue: 2024-12-03
Week-1, Valid for: 04 - 10 December 2024
Week-2, Valid for: 11 - 17 December 2024

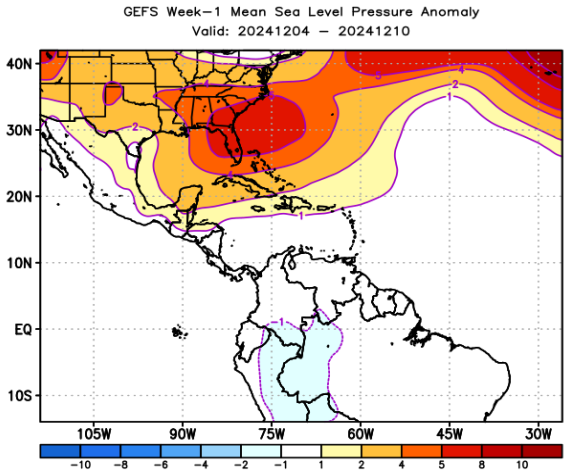
Week-1, Mean Sea Level Pressure & 500-hPa Height

7-day Total

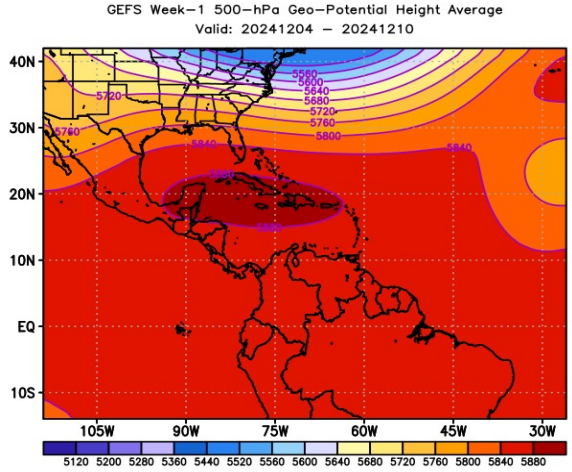
7-day Anomaly

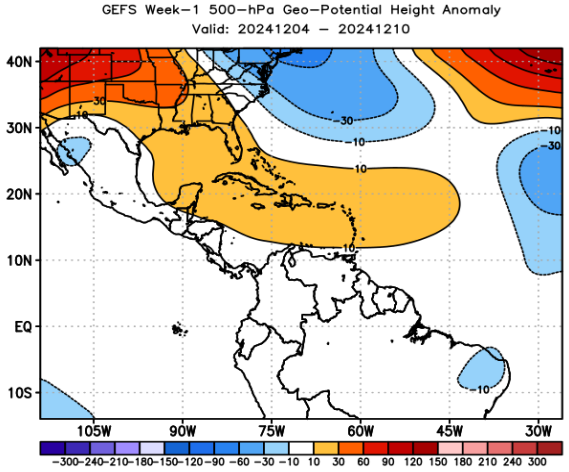
MSLP





Geop. Height (500-hPa)





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.

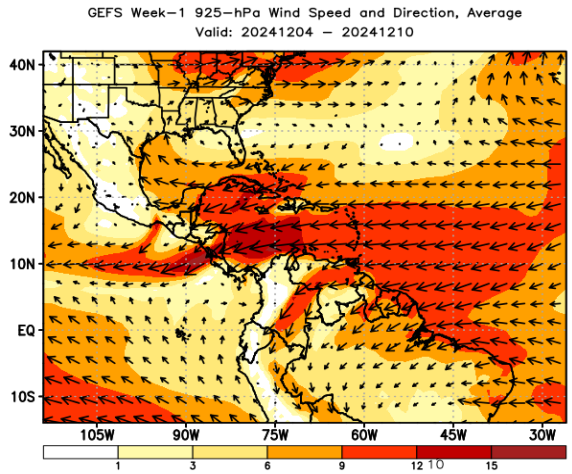
At 500-hPa, geopotential height anomalies in the region also expected to be slightly-above-average over much of the Caribbean and near-normal over northern South America next week.

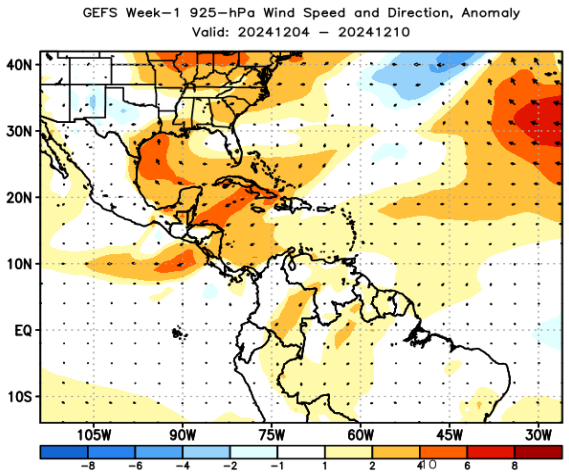
Week-1, 925-hPa and 200-hPa Wind

7-day Total

7-day Anomaly

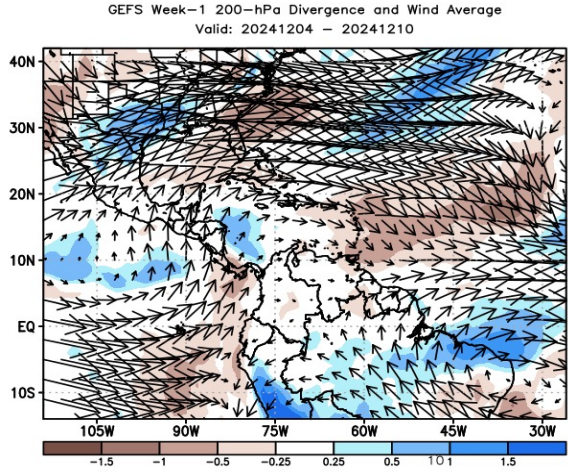
Wind (925-hPa)

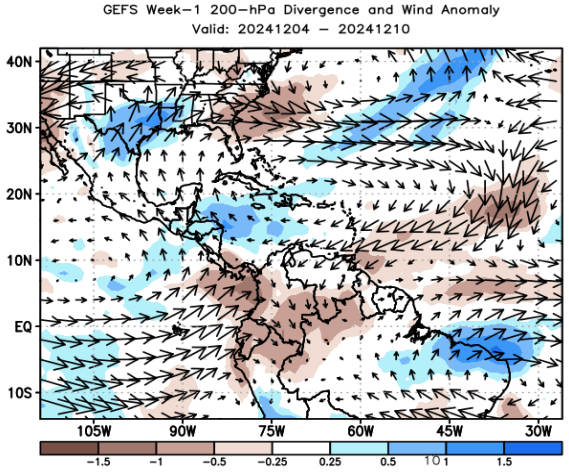




For week-1, low-level winds are expected to be above-average over much of the Caribbean.

