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Climate Outlook for
Central America
June- July August 2000

Special Session May 22, 2000
Belize City, Belize

Introduction

On May 22, 2000, a special session for forecasters and climate researchers was held to develop a consensus precipitation outlook for June-July-August 2000. Representatives from the National Meteorological Services of Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Belize and Mexico assembled in Belize City to prepare a probabilistic seasonal precipitation outlook for the Central American region. In addition, scientists from several national and international institutions participated in the outlook development. This special session was part of a meeting on *Climate Forecasts and Applications for Central America: Moving into the Next Century*, convened on May 23-24, 2000 to address the current state of knowledge regarding the regional climate system and how to translate that information into a format useful for decision makers and users of climate information (e.g., water resource managers, emergency response agencies, agricultural representatives, and public health officials). The meeting was organized by the Comité Regional de Recursos Hidráulicos del Istmo Centroamericano (CRRH), the National Meteorological Service of Belize and the NOAA Office of Global Programs (NOAA/OGP).

Presentations on the mechanisms that influence climate variability in the region addressed:

- the relationship between precipitation patterns in the region and sea surface temperature (SST) anomalies (“departure from normal SSTs”) in the northeastern Pacific and the Caribbean sea;
- the importance of SST anomalies and the characteristics of the western Pacific warm pool in the summer precipitation (onset, intensity, etc.); and
- fluctuations (inter annual and inter decadal) in hurricane activity in the Atlantic.

Methodology

Sea-surface temperatures (SSTs) in the tropical Atlantic and Pacific Ocean are a significant factor influencing the regional climate system and rainfall in the Central America. Historical climate records, present climatic conditions, and SST predictions for the central and eastern equatorial Pacific from a variety of coupled ocean-atmosphere models were used to produce the climate outlook for Central America. In addition, results from several atmospheric global

circulation models were considered, for example the models of the National Centers for Environmental Prediction of the National Oceanic and Atmospheric Administration (NOAA/NCEP), the European Center for Medium-range Weather Forecasts (ECMWF) and the Community Climate Model 3 (CCM3). After examining several SST forecasts, participants concluded that the forecast for the eastern Pacific SST corresponds to a very weak La Niña or neutral conditions for summer. It was noted that although some positive SST anomalies have been observed off the coast of Peru in recent months, the development of an El Niño over the forecast period is unlikely.

In the climate outlook, probabilities are assigned to the likelihood that the total amount of rainfall will be near-normal, above normal or below normal (Figure 1). For each area delineated, probabilities are assigned indicating whether the total precipitation for June through August will be within the range experienced during the wettest (upper block), normal (middle block), or driest (lower block) years in the historical record.

Outlook

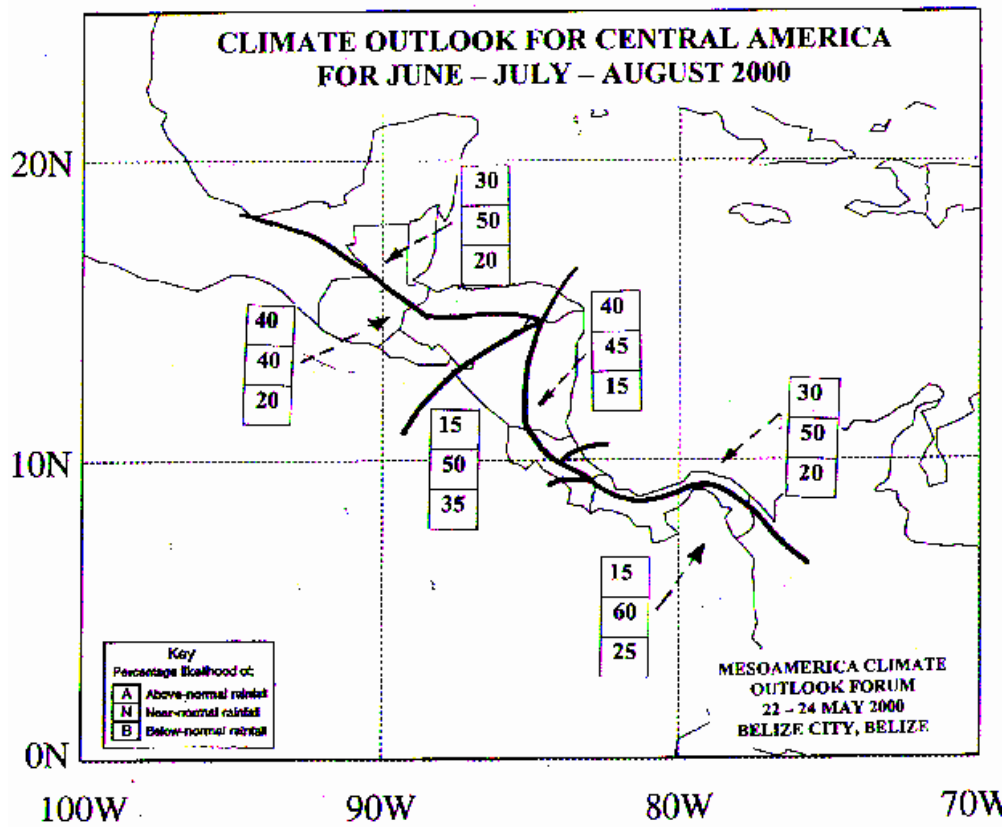
The precipitation outlook for the period June-July-August 2000 for the Central American region is given in Figure 1. Boundaries between the indicated subregions should be considered as climatic transition zones.

The seasonal precipitation outlook for June-July-August 2000 is that most of the Central American region will be around normal or even slightly above normal. The various probabilities for precipitation anomalies in the subregions of Central America reflect the importance of the mountains along the Isthmus as a modulator of rainfall. Along the southern side of the mountains in Panama, there is a high probability that precipitation will be in the normal range. In the Pacific region of Nicaragua and northern Costa Rica, summer 2000 precipitation is likely to be normal-to- below normal.

In addition, the weak La Niña to neutral conditions also favor above-normal Atlantic hurricane activity which increases the probability that Central America could be impacted, especially during the active portion of the hurricane season (August – October). Hurricane activity in the Pacific was not specifically addressed.

WARNING

The outlook is a general statement of the most probable behavior of the regional climate generated by various methodologies and the analysis of a series of tools. It is intended to complement national forecasting activities. Potential users should contact their national organizations that are tasked with making national climate predictions to receive more specific guidance on how to interpret available information. Due to its large-scale and experimental nature, local rainfall patterns may vary significantly from probabilities expressed in the outlook. Decision-making at the national or local level should take this into account.



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