

Second WMO RCC-Washington International Training Workshop

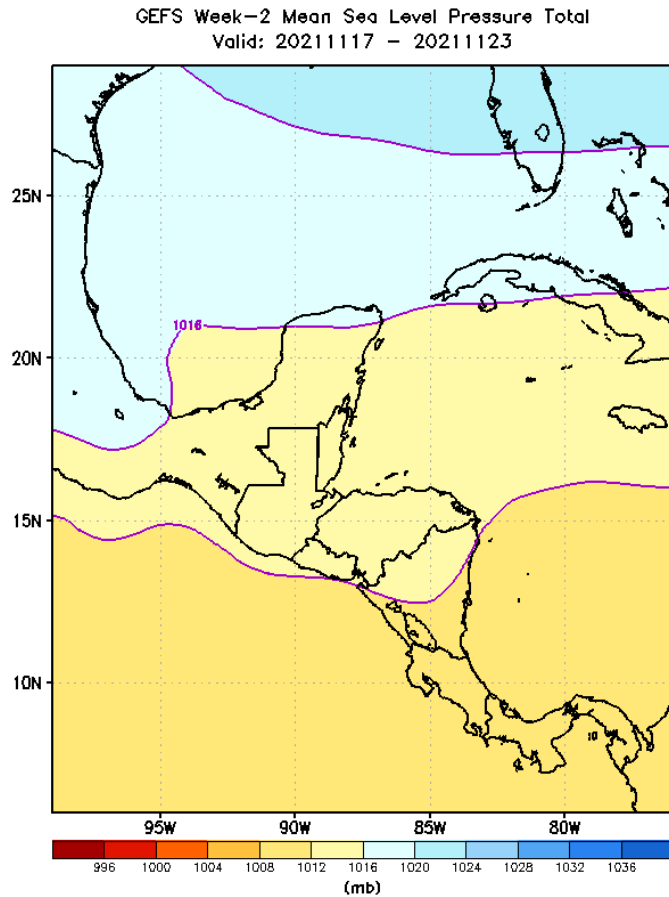
Real-time week-2 extreme temperature outlook

Belize-Shanea Young

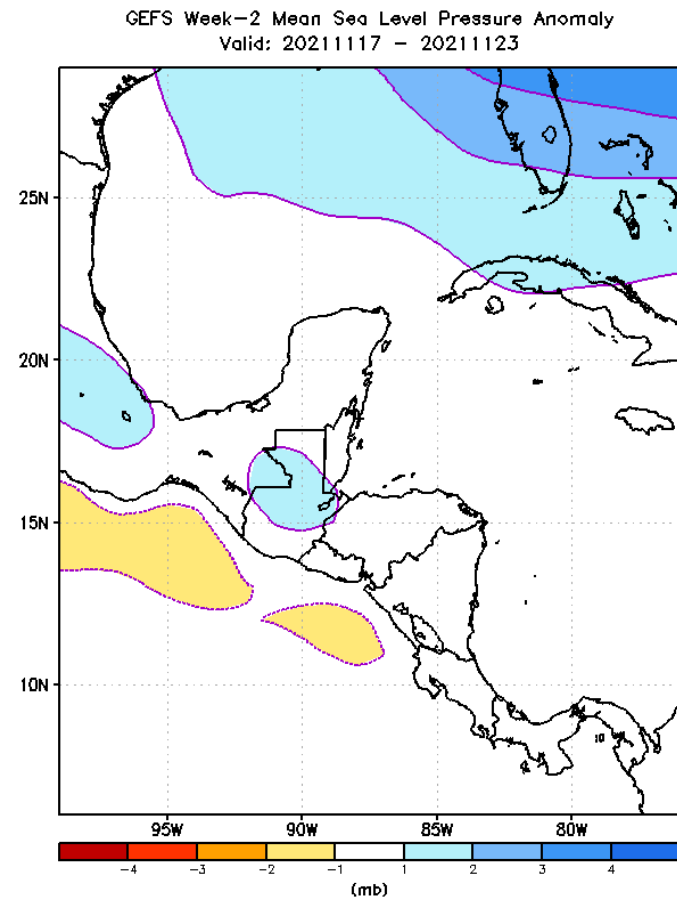
8 – 10 November 2021

Mean Sea Level Pressure

Total



Anomaly

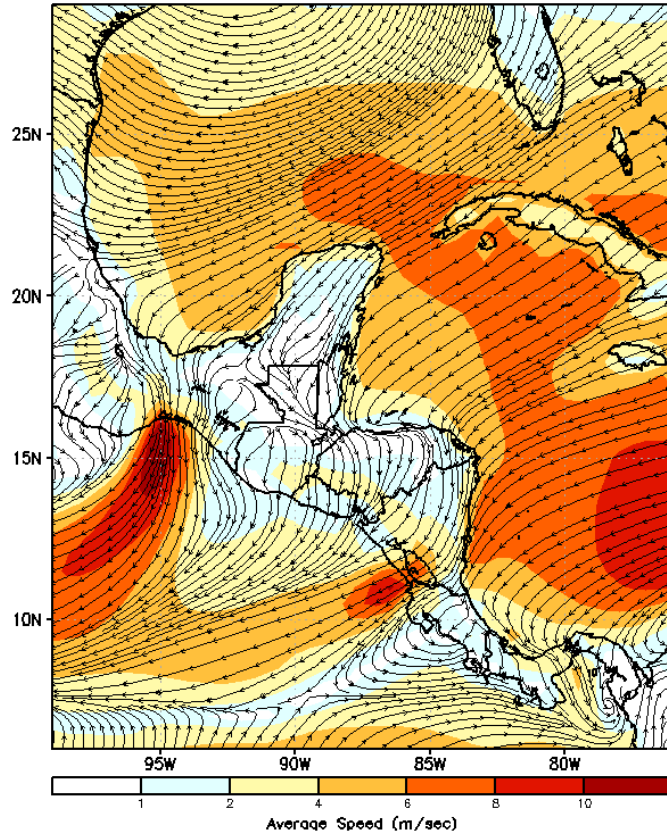


An area of positive mean sea level pressure anomaly is located over Guatemala and extreme southern Belize.