Wind & Diverg. (200-hPa)

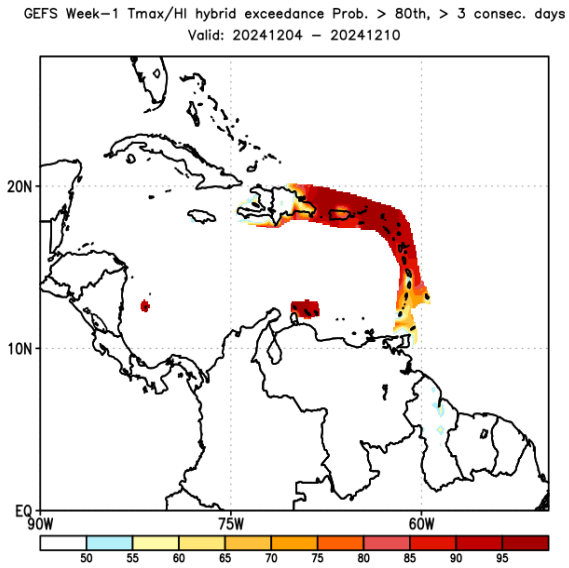




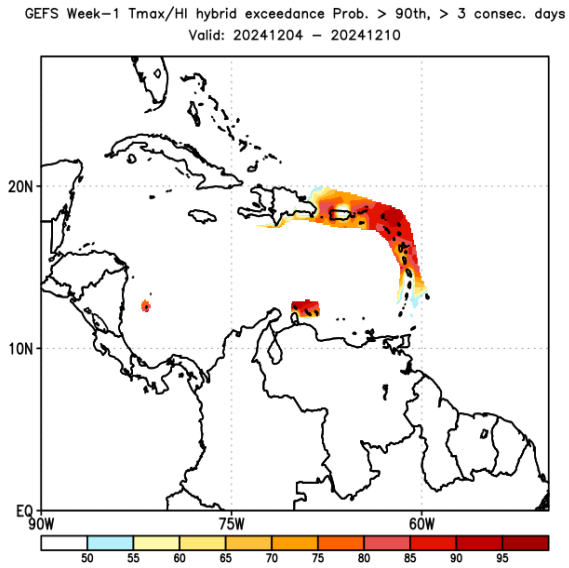
Upper-level divergence is expected over Jamaica, southeast Cuba and much of Hispaniola.

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

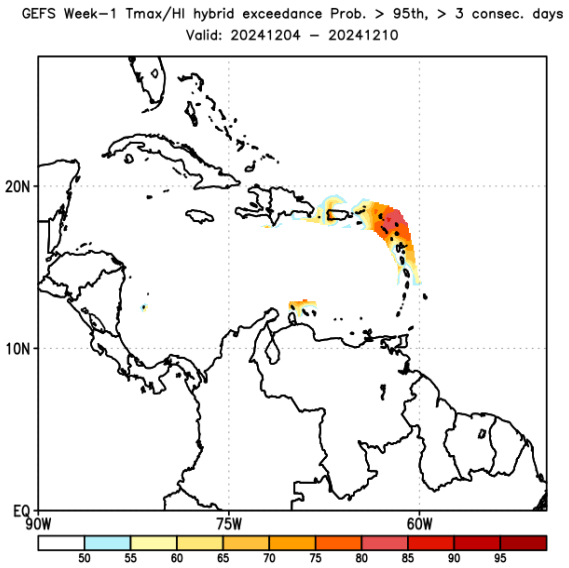
hybrid > 80th percentile, ≥3 consecutive days



hybrid > 90th percentile, ≥3 consecutive days



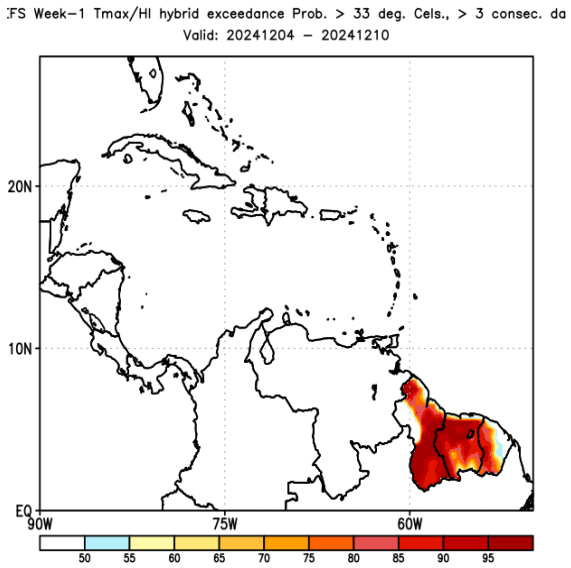
hybrid ≥ 95th percentile, ≥3 consecutive days



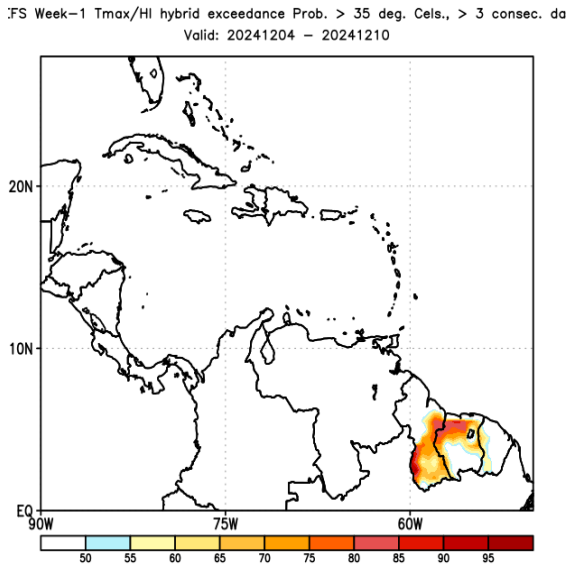
There is a high chance for daily Tmax/HImax hybrid index to exceed the 80th percentile for at least 3 consecutive days over the central-northern Lesser Antilles, and Aruba, Bonaire, and Curacao (ABC) islands. There is also a moderate to high chance for daily Tmax/HImax hybrid index to exceed the 95th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

