27 August 2018

Food and Agriculture Organization of the United Nations

GIEWS Update

Central America

Drought causes crop losses in "Dry Corridor" in Central America[1]

Highlights:

- There is a high risk of contraction in the production of basic grain crops in Central America because of the intensified "heat wave"[2] in July, affecting the flowering and grain-filling phases of the crops.
- The maize and bean crops grown for self-consumption are expected to be the most affected, mainly in the areas of the "Dry Corridor". The extent to which the crops are affected highly depends on the timing of sowing and the geographical distribution of rain.
- As of 15 August 2018, the Governments of El Salvador, Guatemala and Honduras reported losses of 282 000 hectares in maize and bean crops, resulting in an estimated 2.2 million people at risk of food insecurity.
- In general, the period of food shortage in the region is between April and August, with supplies getting particularly tight from July. This season's crop losses could make the next lean season more pronounced, with tight supplies and a worsening food security situation setting in earlier-than-normal in 2019 in the "Dry Corridor" area.
- There is a 60 percent probability (IRI/CPC, August 2018) that the El Niño phenomenon would occur in late 2018, which could put the second and third season production in the region at risk.
- To anticipate and mitigate the impact of the drought, national governments are identifying measures that contribute to risk reduction, early action and potential response in collaboration with FAO and WFP.

Development of the drought in the 2018 *de Primera* season in the "Dry Corridor"

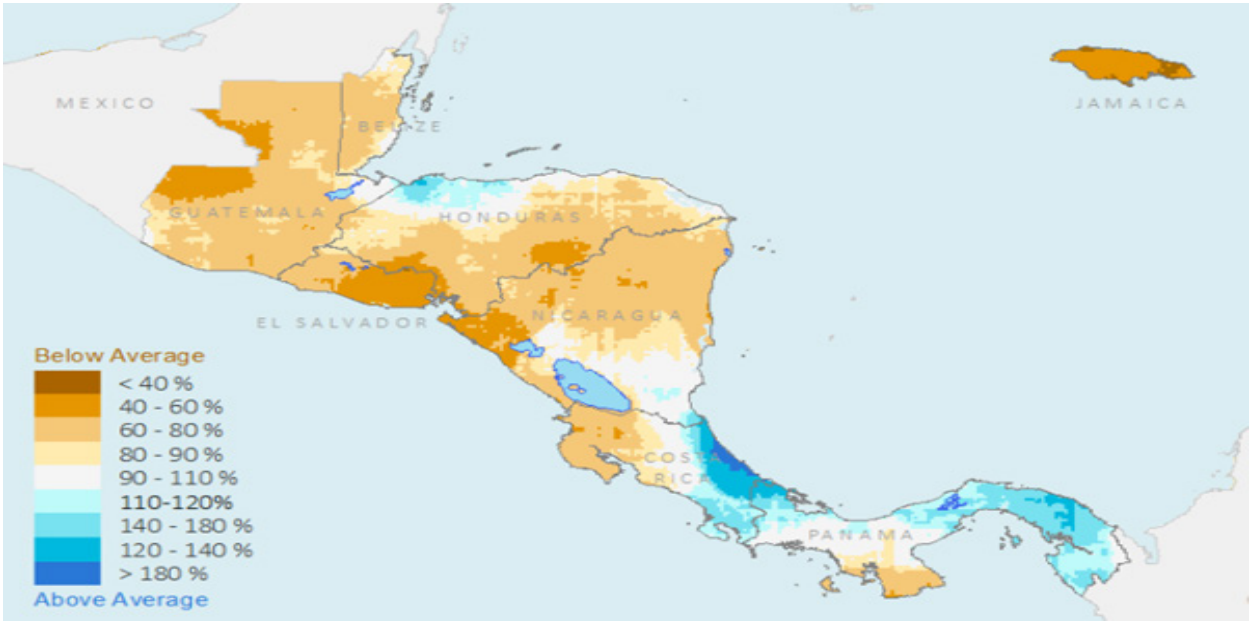
Planting of the first season basic grain crops such as maize, beans, sorghum and rice took place in April and May 2018. The climatic conditions were favourable for development of the crops between April and mid-June; however, the rainfall considerably decreased from late June and throughout July (Figure 1).

