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Food and Agriculture Organization of the United Nations

GIEWS Update

Central America

Continuation of El Niño conditions raises concerns over planting and early development of the 2019 main season maize crop in Central America[1]

Highlights:

- In Central America, the El Niño phenomenon is generally associated with below-average rains and prolonged dry spells.
- The 2019 January-March dry season in the subregion was drier than usual due to the presence of El Niño, which affected production of the 2018 third season maize crop in Guatemala.
- There is a high likelihood that the El Niño phenomenon could persist in the May-July period, which coincides with the planting and development stages of the main season maize crop and continue until the end of the year.
- If dry conditions adversely impact the 2019 main maize output, prices of white maize, which are already at high levels, could increase further, constraining food access for vulnerable households.
- In several countries, governments are already implementing preventive measures to mitigate the impact of dry weather conditions and to increase farmers' resilience, especially in the "Dry Corridor."

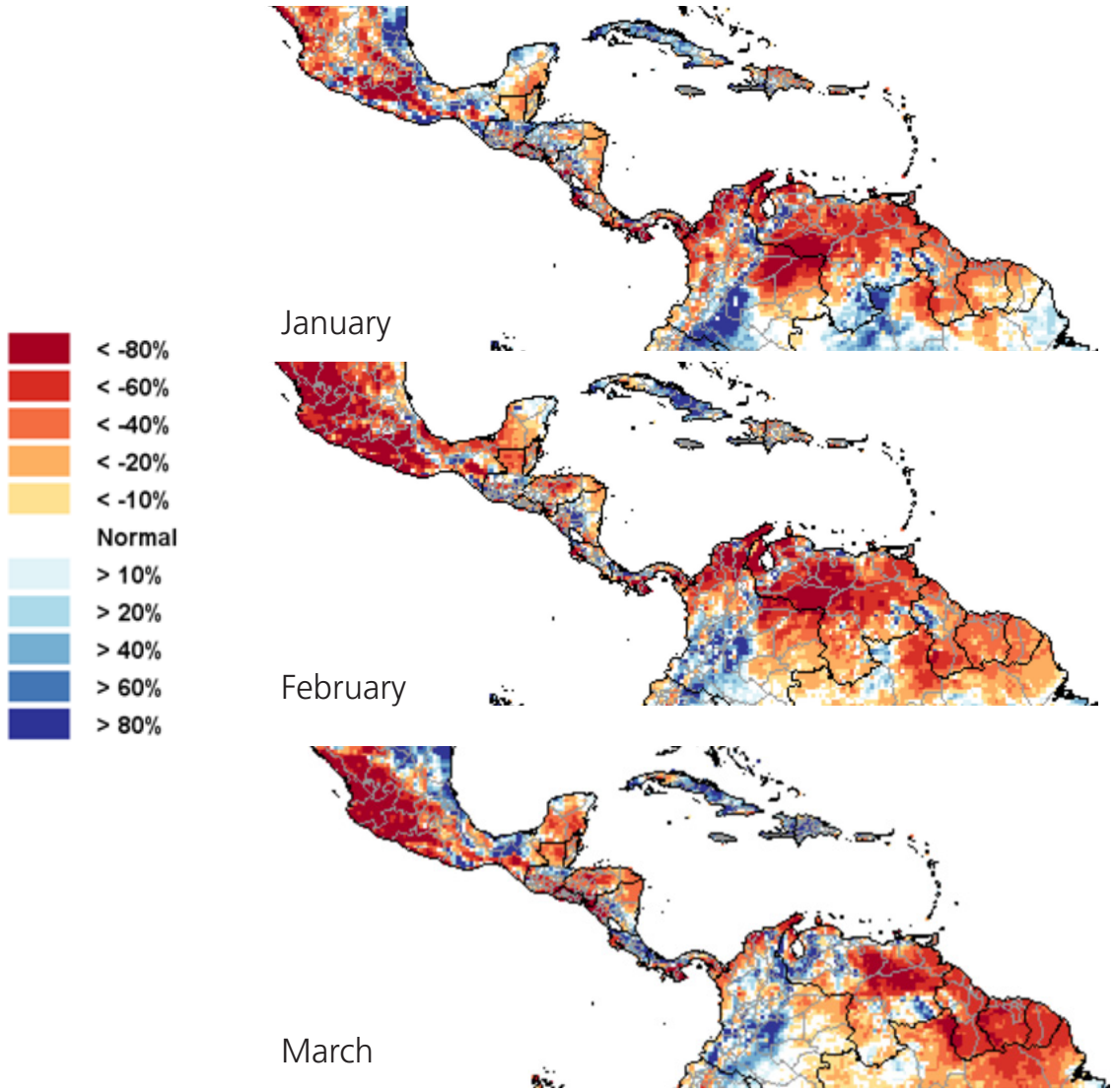
Current situation

In Central America, the January-March period corresponds to the dry season. In 2019, it was harsher than usual, due to the presence of the El Niño phenomenon, which resulted in drier-than-normal conditions, with cumulative rains estimated to be 60 percent below the long-term average in the "Dry Corridor" and the Caribbean region (Figure 1). The severe dryness led to forest fires across northern Guatemala and Honduras and contributed to the drying up of some rivers in Honduras.[2] The suppressed rains also resulted in poor vegetation conditions, as depicted in Figure 2, especially in northern Guatemala and Honduras as well as in central Nicaragua. In northern Guatemala, where harvesting of the 2018 third season crops takes place between January and March, farmers reported losses of maize and bean crops due to the prolonged dry spells.[3] In Costa Rica, reduced rainfall in the Caribbean region affected the production of yucca and tubers as well as pasture conditions.[4] In the region with poor vegetation conditions, the lower vegetation activity infers reduced soil moisture reserves and, if these conditions persist in May, planting operations of the 2019 main season maize crop could be disrupted and delayed.[5]

[1] This report is prepared in collaboration with the FAO Office for Mesoamerica and Regional Committee of Hydraulic Resources (CRRH) of the Central American Integration System (SICA).
[2] https://www.elheraldo.hn/pais/1272822-466/r%C3%ADo-choluteca-un-reflejo-de-la-sequ%C3%ADa-que-atraviesa-la-zona-sur.
[3] https://elperiodico.com.gt/nacion/2019/04/08/canicula-prolongada-dana-cultivos-en-peten/.
[4] https://www.nacion.com/sucesos/desastres/un-inusual-fenomeno-climatico-el-nino-deja-a-secas/.
[5] "El Niño 2019 está favoreciendo una época seca extrema", FAO Mesoamerica Office (in collaboration of CRRH), April 2019.