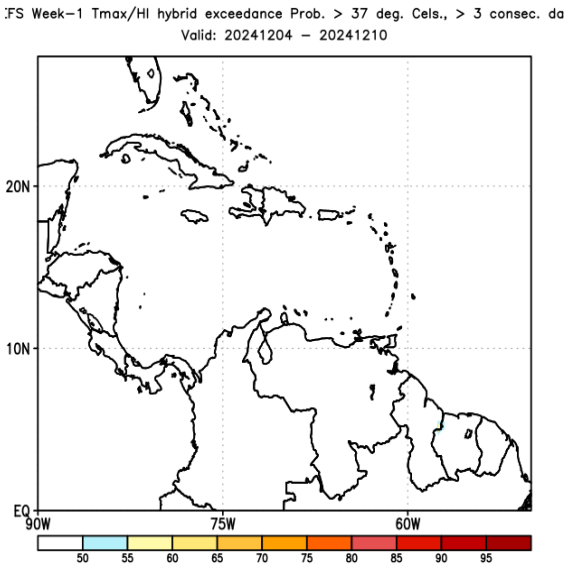
hybrid > 33°C, ≥3 consecutive days



hybrid > 35°C, ≥3 consecutive days

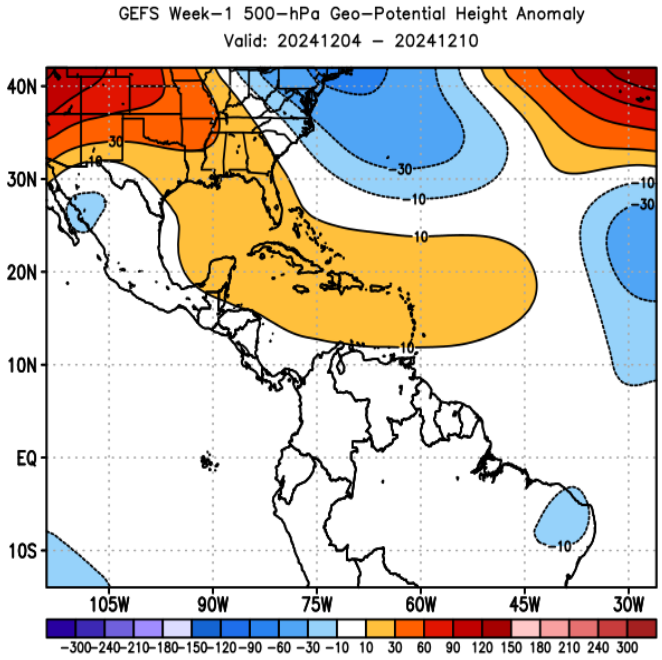


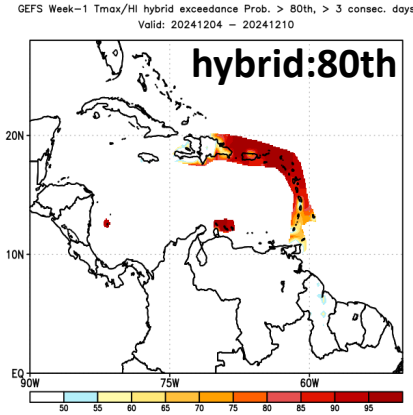
hybrid > 37°C, ≥3 consecutive days

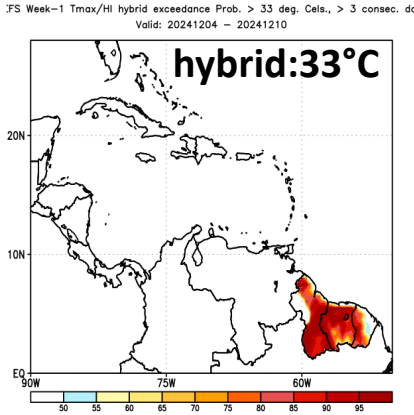


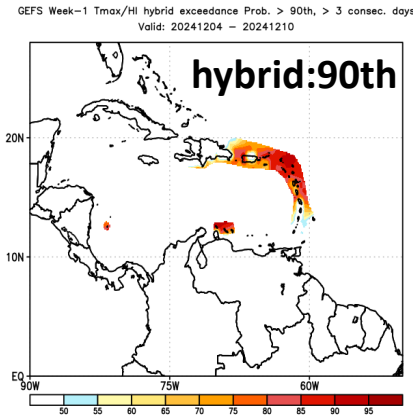
There is a high probability for daily Tmax/HImax hybrid index to exceed 33°C for at least 3 consecutive days over much of Guyana, Suriname, and the western half of French Guiana. No locations show a moderate to high chance for daily Tmax/HImax hybrid index to exceed 37°C.

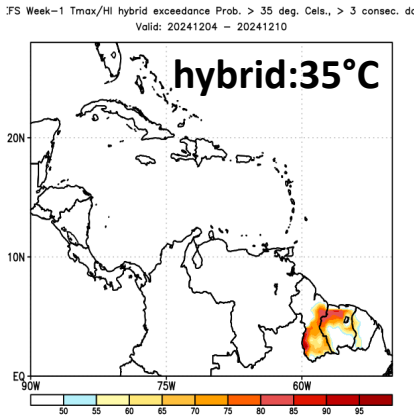
Week-1, Convergence of Evidences

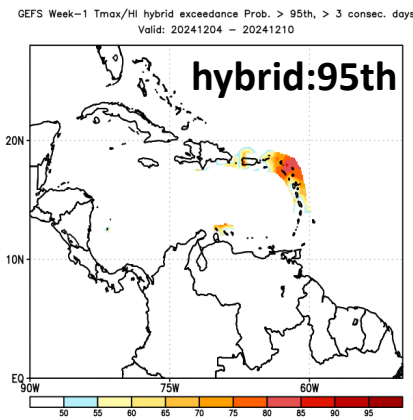


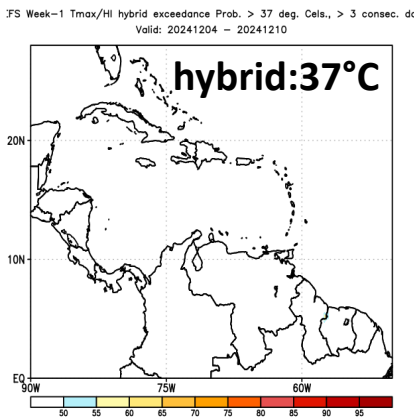












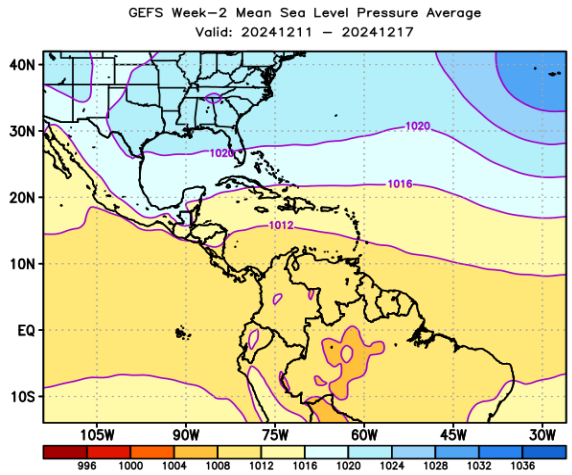
- **At 500-hPa, model forecasts indicate slightly-above-average conditions over much of the Caribbean and near-normal conditions over northern South America next week.**
- **Hybrid index exceedance probability forecasts indicate:**
  - **High chances for the hybrid index to exceed the 95th percentile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

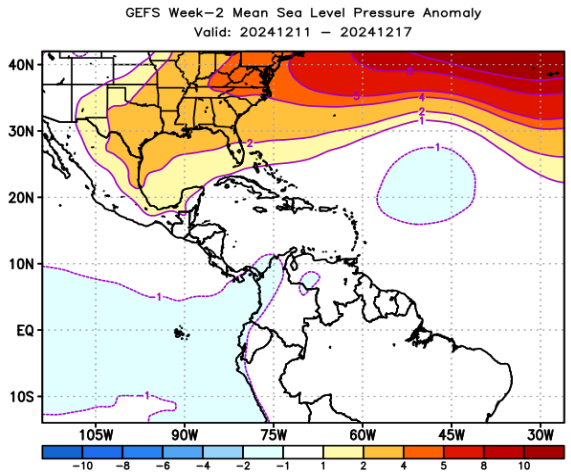
Week-2, Mean Sea Level Pressure & 500-hPa Height

7-day Total

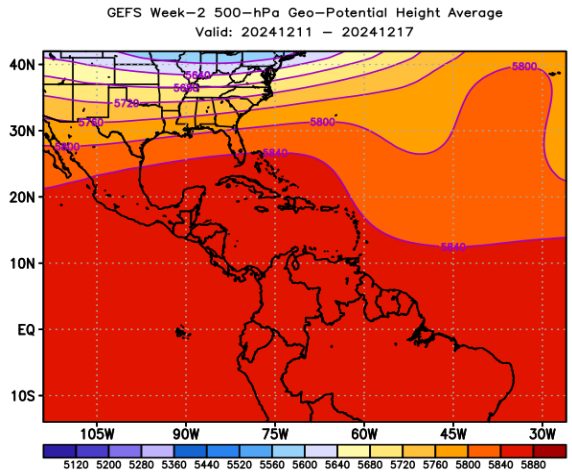
7-day Anomaly

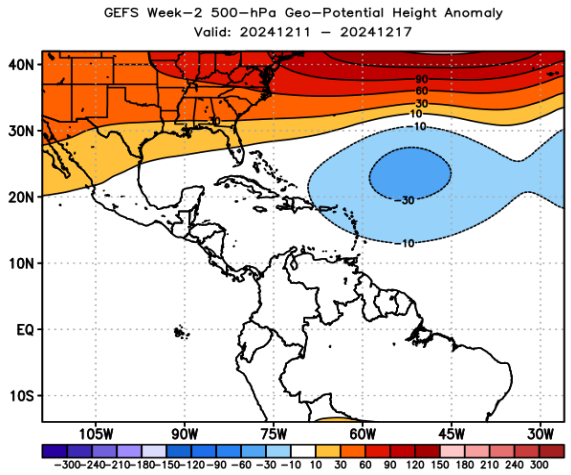
MSLP





Geop. Height (500-hPa)





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.