10m Wind

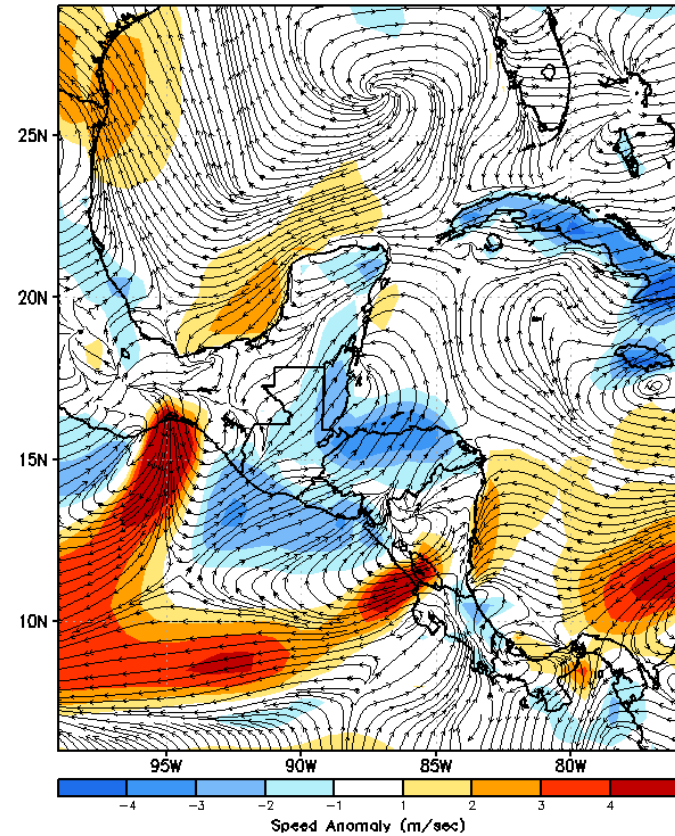
Total

GEFS Week-2 10m Wind Speed Total
Valid: 20211117 - 20211123



Anomaly

GEFS Week-2 10m Wind Speed Anomaly
Valid: 20211117 - 20211123

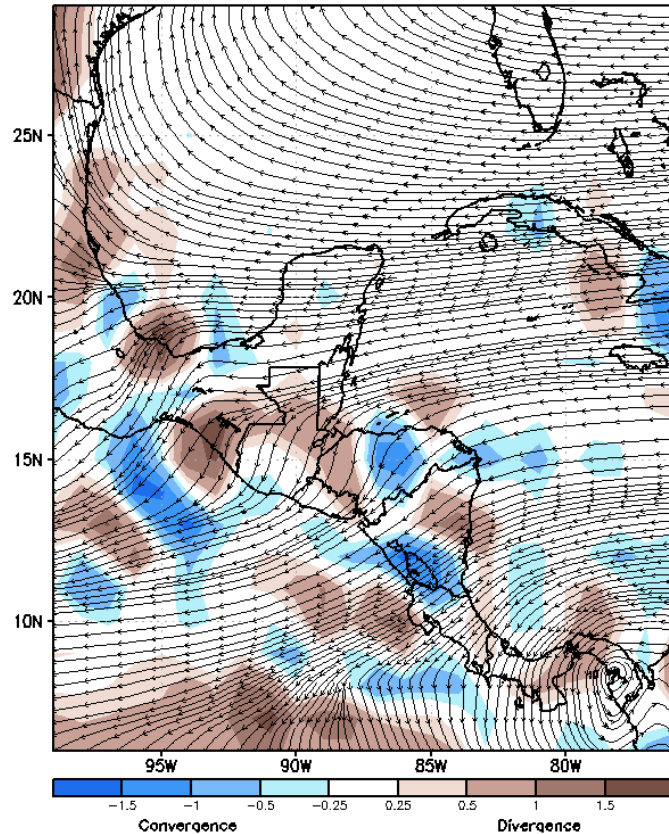


An area of weaker than normal wind speed across much of Belize

850-hPa Wind

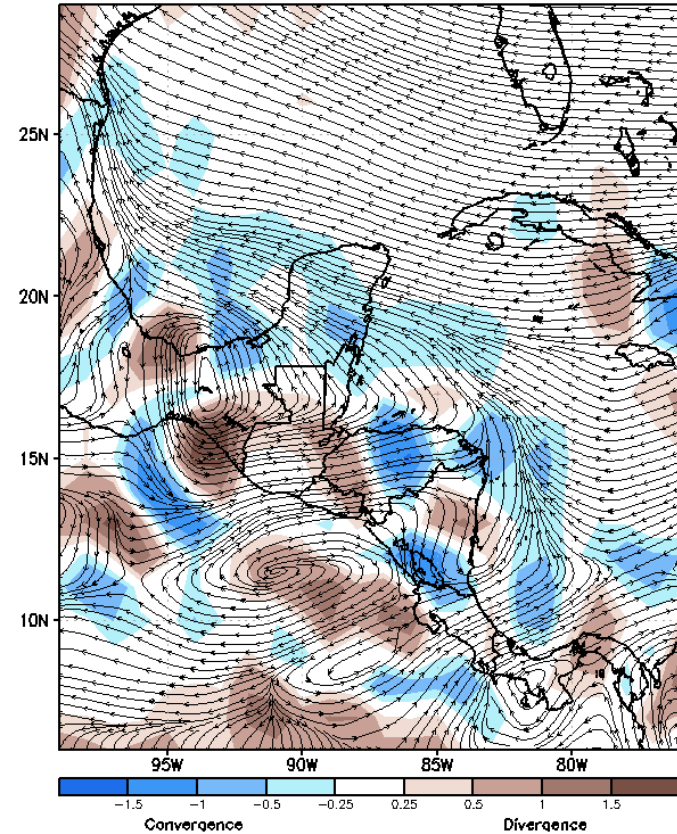
Total

GEFS Week-2 850-hPa Divergence and Wind Total
Valid: 20211117 - 20211123



Anomaly

GEFS Week-2 850-hPa Divergence and Wind Anomaly
Valid: 20211117 - 20211123

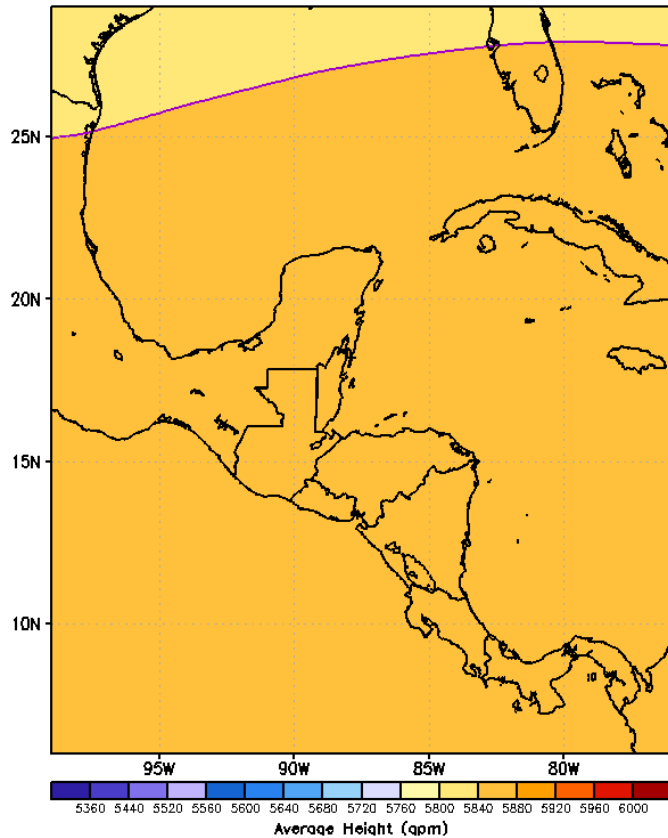


A broad area of cyclonic circulation across Northern Central America, with localized areas of divergence anomaly at 850-hPa in southern Belize and convergence anomaly over central and northern Belize.

