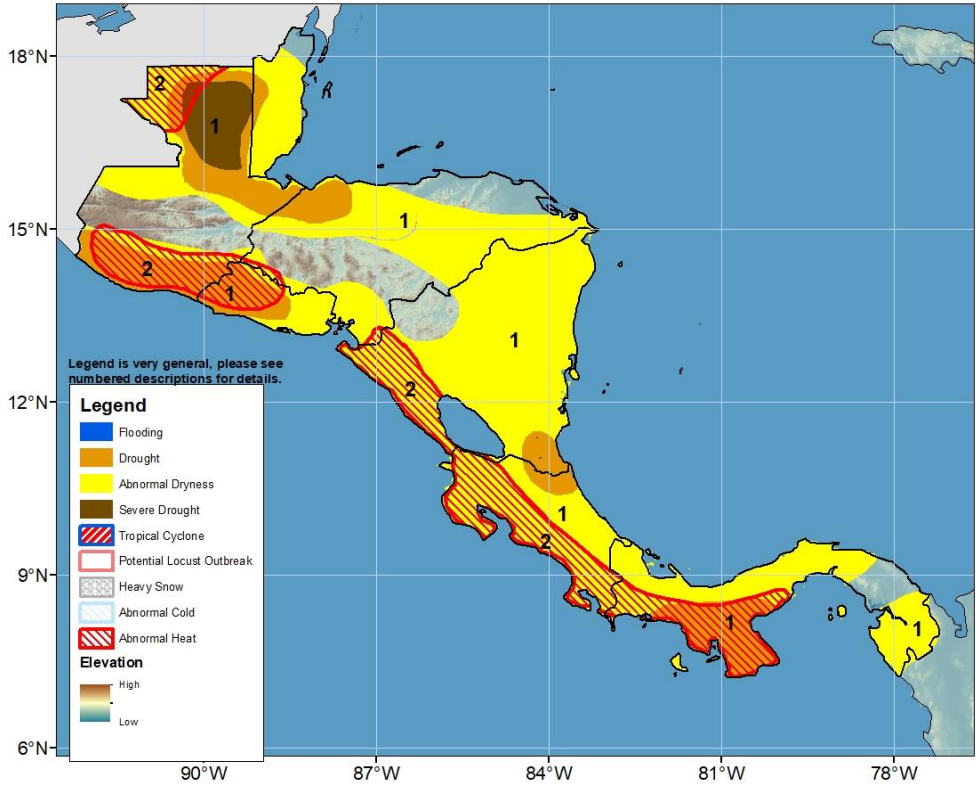
Climate Prediction Center's Central America Hazards Outlook
For USAID / FEWS-NET
20 – 26 July 2023

Heavy rainfall continued in central Guatemala and eastern Nicaragua. Hot and drier than average conditions continued in most parts of Central America.



1) **Inconsistent and insufficient rainfall since the beginning of the "Primera" season starting in April has led to large reductions in total rainfall and expanding abnormal dryness across the region. As the period of below-average rainfall extends to 8 weeks and deficits deepen, drought is placed in northern/southern Guatemala, El Salvador, northeastern Honduras, southern Nicaragua, northeastern Costa Rica, and south-central Panama. Due to the continuing and growing rainfall deficits, significant vegetation stress, dry soil conditions and ground obseravations, a severe drought polygon is placed in northern Guatemala.**
2) **Weekly mean maximum temperatures are forecast to be above average by 2-4°C across the Pacific basins of Central America, with values exceeding their 95% percentiles for 3 or more days. This led to to the placement of extended Abnormal Heat hazard there.**

Note: The Hazards outlook map is based on current weather/climate information, short and medium-range weather forecasts (up to 1 week), sub-seasonal forecasts up to 4 weeks, and assesses the potential impact of extreme events on crop and pasture conditions. Shaded polygons are added in areas where anomalous conditions have been observed and predicted to continue during the outlook period. The boundaries of these polygons are only approximate at the spatial scale of the map. This product takes into account long-range seasonal climate forecasts but does not reflect current or projected food security conditions. FEWS NET is a USAID-funded activity whose purpose is to provide objective information about food security conditions. Its views are not necessarily reflective of those of USAID or the U.S. Government. The FEWS NET weather hazards outlook process and products include participation by FEWS NET field and home offices, NOAA-CPC, USGS, USDA, NASA, and a number of other national and regional organizations in the countries concerned.

Questions or comments about the hazards outlooks may be directed to Dr. Wassila Thiaw, Head, International Desks/NOAA, wassila.thiaw@noaa.gov. Questions about the USAID FEWS NET activity may be directed to Dr. James Verdin, Program Manager, FEWS NET/USAID, jverdin@usaid.gov

Central Guatemala, western/eastern Honduras, eastern Nicaragua, and western Panama continued receiving heavy rains.

