



CARIBBEAN, CENTRAL AMERICA, AND MEXICO STATE OF THE CLIMATE AND RECENT EVOLUTION

**Update prepared by the Climate Prediction Center / NCEP
23 August 2021**

**For more information, please visit:
<http://usregionalclimatecenter.noaa.gov/>**



OUTLINES

- Highlights
- Recent Evolution and Current Conditions
- NCEP GEFS Forecasts
- Summary



HIGHLIGHTS LAST 7 DAYS

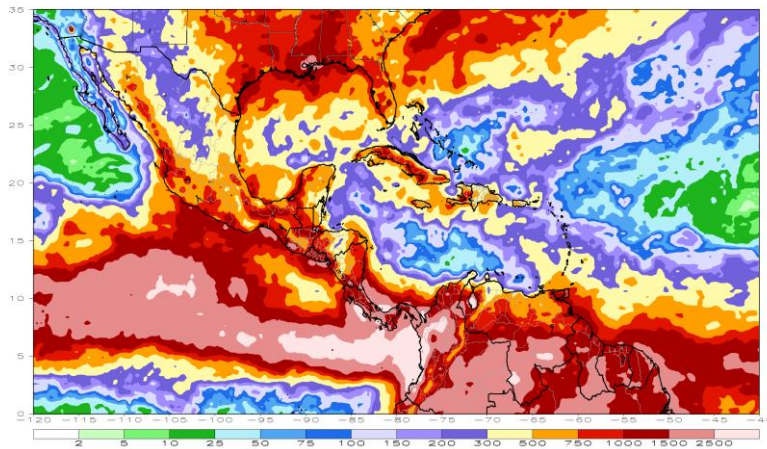
During the past 7 days, tropical storm Grace led to moisture surpluses of more than 100 mm in Veracruz, Puebla, and Hidalgo States (Mexico), Jamaica, and southern Hispaniola.

Week-1 forecast indicates an increased chance (probability > 70%) for weekly rainfall to exceed 100 mm across local areas in western and southern Mexico, Belize, eastern Honduras, much of Nicaragua, Costa Rica, and Panama. Week-2 forecast depicts an increased chance for weekly rainfall to exceed 100 mm across southwestern Mexico, southern Guatemala, El Salvador, southern Honduras, western Nicaragua, Costa Rica, and parts of Panama.

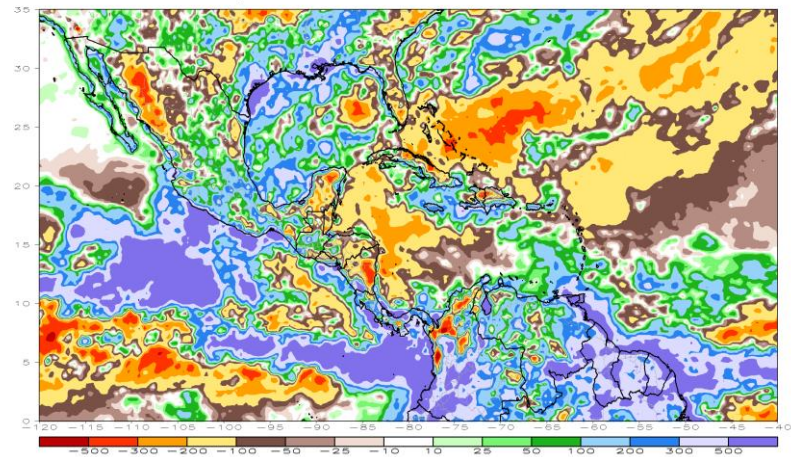


RAINFALL PATTERNS LAST 180 DAYS

CMORPH 180-Day Total Rainfall (mm)
Period: 23Feb2021 – 21Aug2021



CMORPH 180-Day Total Rainfall Anomaly (mm)
Period: 23Feb2021 – 21Aug2021



During the past 180 days, the largest rainfall deficits reached 300-500 mm in the northern part of Mexico (Sonora, Chihuahua, Sinaloa, and Durango States) and the Yucatan Peninsula (Yucatan State). Moisture surpluses exceeded 300 mm over local areas along the eastern coast of Mexico (Tamaulipas, Tabasco, and Campeche States) and along the western coast of Mexico (Sinaloa, Nayarit, Colima, Michoacán, Guerrero, Oaxaca, and Chiapas States).

