

## 8. Physical Geography

### 8.1 Climate

Although Honduras is located well within the tropics (most of the country lies at elevations of 2-7,000 ft.), temperatures are moderate rather than hot, except in coastal lowlands. On the north coast and in the area around Gracias a Dios, a tropical climate prevails below 2,000 ft. Mean annual temperatures vary between 79° and 82°F (85°-90°F during day, 70°-75°F at night). The narrower Pacific coast is tropical below 1500 ft. Temperate climate characterizes the highland areas (2,500-7,000 ft.) and intermontane basins. There, the mean annual temperature range is 67°-74°F, with daytime highs 75°-80°F, up to 90° in April or May. Nights may be as cool as 45°-50°F in winter.

Rainfall averages 60-100 inches annually, most of it falling from mid-April through October. The "winter" dry season lasts from November to April. Rainfall is higher on the north coast and northern mountain slopes (70-100 inches yearly) than on the south coast and slopes facing it (60-80 inches). An abnormally short rainy season means disastrous drought in the south and west but hurricanes have caused extensive damage and flooding on the northern coast, notably Francella in 1969 and Fifi in 1974.

#### Regional Rainfall

North: Total of 3000 mm. (120"); average of 100 mm. (4") per month in driest months, March, April, May; 250-400 mm. per month June through January.

Interior: Total of 900-1800 mm. (36-70"); 0-50 mm. between December and April.

South Coast: Total of 1700 mm. (68"), with longer dry period beginning in November.

#### Temperatures

Tropical zone (below 600m) - average mean is about 26°C.

Temperate zone (600-2100m) - mean temperatures range from 16°C-24°C.

Temperatures at Selected Stations

	Tegucigalpa		Amapala		Tela		Puerto Lempira	
	<u>Month</u>	<u>°C</u>	<u>Month</u>	<u>°C</u>	<u>Month</u>	<u>°C</u>	<u>Month</u>	<u>°C</u>
Average		19-5		27-9		26-0		27-6
Maximum	Mar	34-0	Apr	38-3	Mar	34-4	Mar	35-0
Minimum	Feb	6-7	Dec	20-0	Mar	12-3	Dec	17-8
Max mid-day	Apr	23-0	Apr	29-4	Jun	28-1	Aug	28-7
Min mid-day	Jan	18-8	Oct	26-8	Jan	23-2	Jan	26-3
Relative Humidity		%		%		%		%
Average		72		74		84		77
Max daily	Jan	87	Apr	92	Jan	99	Jun	96
Min daily	Apr	54	Apr	50	May	71	Mar	56

Source: Caribbean Year Book 1979/80.

## 8.2 Land Forms

Area: 43,277 sq. mi., or about the size of Tennessee. Bounded on the northwest by Guatemala, on the southwest by El Salvador and the Gulf of Fonseca (Pacific), and on the north and east by the Caribbean Sea; on the south and southeast the Segovia river (also known as Coco or Wanks) forms greater part of border with Nicaragua. Offshore territories include: the Islas de la Bahía (Roatan, Guanaja, Utila) 40 miles off Caribbean coast; and the Swan Islands (Great Swan and Little Swan) 97 mi off the same coast; Pacific Islands, all in Gulf of Fonseca, are Tigre, Grand Zacate, and Gueguensí.

Over 80% of the land is mountainous. The Central American Cordillera extends across the northeast, roughly paralleling the coast. The newer Volcanic Highlands rise in the south. The only level arable land between the two mountain systems lies in river valleys 2-7 miles wide. This series of valleys, drained by the Ulua-Humuya river system in the north and the Choluteca in the south, extends across the country, providing the only easy transport routes.

Both coastal plains are swampy and mangrove forested along seaward margins, with tropical woodlands further inland. Northern lowlands extend about 75 miles inland, gradually rising into mountains; in the south, the coastal plain is about 25 miles wide and mountains rise more abruptly.

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<u>Coordinates</u>		
<u>Location</u>	<u>°N</u>	<u>°W</u>
Agua Salada	14 02	87 12
Choluteca	13 18	87 12
Comayagua	14 25	87 37
Comayagua	15 38	88 17
Comayaguela	14 05	87 13
Copan (department)	14 50	89 00
Cortes (department)	15 30	88 00
El Ojo de Agua	14 03	86 53
El Paraiso (department)	14 10	86 30
El Socorro	14 12	87 50
El Zamorano	14 00	87 02
Gracias a Dios (department)	15 10	84 20
Gualaco	15 06	86 07
Guanaja	16 27	85 54
Intibuca (department)	14 20	88 15
Islas de la Bahia (department)	16 20	86 30
Islas de la Bahia (islands)	16 20	86 30
Jimilte	14 34	88 52
La Ceiba	15 47	86 50
La Lima	15 24	87 56
La Paz (department)	14 15	87 50
Lempira (department)	14 20	88 40
Ocotepeque (department)	14 30	89 00
Olancho (department)	14 45	86 00
Rio Aguan (stream)	15 57	85 44
Rio Leon (stream)	15 47	87 20
San Marcos de Colon	13 26	86 48
San Pedro Sula	15 27	88 02
Santa Rosa de Copan	14 47	88 46
Siguatopeque	14 32	87 49
Tegucigalpa	14 06	87 13
Tocoa	15 41	86 03
Trujillo	15 55	86 00
Valle (department)	15 15	87 15
Valle del Aguan (valley)	15 28	86 36
Valle de Leon (valley)	15 46	87 16
Yoro (department)	15 15	87 15