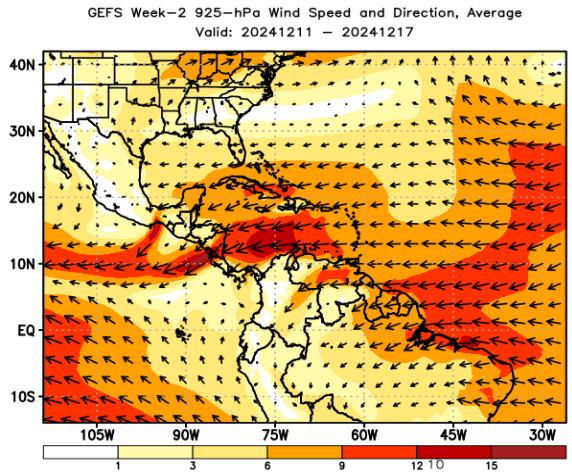
At 500-hPa, geopotential height anomalies in the region also expected to be near-normal for next week over most of the region and slightly-below-normal over the central-northern Lesser Antilles.

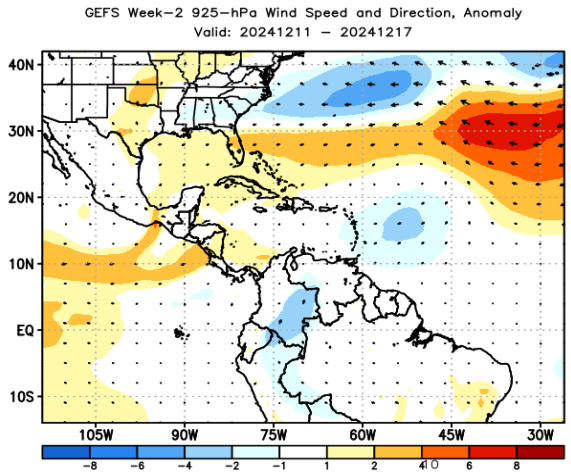
Week-2, 925-hPa and 200-hPa Wind

7-day Total

7-day Anomaly

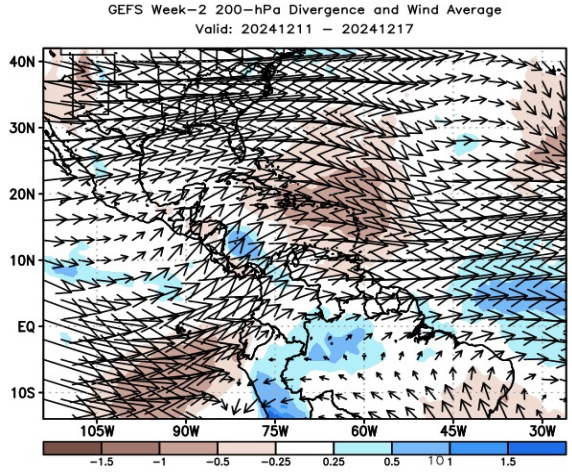
Wind (925-hPa)

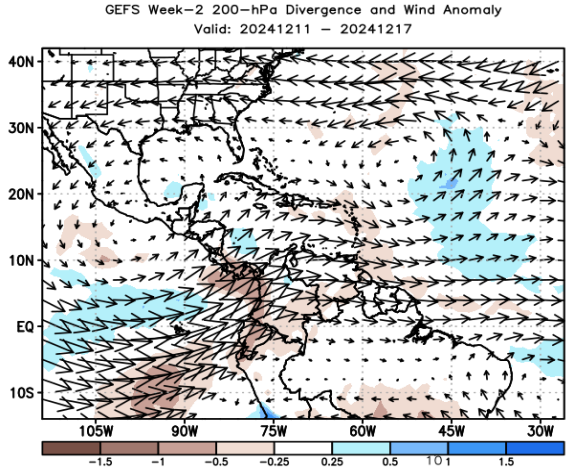




For week-2, low-level winds are expected to be above-average over Cuba and the Bahamas next week, slightly-below-normal over the Lesser Antilles, and near-normal over many central-southern locations.

Wind & Diverg. (200-hPa)

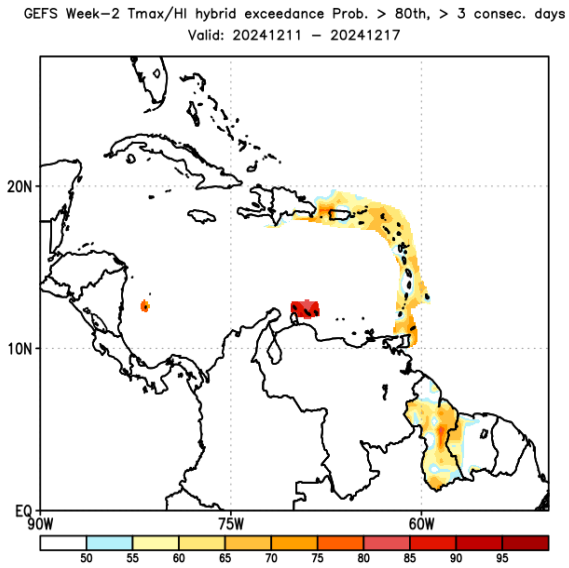




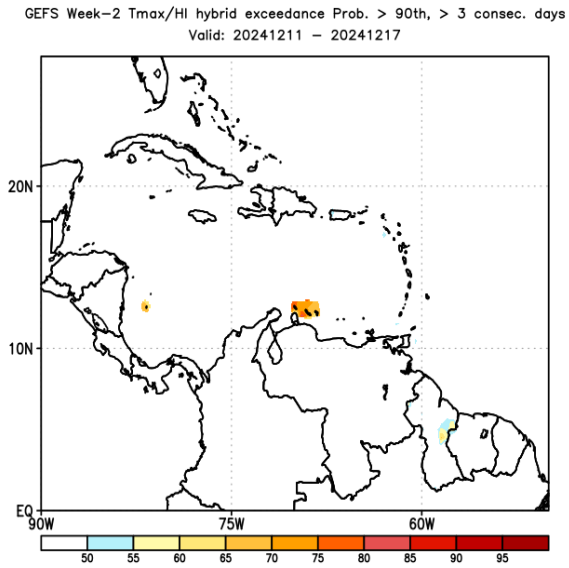
Minimal upper-level divergence is expected over the Caribbean region and northern South America.