500-hPa Height

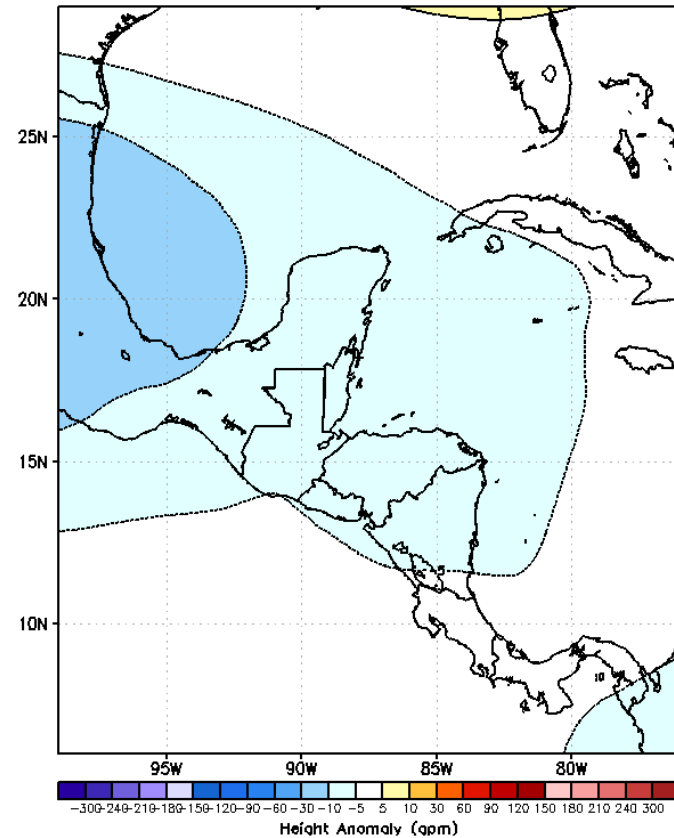
Total

GEFS Week-2 500-hPa Geo-Potential Height Total
Valid: 20211117 - 20211123



Anomaly

GEFS Week-2 500-hPa Geo-Potential Height Anomaly
Valid: 20211117 - 20211123

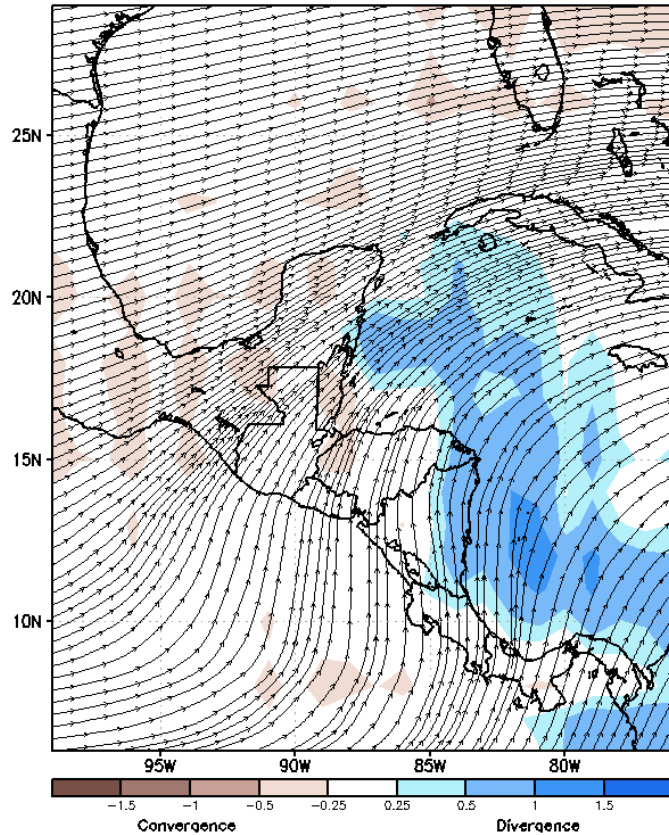


A broad area of negative height anomaly at 500-hPa is expected to prevail across many places in the Central America and Belize.

200-hPa Wind

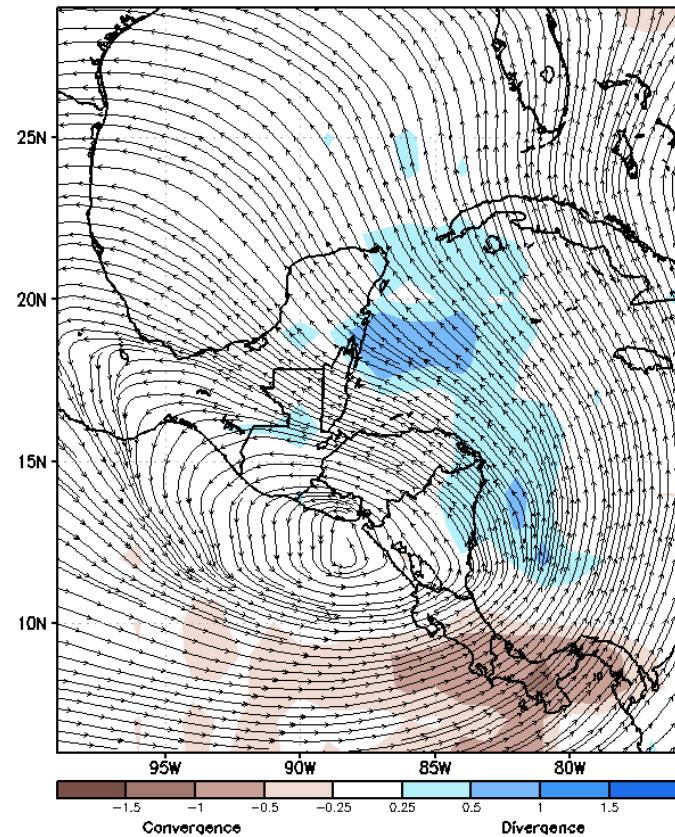
Total

GEFS Week-2 200-hPa Divergence and Wind Total
Valid: 20211117 - 20211123



Anomaly

GEFS Week-2 200-hPa Divergence and Wind Anomaly
Valid: 20211117 - 20211123

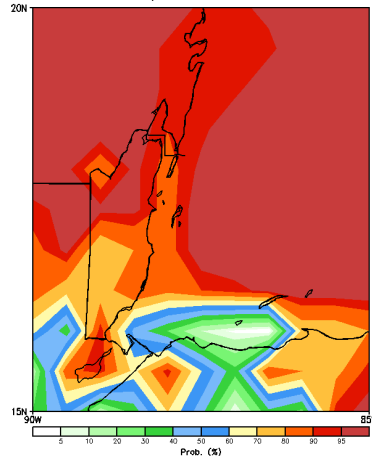


An area of upper-level convergence (brown shaded) over Belize and Divergence over NW Caribbean.

