



## **XIX Climate Forum of Central America 2006 (II FCCA-2006) San Jose, Costa Rica, July 27- 28, 2006**

Upon the kind invitation of the Instituto Meteorologico Nacional of Costa Rica, and with the support of the Meso-American Cooperation Program, sponsored by the Government of Mexico, the **XIX Climate Forum of Central America (II FCCA-2006)** was held in the city of San José.

The forum reviewed and analyzed the oceanic and atmospheric conditions over the last few months, the forecasts from global models and their implications on temperature and rainfall patterns in Central America, as well as the nationwide analyses presented by each Weather Service from the region, and by consensus agreed to the following ***Climate Outlook for the quarter of August-October 2006 in Central America.***

### **The FCCA considering:**

- The evolution of anomalies (deviation from the normal) in sea surface temperature (SST); of the Equatorial Pacific and Tropical Eastern Atlantic Oceans;
- The sea surface temperature forecasts for those oceans for forthcoming months;
- The overall atmospheric circulation predictions of several models;
- The historical rainfall records for years analogous to 2006 (see Annex 1);
- The rainfall scenarios, using contingency table analyses, for the August - October 2006 quarter, based on the Northern Tropical Atlantic and the El Niño 3 (School of Physics - CIGEFI/UCR); and
- The 2006 hurricane season forecasts.

### **Recalling that:**

- Most Eastern Tropical Pacific sea surface temperature global forecast models concur in forecasting temperatures close to normal (neutral conditions) for the next few months;
- Above-normal surface temperatures prevalent in the Northern Tropical Atlantic Ocean are expected to continue over the next few months, but not as strong as those observed in 2005;
- Hurricane season forecasts in the Atlantic Ocean predict more activity than normal;
- In the analogous years considered, at least two tropical cyclonic systems affected Central America during the August-October quarter;
- Studies of sea level surface temperatures in analogous years show below normal pressures in the Northern Tropical Atlantic and the Gulf of Mexico; and
- The prevailing wind direction in the lower Equatorial stratosphere (between 20 and 25 Km.) will be from the west, favoring a more intense hurricane season and rainier conditions in northern Central America.

The Forum estimated the probability that cumulative rainfall from August through October 2006 be above normal (A), within the normal range (N), or below normal (B).

Zones in Central America with a similar probability that rains fit within any of these categories are indicated by colors on the attached map. Probabilities for each zone are indicated in the following table:

<b>% Probability</b>	<b>Category</b>
	Above Normal (A)
	Within Normal (N)
	Below Normal (B)

## **MAP**

### **Green Zone**

**A greater probability that cumulative rainfall for the August-October 2006 period is above normal (AN) includes:**

Most of Belize, except the Corozal District and the western portion of the Orange Walk District (on the Mexican border), southeastern El Petén, Izabal, the Verapaces, the eastern border, the Central Plateau and southern coast of Guatemala; western El Salvador; the Caribbean coast, the northern inland, western and northeastern zones of Honduras; the Costa Rican province of Guanacaste; and the central provinces and eastern part of Panama.

### **Gray Zone**

**A greater probability that cumulative rainfall for the August-October 2006 period ranges between normal and rainy (N-AN) includes:**

Central, northwestern and southwestern El Petén in Guatemala; central, southern, southeastern zones and the Mosquitia region in Honduras; central and eastern El Salvador; Pacific region and the North Atlantic Autonomous Region in Nicaragua; northern section of the Province of Puntarenas, Central Valley, Central Pacific and South Pacific regions of Costa Rica; and the Western Pacific region (Provinces of Chiriquí, and central and southern Veraguas) in Panama.