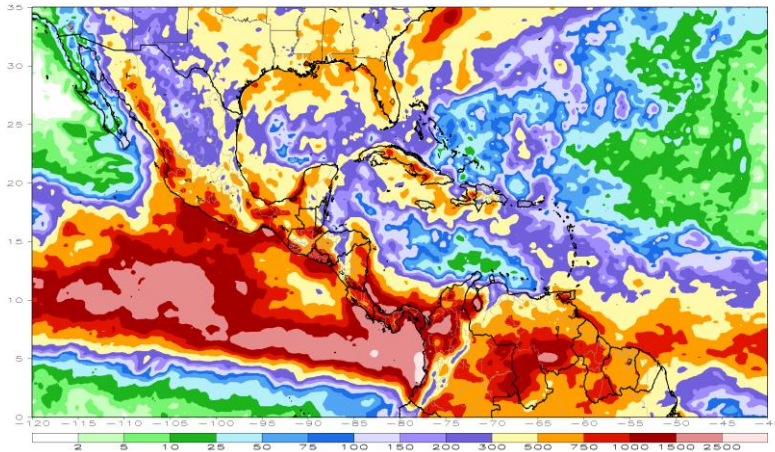
Portions of Guatemala, southern El Salvador, southwestern Nicaragua, and much of Costa Rica and Panama experienced positive precipitation anomalies of over 100 mm. Eastern Nicaragua continued to observe sustained negative precipitation anomalies of 300-500 mm.

Local areas in western and southern Cuba, Jamaica, northern and southern Haiti, southern Dominican Republic, the Windward Islands, and parts of the Leeward Antilles received enhanced rainfall (more than 120% of normal rainfall). Conversely, the Bahamas, eastern Cuba, central Haiti, and northern Dominican Republic, and the Leeward Islands observed suppressed rainfall (less than 80% of normal rainfall).

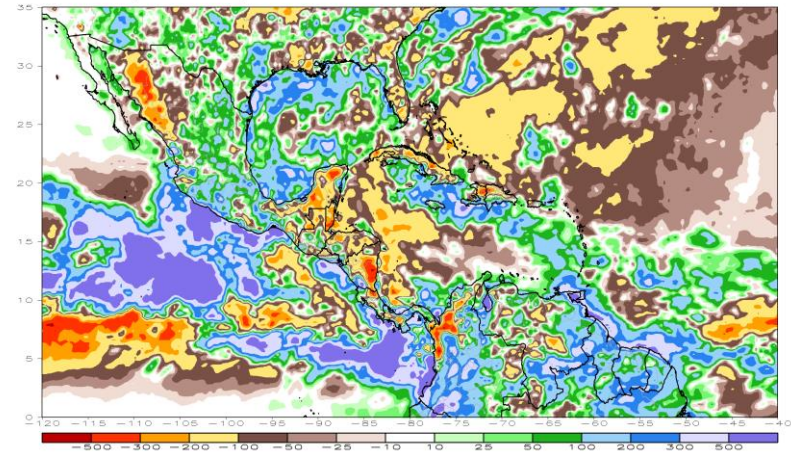


RAINFALL PATTERNS LAST 90 DAYS

CMORPH 90-Day Total Rainfall (mm)
Period: 24May2021 – 21Aug2021



CMORPH 90-Day Total Rainfall Anomaly (mm)
Period: 24May2021 – 21Aug2021



During the past 90 days, northwestern Mexico (Sonora, Chihuahua, Sinaloa, and Durango States) and southeastern Mexico (Tabasco, Chiapas, Campeche, Yucatan, and Quintana Roo States) experienced sustained drier than normal conditions (moisture deficits of over 100 mm). Conversely, the northeastern, central, and parts of southern Mexico observed wetter than normal conditions, with moisture surpluses of over 50 mm.