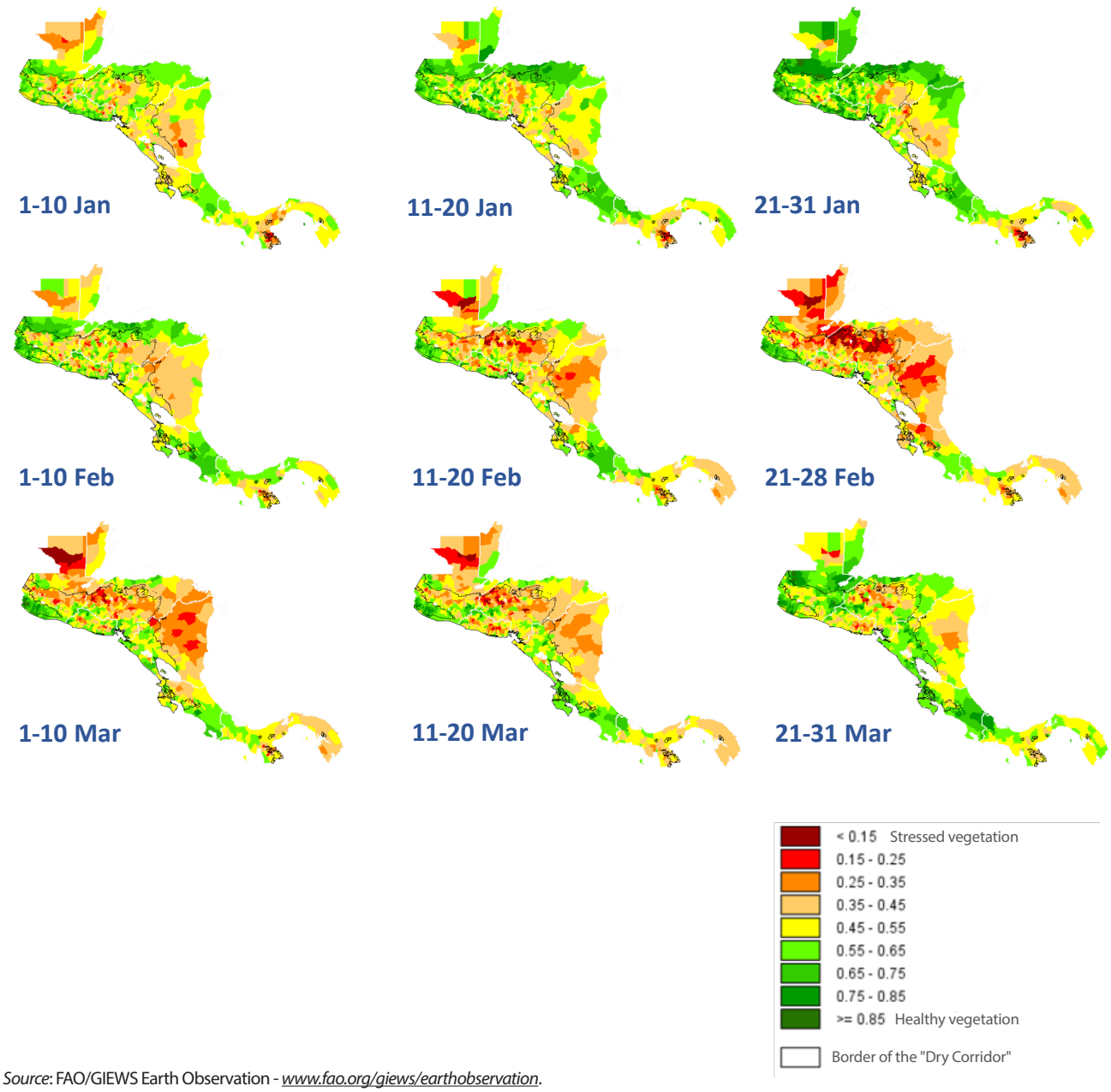
Currently, prices of white maize in the region are 10 to 40 percent above their year-earlier levels, mainly reflecting localized production shortfalls of the 2018 main season maize output, particularly in the "Dry Corridor" (GIEWS Update). High production costs, due to the elevated prices of key inputs, including fuel, further underpinned maize prices. If below-average rainfall continues, prices of maize could increase further, pressured by concerns over the 2019 output. The continuation of high prices would be expected to negatively impact on households' food access.

Figure 1: Central America - Monthly precipitation anomaly
(January-March 2019, in percent)



Source: FAO/GIEWS Earth Observation - *www.fao.org/giews/earthobservation*.

Figure 2: Central America - Vegetation conditions
(January-March 2019, by dekad)



Source: FAO/GIEWS Earth Observation - *www.fao.org/giews/earthobservation*.