### 8.3 Land Use

According to a 1979 CONSUPLANE (Council for Economic Planning) estimate, there were 2.8 million hectares of farmland: 48% used for pasture, 18% for seasonal crops, 8% for permanent crops, and 26% lying fallow. It is estimated that only 28% of land potentially usable for annual crops and 18% of that suitable for perennial crops is actually used for those purposes. Roughly two-thirds of the land area, about 7 million ha., are now forested or potentially best used as forest. 2.7 million ha. are coniferous forest, about 4 million ha. are broadleaf, and 0.3 million ha. are mangoes and swamps. (See also Overview of Agriculture, Section 7.1.)

#### Land Availability and Utilization: 1975-1977

	<u>Area</u>	
	<u>'000 ha.</u>	<u>%</u>
Farmland (including potential farmland)		
Cultivated land		
Seasonal crops	505.2	4.5
Permanent crops	<u>214.4</u>	<u>1.9</u>
Sub-total	719.6	6.4
Pastures	<u>1,049.5</u>	<u>9.4</u>
Sub-total	1,769.1	15.8
Uncultivated land		
Grassland	289.9	2.6
Cultivable land	<u>741.0</u>	<u>6.6</u>
Sub-total	1,030.9	9.2
Sub-total for farmland	2,800.0	25.2
Forest and uncultivable land		
Tropical hardwoods	3,920.0	35.0
Pines	<u>2,700.0</u>	<u>24.0</u>
Sub-total for forest	6,620.0	59.0
Eroded and other land (including swamps and urban areas)	1,788.8	16.0
Sub-total	8,408.0	75.0
Total National Area	11,208.8	100.0

Source: CONSUPLANE as cited in World Bank, Second Agricultural Credit Project: Honduras, March 1980.

#### 8.4 Rivers

River traffic is only important for access to agricultural areas along the Ulua and the Aguan and their tributaries in the north, and along the Choluteca in the south. The 300 mile long Rio Segovia system is navigable for 200 miles. (Flota Mercante Gran Centroamericana, a joint Guatemala-Honduran operation, serviced the country in 1970.)

Major rivers in the Caribbean watershed are (west to east): Chamelecon, Ulua, Aguan, Sico, Paulaya, Platano, Sire, Patuca, Segovia.

Major rivers of the Pacific watershed (west to east): Tempa, Sumpul, Goascoran, Nacaome, Choluteca.

The northern coastline is 450 miles long, that on the south 90 miles.

#### 8.5 Mountains

Steep, rugged landforms are typical. Elevations range from 2,400 m. in the north to 3,000 m. in the west. Slopes under 20% are restricted to larger river valleys (Sulu, Aguan), the Nacaome-Choluteca plain in the south, and the Guayape valley in the central zone. There are two distinct series of mountain ranges: in the north, the Central American Cordillera extends from the Guatemalan border in the west to the Platano river in the east. Component ranges trend ENE-WSW, and run parallel to the north coast and to each other. Bay Islands are summits of the undersea range of the Cordillera.

In the south, the Volcanic Highlands, which have no recognizable trend, run from the El Salvador border to the Nicaraguan border. They are newer and, on the average, higher than the Cordillera. (Highest peaks in Honduras are west of Lake Yojoa, 9,300', and southwest of Gracias, capital of Lempira Department, 9,400'.) The most recent volcanic eruption occurred in 1854.

#### 8.6 Volcanism

No activity within the last century. Many sources refer to Honduras as the only Central American country with no volcanoes.

### 8.7 Selsmicity

Though no major earthquakes have been recorded in the country, the Nicaraguan Rift Valley extends across the coastal plain and the Gulf of Fonseca into central Guatemala. Francisco Morazan, Valle, La Paz, Intibuca, Ocotepeque, Copan, Santa Barbara, Cortez, Comayagua, and Yoro departments are considered earthquake zones. Tremors have been recorded in Tegucigalpa and Comayagua (1899, 1915, 1976), Santa Rosa de Copan, Gracias, Marcala, Talanga (1915), and the Western departments and Cortez (1976).