Rainfall has substantially increased in Guatemala and Nicaragua during 11-17 July 2023. In particular, heavy rainfall totals of 100-300mm were observed in east-central departments of Guatemala (Izabal, Alta Verapaz, and Zacapa departments), eastern regions of Nicaragua, and eastern coasts of Panama. Moderate to heavy rainfall totals (25-50mm) were recorded in southern Guatemala, El Salvador, and western Honduras according to CMORPH satellite estimates. Some of the heaviest rains in Guatemala occurred in regions that experienced recent flooding and landslides. Except over eastern Guatemala, Nicaragua and few areas of Panama, much of Central America experienced drier than average conditions during the week. As a result, substantial 7-day deficits of 50-100mm are widely present across El Salvador, southern Guatemala, eastern Honduras, northeastern Nicaragua, and Panama. In addition, 7-day rainfall deficits of 25-50mm were expansive across northern Guatemala, Belize and Costa Rica. Other areas of Central America, also received insufficient rainfall that led to 7-day deficits of 10-25mm. The 30-day cumulative rainfall analysis shows dry conditions prevailing across the region. Deficits of at least 200mm are present over eastern Panama, northern Costa Rica, southern Nicaragua, and at some localities in northern (Petén department) and southern (Escuintla department) Guatemala. Deficits between 100-200mm are widespread and cover northern and southern Guatemala, southeastern Nicaragua and northeastern Costa Rica, El Salvador, and Panama. Many of these deficits translate to 50% or even 75% reductions in rainfall. The 90-day deficits are similarly expansive. As a result, abnormal dryness is steadily expanding through Central America and patches of drought are now present. Vegetation health is relatively poor through northern Honduras, Nicaragua, northern and southeastern (up to Chiquimula) Guatemala, Belize, El Salvador, and parts of central Panama. Due to the continuing and growing rainfall deficits, significant vegetation stress and dry soil conditions, a severe drought polygon has been placed in northern Guatemala. Maximum temperature anomalies were at least 2 to 4°C above normal in eastern Guatemala, western Honduras, and bordering El Salvador.

During the outlook period, forecasts indicate that moderate to heavy rains will cover much of Central America. Totals of more than 100 mm are predicted over eastern Nicaragua while totals exceeding 50mm are expected to cover southern and central Guatemala, Belize, western and southeastern Honduras, El Salvador, Nicaragua, Costa Rica and Panama. However, except over Guatemala, Honduras and parts Nicaragua, the predicted rainfall amounts will be insufficient and will result in drier than average conditions over much of Central America for the week (Fig 1). Maximum temperatures are forecasted to be 2 to 4°C warmer than average across southern and northern Guatemala and parts of El Salvador. Maximum temperatures will be above the 95th percentile for 3 or more days in parts of Guatemala and El Salvador, western coasts of Nicaragua, Costa Rica and Panama. As a result, Abnormal Heat hazard has been placed along the Pacific basins of Central America.

Week 1 GEFS Rainfall Total Forecast and GEFS Rainfall Anomaly forecast (mm): 20 – 26 July, 2023

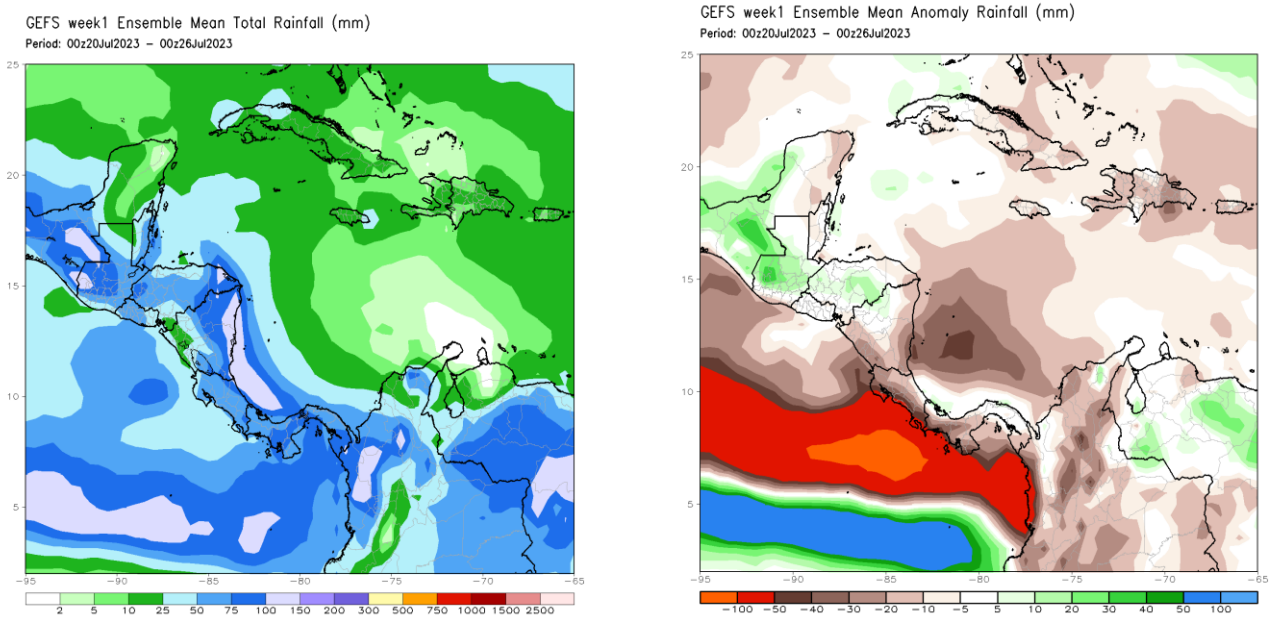


Figure 1: Source NOAA / CPC