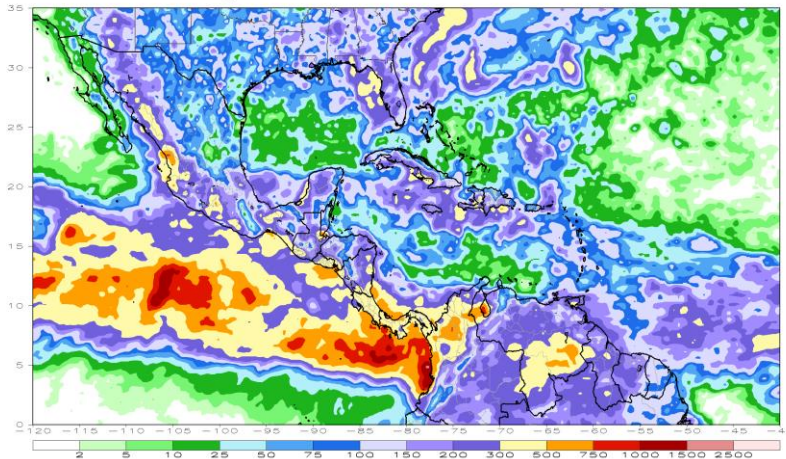
Precipitation was above-average across portions of central and southern Guatemala, southern El Salvador, western and southern Honduras, western Nicaragua, parts of Costa Rica, and much of Panama (more than 100 mm above the mean). Southern Belize, eastern Nicaragua, and northern Costa Rica experienced negative rainfall anomalies of 300-500 mm.

Southern and western areas in Cuba, Jamaica, southern Hispaniola, and parts of the Windward Islands observed above-average rainfall (more than 100 mm above the mean), while the Bahamas, many parts of Cuba, and northern Hispaniola experienced suppressed rainfall (more than 100 mm below the mean). In particular, moisture deficits of 300-500 mm were found in northeastern Haiti and northwestern Dominican Republic.

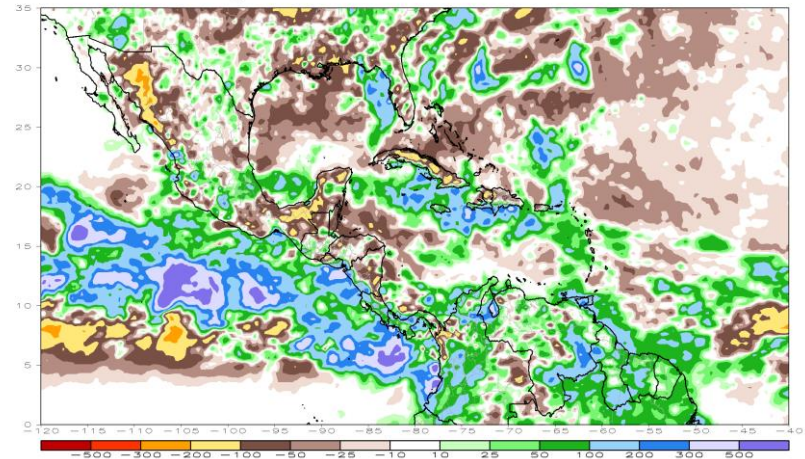


RAINFALL PATTERNS LAST 30 DAYS

CMORPH 30-Day Total Rainfall (mm)
Period: 23Jul2021 – 21Aug2021



CMORPH 30-Day Total Rainfall Anomaly (mm)
Period: 23Jul2021 – 21Aug2021



During the past 30 days, moisture deficits of over 100 mm were found in northwestern Mexico (Sonora, Chihuahua, Sinaloa, and Durango States) and in scattered areas in southern Mexico (Veracruz, Oaxaca, Chiapas, Tabasco, Campeche, Yucatan, and Quintana Roo States). The highest rainfall amounts reached 500 mm in Sinaloa and Nayarit States (moisture surpluses of over 300 mm).