Tmax Exceedance Probability for at least 2 Consecutive Days

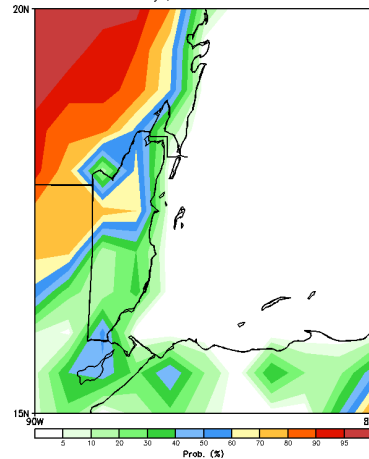
$\geq 35^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 35 Cels.
>=2 Consec. Days, Valid: 20211117 - 20211123



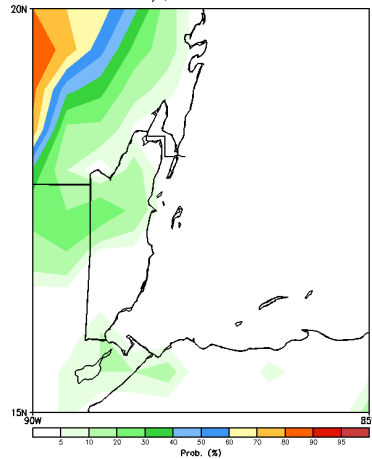
$\geq 37^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 37 Cels.
>=2 Consec. Days, Valid: 20211117 - 20211123



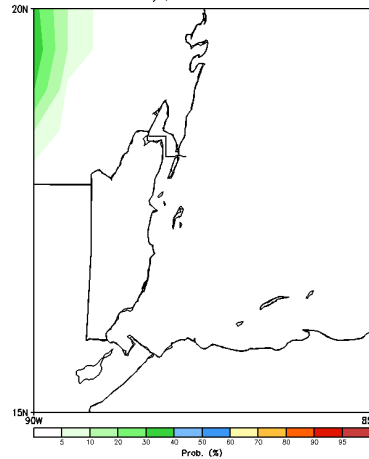
$\geq 39^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 39 Cels.
>=2 Consec. Days, Valid: 20211117 - 20211123



$\geq 41^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 41 Cels.
>=2 Consec. Days, Valid: 20211117 - 20211123

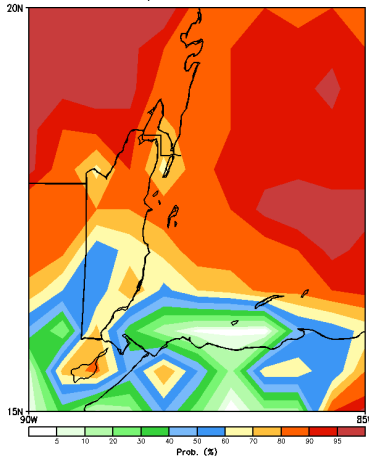


- High exceedance probability ($\geq 35^{\circ}\text{C}$ for at least 2 consecutive days) over many places in Belize and moderate exceedance probability ($\geq 37^{\circ}\text{C}$) over north-western Belize.

Tmax Exceedance Probability for at least 3 Consecutive Days

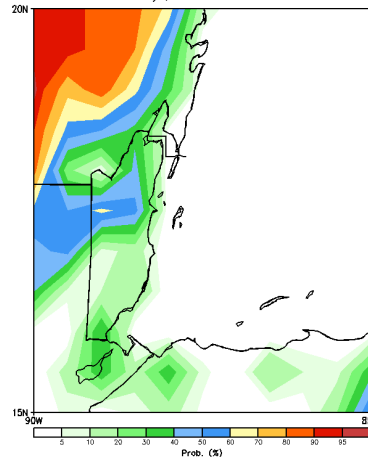
$\geq 35\text{ }^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 35 Cels.
>=3 Consec. Days, Valid: 20211117 - 20211123



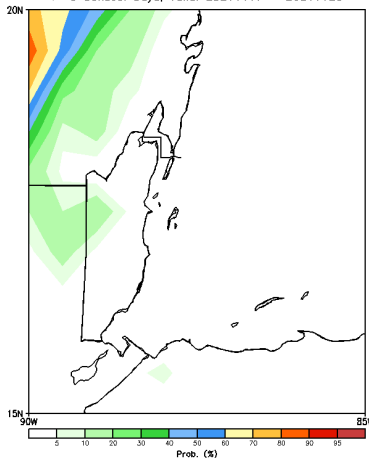
$\geq 37\text{ }^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 37 Cels.
>=3 Consec. Days, Valid: 20211117 - 20211123



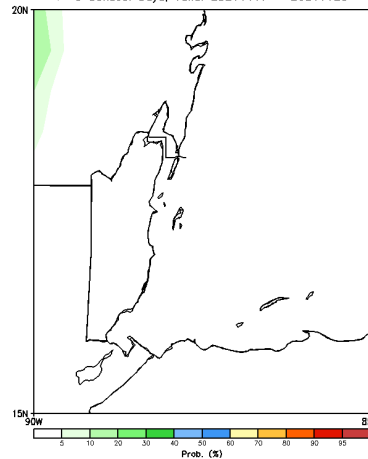
$\geq 39\text{ }^{\circ}\text{C}$

GEFS Week-2 Tmax Exceedance Prob. ≥ 39 Cels.
>=3 Consec. Days, Valid: 20211117 - 20211123



$\geq 41\text{ }^{\circ}\text{C}$

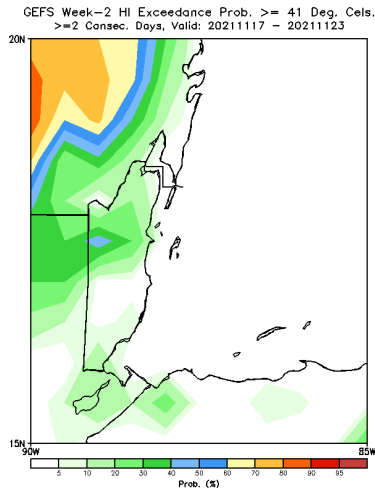
GEFS Week-2 Tmax Exceedance Prob. ≥ 41 Cels.
>=3 Consec. Days, Valid: 20211117 - 20211123