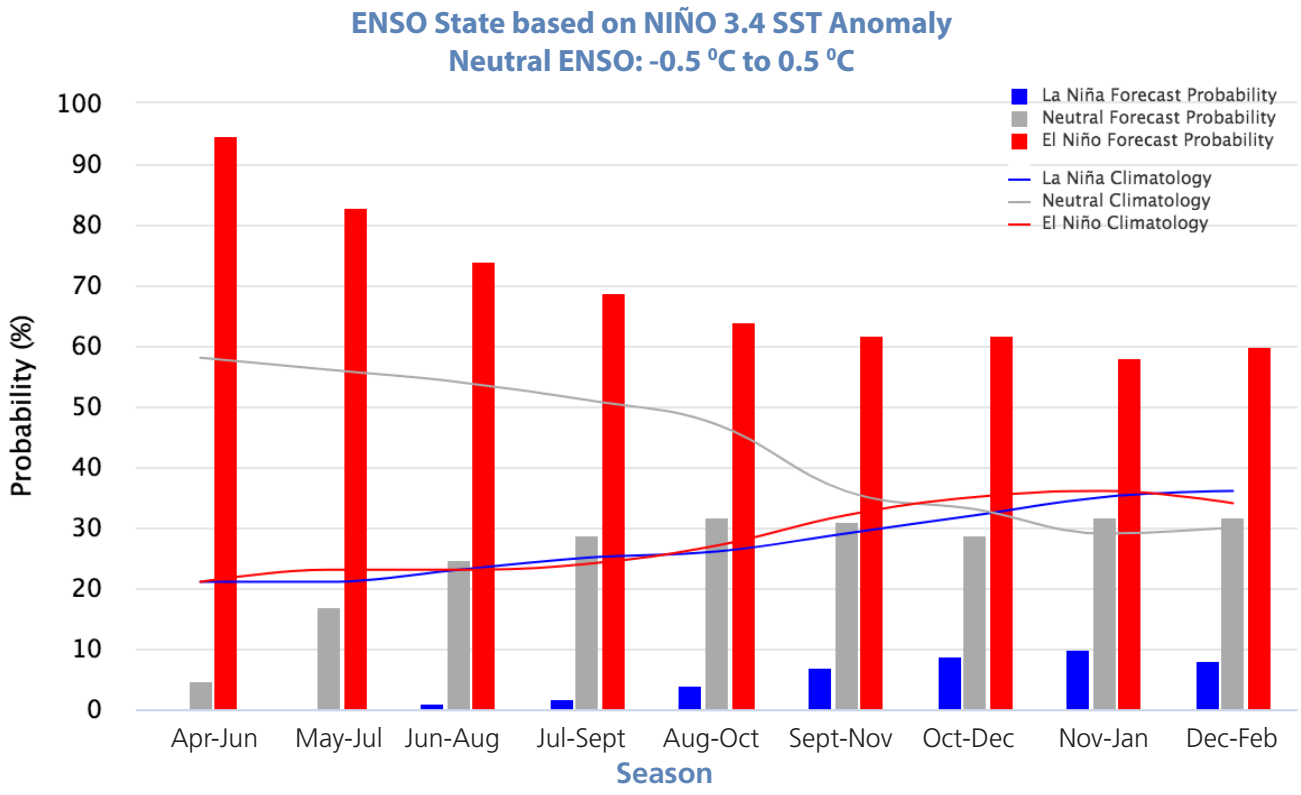
Forecasts

According to the latest forecasts of the International Research Institute for Climate and Society (IRI), there is a very high likelihood (83 percent) that El Niño conditions would persist in the Northern Hemisphere in the May-July period (Figure 3). In Central America, this period corresponds to the planting and development stages of the main maize crop. In addition, El Niño conditions are likely to continue with a probability of more than 50 percent until the end of 2019.

In the subregion, the occurrence of an El Niño phenomenon is mainly associated with reduced rainfall and prolonged dry spells. Specifically, El Niño conditions tend to prolong the dry spells, called "canícula", that normally occur during the rainy season, typically in July and August. The reduction in the amount of precipitation is usually more pronounced in the "Dry Corridor"[6] that