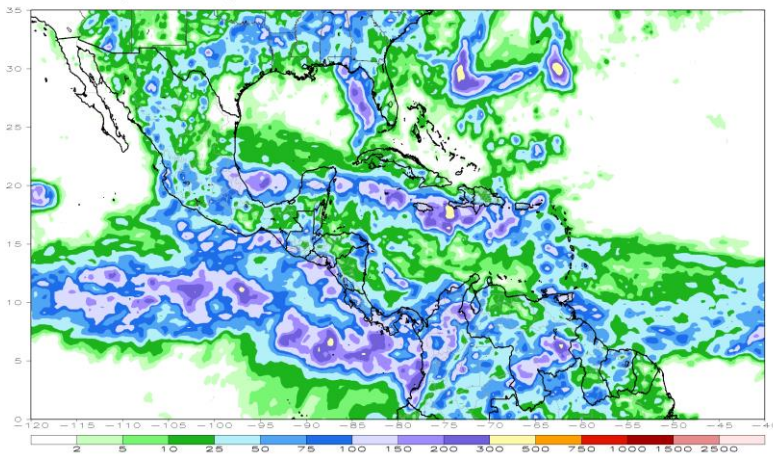
Pocket areas in southern Guatemala, southern El Salvador, southern Honduras, western Nicaragua, Costa Rica, and Panama experienced positive precipitation anomalies of over 100 mm. Much of Belize, portions of Guatemala, northwestern El Salvador, western and eastern Honduras, central Nicaragua, northeastern Costa Rica, and eastern Panama registered negative precipitation anomalies of over 50 mm.

Local areas along the western and southern coast of Cuba, Jamaica, southern Hispaniola, and portions of the eastern Caribbean Islands observed above-average rainfall (more than 50 mm above the mean). The Bahamas, much of Cuba, and northern Hispaniola observed below-average rainfall (more than 25 mm below the mean). In addition, moisture deficits of 100-200 mm were found in Cuba and northwestern Hispaniola.

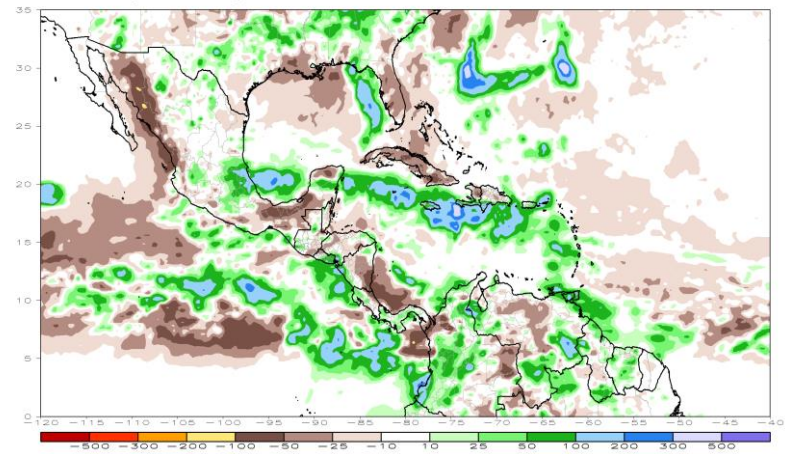


RAINFALL PATTERNS LAST 7 DAYS

CMORPH 7-Day Total Rainfall (mm)
Period: 15Aug2021 - 21Aug2021



CMORPH 7-Day Total Rainfall Anomaly (mm)
Period: 15Aug2021 - 21Aug2021



During the past 7 days, much of Mexico experienced below-normal to near-normal rainfall. Moisture deficits of 50-100 mm were found in northwestern Mexico (Sonora, Chihuahua, Sinaloa, Durango, and Nayarit States) and southern Mexico (Oaxaca, Veracruz, Tabasco, Chiapas, Campeche, and Yucatan States). Rainfall totals exceeded 100 mm in Veracruz, Puebla, Hidalgo, Campeche, Yucatan, and Quintana Roo States (moisture surpluses of 50-100 mm).