### **Yellow Zone**

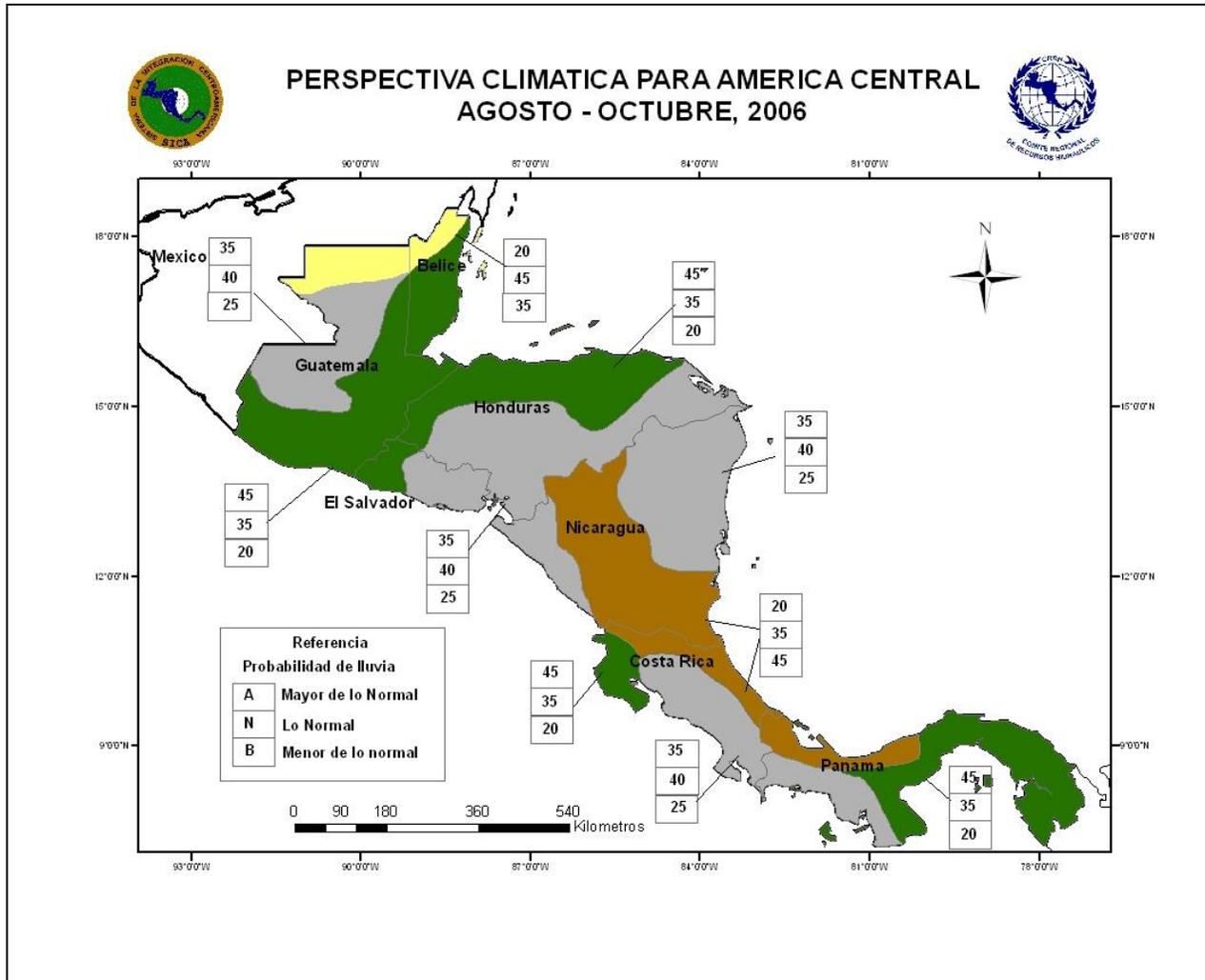
**A greater probability that cumulative rainfall for the August-October 2006 period ranges between normal and dry (N-BN), includes:**

The Corozal and Orange Walk districts of Belize, and the northern part of El Petén in Guatemala,

### **Maroon Zone**

**A greater probability that cumulative rainfall for the August-October 2006 period is below normal (BN), includes:**

The northern and central regions and the South Atlantic Autonomous Region in Nicaragua; the northern plains and lowlands in the Caribbean region of Costa Rica; Western Caribbean (Bocas del Toro, northern Veraguas, down-coast from Colón and northwestern portion of the Canal basin) in Panama.



## Country-specific Considerations

### Belize

For August, September and October, cumulative rainfall throughout the country is more likely to be above normal, tending to normal over the north-western region.

Although unlikely in August, a mid-season summer would be very short, particularly in the central and southern part of the country.

One or two tropical cyclones may probably cross the northwestern Caribbean in September and October, threatening mainland Central America, including Belize.

### Honduras

The mid-season summer in the first half of August could be moderate in the southern and central areas and weak in the western area.

Rainfall in August is expected to be above normal in the south and central areas, within normal in the northern inland, Caribbean coast, western and eastern inland areas; and below normal in the Caribbean plains.

Cumulative rainfall in September is expected to be above normal in the western zone, normal in the central eastern region, south, northern inland and Caribbean plains, and below normal in the western portion of the Caribbean coastline.

In October, rains could be above normal in the northern inland region and the Caribbean coastline, and normal in the eastern inland, west, south and central zones, and Caribbean plains.

The end of the rainy season is expected to be normal in the southern and central areas, but later in the western and eastern inland regions. The northern inland and Caribbean coastal areas are not included because the rainfall regime there is continuous.

### **Guatemala:**

A mid-season summer is expected in the first half of August, more clearly defined in inland valleys or in shallow soils.