The reduction of precipitation occurred during the flowering and grain-filling phases that are most sensitive to water stress, leading to a significant decrease of yield potential. The production decrease is expected to be from 20 percent to the total loss of crops in some areas of the "Dry Corridor", depending on the cultivation cycle and the geographical distribution of rain. For maize, the most critical period to determine the yield is 10 to 14 days before or after the appearance of the flower. The grains will not fill if water stress occurs during this pollination process. The drought is expected to have less impact on beans and, in particular, on sorghum due to its greater resistance to dryness.

Drought caused by the El Niño phenomenon affected Central American farmers in 2014 and 2015; production recovered somewhat in 2016, while a good harvest was achieved in 2017. The dry spells of this year would put many of the subsistence producers, who were recovering from past extreme events, back into a situation of food insecurity. The drought is not as drastic as in 2015, but it is severe enough to have a negative impact on agricultural output in several areas of the "Dry Corridor" and in some cases quite significant. The state of vegetation is monitored by satellite every ten days, which confirms the situation

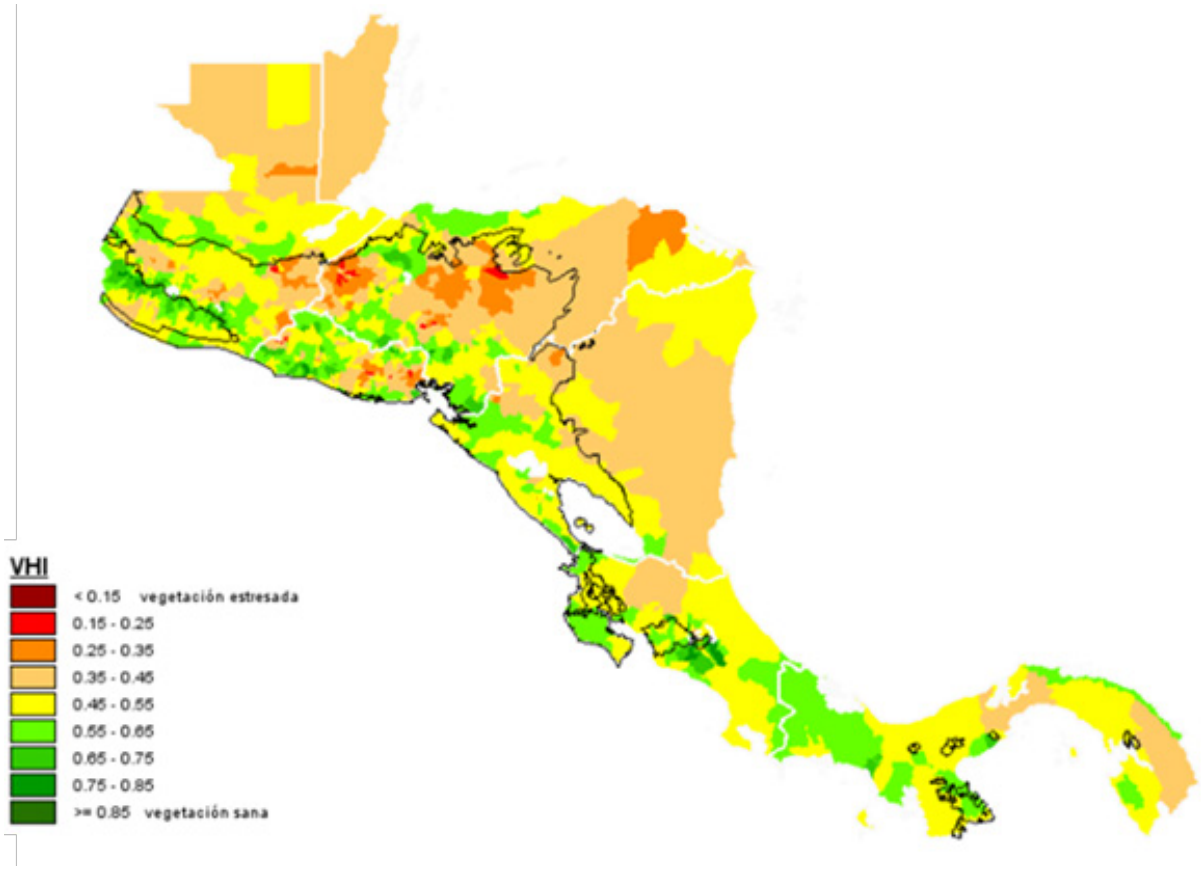
[1]This report is prepared in collaboration with the FAO Office for Mesoamerica and the WFP Regional Office for Latin America and the Caribbean, based on information provided by the Governments of Guatemala, El Salvador, Honduras and Nicaragua.
[2]The "heat wave (la canícula)" in Central America refers to the reduction of rainfall that occurs two to four weeks during July and August.

