

Year 2025

Final Issued 2026-10-11 · Baseline 1991-2020 · next update 2027-01-10

1 Key messages and climate synopsis

- National mean temperature of 26.6 °C (+0.9 °C relative to 1991–2020): the 2nd warmest year in the 1979–2025 series.
- National precipitation of 1402.2 mm, 95% of normal: the 15th driest year in the 1981–2025 series.
- Maximum temperature exceeded its 90th percentile on 42% of days (national mean; 10% expected).
- Heat waves of national extent: 10; cold waves: 0.
- 2 tropical cyclones passed within 300 km of the country; landfalls: Melissa in Santiago de Cuba (category 3 hurricane).
- 30% of the country was in drought by SPI-12 (Jan–Dec 2025), mainly in Isla de la Juventud, Artemisa and Pinar del Río.
- La Niña conditions of weak intensity in the equatorial Pacific (ONI OND 2025: –0.6 °C).

Source: NOAA CPC / PSL, UCSB Climate Hazards Center

Mean temperature

26.6 °C

+0.9 °C vs. normal (normal 25.7)

Slightly above normal

2nd warmest of 47 (1979–2025)

Maximum temperature

31.4 °C

+1.5 °C vs. normal (normal 29.9)

Above normal

1st warmest of 47 (1979–2025)

Minimum temperature

21.9 °C

+0.4 °C vs. normal (normal 21.5)

Normal

6th warmest of 47 (1979–2025) (tied with 1991, 1996, 2003, 2007, 2023)

Precipitation

1402.2 mm

95% of normal (normal 1482.2)

Near normal

15th driest of 45 (1981–2025)

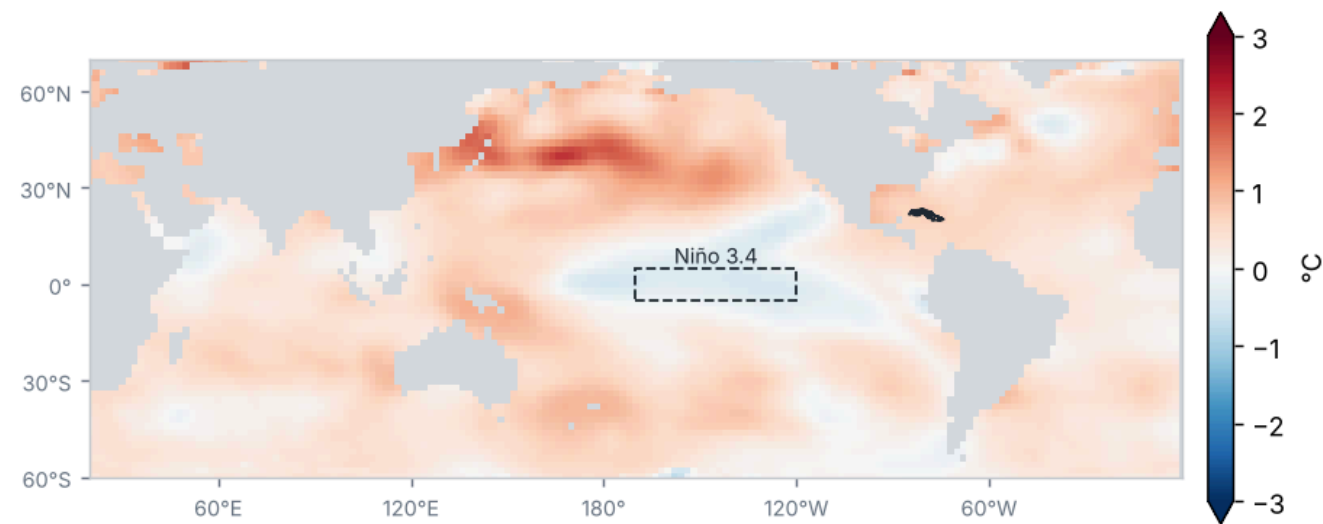
Station records

0

Source: NOAA CPC / PSL, UCSB Climate Hazards Center

2 Global and regional climate drivers

Sea-surface temperature anomaly, Year 2025 (°C, 1991–2020)



Source: NOAA NCEI / PSL

Sea-surface temperature anomaly in the Niño regions (°C)

Region	Anomaly (°C)	Change from preceding period (°C)
Niño 1+2	0.2	0.3
Niño 3	-0.2	-0.5
Niño 3.4	-0.3	-0.7
Niño 4	-0.2	-0.8

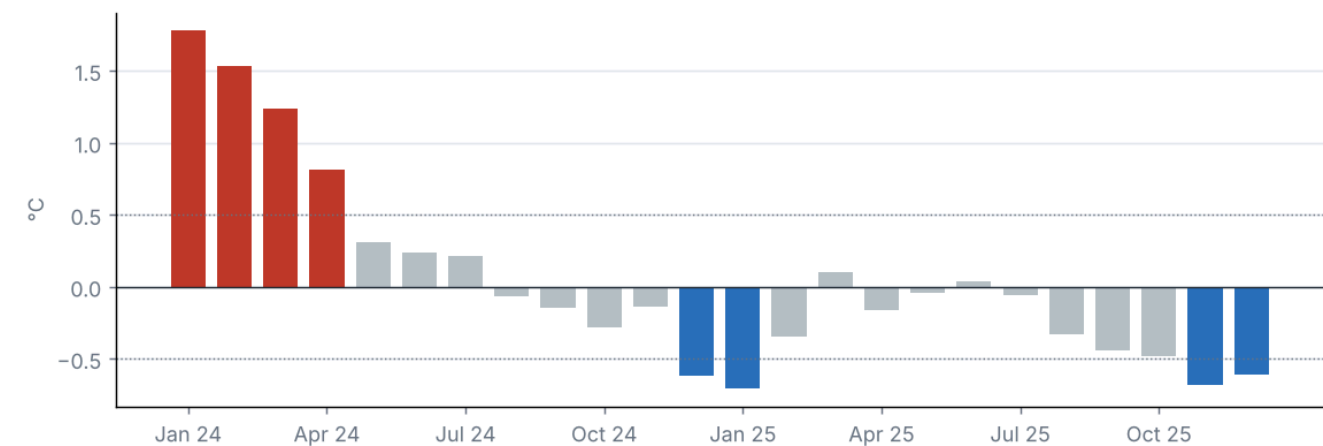
Mean of the months in the period (OISST v2.1)

Source: NOAA CPC

La Niña conditions of weak intensity: the Oceanic Niño Index (ONI) for OND 2025 was -0.6 °C.

Source: NOAA CPC

Monthly Niño 3.4 anomaly, last 24 months (°C)



Source: NOAA CPC

Teleconnection indices

Index	Value	Phase
NAO	0.0	Neutral
TNA	0.3	Neutral

North Atlantic Oscillation (NAO); Tropical North Atlantic (TNA).

Source: NOAA CPC, NOAA PSL

The Niño 3.4 anomaly was $-0.31\text{ }^{\circ}\text{C}$ ($-0.71\text{ }^{\circ}\text{C}$ relative to the preceding period).

Other indices: NAO $+0.02$ (neutral phase); TNA $+0.31$ (neutral phase).