The end of the rainy season in the southern coast, central and highland regions is expected to be normal to slightly early.

Cold fronts will probably begin to be felt in the second half of October.

### **El Salvador:**

A 5- to 10-day dry period is expected at the end of August. A stormy period will probably occur in the first half of September over the coastal, central and western zones, and the rainy season will end 5 to 10 days earlier along the coastline and the eastern zone, but in the last half of October in the rest of the country, as usual. North winds may begin to pick up in late October.

### **Nicaragua**

Precipitation is expected to range from normal to above normal in the Western Pacific, the central and south pacific coastal areas, and the North Atlantic Autonomous Region (RAAN), but from below normal to normal in the north and central regions and the South Atlantic Autonomous Region (RAAS).

For the August-October quarter, September shows the highest cumulative rainfall in the Pacific, North and Central regions.

In September and October, the country is more likely to be affected directly or indirectly by tropical cyclones.

The transition to the rainy season is expected to begin in late October throughout the country, except in the RAAN.

### **Costa Rica:**

Analogous years indicate that a mid-season summer is very likely in August, particularly in the north Pacific, Central Valley and the General Valley (South Pacific). Weather conditions in August will be especially drier in the north and rainier in the central Pacific.

As usual, September and October will be the driest months in the Caribbean region, yet the rainiest in the Pacific region and the Central Valley. However, there are some indications that September will probably be rainier, not only due to more intense Monsoon circulations but also due to rainstorms associated to a tropical cyclone in the Caribbean Sea.

The rainfall deficit estimated for the North Zone and the Caribbean region specifically refers to coastal plains and lowlands, and normal conditions are expected over the mountain range.

The rainy season will not end within the forecast period.

### **Panama:**

Rainfall distribution is expected to be as follows:

In the Western Caribbean (Bocas del Toro, northern Veraguas, west of Colón and the north-western portion of the Canal basin) values below normal in August and September, but above normal in October;

In the western part of the Pacific watershed (Chiriquí Province, central and southern Veraguas) values within normal in August and September, but above normal in October;

In eastern Azuero, Panama and Darién, values above normal in September and October, and normal in August;

The end of the rainy season is expected to occur around the first week of December in most of the country, and the second week of December in the Province of Panama and Darién. This could range about five days.

Environmental temperature is expected to be slightly above normal.

### **NOTES:**

The **Climate Outlook for Central America** is an estimate of the possible quarterly behavior of rains, developed with statistical tools, comparisons with analogous years, and analyses of global and regional model outputs, which attempts to supplement the forecast activities carried out by each individual country of the isthmus.

The Outlook does not consider specific extreme and short-term events. The map shows probability scenarios of the mean conditions for that quarter, and does not refer to conditions in any individual month.

With such a broad scale, the behavior of rains in areas with microclimates may show variations as compared to the description presented in the "Outlook." Therefore, national or local decisions based on this Outlook should take these unique conditions into account.

For further information, please contact the local weather forecast institutions in each country. Annex II contains a list of contacts. Additional information about the Climate Outlook by country is available at the following sites:

- [www.aguayclima.com/clima/foroclimatico](http://www.aguayclima.com/clima/foroclimatico)
- [www.insivumeh.gob.gt](http://www.insivumeh.gob.gt)
- [www.cengicana.org](http://www.cengicana.org)
- [www.hydromet.gov.bz](http://www.hydromet.gov.bz)
- [www.snet.gob.sv](http://www.snet.gob.sv)
- [www.flexpma.com](http://www.flexpma.com)
- [www.imn.ac.cr](http://www.imn.ac.cr)
- [www.etsa.com.pa](http://www.etsa.com.pa)
- [www.hidromet.com.pa](http://www.hidromet.com.pa)
- [www.ineter.gob.ni](http://www.ineter.gob.ni)
- [www.smn.gob.hn](http://www.smn.gob.hn)

**The next *Climate Outlook for Central America* will be issued in November 2006.**

## Annex I

**Analogous Years considered for the analysis:** 1961, 1986, 1996, 1999, and 2001

## Annex II

### LIST OF CONTACTS BY COUNTRY

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The **FCAC** is a working group coordinated by the Comité Regional de Recursos Hidráulicos del Istmo Centroamericano (CRRH) (Regional Water Resource Committee of the Central American Isthmus) that brings together experts in meteorology, climatology and hydrology from the National Hydrological and Meteorological Services, universities, and private enterprise of the Central American region.

As part of the Central American Integration System (SICA), **CRRH** is responsible for coordinating activities in meteorology, climatology, climate change, hydrology and integrated water resource management in all seven Central American countries.