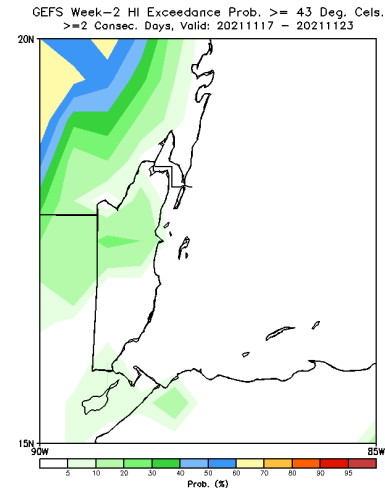
- High exceedance probability ($\geq 35\text{ }^{\circ}\text{C}$ for at least 2 consecutive days) over many places northern Belize.

HI Exceedance Probability for at least 2 Consecutive Days

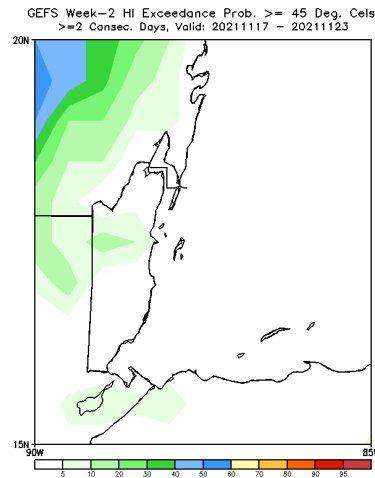
$\geq 41^{\circ}\text{C}$



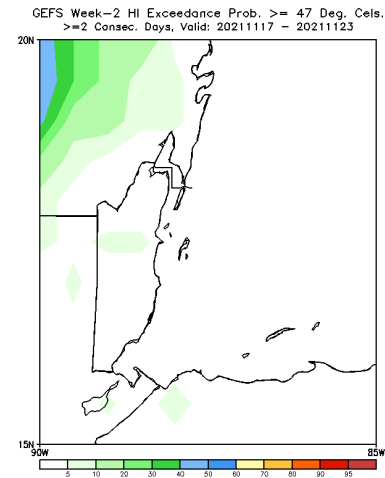
$\geq 43^{\circ}\text{C}$



$\geq 45^{\circ}\text{C}$

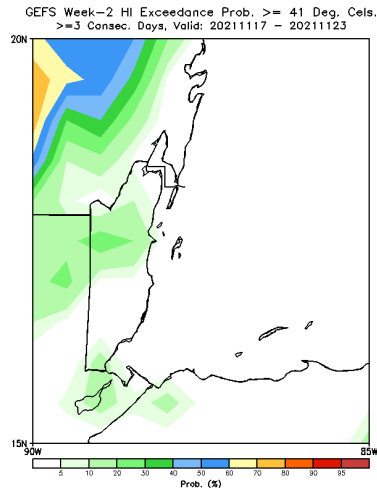


$\geq 47^{\circ}\text{C}$

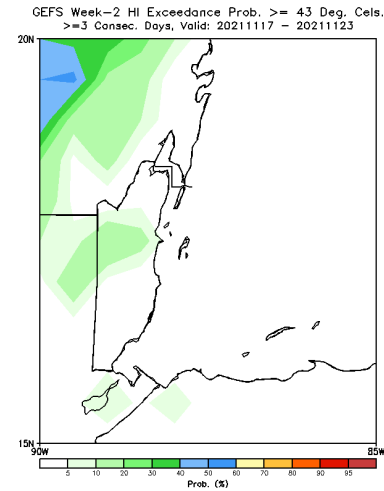


HI Exceedance Probability for at least 3 Consecutive Days

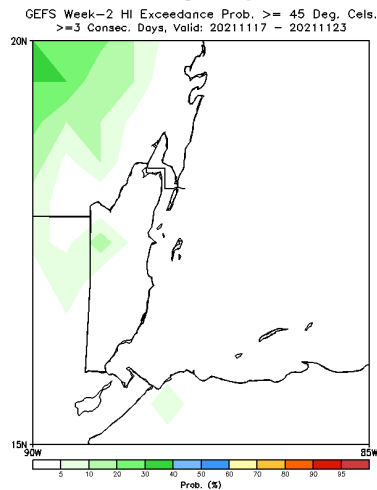
$\geq 41^{\circ}\text{C}$



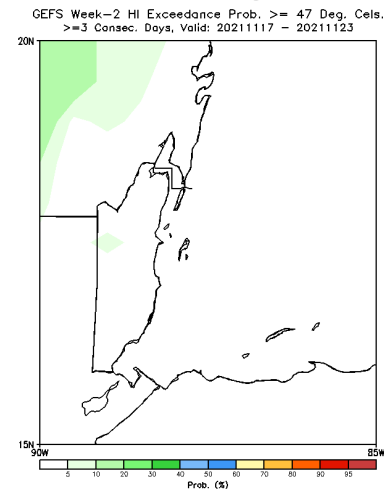
$\geq 43^{\circ}\text{C}$



$\geq 45^{\circ}\text{C}$



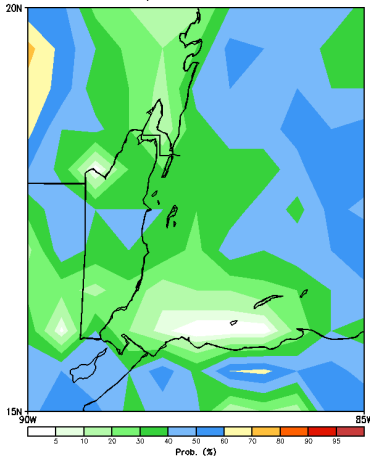
$\geq 47^{\circ}\text{C}$



Tmax Exceedance Probability with respect to Percentiles for at least 2 Consecutive Days

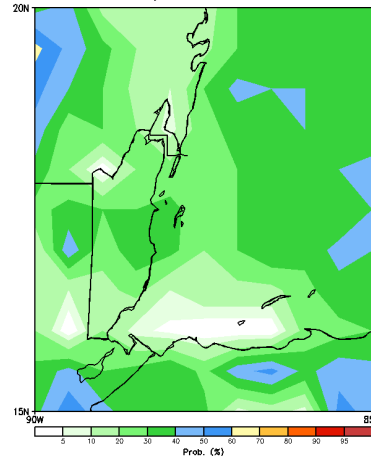
$\geq 80^{\text{th}}$ percentile

GEFS Week-2 Tmax Exceedance Prob. $\geq 80^{\text{th}}$ Pctl.
 ≥ 2 Consec. Days, Valid: 20211117 - 20211123