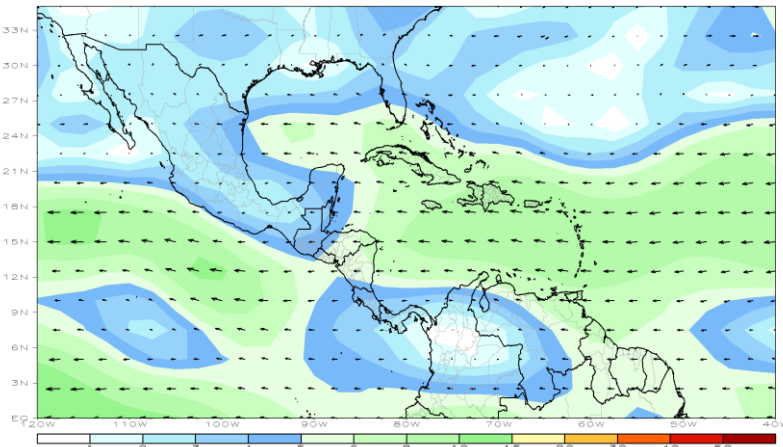
Precipitation was 50 mm above the mean in eastern El Salvador, southern Honduras, and northwestern Nicaragua. Precipitation was 50 mm below the mean in southeastern Nicaragua, northeastern Costa Rica, and eastern Panama.

Jamaica and southern Hispaniola received precipitation amounts of over 100 mm (more than 100 mm above the mean). The Bahamas, Cuba, and northern Hispaniola experienced below-average rainfall, with moisture deficits of over 10 mm.

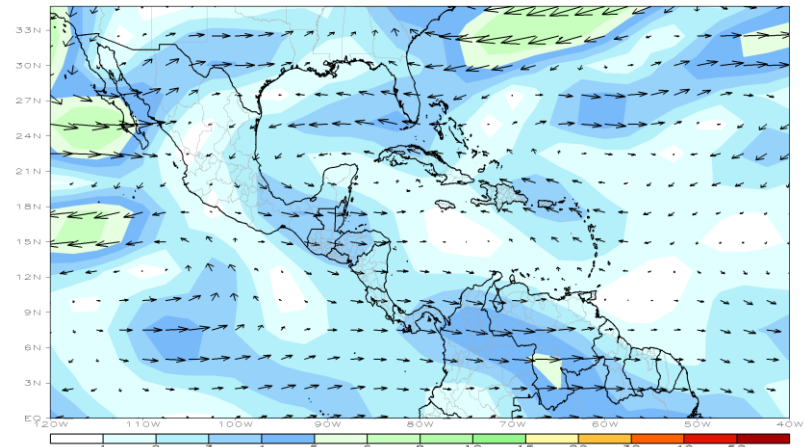


ATMOSPHERIC CIRCULATION LAST 7 DAYS

CDAS 700mb 7-Day Mean Vector Wind Total (m/s)
Period: 14Aug2021 - 20Aug2021



CDAS 700mb 7-Day Mean Vector Wind Anomaly (m/s)
Period: 14Aug2021 - 20Aug2021

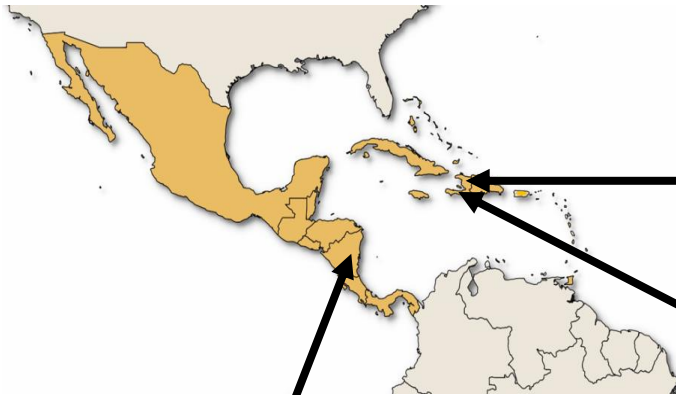


The 700 hPa circulation pattern featured easterly winds over the Caribbean and Central America (left panel).

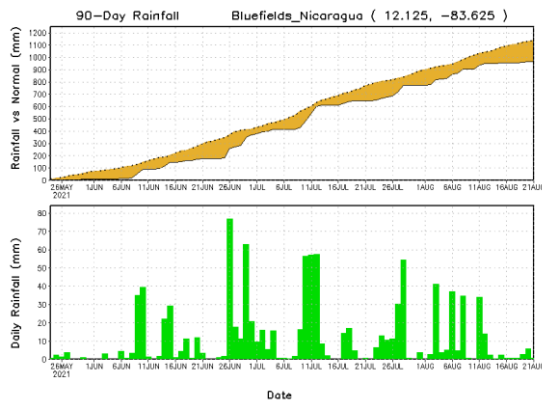
An anomalous cyclonic circulation was present over the Gulf of Mexico (right panel).