3 Precipitation

National precipitation

1402.2 mm

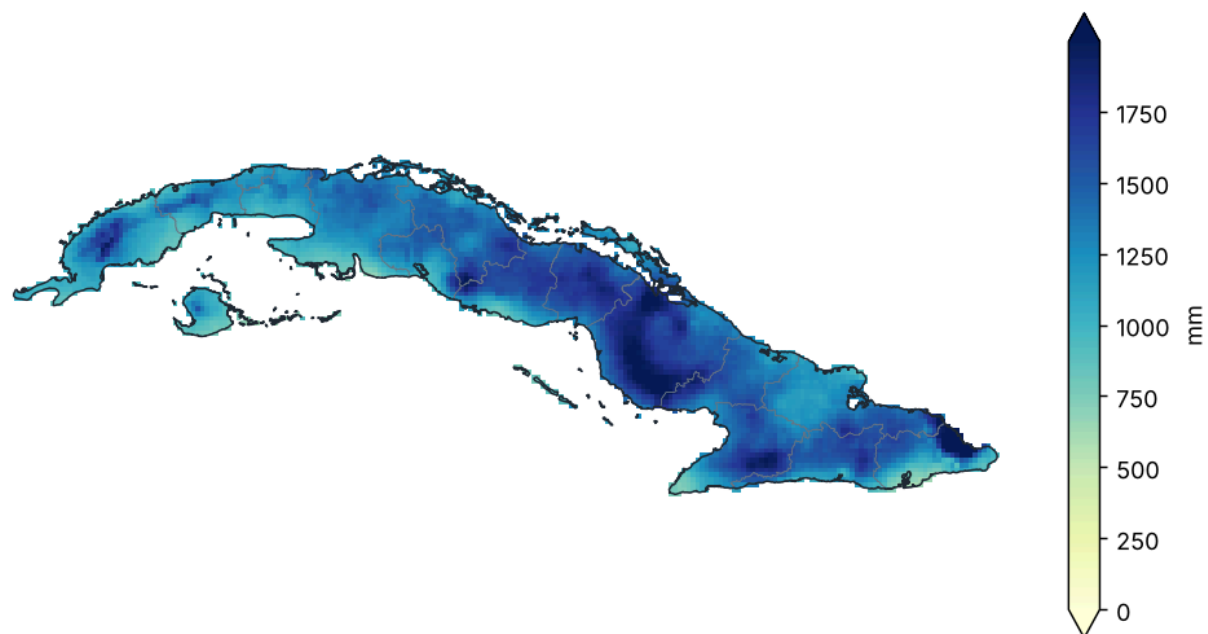
95% of normal (normal 1482.2)

Near normal

15th driest of 45 (1981–2025)

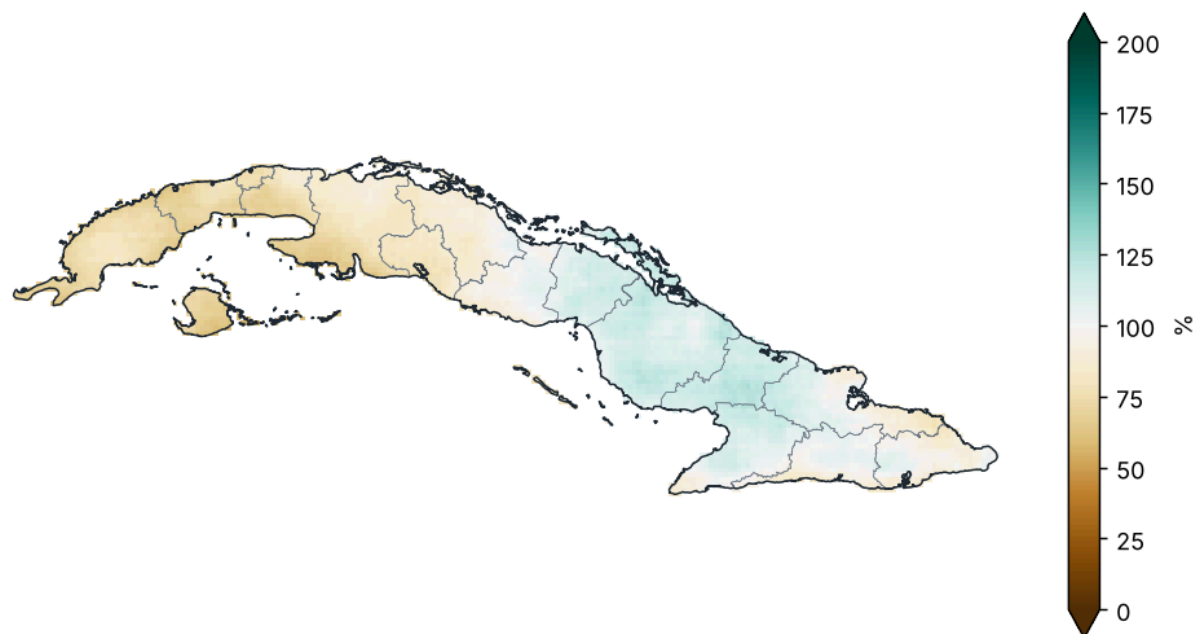
Source: UCSB Climate Hazards Center

Accumulated precipitation



Source: UCSB Climate Hazards Center

Percent of normal precipitation (1991–2020)



Source: UCSB Climate Hazards Center

Percent of normal by state



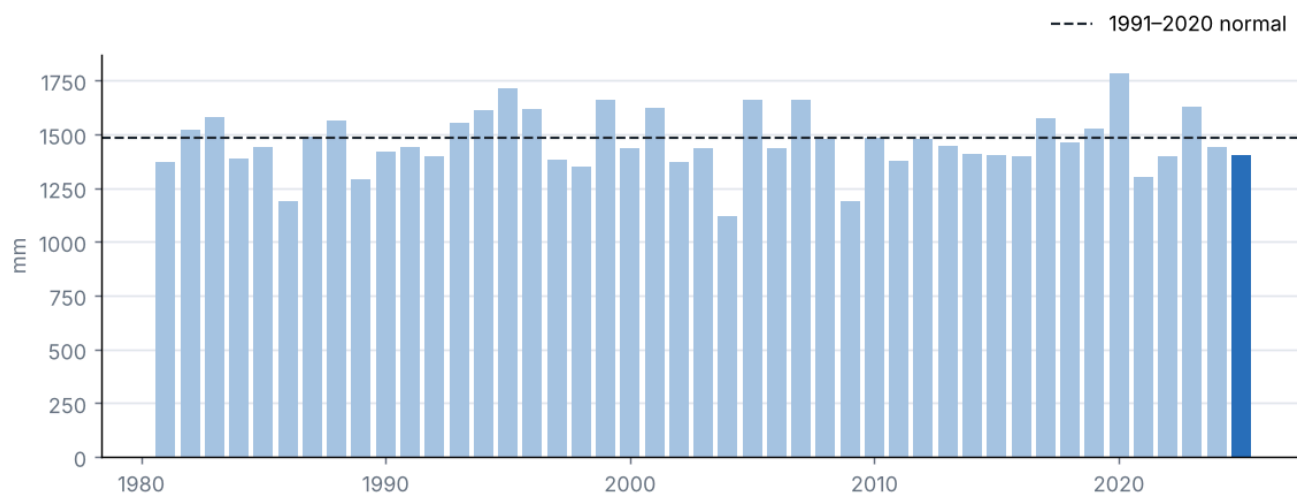
Source: UCSB Climate Hazards Center

Precipitation by region

Region	Total (mm)	Normal (mm)	Difference (%)	Category
Western Cuba	1190.3	1575.3	-24.4	Below normal
Central Cuba	1543.3	1505.3	2.5	Near normal
Eastern Cuba	1421.3	1375.5	3.3	Near normal

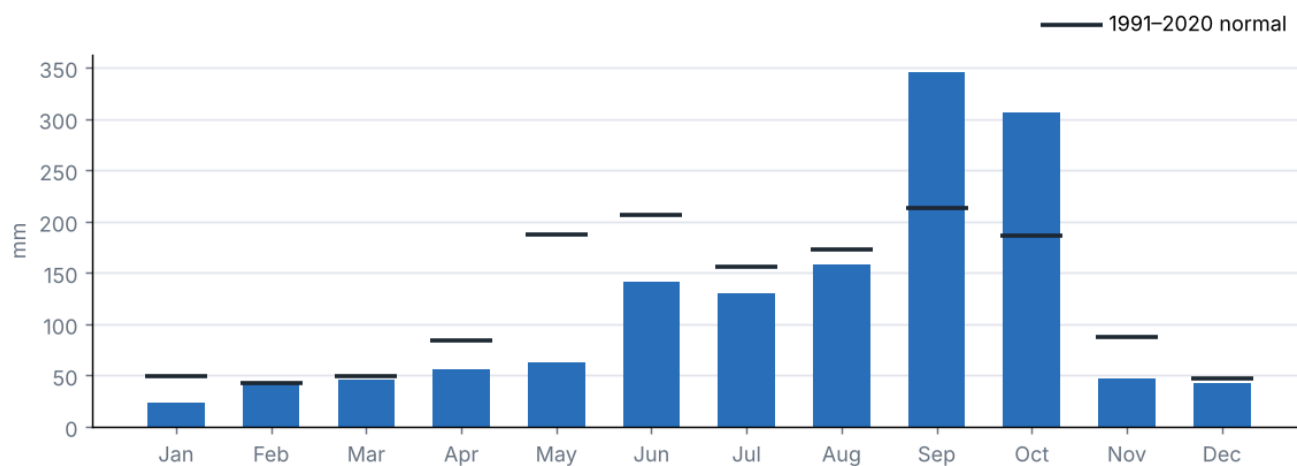
Source: UCSB Climate Hazards Center

National precipitation in each year



Source: UCSB Climate Hazards Center

Monthly precipitation and 1991-2020 normal



Source: UCSB Climate Hazards Center

National accumulated precipitation was 1402.2 mm, 95% of the 1991-2020 average (1482.2 mm), category "Near normal". It was the 15th driest year in the 1981-2025 series.