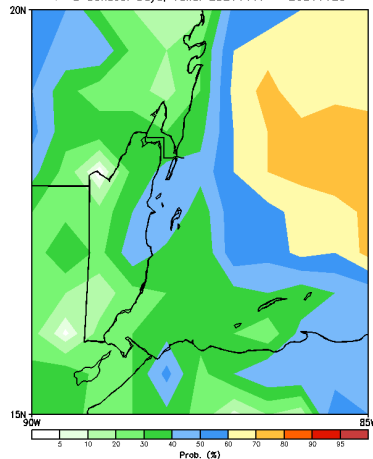
$\geq 85^{\text{th}}$ percentile

GEFS Week-2 Tmax Exceedance Prob. $\geq 85^{\text{th}}$ Pctl.
 ≥ 2 Consec. Days, Valid: 20211117 - 20211123



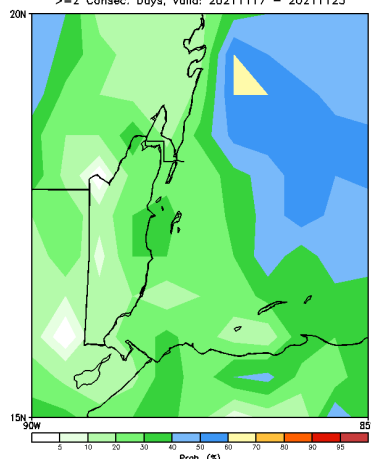
$\geq 90^{\text{th}}$ percentile

GEFS Week-2 HI Exceedance Prob. $\geq 90^{\text{th}}$ Pctl.
 ≥ 2 Consec. Days, Valid: 20211117 - 20211123



$\geq 95^{\text{th}}$ percentile

GEFS Week-2 HI Exceedance Prob. $\geq 95^{\text{th}}$ Pctl.
 ≥ 2 Consec. Days, Valid: 20211117 - 20211123

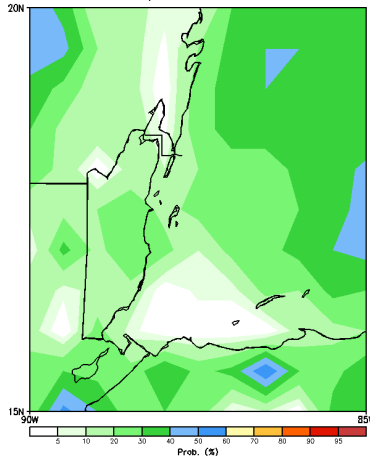


Low exceedance probability of $\geq 95^{\text{th}}$ percentile for at least 2 consecutive days) for Tmax

Tmax Exceedance Probability with respect to Percentiles for at least 3 Consecutive Days

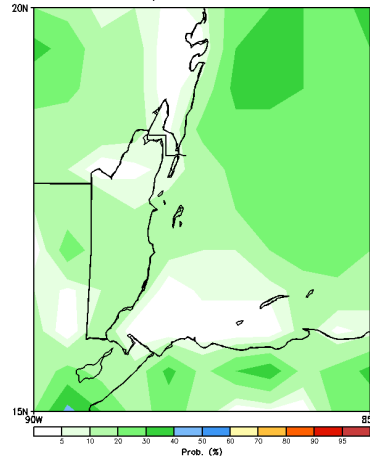
$\geq 80^{\text{th}}$ percentile

GEFS Week-2 Tmax Exceedance Prob. $\geq 80^{\text{th}}$ Pctl.
>=3 Consec. Days, Valid: 20211117 - 20211123



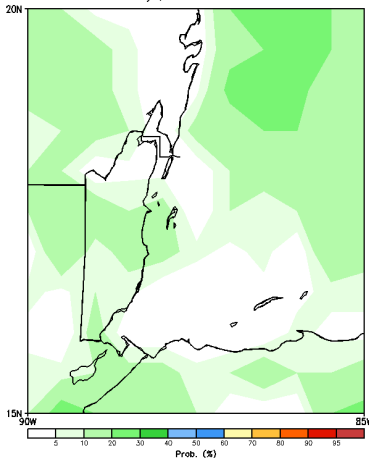
$\geq 85^{\text{th}}$ percentile

GEFS Week-2 Tmax Exceedance Prob. $\geq 85^{\text{th}}$ Pctl.
>=3 Consec. Days, Valid: 20211117 - 20211123



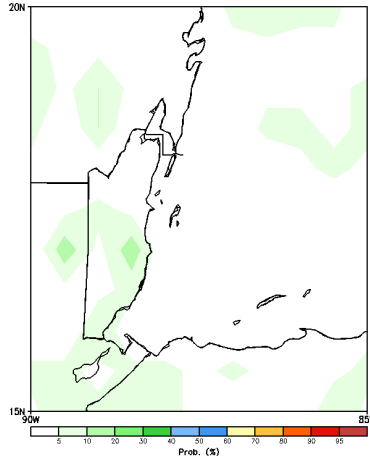
$\geq 90^{\text{th}}$ percentile

GEFS Week-2 Tmax Exceedance Prob. $\geq 90^{\text{th}}$ Pctl.
>=3 Consec. Days, Valid: 20211117 - 20211123



$\geq 95^{\text{th}}$ percentile

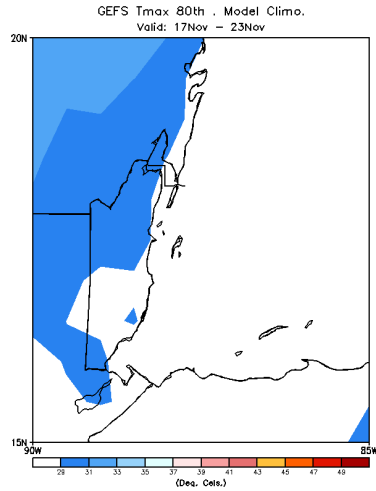
GEFS Week-2 Tmax Exceedance Prob. $\geq 95^{\text{th}}$ Pctl.
>=3 Consec. Days, Valid: 20211117 - 20211123



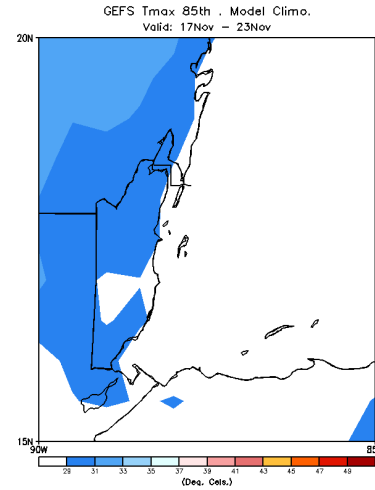
Low exceedance probability of $\geq 85^{\text{th}}$ percentile for at least 2 consecutive days) for Tmax.