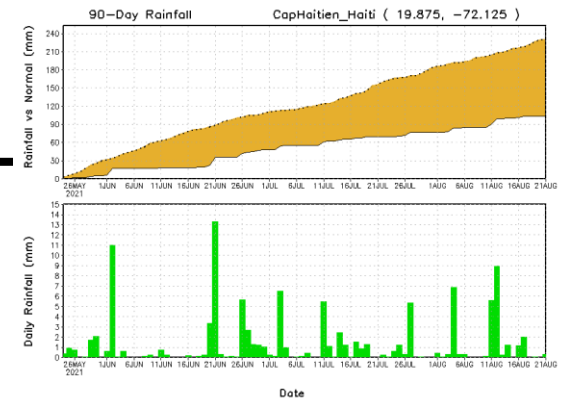
RECENT RAINFALL EVOLUTION LAST 90 DAYS



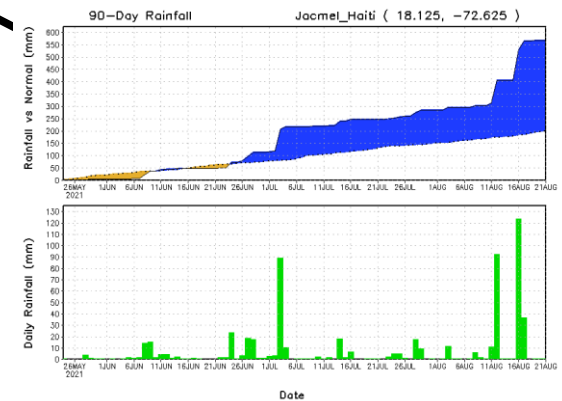
CMORPH Point Time Series



CMORPH Point Time Series



CMORPH Point Time Series



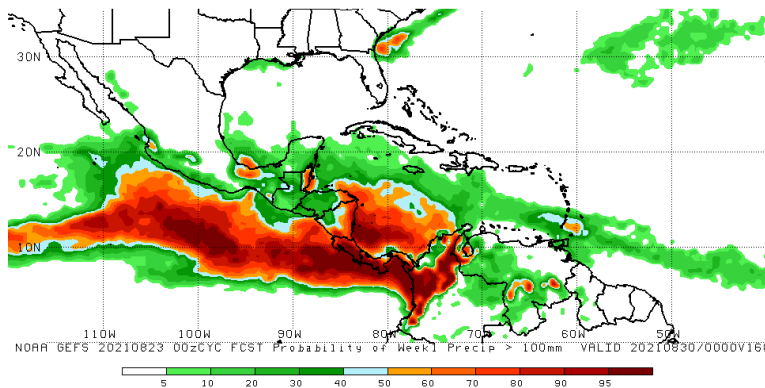
Daily evolution of rainfall over the last 90 days at selected locations highlights sustained drier than normal conditions in eastern Nicaragua (bottom left panel). Northern Haiti experienced moisture deficits (top right panel), while southern Haiti observed moisture surpluses (bottom right panel).



NON-BIAS CORRECTED PROBABILITY FORECASTS OF PRECIPITATION EXCEEDANCE (PRECIP > 100 MM)