The region with the highest percentage of normal was Eastern Cuba (103%) and the lowest was Western Cuba (76%).

Source: UCSB Climate Hazards Center

4 Temperature

Mean temperature

26.6 °C

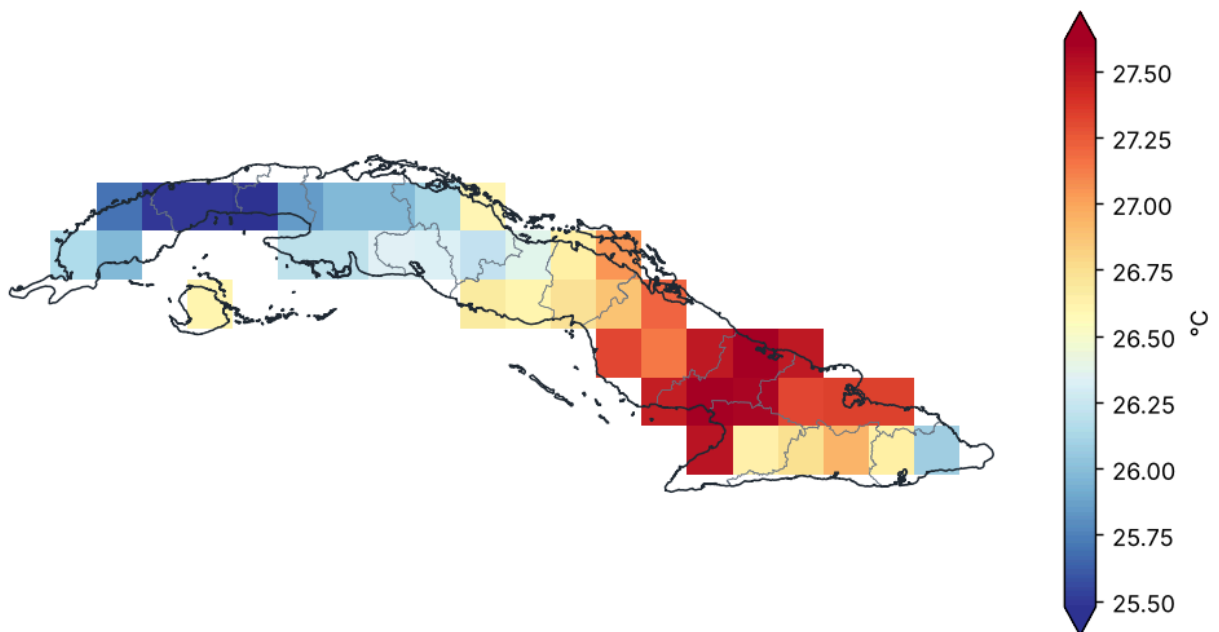
+0.9 °C vs. normal (normal
25.7)

Slightly above normal

2nd warmest of 47 (1979–
2025)

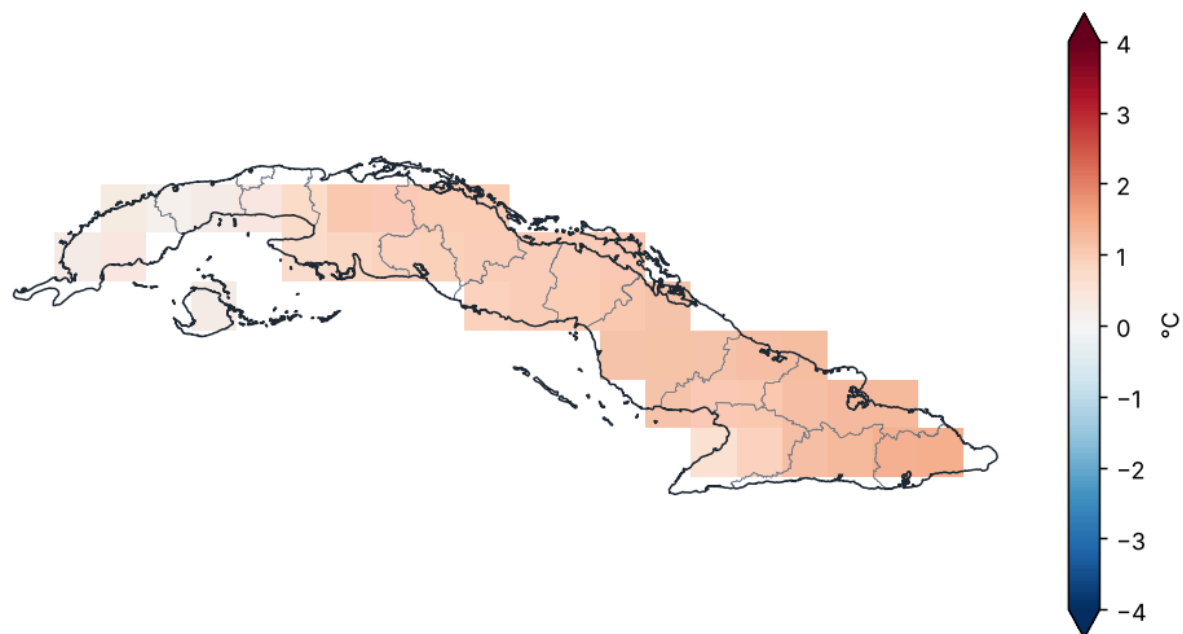
Source: NOAA CPC / PSL

Mean temperature



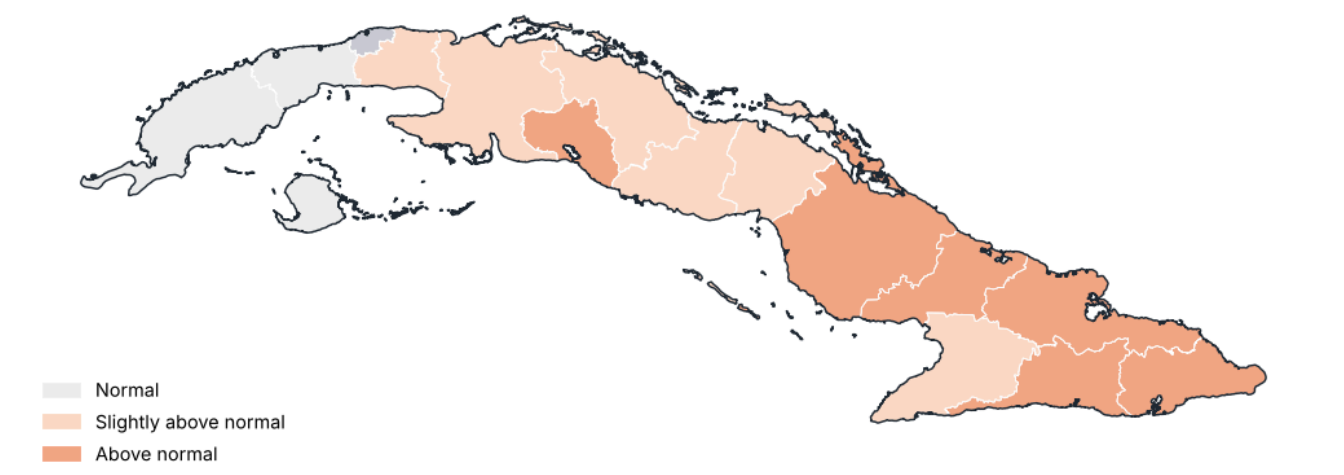
Source: NOAA CPC / PSL

Mean temperature anomaly (1991–2020)