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

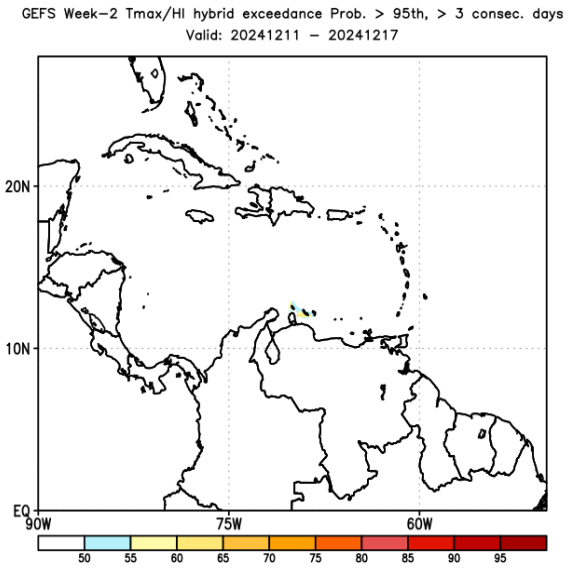
hybrid > 80th percentile, ≥3 consecutive days



hybrid > 90th percentile, ≥3 consecutive days



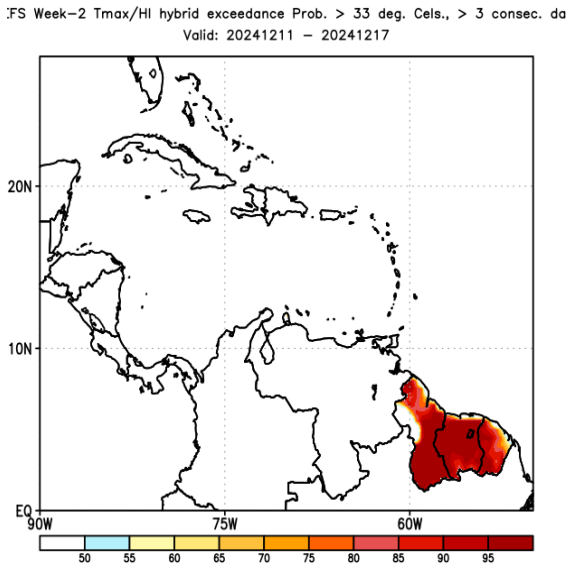
hybrid ≥ 95th percentile, ≥3 consecutive days



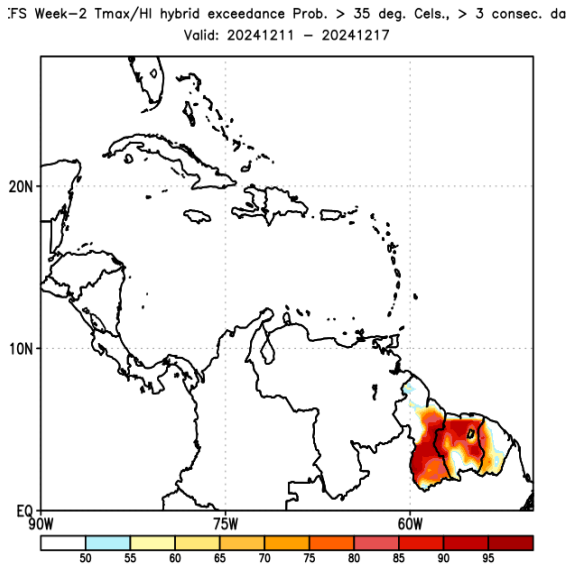
There is a high chance for daily Tmax/HImax hybrid index to exceed the 80th percentile for at least 3 consecutive days over the ABC islands. No locations have a moderate to high chance for daily Tmax/HImax hybrid index to exceed the 95th percentile for at least 3 consecutive days.

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

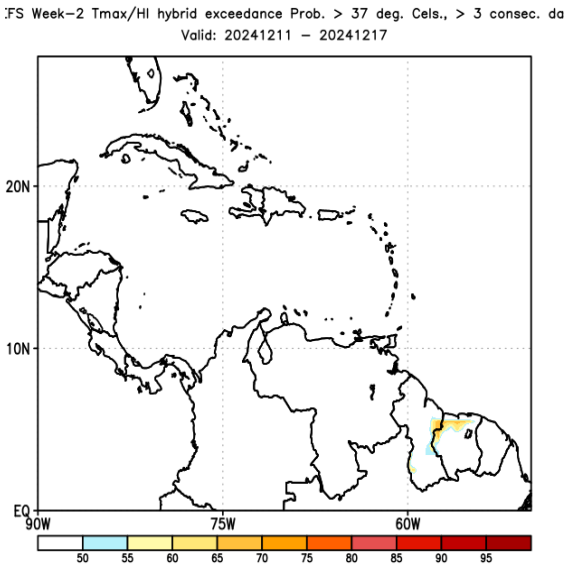
hybrid > 33°C, ≥3 consecutive days



hybrid > 35°C, ≥3 consecutive days

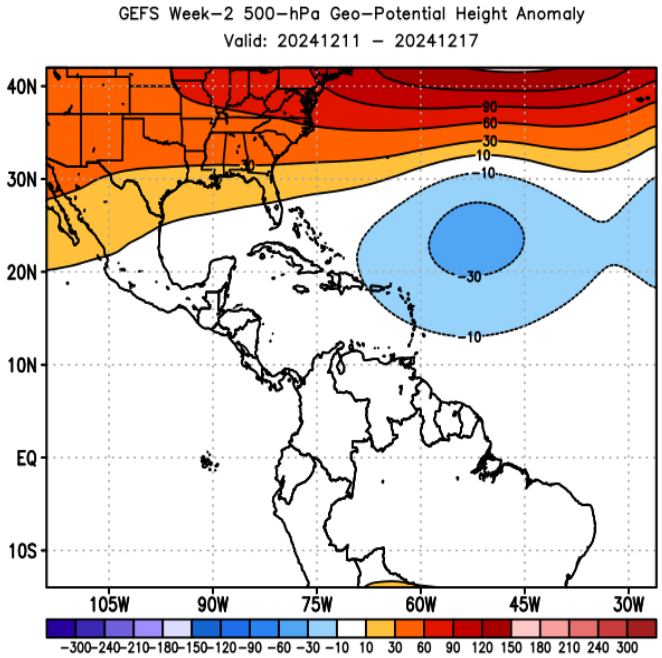


hybrid > 37°C, ≥3 consecutive days

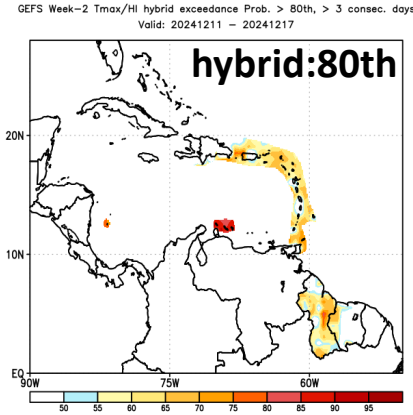


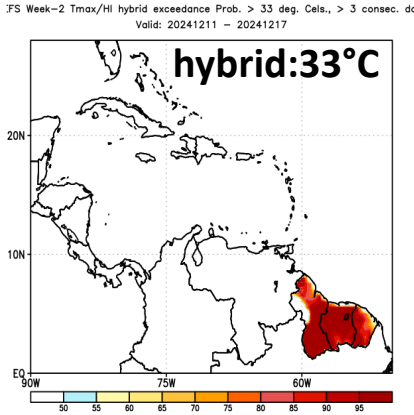
There is a high probability for daily Tmax/HImax hybrid index to exceed 33°C for at least 3 consecutive days over much of Guyana, Suriname, and French Guiana. No locations have a moderate to high chance for daily Tmax/HImax hybrid index to exceed 37°C.