Tmax Percentile Climatology

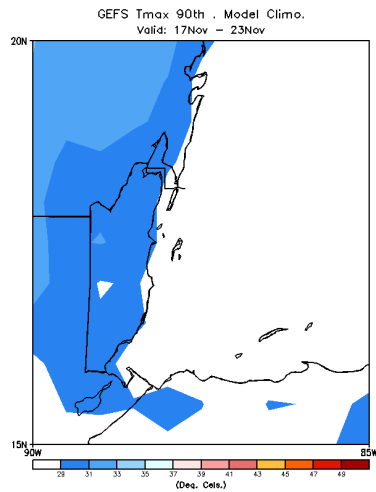
80th percentile



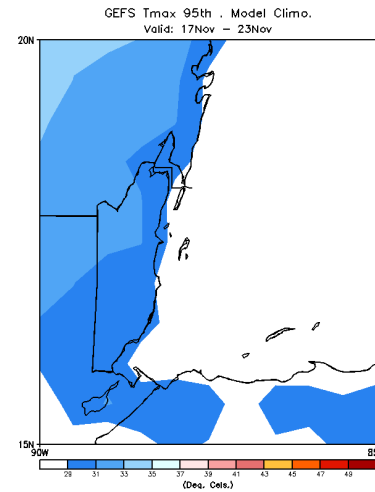
85th percentile



90th percentile

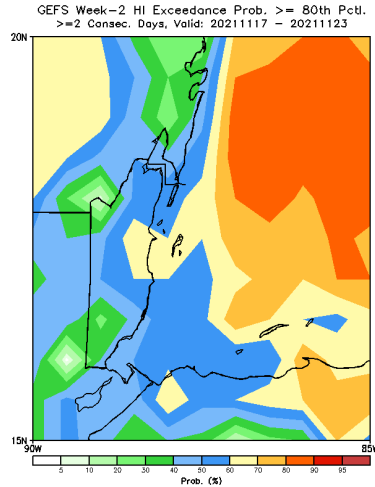


95th percentile

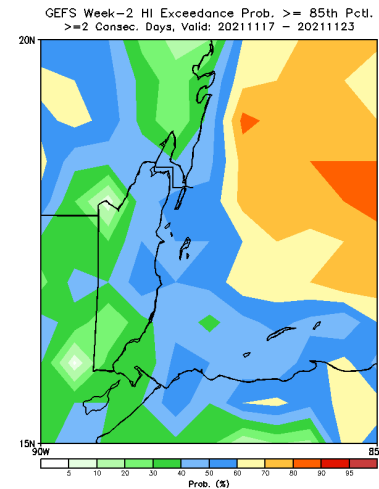


HI Exceedance Probability with respect to Percentiles for at least 2 Consecutive Days

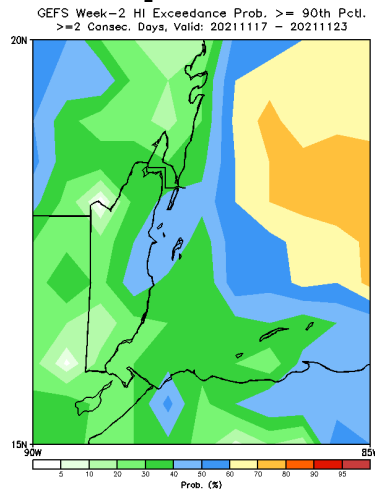
$\geq 80^{\text{th}}$ percentile



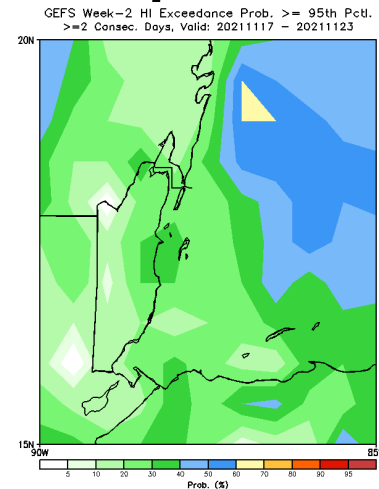
$\geq 85^{\text{th}}$ percentile



$\geq 90^{\text{th}}$ percentile



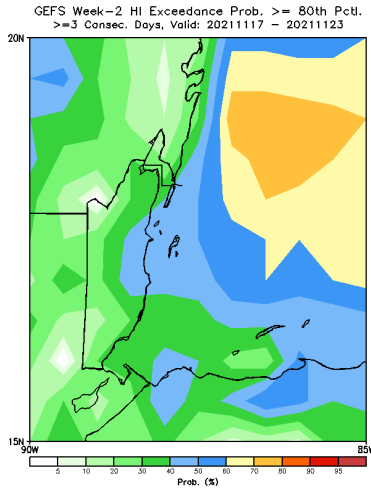
$\geq 95^{\text{th}}$ percentile



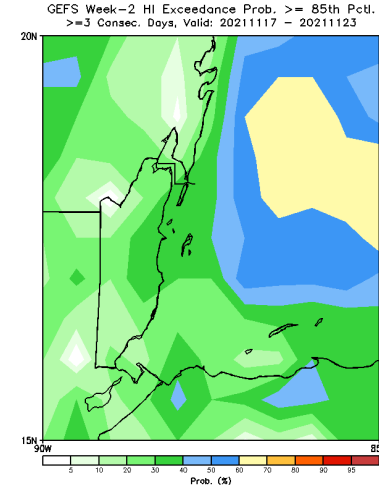
Moderate HI exceedance probability of $\geq 80^{\text{th}}$ percentile and 85^{th} percentile for at least 2 consecutive days).