Source: NOAA CPC / PSL

Mean temperature anomaly by state



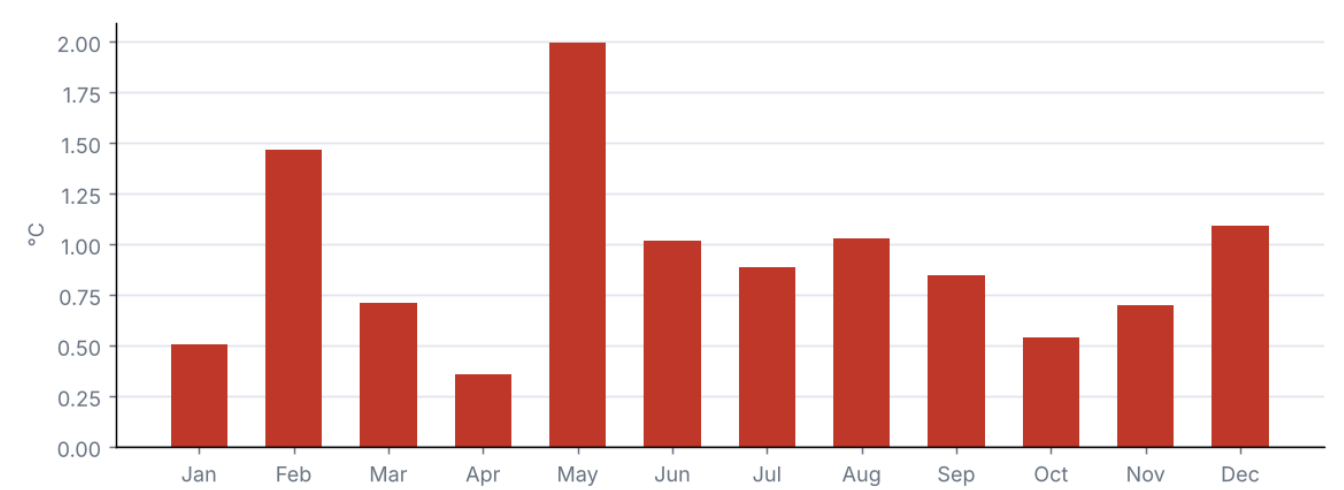
Source: NOAA CPC / PSL

Stations with the largest positive anomaly

Region	State	Station	Altitude (m)	Anomaly (°C)
Eastern Cuba	Guantánamo	Guantanamo Bay Nas	16.0	0.4

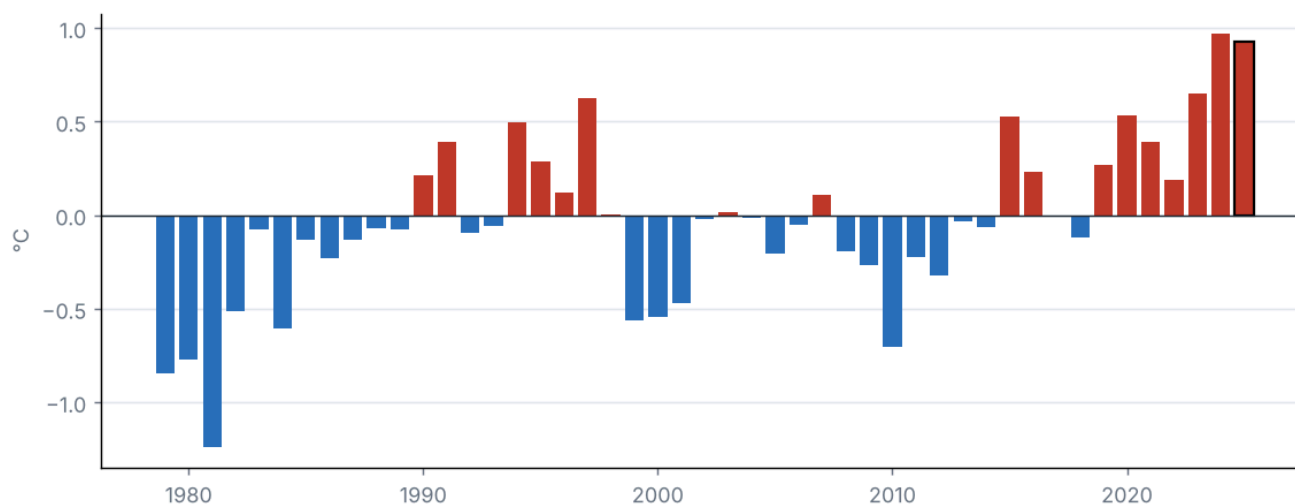
Source: NOAA NCEI

Monthly national mean temperature anomaly



Source: NOAA CPC / PSL

National mean temperature anomaly in each year



Source: NOAA CPC / PSL

The national mean temperature was 26.6 °C, 0.9 °C above the 1991–2020 average (25.7 °C), category "Slightly above normal". It was the 2nd warmest year in the 1979–2025 series.

By region, the largest anomaly was in Eastern Cuba (+1.2 °C) and the smallest in Western Cuba (+0.5 °C).

Source: NOAA CPC / PSL

Maximum temperature

31.4 °C

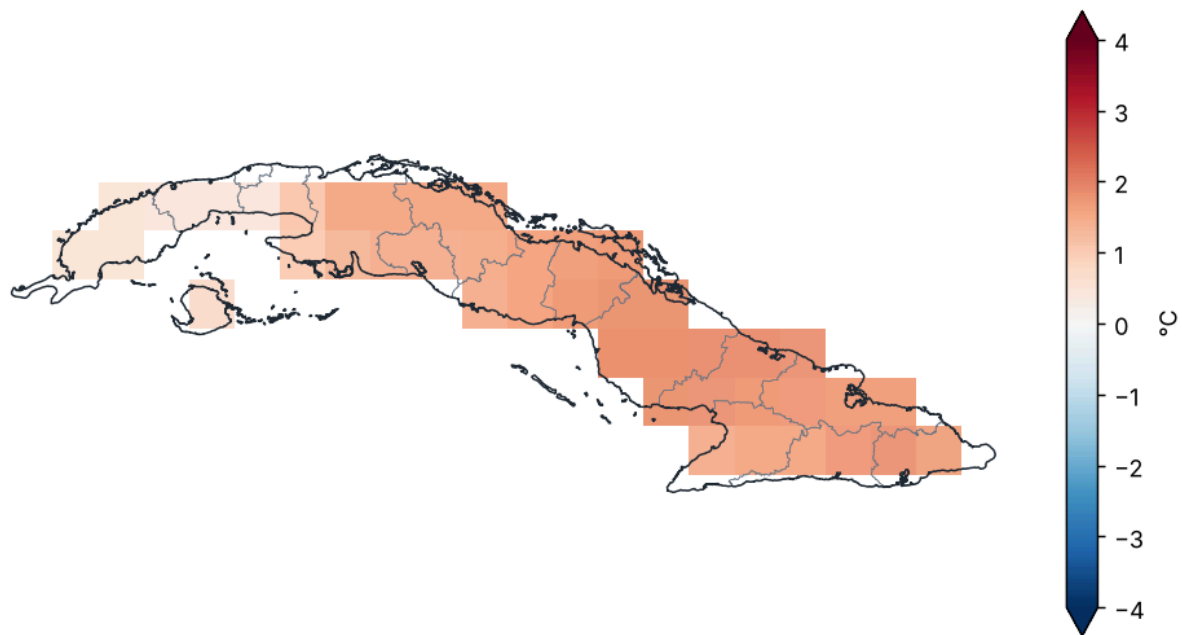
+1.5 °C vs. normal (normal 29.9)

Above normal

1st warmest of 47 (1979–2025)

Source: NOAA CPC / PSL

Maximum temperature anomaly (1991–2020)



Source: NOAA CPC / PSL

The national maximum temperature was 31.4 °C, 1.5 °C above the 1991–2020 average (29.9 °C), category “Above normal”. It was the warmest year in the 1979–2025 series.

