## **Guatemala Country Handbook**

1. This handbook provides basic reference information on Guatemala, including its geography, history, government, military forces, and communications and transportation networks. This information is intended to familiarize military personnel with local customs and area knowledge to assist them during their assignment to Guatemala.

2. This product is published under the auspices of the U.S. Department of Defense Intelligence Production Program (DoDIPP) with the Marine Corps Intelligence Activity designated as the community coordinator for the Country Handbook Program. This product reflects the coordinated U.S. Defense Intelligence Community position on Guatemala.

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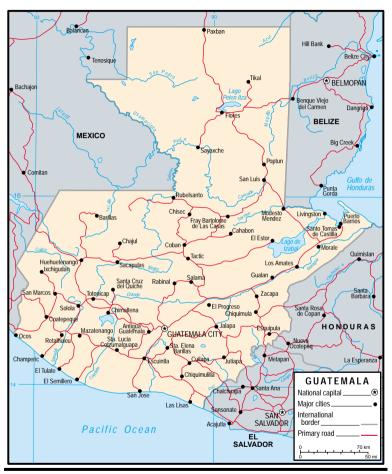
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#### Guatemala

# **KEY FACTS**

Country Name. Guatemala

Official Name. Republic of Guatemala (Republica de Guatemala)

Head of State. President Alfonso Antonio Portillo Cabrera

Capital. Guatemala City

**National Flag.** The national flag has one white vertical stripe between two blue vertical stripes, with the coat of arms centered on the white band. The coat of arms includes a green and red quetzal (the national bird) and a scroll bearing the inscription, "*Libertad 15 de Septiembre de 1821*," all superimposed over a pair of crossed rifles and crossed swords, and framed by a wreath.

Time Zone. UTC (formerly GMT) – 6 Hours

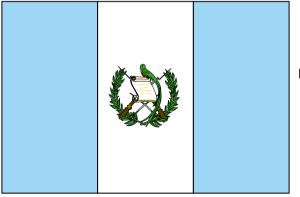
**Telephone Country Code.** 502

Population. 13,314,100 (2002)

Languages. Spanish 60 percent, Amerindian languages 40 percent

Currency. Quetzal (GTQ)

Exchange Rate. US\$1=8.15 quetzal; 1 quetzal=US\$0.12276 (June 2003)



National Flag

# **U.S. MISSION**

#### U.S. Embassy

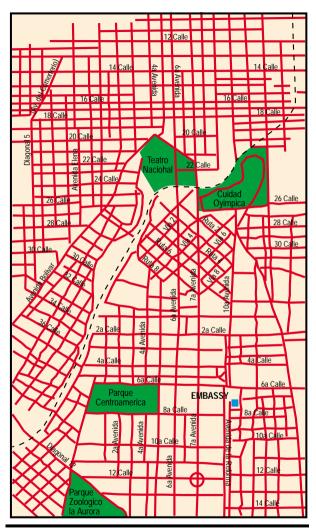
Location	Avenida de la Reforma 7-01
	Zone 10, Guatemala City
Mailing Address	U.S. Military Group (MILGRP)
	Avenida Reforma 7-45
	Zone 10, next to U.S. Embassy Chancery
Embassy Telephone	502-2-311541
Consular Telephone	502-2-311541
FAX	502-2-318885
E-Mail	AmCitsGuatemala@state.gov
Hours	0730-1700, M-Th, 0730-1200 Friday

#### **Travel Advisories**

Intercity travel anywhere in Guatemala after sunset is dangerous. Travelers have been robbed, abducted, and murdered. Bandits often shoot at travelers who try to avoid roadblocks. Antigua reports an increase in armed robbery and rape, and Cerro de la Cruz Park reports machete attacks, rapes, stabbings, and robberies of tourists, which have precipitated the deployment of special tourist police.

Violent criminal activity has been a problem in Guatemala for years. The police force is young, inexperienced, and under-funded, and the judicial system is weak, over-taxed and inefficient. Criminals, armed with a wide variety of weapons, know that there is little chance they will be caught and punished for their crimes.