HI Exceedance Probability with respect to Percentiles for at least 3 Consecutive Days

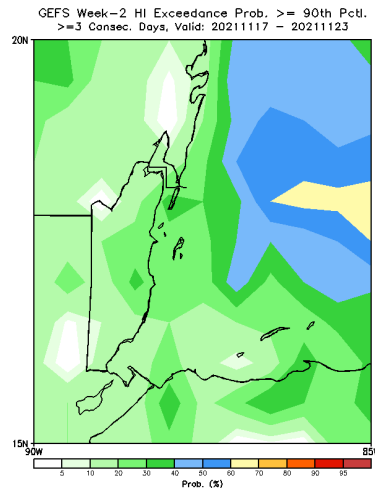
$\geq 80^{\text{th}}$ percentile



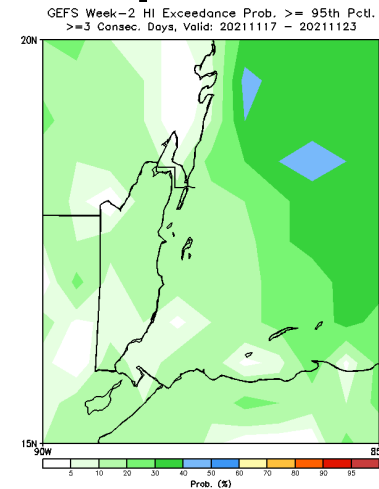
$\geq 85^{\text{th}}$ percentile



$\geq 90^{\text{th}}$ percentile



$\geq 95^{\text{th}}$ percentile

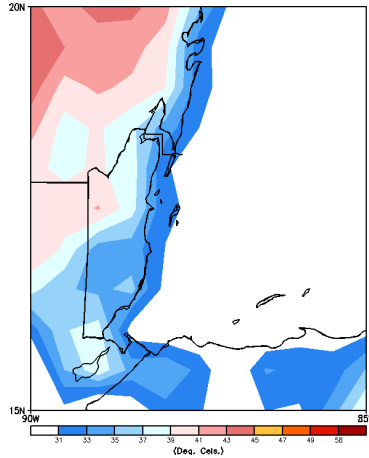


Low to moderate HI exceedance probability of $\geq 80^{\text{th}}$ percentile for at least 3 consecutive days).

HI Percentile Climatology

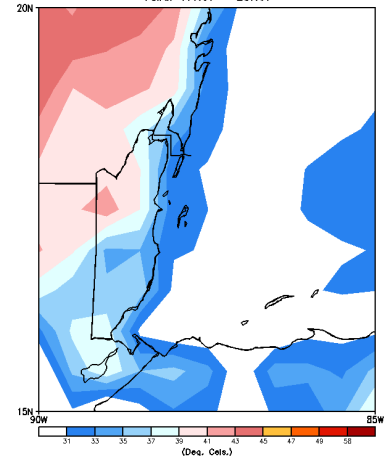
80th percentile

GEFS HI 80th . Model Climo.
Valid: 17Nov - 23Nov



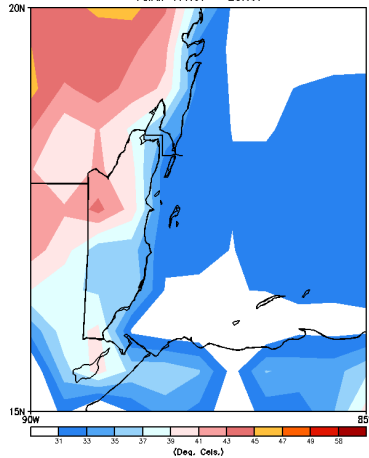
85th percentile

GEFS HI 85th . Model Climo.
Valid: 17Nov - 23Nov



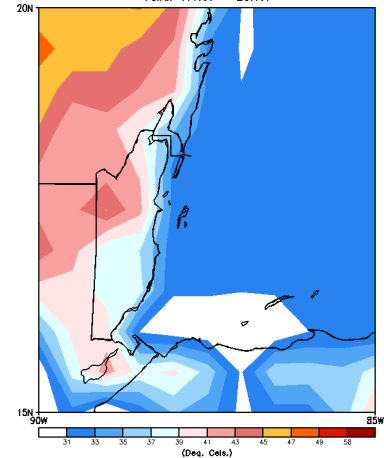
90th percentile

GEFS HI 90th . Model Climo.
Valid: 17Nov - 23Nov



95th percentile

GEFS HI 95th . Model Climo.
Valid: 17Nov - 23Nov

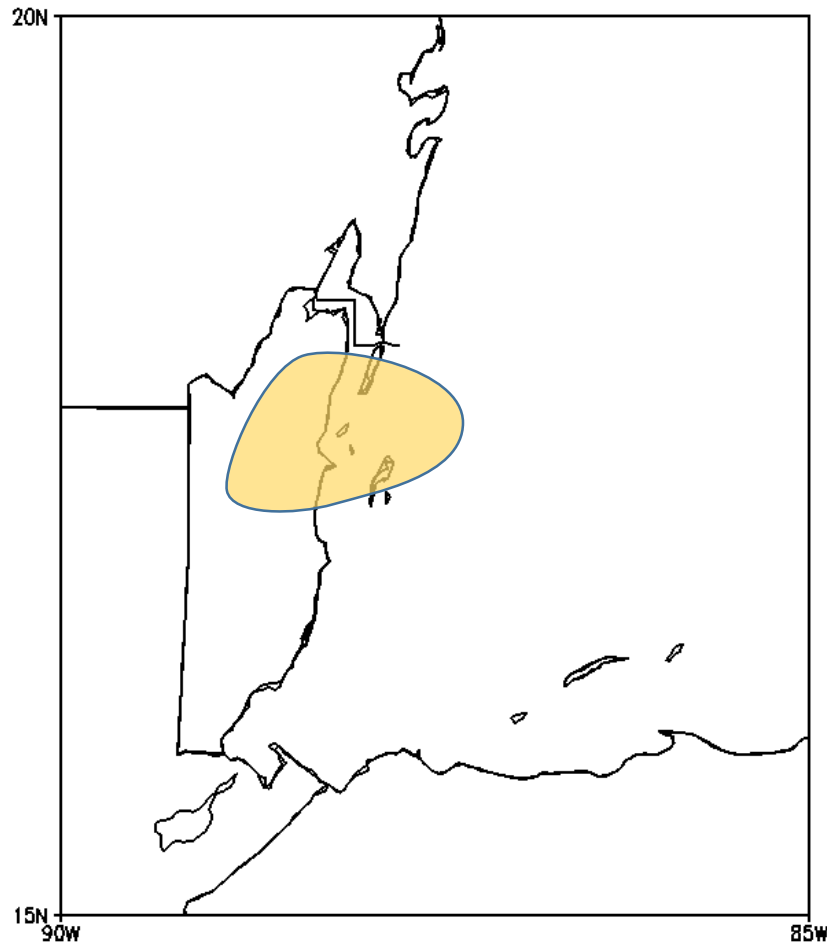


Summary

An area of positive mean sea level pressure anomaly is located over Guatemala and extreme southern Belize.

- Below-average surface wind
- Negative height anomaly at 500-hPa => leading to
- Exceedance probability forecasts = > low to moderate probability of exceedance for Tmax & HI \geq 80th, 85th percentiles.
- Higher probability of exceedance for Tmax \geq 35oC.
- Lower probability of exceedance for HI \geq 35oC.

Excessive Heat Outlook



Legend

- High risk
- Moderate risk

Low surface winds and moderate probability for Tmax above 80th percentile.