runs through the tropical dry forest region on the Pacific coast of Guatemala, El Salvador, Honduras and Nicaragua, where smallholder farmers produce maize and beans, mainly for self consumption.

According to the latest weather forecast from the Regional Committee of Hydraulic Resources (CRRH) of the Central American Integration System (SICA), there is a high probability that rainfall in the May-July period would be below average[7] in the Pacific coastal areas of Honduras, Nicaragua, Costa Rica and Panama, as well as most of El Salvador, large parts of which are located in the "Dry Corridor", and Belize. By contrast, precipitation is anticipated at normal levels in the main maize-producing northern and eastern regions of Guatemala.

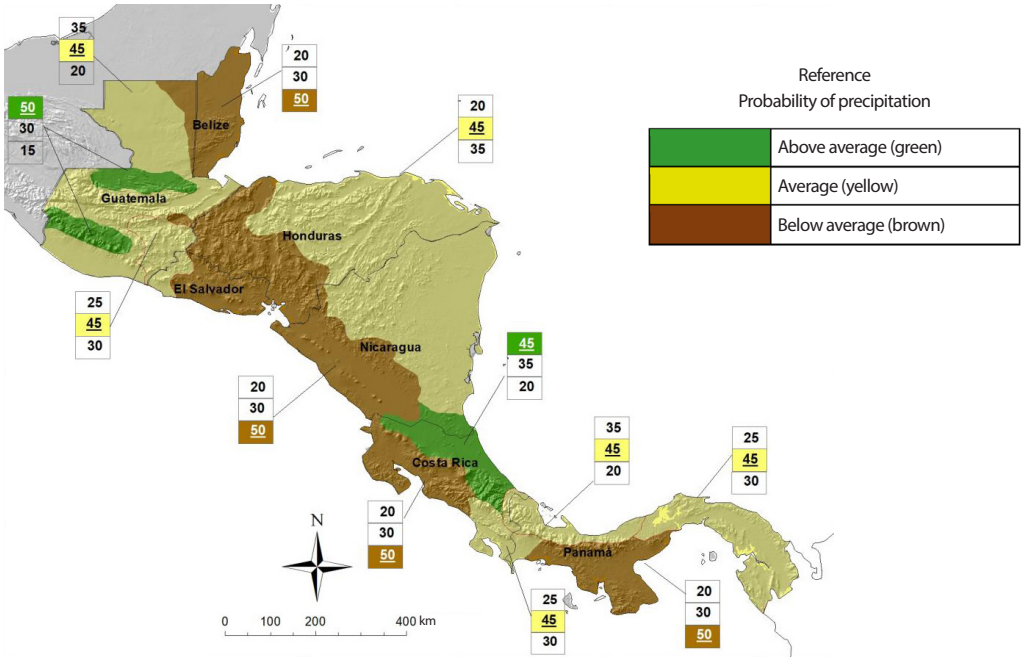
Figure 3: Probabilistic El Niño, La Niña and the Southern Oscillation (ENSO) forecasts, mid-April 2019
(probability in percent)