Figure 1: Central America - Accumulated precipitation in June-July 2018 (as percentage of the average precipitation)



Source: WFP on the basis of CHIRPS model.

Figure 2: Central America - Vegetation Health Index (VHI) in late July 2018



Source: Agricultural Drought Surveillance System (ASIS) of the Regional Hydraulic Resources Committee (CRRH).
Note: Areas with VHI values lower than 0.45 have a high level of water stress. These areas are concentrated within the "Dry Corridor" (black line) which covers the central and pacific zone of Nicaragua (albeit at a lower degree), eastern region of El Salvador, northern and western region of Honduras and eastern central part of Guatemala. The Atlantic zone of Nicaragua appears with a lot of cloud presence that introduces noise to the registered values.

reported by the Ministries of Agriculture and National Meteorological Services (Figure 2).

Estimation on crop losses and affected people by country

As of 15 August, the heat wave in Central America is estimated to have caused crop losses on 282 000 hectares, mainly of maize and beans, with a greater impact on the former due to its sensitivity to water stress during the flowering and grain-filling phases. Beans are more important in the following season (*de Postrera*), which has just begun with a delay due to prolonged dry spells. The governments estimate that the drought has affected a total of 2.2 million people. Table 1 shows a summary of the information provided by the governments, although the estimation is not final and thus subject to changes.

El Salvador

The Ministry of Agriculture and Livestock (MAG) estimates the drought-affected area at 61 000 hectares and crop losses at 125 000 tonnes. The estimated loss of maize is 17 percent of the production expected for the first season. This *de Primera* season represents 85 percent of total maize production of the country. The departments most affected by the drought are Usulután, San Vicente, San Miguel, La Unión and Morazán. However, these departments produce more maize in the following *de Postrera* season than in the current first season, minimizing the impact of the drought. MAG has delivered packages of maize seeds to producers to improve maize production in the second season.

Honduras

The Government of Honduras carried out a field monitoring survey, which estimates the drought-caused losses of production of maize and beans at 17 and 15 percent, respectively, in the first season. Production of maize and beans in the first season represent 80 and 20 percent, respectively, of the total annual production, suggesting that the drought would have a greater impact for maize than for beans. The greatest losses are reported in the "Dry Corridor", where around 82 percent of both crops have been lost, and subsequently the risk of food insecurity exists. By contrast, the first season production loss in the rest of the country is estimated at 10 percent.

Guatemala

In Guatemala, despite normal rainfall amounts during the planting of first season crops between April and mid-June, precipitation fell significantly at the end of June, particularly in the East and Coastal regions. However, precipitation has been normal in the North, the main region producing basic grains. The first season production of maize and beans contribute 60 and 35 percent, respectively, to the total national production. According to the Ministry of Agriculture, Livestock and Food (MAGA), Jutiapa, Chiquimula, El Progreso, Jalapa and Baja Verapaz departments are most affected by the drought.

Nicaragua

In Nicaragua, the heat wave was not as severe as in other Central American countries. Some producers have reported losses in the departments of Madriz

Table 1: Central America - Summary information provided by the governments

Country	Total crop losses (ha)	Number of affected people (preliminary)	Source
El Salvador	61 157	494 000	Calculation based on affected producers, Survey of Estimation on Impact of Water Stress 2018 in Agricultural Sector, Ministry of Agriculture and Livestock (MAG)/DGEA, 7 August 2018
Honduras	46 000	390 000	Estimation of Secretary of Agriculture (SAG), Technical Unit of Food Security and Nutrition (UTSAN) y RedHum, including WFP, 10 August 2018
Guatemala	175 126	1 290 785	Estimation of Ministry of Agriculture, Livestock and Food (MAGA), 13 August 2018
Nicaragua	n.a.	n.a.	No official information available
Total	**282 283**	**2 174 785**	

and Chinandega, although there has been no confirmation from the Government in this regard. In the first season, 70 percent of the annual maize output is produced.

Recommendations

In this phase, FAO and WFP, in close collaboration with governments and partners, recommend the following actions to mitigate the potential impacts on food security of the rural population in the coming months:

- Conduct an analysis of the impact of the drought on the agricultural output in 2018 and the prices of basic food products.
- Undertake an evaluation of the food security and nutrition situations at the end of the first season harvest and at the beginning of the second season.
- Provide support to governments to establish a monitoring system for agricultural production and food security, which can become permanent.

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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