By region, the largest anomaly was in Eastern Cuba (+1.7 °C) and the smallest in Western Cuba (+0.9 °C).

Source: NOAA CPC / PSL

Minimum temperature

21.9 °C

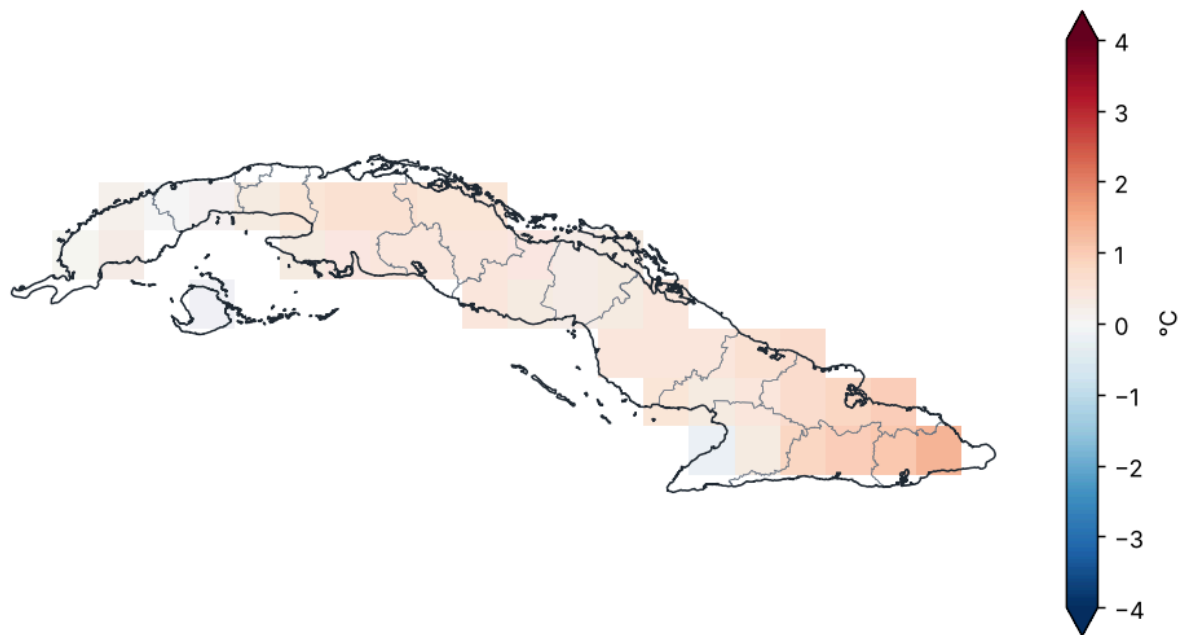
+0.4 °C vs. normal (normal 21.5)

Normal

6th warmest of 47 (1979–2025) (tied with 1991, 1996, 2003, 2007, 2023)

Source: NOAA CPC / PSL

Minimum temperature anomaly (1991–2020)



Source: NOAA CPC / PSL

The national minimum temperature was 21.9 °C, 0.4 °C above the 1991–2020 average (21.5 °C), category "Normal". It was the 6th warmest year in the 1979–2025 series (tied with 1991, 1996, 2003, 2007, 2023).

By region, the largest anomaly was in Eastern Cuba (+0.6 °C) and the smallest in Western Cuba (+0.1 °C).

Source: NOAA CPC / PSL

5 Climate extremes and records

Highest maximum
temperature

35.6 °C

Guantanamo Bay Nas, GTM ·
2025-07-24

Lowest minimum
temperature

17.8 °C

Guantanamo Bay Nas, GTM ·
2025-03-19

Source: NOAA NCEI

Highest maximum temperature by state

State	Station	Temperature (°C)	Date
Guantánamo	Guantanamo Bay Nas	35.6	2025-07-24

Source: NOAA NCEI

Lowest minimum temperature by state

State	Station	Temperature (°C)	Date
Guantánamo	Guantanamo Bay Nas	17.8	2025-03-19

Source: NOAA NCEI

Climate-extremes indices (national mean)

Index	Description	Value	Normal	Difference	Unit
TX90p	Warm days (Tmax > 90th percentile)	42.0	10.0	32.0	%
TN90p	Warm nights (Tmin > 90th percentile)	13.5	10.0	3.5	%
TX10p	Cool days (Tmax < 10th percentile)	2.3	10.0	-7.7	%
TN10p	Cold nights (Tmin < 10th percentile)	3.6	10.0	-6.4	%
FD	Frost days (Tmin < 0 °C)	0.0	0.0	-0.0	d
SU	Summer days (Tmax > 25 °C)	359.2	347.6	11.5	d
TR	Tropical nights (Tmin > 20 °C)	287.4	272.5	14.9	d
WSDI	Warm spell days (≥ 6 days)	73.8	—	—	d
CSDI	Cold spell days (≥ 6 days)	0.5	—	—	d
Rx1day	Maximum 1-day precipitation	54.9	53.0	1.9	mm
Rx5day	Maximum 5-day precipitation	114.9	94.3	20.6	mm
CDD	Consecutive dry days (< 1 mm)	37.8	62.6	-24.9	d
CWD	Consecutive wet days (≥ 1 mm)	5.9	6.1	-0.2	d

Percentile indices relative to calendar-day percentiles of 1991–2020 (5-day window); counts and maxima averaged over the country's grid cells.

Source: NOAA CPC / PSL

Heat and cold waves

Dates	Type	Details
2025-01-18 – 2025-01-23	Heat wave	Up to 100% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.
2025-03-14 – 2025-03-17	Heat wave	Up to 98% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.
2025-03-30 – 2025-04-05	Heat wave	Up to 97% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.
2025-05-04 – 2025-06-06	Heat wave	Up to 100% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.
2025-06-08 – 2025-06-14	Heat wave	Up to 94% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.
2025-06-17 – 2025-06-21	Heat wave	Up to 83% of the country above the 90th percentile of Tmax. Regions: Central Cuba and Eastern Cuba.
2025-06-30 – 2025-07-03	Heat wave	Up to 91% of the country above the 90th percentile of Tmax. Regions: Central Cuba and Eastern Cuba.
2025-08-18 – 2025-09-02	Heat wave	Up to 100% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.

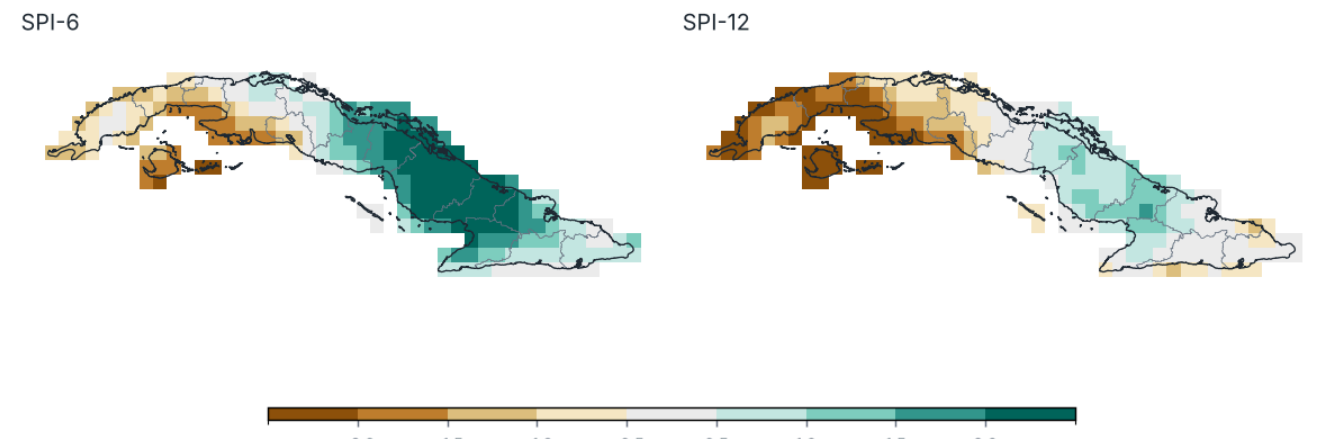
Dates	Type	Details
2025-09-05 – 2025-09-12	Heat wave	Up to 86% of the country above the 90th percentile of Tmax. Regions: Central Cuba and Eastern Cuba.
2025-12-06 – 2025-12-10	Heat wave	Up to 100% of the country above the 90th percentile of Tmax. Regions: Western Cuba, Central Cuba and Eastern Cuba.