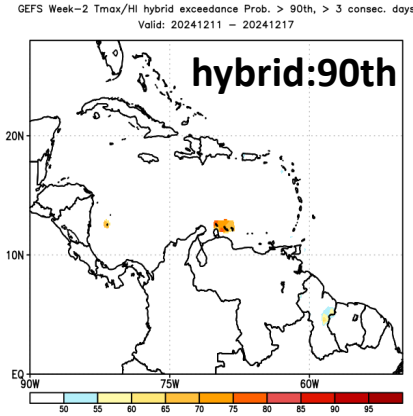
Week-2, Convergence of Evidences

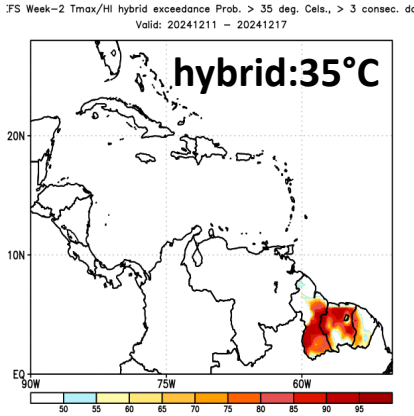


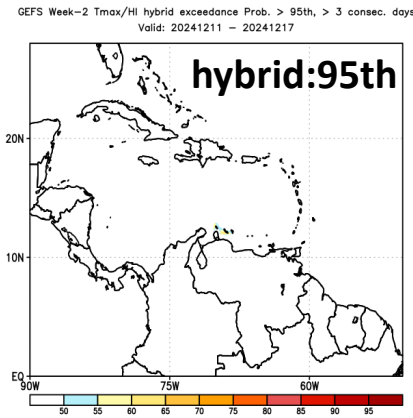
- **At 500-hPa, model forecasts indicate near-normal conditions for next week over most of the region and slightly-below-normal conditions over the central-northern Lesser Antilles.**
- **Hybrid index exceedance probability forecasts indicate:**
  - **No locations show a high chance for the hybrid index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