Note: IRI/CPC Model-Based Probabilistic ENSO Forecasts.
Sources: Climate Prediction Center (CPC) and the International Research Institute for Climate and Society (IRI).

[6] The "Dry Corridor" stretches from southern Mexico to the "Dry Arch" of Panama, however, the countries that are more prone to drought are considered: Guatemala, El Salvador, Honduras and Nicaragua (www.fao.org/in-action/agronoticias/detail/en/c/1024539/).
[7] The probability of rainfall of the CRRH forecasts a 50 percent of below average, a 30 percent of average and a 20 percent of above average precipitation in the above-mentioned areas.

Figure 4: Probability forecast for precipitation
(May-July 2019, probability in percent)



Source: Regional Committee of Hydraulic Resources (CRRH) of the Central American Integration System (SICA).

Government responses

Most governments of Central America are implementing a series of preventive measures in order to mitigate the impact of El Niño conditions as well as support measures to assist the population affected by the localized dry conditions in 2018. In **Guatemala**, the Government established a plan (*Plan para la Atención del Hambre 2019*) that aims to mitigate the effects of the prolonged dry spells that occurred last year and to increase the resilience of the agriculture sector, whilst also supporting food security in the affected areas.[8] In **Honduras**, the Secretary of Agriculture and Livestock (SAG) developed good practice guidelines for farmers, including adequate planting dates for each crop in all the producing regions and recommended types of seeds.[9] For example, according to these guidelines, it is advisable to carry out planting operations of maize and sorghum crops between 15 and 20 April in the "Dry Corridor" area, which includes the Choluteca, Valle and El Paraíso departments. Additionally, the SAG distributed drip irrigation systems in a municipality of the Comayagua Department, located in the "Dry Corridor".[10] In **El Salvador**, the Environmental Fund of El Salvador (FONAES) continued distributing storage containers for rainwater harvesting,[11] and the Ministry of Agriculture planned to distribute white maize seeds and fertilizers.[12]

Recommendations

Under the forecast of continuing El Niño conditions in the subregion, farmers are recommended to: i) adopt preventive measures in a scenario of water shortages; ii) follow the recommended planting dates and ascertain the likely conditions at planting time; iii) plant sorghum or beans, which are more tolerant to water stress, instead of maize, in the areas where there is a high probability of reduced rainfall; and iv) not to burn agricultural land before planting, as this practice favours land erosion and could cause forest fires.

[8] http://www.sesan.gob.gt/wordpress/2019/03/05/plan-para-la-atencion-del-hambre-estacional-es-presentado-en-conasan/.
[9] "Reporte Agrometeorológico Año VII - No. 9", Secretaría de Agricultura y Ganadería (SAG), April 2019.
[10] https://www.elheraldo.hn/pais/1268442-466/laman%C3%AD-comayagua-tendr%C3%A1-un-sistema-de-riego-para-206-hect%C3%A1reas.
[11] https://elmundo.sv/finalizan-proyectos-de-agua-en-110-municipios/.
[12] https://elmundo.sv/mag-preve-cosecha-de-26-mills-de-quintales-de-granos/.

This report is prepared by the **Global Information and Early Warning System (GIEWS)** of the Trade and Markets Division of FAO. The updates focus on developing anomalous conditions aimed at providing early warnings, as well as latest and more elaborate information than other GIEWS regular reports on the food security situation of countries, at both national and sub-national levels. None of the information in this report should be regarded as statements of governmental views.

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