Wave: at least 3 consecutive days with at least half of the country above the 90th percentile of maximum temperature (heat) or below the 10th percentile of minimum temperature (cold). At most the 10 most intense are listed.

Source: NOAA CPC / PSL

6 Drought

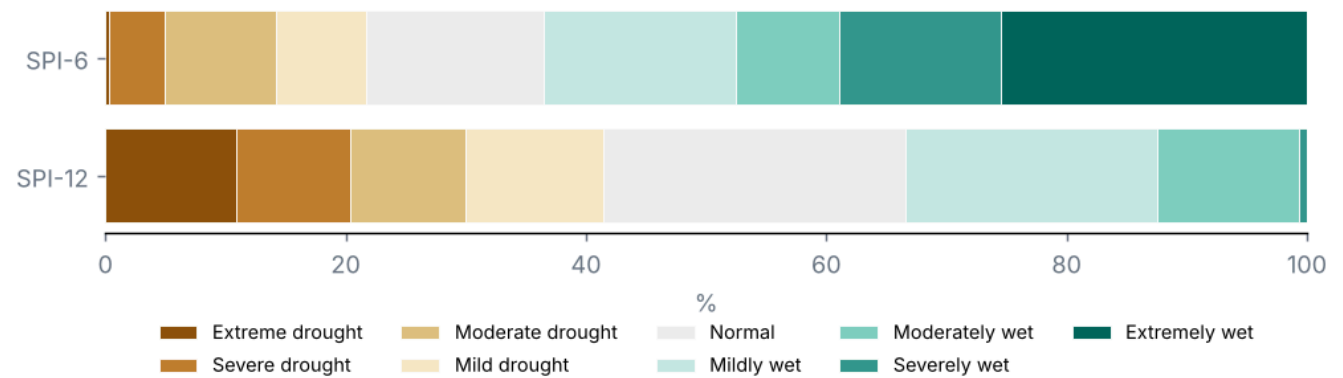
Standardized Precipitation Index (SPI) ending December 2025



SPI computed from CHIRPS; gamma distribution fitted to 1991–2020 accumulations.

Source: UCSB Climate Hazards Center

Share of the country by SPI category



Source: UCSB Climate Hazards Center

States with the lowest SPI-12

State	SPI-6	SPI-12	Category
Isla de la Juventud	-1.7	-2.3	Extreme drought
Artemisa	-1.1	-2.1	Extreme drought

State	SPI-6	SPI-12	Category
Pinar del Río	-0.7	-1.9	Severe drought
Mayabeque	-0.9	-1.8	Severe drought
La Habana	-0.7	-1.7	Severe drought
Matanzas	-0.6	-1.4	Moderate drought
Cienfuegos	-0.7	-1.4	Moderate drought
Villa Clara	0.7	-0.6	Mild drought

Source: UCSB Climate Hazards Center

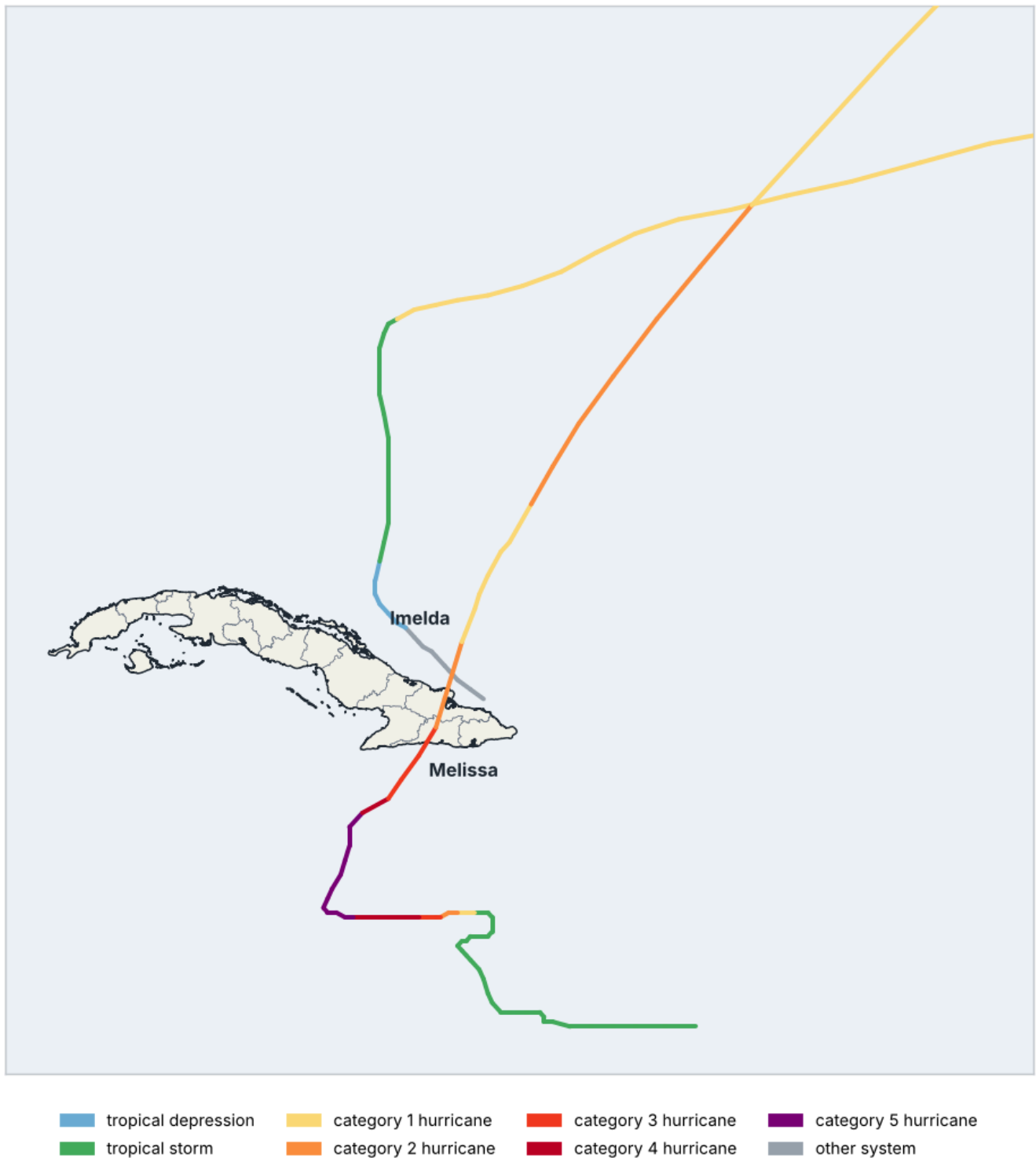
SPI-12 (Jan–Dec 2025): national mean -0.32 ; 30% of the country in drought ($SPI \leq -1.0$) and 20% in severe or extreme drought.

Most affected states: Isla de la Juventud (-2.32), Artemisa (-2.10) and Pinar del Río (-1.91).

SPI-6 (Jul–Dec 2025): 14% of the country in drought.