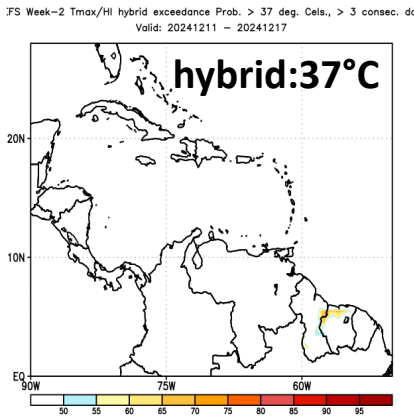




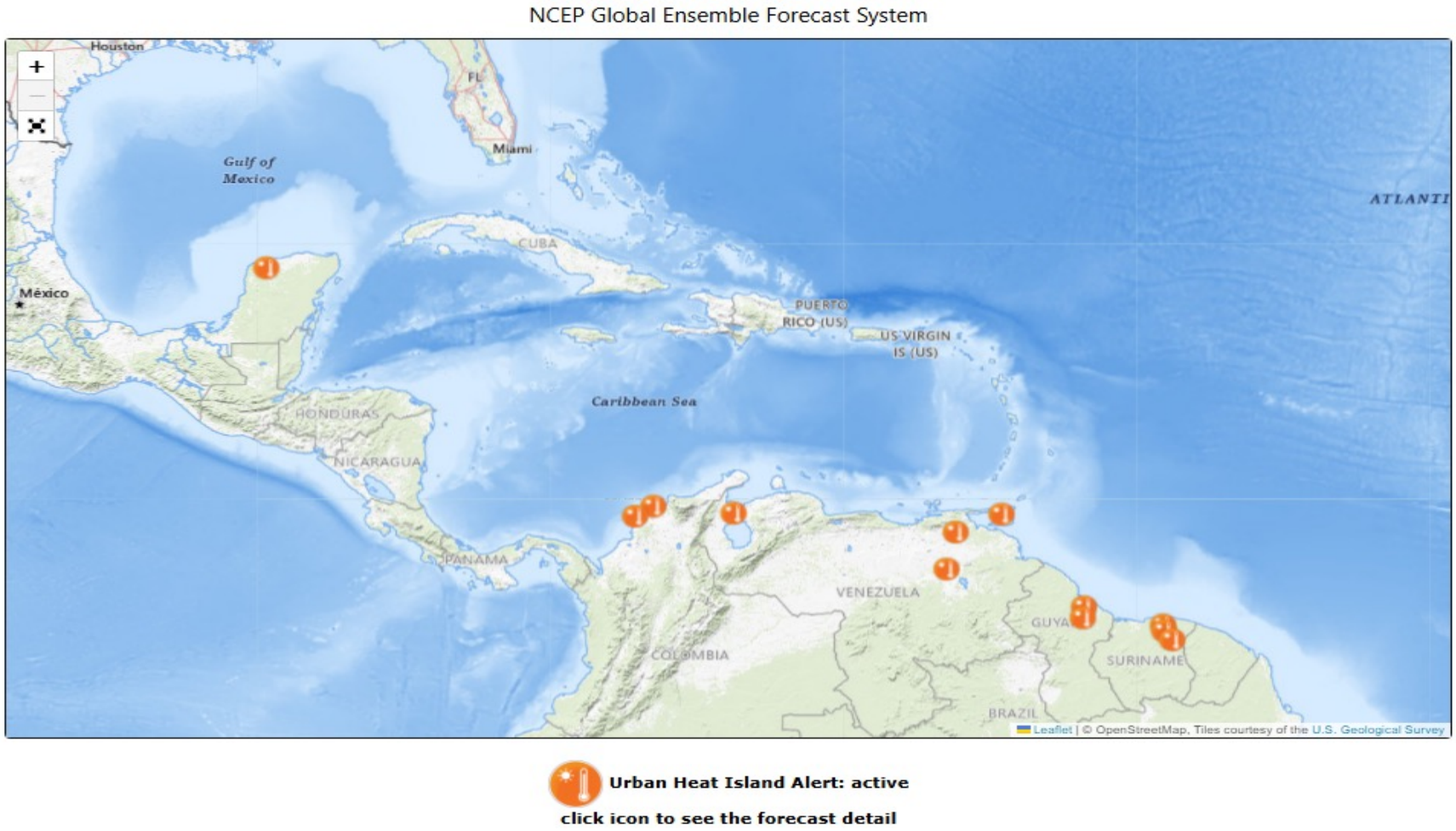








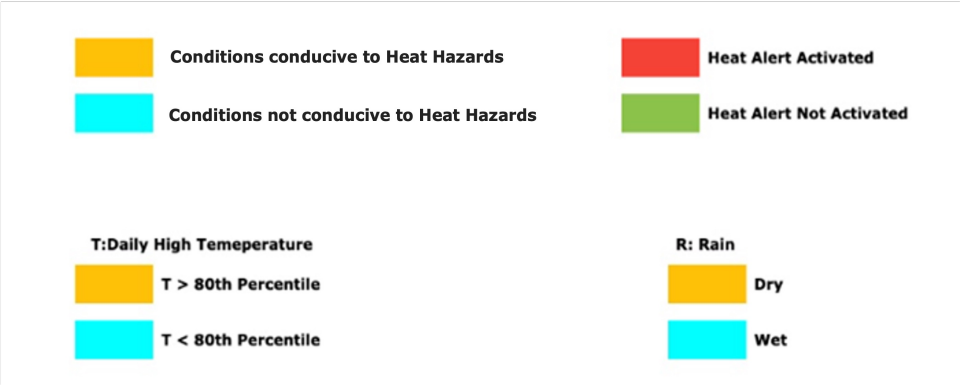
Urban Heat Island Alerts for Caribbean



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

Urban Heat Island Forecasts Week-1

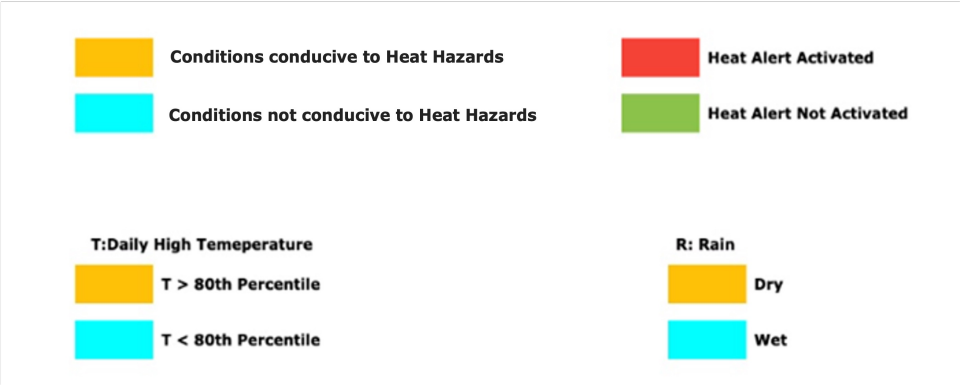
			Dec-04-2024			Dec-05-2024			Dec-06-2024			Dec-07-2024			Dec-08-2024		
NO	Stations	80th Pctl Clim	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert	Tmax	Rain	Alert
1	Barranquilla	29.2 degC															
2	Cartagena	30.1 degC															
3	Chaguanas	28.1 degC															
4	Maracaibo_La_Chinita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



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

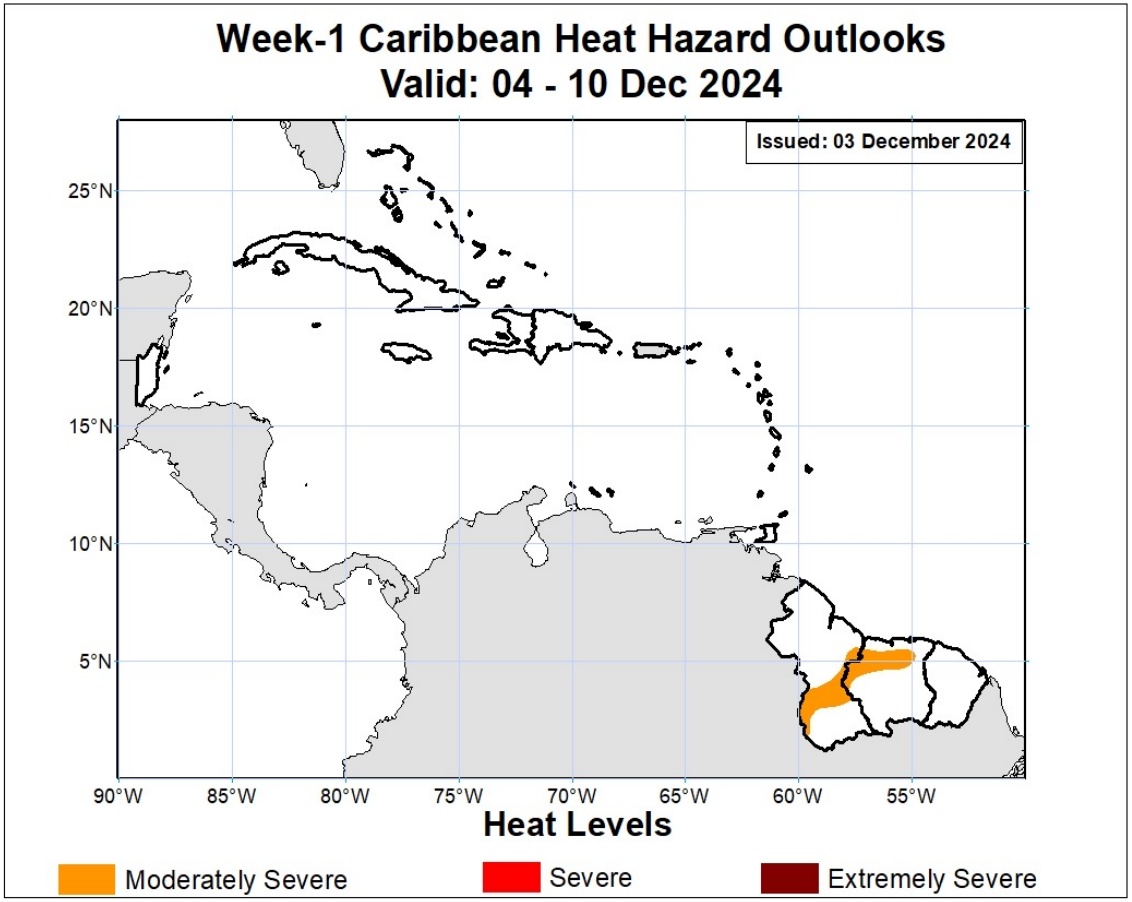
Urban Heat Island Forecasts Weeks-2, 3, & 4

		Week 2: 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_Fl	28.2 degC				27.3 degC				27.7 degC			



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

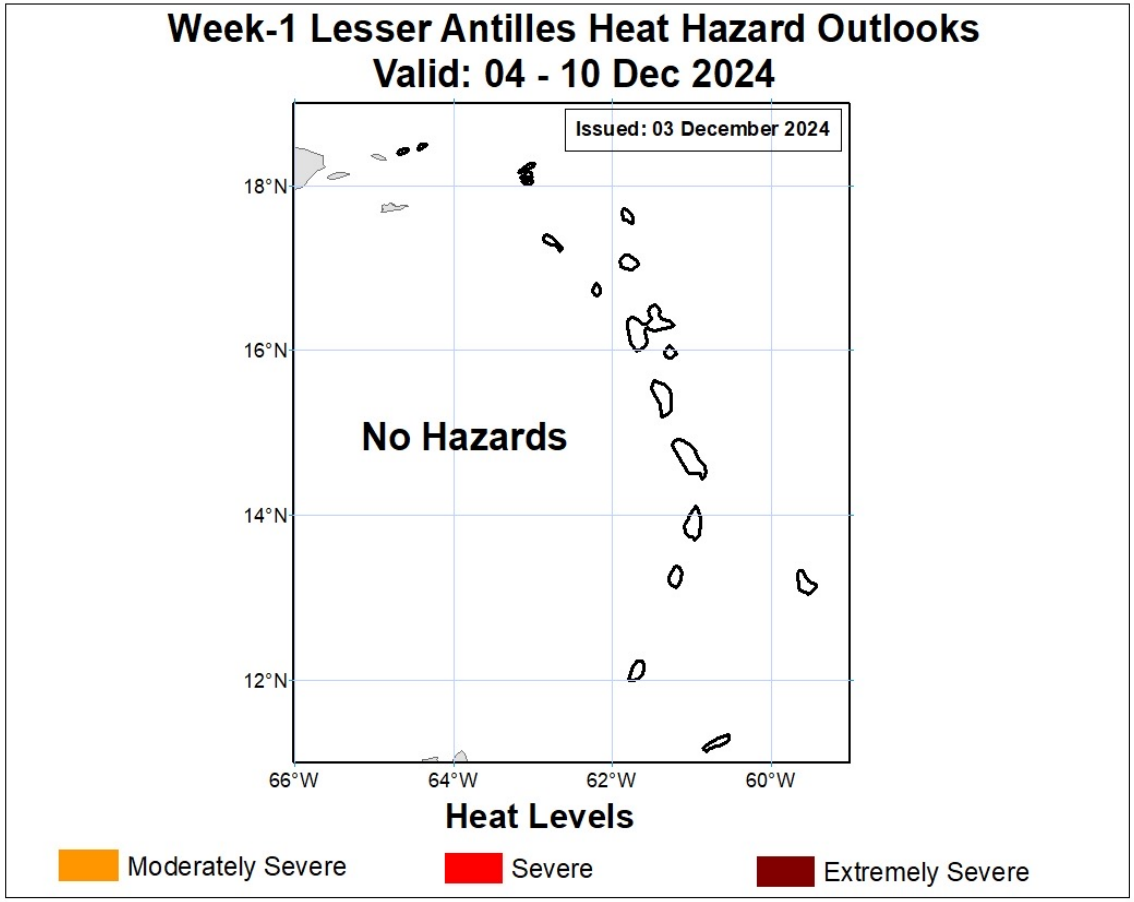
Week-1 Heat Hazards Outlook



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.