The U.S. State Department issued an open warning 2 April 2003 to alert U.S. citizens to the possibility of civil disturbances and blockades throughout Guatemala. Roadblocks and demonstrations frequently appear with little or no notice. In June 2002, armed former members of



**Guatemala City** 

the Guatemalan civil defense patrol blocked all major roads in the Peten region, to include the airport in Flores, and detained some tourists. Demonstrations throughout Guatemala may impede the ability to move freely within the country. A successful teacher's strike in February 2003 that blockaded international airports and most major highways into Guatemala may encourage other groups to employ these methods. During presidential elections, protest activities can be anticipated throughout the region. Most demonstrations in Guatemala have been peaceful, but increasing numbers are turning violent. Travelers should avoid areas where demonstrations are taking place. U.S. citizens visiting Guatemala should monitor local media reports or check with the Consular section of the U.S. Embassy for updated security information.

## Passport/Visa Requirements

U.S. citizens must have a valid passport to travel to Guatemala. Visas, required for stays more than 3 months, are available at any Guatemalan diplomatic office in the United States, and can be extended upon formal application. An exit tax of US\$30 must be paid upon departure from Guatemala. Visas can be obtained in country.

### Immunization Requirements

Prior to deployment, vaccinations for cholera, yellow fever, malaria, and dengue fever should be received; gamma globulin shots are also highly recommended.

### **Customs Restrictions**

The following items may be imported duty-free for personal use: camera (no film); cigarette lighter; hygienic, medical, and sports equipment; and 100 grams of tobacco. Restrictions to exports include illegal drugs, firearms or explosives, and indigenous plants or animals that have not been cleared through Guatemalan customs.

# **GEOGRAPHY AND CLIMATE**

## Geography

Guatemala is located in Central America. It shares its northern border with Mexico, its eastern border with Belize and Honduras, and its southern border with El Salvador. Its western coast borders the Pacific, and it has a much shorter northeastern Caribbean coastline.

With 108,890 square kilometers of territory, Guatemala is slightly larger than the state of Tennessee. Its major cities are Guatemala City (capital), Quetzaltenango, Escuintla, Livingston, and Puerto Barrios.



**Central America** 

## **Border Disputes**

Guatemala has a history of border disputes with Mexico and Belize. The dispute with Mexico is a consequence of the rugged jungle terrain, resulting in a poorly delineated border in many places. The dispute is old and not vigorously pursued by either country, but the increasing amount of drug traffic originating in Guatemala and passing through Mexico has increased the strain on relations between the two nations as well as crime and terrorism in both countries. It has also fostered an environment that gives the two nations reason to cooperate in reducing the drug flow threat. The border dispute with Belize was suspended in 2002 through the establishment of a line of adjacency, which prevented Guatemalan squatters from encroaching into Belizean territory. This border dispute continues to provoke strong, nationalist sentiment in Guatemala.

#### Boundaries

Guatemala's topography is divided into four general regions: the central-western highlands, the southern volcanic regions of the Sierra Madre, tropical coastal lowlands, and the low northern plateau, which is predominantly jungle. Guatemala is situated in an active seismic zone, which has contributed to the country's mountainous terrain. The most recent large-scale earthquake was in 1976; it was one of the strongest ever recorded in the Western Hemisphere. Thousands of people were killed and millions of dollars in property was damaged.

**Central Western Highlands.** Although the Pacific Coast lacks natural harbors, it has shallow, offshore waters, long stretches of black sand beaches, and mangrove lagoons extending inland. The coastal plain is predominantly savanna interspersed with forest that lines the rivers flowing from the highlands. Inland, tropical forest covers the foothills and lower slopes of the highlands. The region's well-drained and fertile soils are composed of volcanic ash and sediment. Slopes in the area are gentle to moderate. Farther inland, the plain area steepens (from 600 to 2,000 meters above sea level) as it approaches the highlands. Most of

the nation's coffee is grown in this region, as the rich, volcanic soil, heavy rainfall, and abundance of shade trees provide ideal conditions.