7 Severe weather and notable events

Tracks of nearby tropical cyclones



Whole tracks; Saffir–Simpson category from NHC/JTWC. Source: IBTrACS v04 (provisional for recent seasons).

Source: NOAA NCEI

Tropical cyclones within 300 km of the country

Name	Basin	Peak intensity	Maximum wind (km/h)	Start	End	Closest approach (km)	Landfall	Landfall intensity
Imelda	North Atlantic	Category 1 hurricane	148	2025-09-26	2025-10-06	22	—	—
Melissa	North Atlantic	Category 5 hurricane	306	2025-10-21	2025-11-01	0	Santiago de Cuba	Category 3 hurricane

Source: NOAA NCEI

Notable events

Dates	Type	Details
2025-10-28 – 2025-10-30	Flood	GDACS Orange alert: Flood in Cuba.

GDACS alerts and station rainfall of 150 mm or more in 24 hours (after quality control).

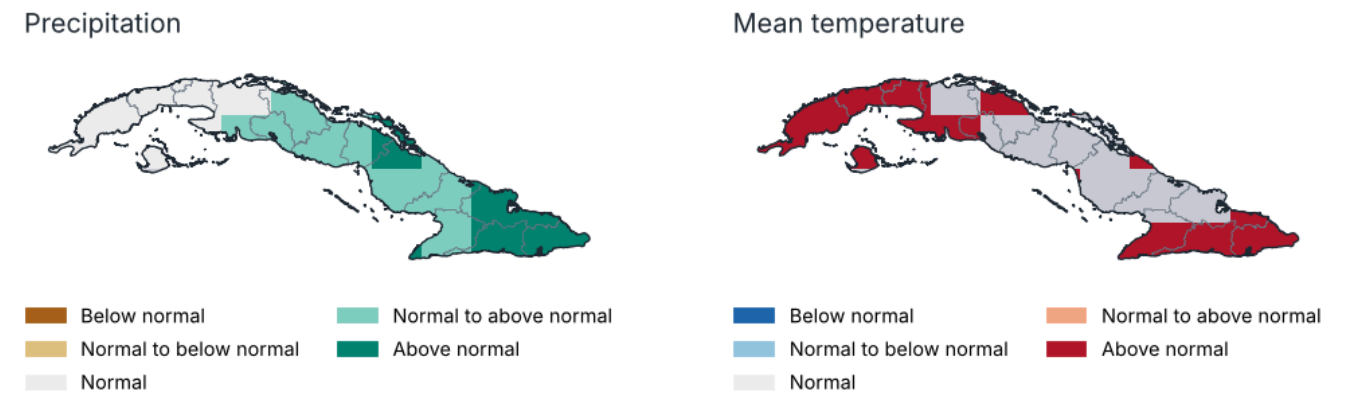
Source: GDACS

Tropical cyclones within 300 km of the country: 2 (Imelda and Melissa).

Landfalls: Melissa in Santiago de Cuba (category 3 hurricane).

9 Outlook

Outlook for Jan–Mar 2026: most likely tercile



Source: NOAA CPC

Probability of each tercile by region, Jan–Mar 2026 (%)

Region	Precipitation: below	Precipitation: normal	Precipitation: above	Temp.: below	Temp.: normal	Temp.: above
Western Cuba	32.0	36.0	32.0	9.0	24.0	67.0
Central Cuba	21.0	34.0	45.0	10.0	22.0	69.0
Eastern Cuba	17.0	31.0	52.0	12.0	16.0	72.0

Source: NOAA CPC

Probabilistic outlook from the North American Multi-Model Ensemble (NMME), initialised in January 2026, relative to 1991–2020 terciles. It is not an official forecast: consult the national

Precipitation, Jan–Mar 2026: above normal is favoured over 73% of the country and below normal over 0%.

Mean temperature, Jan–Mar 2026: above normal is favoured over 100% of the country and below normal over 0%.

10 Annexes

Report climate regions



Monthly precipitation by state (mm)

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pinar del Río	27.6	61.1	35.3	38.8	68.9	144.1	151.3	180.1	253.8	148.4	6.5	69.9
Artemisa	45.0	90.7	53.7	32.4	50.6	140.3	83.4	123.2	312.3	137.4	17.9	115.6
La Habana	38.2	92.1	59.8	40.3	40.1	136.8	89.0	108.3	365.3	99.2	33.9	81.0
Mayabeque	19.5	68.5	61.1	42.2	47.7	162.9	114.1	144.2	304.2	152.2	24.5	34.5
Matanzas	26.2	44.8	58.1	37.5	59.2	185.7	152.9	177.2	306.8	144.6	21.9	19.6
Isla de la Juventud	46.1	44.7	21.6	37.4	64.4	183.4	115.3	121.7	169.8	136.2	15.6	35.3
Cienfuegos	28.3	47.9	48.9	57.7	89.2	228.4	156.1	214.8	254.2	171.0	12.5	12.8
Villa Clara	31.6	47.9	72.4	31.2	61.7	140.9	174.2	164.1	318.2	309.8	51.1	37.3

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sancti Spiritus	11.9	52.3	34.6	34.9	89.7	154.9	151.7	190.3	365.1	314.5	26.0	24.8
Ciego de Ávila	10.5	47.3	36.2	21.8	56.7	122.3	137.5	181.6	480.7	377.8	51.5	39.7
Camagüey	13.3	31.9	28.4	31.7	60.4	138.1	146.7	200.9	469.2	445.8	73.3	47.8
Las Tunas	13.8	26.0	26.7	40.2	53.1	137.9	121.1	168.6	396.3	379.7	66.4	35.4
Holguín	33.1	30.1	55.2	70.5	53.2	108.2	89.4	77.4	279.1	392.2	88.5	60.6
Granma	12.5	23.1	39.0	93.3	67.1	145.7	129.0	156.3	376.3	346.2	43.8	24.3
Santiago de Cuba	22.3	25.7	68.4	150.1	69.2	122.8	105.1	107.2	345.6	350.0	69.5	26.7
Guantánamo	39.6	46.4	60.9	149.2	58.5	54.9	53.3	79.6	268.8	461.2	69.9	68.3

CSV

Source: UCSB Climate Hazards Center

Monthly maximum temperature by state (°C)

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pinar del Río	26.2	28.7	29.0	29.9	32.7	32.0	32.4	33.0	31.5	30.3	28.1	27.8
Artemisa	25.8	28.2	28.5	29.4	32.5	32.0	32.4	32.9	31.5	30.1	27.9	27.5
La Habana	—	—	—	—	—	—	—	—	—	—	—	—
Mayabeque	26.4	28.9	29.3	30.1	33.4	32.7	33.0	33.4	32.1	30.8	28.4	28.1
Matanzas	27.2	29.8	30.2	30.8	34.2	33.2	33.3	33.9	32.7	31.5	29.0	28.8
Isla de la Juventud	26.3	28.7	29.0	29.7	32.9	32.2	32.5	32.9	31.5	30.3	28.0	27.7
Cienfuegos	27.5	29.9	30.4	30.8	34.3	33.4	33.4	34.0	32.8	31.7	29.1	28.9
Villa Clara	27.0	29.3	30.0	30.3	33.9	33.3	33.2	33.9	32.7	31.0	28.5	28.2
Sancti Spiritus	27.9	29.9	30.7	30.8	34.2	33.4	33.6	33.9	32.8	30.9	29.2	29.1
Ciego de Ávila	28.3	30.3	31.1	31.5	34.6	33.9	34.4	34.6	33.4	31.1	29.8	29.4
Camagüey	28.9	30.8	31.6	31.7	34.7	33.9	34.5	34.7	33.6	31.3	29.9	29.6
Las Tunas	29.6	31.2	31.9	31.8	34.7	34.2	34.6	34.9	33.9	31.8	30.6	30.2
Holguín	29.0	30.2	30.8	30.7	33.3	33.4	33.7	34.1	33.3	31.4	30.3	29.7
Granma	29.7	31.0	31.6	31.4	33.8	33.6	34.1	34.4	33.4	31.6	30.7	30.2
Santiago de Cuba	29.3	30.1	30.7	30.7	32.7	32.9	33.4	33.8	33.0	31.3	30.4	29.7
Guantánamo	28.3	29.0	29.2	29.4	31.0	31.4	31.9	32.5	31.6	30.1	29.6	28.9