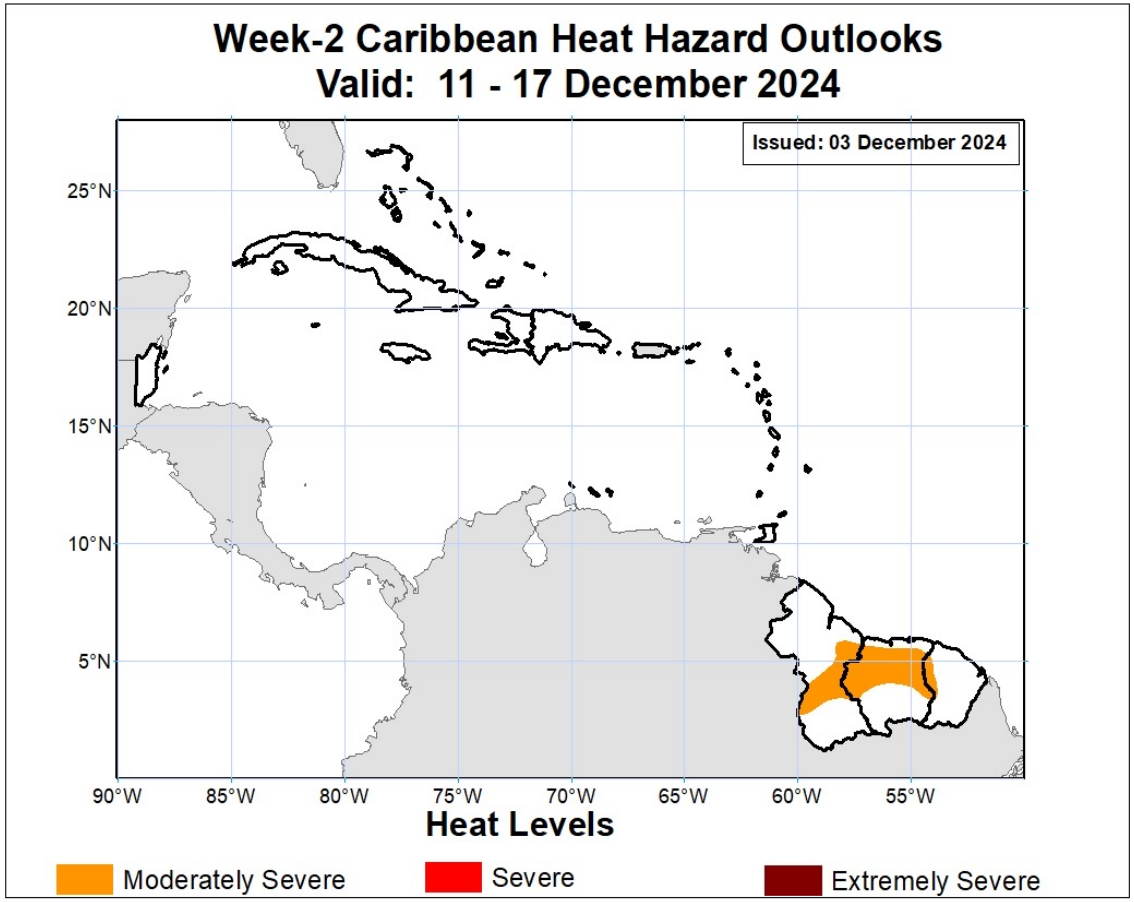
Hybrid index probability of exceedance forecasts also suggest high chances for persistent heat in the orange and red shaded areas.

Week-1 Lesser Antilles Heat Hazards Outlook



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^{o}C for at least 3 consecutive days.

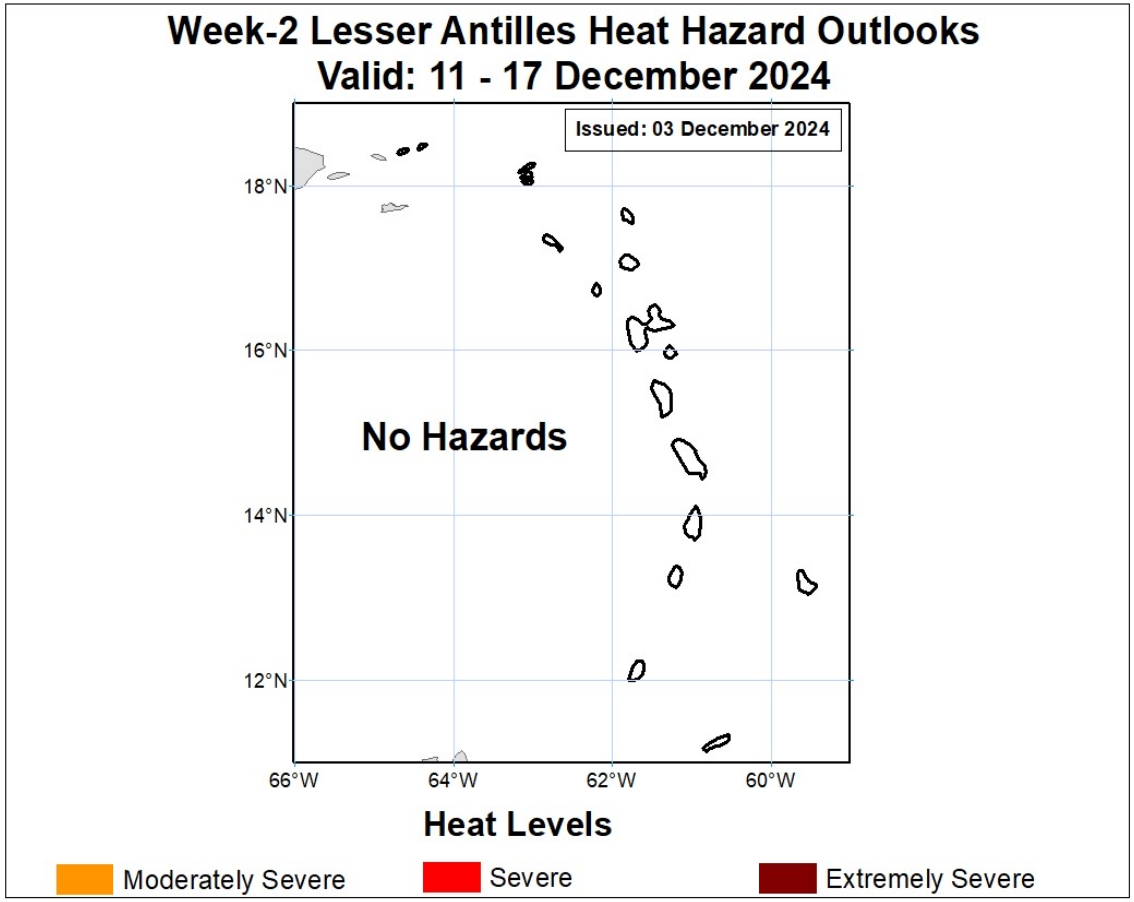
Week-2 Heat Hazards Outlook



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



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/climatehealth/heat-health_forecasts_alt.shtml

Urban Heat Island Alerts:

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