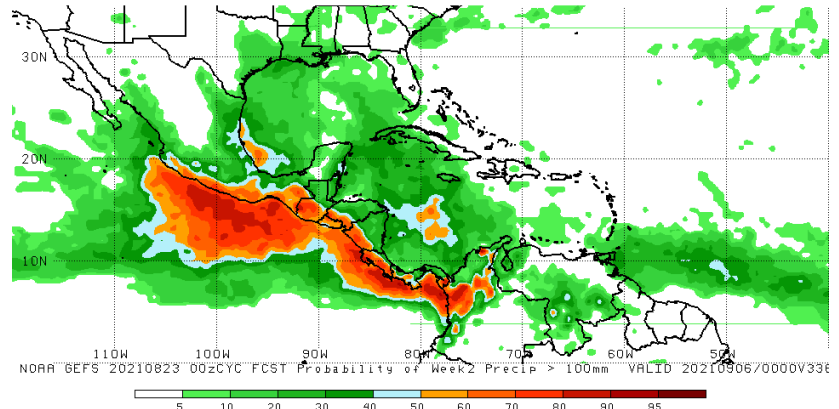
Week-1 forecast

Valid period: 24 – 30 August 2021



Week-2 forecast

Valid period: 31 August – 6 September 2021



Week-1 forecast (left panel) indicates an increased chance (probability > 70%) for weekly rainfall to exceed 100 mm across local areas in western and southern Mexico, Belize, eastern Honduras, much of Nicaragua, Costa Rica, and Panama.

Week-2 forecast (right panel) depicts an increased chance for weekly rainfall to exceed 100 mm across southwestern Mexico, southern Guatemala, El Salvador, southern Honduras, western Nicaragua, Costa Rica, and parts of Panama.



SUMMARY

During the past 180 days, northwestern Mexico and local areas in the Yucatan Peninsula continued to experience sustained moisture deficits (more than 300 mm below the mean). Eastern Nicaragua also observed sustained negative precipitation anomalies of over 300 mm. Costa Rica and Panama received precipitation amounts of over 1000 mm (more than 100 mm above the mean). Local areas in western and southern Cuba, Jamaica, northern and southern Haiti, southern Dominican Republic, the Windward Islands, and portions of the Leeward Antilles registered enhanced rainfall (more than 100 mm above the mean), while the Bahamas, local areas in eastern Cuba, central Haiti, northern Dominican Republic, and the Leeward Islands received suppressed rainfall (more than 50 mm below the mean).

During the past 90 days, northwestern Mexico and parts in southeastern Mexico observed suppressed rainfall (moisture deficits of over 100 mm), while northeastern, central, and parts of southern Mexico observed enhanced rainfall (moisture surpluses of over 50 mm). Large negative precipitation anomalies of 300-500 mm were found in southern Belize, eastern Nicaragua, and northern Costa Rica. The Bahamas, much of Cuba, and northern Hispaniola experienced less than 80% of normal rainfall (more than 100 mm below the mean), while local areas along the western and southern coast of Cuba, Jamaica, southern Hispaniola, and the Windward Islands observed more than 120% of normal rainfall (more than 100 mm above the mean).

During the past 30 days, rainfall totals of over 500 mm (positive precipitation anomalies of over 300 mm) were recorded in Sinaloa and Nayarit States (Mexico). Northwestern Mexico and many areas in the southern part of the country experienced negative precipitation anomalies of over 100 mm. Pocket areas in southern Guatemala, southern El Salvador, southern Honduras, western Nicaragua, Costa Rica, and Panama experienced moisture surpluses of over 100 mm. Parts of Jamaica and southern Hispaniola observed above-average rainfall conditions (more than 100 mm above the mean). Areas in Cuba and northwestern Hispaniola experienced drier than normal conditions (more than 100 mm below the mean).

During the past 7 days, northwestern and part of southeastern Mexico observed moisture deficits of 50-100 mm. Moisture surpluses of over 100 mm were found in Veracruz, Puebla, and Hidalgo States. Eastern El Salvador, southern Honduras, and northwestern Nicaragua experienced above-average rainfall (more than 50 mm above the mean). Southeastern Nicaragua and northeastern Costa Rica observed below-average rainfall (more than 50 mm below the mean). Jamaica and southern Hispaniola registered moisture surpluses of over 100 mm.

Week-1 forecast indicates an increased chance (probability > 70%) for weekly rainfall to exceed 100 mm across local areas in western and southern Mexico, Belize, eastern Honduras, much of Nicaragua, Costa Rica, and Panama. Week-2 forecast depicts an increased chance for weekly rainfall to exceed 100 mm across southwestern Mexico, southern Guatemala, El Salvador, southern Honduras, western Nicaragua, Costa Rica, and parts of Panama.



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