CSV

Source: NOAA CPC / PSL

Monthly mean temperature by state (°C)

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pinar del Río	22.3	24.1	23.7	25.6	28.2	28.0	28.3	28.5	27.6	26.5	24.1	23.8
Artemisa	21.6	23.4	23.0	24.8	27.9	27.8	28.2	28.4	27.5	26.3	23.8	23.2
La Habana	—	—	—	—	—	—	—	—	—	—	—	—
Mayabeque	21.7	23.5	23.2	24.9	28.1	27.9	28.1	28.3	27.6	26.4	23.9	23.4
Matanzas	22.4	24.2	23.9	25.3	28.5	28.1	28.2	28.5	28.0	26.9	24.5	24.0
Isla de la Juventud	23.1	24.8	24.5	26.0	28.9	28.7	28.9	29.0	28.2	27.4	25.0	24.7
Cienfuegos	23.0	24.6	24.2	25.7	28.7	28.2	28.3	28.6	28.1	27.1	24.8	24.4
Villa Clara	22.8	24.5	24.3	25.6	28.5	28.3	28.4	28.7	28.1	26.9	24.7	24.2
Sancti Spiritus	23.2	24.7	24.8	25.8	28.6	28.5	28.7	28.9	28.2	26.9	25.2	24.8
Ciego de Ávila	23.2	24.9	25.0	25.9	28.6	28.9	29.3	29.4	28.6	27.0	25.8	24.8
Camagüey	24.0	25.5	25.7	26.5	28.9	29.1	29.6	29.7	28.9	27.3	26.2	25.2
Las Tunas	24.6	25.9	26.1	26.8	29.2	29.4	29.8	29.9	29.1	27.7	26.7	25.8

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Holguín	24.5	25.6	25.8	26.3	28.5	29.0	29.4	29.6	28.9	27.6	26.7	25.8
Granma	24.2	25.4	25.8	26.3	28.4	28.8	29.0	29.2	28.5	27.4	26.6	25.5
Santiago de Cuba	24.2	25.1	25.4	25.8	27.8	28.4	28.7	29.0	28.4	27.3	26.5	25.4
Guantánamo	24.0	24.6	24.6	25.2	27.1	27.8	28.2	28.6	27.9	26.7	26.3	25.1

CSV

Source: NOAA CPC / PSL

Monthly minimum temperature by state (°C)

State	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pinar del Río	18.4	19.5	18.5	21.3	23.7	23.9	24.2	24.0	23.7	22.8	20.1	19.8
Artemisa	17.3	18.5	17.5	20.2	23.2	23.6	23.9	23.9	23.5	22.4	19.7	19.0
La Habana	—	—	—	—	—	—	—	—	—	—	—	—
Mayabeque	17.0	18.1	17.1	19.7	22.8	23.1	23.3	23.2	23.0	22.0	19.4	18.7
Matanzas	17.7	18.6	17.6	19.9	22.8	23.0	23.2	23.1	23.3	22.3	20.0	19.3
Isla de la Juventud	20.0	20.8	19.9	22.3	25.0	25.1	25.3	25.2	24.9	24.4	22.0	21.6
Cienfuegos	18.5	19.2	18.0	20.5	23.1	23.0	23.3	23.2	23.4	22.6	20.5	19.9
Villa Clara	18.7	19.6	18.5	20.9	23.1	23.2	23.6	23.6	23.6	22.9	21.0	20.2
Sancti Spiritus	18.4	19.5	19.0	20.7	23.0	23.5	23.8	23.8	23.6	22.9	21.2	20.5
Ciego de Ávila	18.1	19.4	18.9	20.3	22.7	24.0	24.3	24.2	23.7	22.9	21.7	20.1
Camagüey	19.1	20.2	19.8	21.2	23.2	24.3	24.7	24.6	24.1	23.3	22.4	20.8
Las Tunas	19.6	20.6	20.4	21.7	23.7	24.6	24.9	24.8	24.2	23.5	22.8	21.3
Holguín	20.1	21.0	20.8	21.8	23.8	24.7	25.1	25.0	24.4	23.7	23.2	21.8
Granma	18.8	19.9	19.9	21.1	23.1	24.0	23.9	24.1	23.6	23.2	22.4	20.9
Santiago de Cuba	19.2	20.0	20.0	20.9	22.9	23.9	24.0	24.2	23.7	23.3	22.6	21.1
Guantánamo	19.7	20.3	20.0	21.0	23.1	24.2	24.4	24.7	24.2	23.4	23.0	21.3

CSV

Source: NOAA CPC / PSL

Stations used

Id	Name	State	Latitude	Longitude	Altitude (m)	Days with data (Tmax) (%)
CUW00011706	Guantanamo Bay Nas	Guantánamo	19.9	−75.2	16.2	98.0

CSV

Source: NOAA NCEI

- Report data (JSON)
- Tables (CSV)

11 Glossary, methodology and sources

Anomaly: difference between the observed value and its 1991–2020 normal. Percent of normal: observed total divided by the normal, times 100. Station record: most extreme daily value for the same month in all earlier years of record (at least 20 years).

Temperature: CPC_TEMP (0.5° daily grid); mean temperature is (Tmax + Tmin)/2. Precipitation: CHIRPS. National, regional and state averages are weighted by the area of each grid cell inside each polygon. Normals refer to 1991-2020; ranks compare values rounded to one decimal. Stations: GHCN-Daily (NOAA NCEI); values flagged by its quality control are discarded, as are daily values more than 5 robust standard deviations from the station median and variables whose monthly anomaly differs by more than 3 °C from the gridded analysis. Period means require at least 80% of days with data and station normals at least 20 complete years. This report is generated automatically and does not replace official information from the national meteorological service.

Source	Product	License	Citation
UCSB Climate Hazards Center	CHIRPS v3.0, 0.05°	See provider terms	Climate Hazards Center, UC Santa Barbara. CHIRPS v3.0.
NOAA CPC	ONI, Niño-region SST indices (OISST v2.1), NAO and AO	Public domain (NOAA)	NOAA Climate Prediction Center climate indices.
NOAA CPC / PSL	CPC Global Unified Gauge-Based Analysis of Daily Precipitation, 0.5°	Public domain (NOAA)	CPC Global Unified Precipitation data provided by NOAA PSL, Boulder, CO, USA.
NOAA CPC / PSL	CPC Global Unified Temperature, daily 0.5°	Public domain (NOAA)	CPC Global Unified Temperature data provided by NOAA PSL, Boulder, CO, USA.
NOAA NCEI / PSL	Extended Reconstructed SST v5 (ERSST v5), 2°	Public domain (NOAA)	Huang et al. (2017), J. Climate, doi:10.1175/JCLI-D-16-0836.1
GDACS	Global Disaster Alert and Coordination System event list	See provider terms	—
NOAA NCEI	GHCN-Daily	Public domain (NOAA)	Menne et al. (2012), J. Atmos. Oceanic Technol., doi:10.1175/JTECH-D-11-00103.1
NOAA NCEI	IBTrACS v04r01 tropical-cyclone best tracks	Public domain (NOAA)	Knapp et al. (2010), Bull. Amer. Meteor. Soc., doi:10.1175/2009BAMS2755.1
NOAA CPC	North American Multi-Model Ensemble (NMME) tercile probabilities, 1°	Public domain (NOAA)	Kirtman et al. (2014), Bull. Amer. Meteor. Soc., doi:10.1175/BAMS-D-12-00050.1
NOAA PSL	Tropical Northern Atlantic index (TNA)	Public domain (NOAA)	Enfield et al. (1999), J. Geophys. Res., doi:10.1029/1999JC900039
geoBoundaries	geoBoundaries gbOpen (OpenStreetMap, Wambacher)	Open Data Commons Open Database License 1.0	—

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