**Southern Volcanic Region**. The dominant mountain range, the Sierra Madre, includes 14 major volcanoes, some of which are active. Several rivers flowing from the Sierra Madre to the Pacific are navigable only for short distances, but have considerable hydroelectric potential. The two major lakes in the range are Lago de Atitlan and Lago Amatitlan.



Topography

**Tropical Coastal Lowlands.** Guatemala's coast along the Gulf of Honduras (northeast) is flat and open. A tropical rain forest of broadleaf evergreens covers much of the area, except where citrus plantations have been established. Three valley corridors, separated by mountain ranges, extend inland from the coast, linking the coast with parts of the interior. Lago de Izabel drains toward the sea and into the Bahia de Amatique.

**Northern Plateau**. Once the center of the ancient Mayan and Olmec civilizations, the Peten region comprises one-third of Guatemala, extends into the Yucatan peninsula, and continues into southeastern Mexico. This rolling limestone plateau is between 150 and 225 meters (492 and 738 feet) above sea level, covered with tropical rain forest, and interspersed with wide savannas. While the soil's extreme porosity enables underground drainage, there are numerous small lakes that overflow during heavy rains. On Guatemala's northwestern border, the Rio



Puerto Cortes

Salinas flows into the Rio Usmacinta, and together the two define the border between Guatemala and Mexico.

## Cross Country Movement

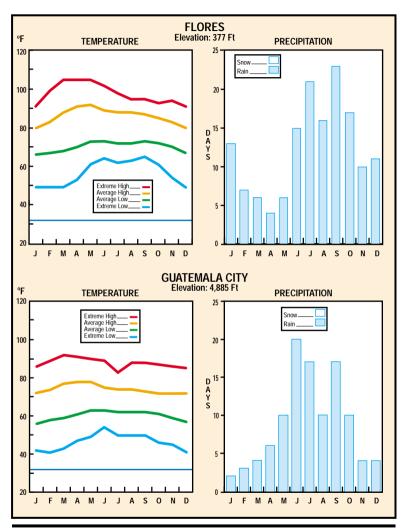
Primarily a rural nation, the internal road structure of Guatemala varies in condition, from poor, unimproved dirt roads, to the modern, paved roads seen in the major cities. Overland travel in the Peten region is difficult and dangerous; Tecun Uman, the principal transit point between Guatemala and Mexico, is a center of criminal activity. The recommended route to another popular tourist destination, Lake Atitlan, is the Pan-American Highway through Solola.

## Environment

Guatemala remains predominantly an agrarian society. Farming is the major economic activity, with forestry and mining close behind. The Pacific coastal lands have the best soils and constitute the bulk of land suitable for farming. The soil in the Peten tends to erode quickly, while highland soils are better protected because of coffee cultivation. Guatemala's most critical environmental problems are deforestation and concurrent soil erosion. More than 50 percent of the nation's forests have been destroyed since 1890. By 1993, 90 percent of Guatemala's energy usage was derived from wood. The national water supply is suffering from pollution by industrial and agricultural toxins.

# Climate

Guatemala's climate is directly related to its altitude and proximity to the coasts. The *tierra caliente* (hot country) extends from sea level to 750 meters (2,460 feet) above sea level, with day temperatures averaging between 29°C and 32°C (84°F and 90°F). The *tierra templada* (temperate country) extends from 750 to 1,660 meters (2,460 to 5,445 feet) above sea level, where day temperatures average from 24°C to 26°C (75°F to 79°F), and night temperatures average from 15.5°C to 21°C (60°F to 70°F). The *tierra fria* (cold country) extends above the 1,660-



Flores and Guatemala City Weather

meter (5,445-foot) level and carries day temperatures as high as  $26^{\circ}$ C (79°F) and night averages of 10°C (50°F). Because the temperature around the capital and in the highlands tends to hover in the low 70°s F year-round, Guatemala has been called the land of eternal spring.

Guatemala's prevailing, rain-bearing, northeast winds (trades) blow inland from the Caribbean and cause year-round humid conditions in the northern lowlands (the Peten, parts of the Highlands, and the Caribbean coast). The remaining countryside has a distinct dry season from November through April, except for a strip at the base of the Pacific slope between 1,000 and 1,600 meters (3,280 to 5,248 feet) above sea level; the area rainfall pattern is similar to that of the Caribbean coast. The dry season is called *verano* (summer) and the wet season *invierno* (winter). Rainfall is especially heavy along the Pacific coast, averaging 250 centimeters (98 inches) annually, whereas the Caribbean coastline maintains tropical humidity year-round.



Disaster Relief in the Aftermath of Hurricane Mitch

#### Phenomena

There are numerous volcanoes and frequent earthquakes. Guatemala has 33 active volcanoes, which periodically cause disruption. In January 2000, Guatemala City airport was closed for 5 hours following the eruption of Mount Pacaya, and in mid-2000, the National Commission for the Reduction of Disasters issued a yellow alert covering 22 towns following warnings of the possible eruption of the Fuego Volcano, 20 miles southeast of Guatemala City.

Hurricane Mitch destroyed 60 percent of the road network and 98 bridges in early November 1998.

# TRANSPORTATION AND COMMUNICATION

#### Transportation

Guatemala has rugged, heavily jungled terrain. As a result, its transportation and communications infrastructure is limited to the most frequently traveled portions of the nation - the capital, ports, and the western (Pacific) coast. Interior roads vary in quality, and may be adversely affected by weather or natural disasters. A small percentage of roads are paved or improved in some manner. There are few navigable waterways. Guatemala does have a well-developed internal air network.

### Roads

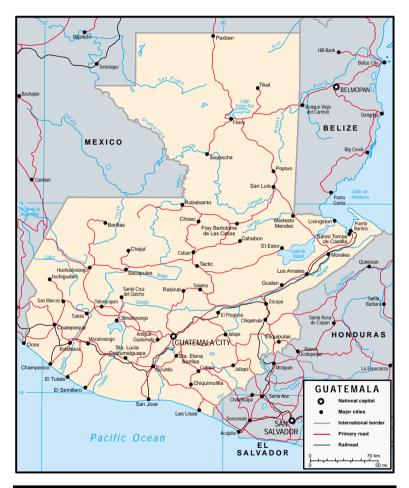
Guatemala has a road network of 31,100 kilometers (18,660 miles) that is unevenly distributed within the country, and of which only 3,616 kilometers is paved, including 140 kilometers of expressways. The only good roads are in the areas around Guatemala City, connections between the major cities, the Pan-American Highway, and the Inter-Ocean Highway, which connects the Atlantic and Pacific coasts. Hurricane Mitch destroyed 60 percent of the road network and 98 bridges in November 1998. Most of the damage has been repaired, and

Guatemala has received several grants to improve its road network. In most areas, roads vary from two-lane, gravel-topped hardtop to singlelane dirt roads. During the dry season, most unpaved roads are passable, though dusty and rough. In the rainy season, mountain roads are treacherous due to poor markings, frequent landslides, and washouts.

The 518-kilometer (321-mile) Pan-American Highway links Mexico and Guatemala City. In 1981, construction of 500 kilometers (310 miles) of new highways began, including a four-lane highway from the capital to Escuintla. In 1990, a loan from the World Bank funded improvements to the secondary road network. In 1997, the World Bank approved a US\$67 million loan to Guatemala to help improve the rural road systems and strengthen the country's institutional capacity to maintain and regulate roads. The project's aim was to improve transportation on main trade corridors and roads in areas with significant agricultural development potential, such as San Marcos and Huehuetenango. In November 1999, the Inter-American Development Bank approved a US\$150 million program to help fund further reconstruction and maintenance efforts on Guatemala's highways and rural roads.

#### Rail

The national rail authority (FEGUA-*Ferrocarriles de Guatemala*) operates 884 kilometers (549 miles) of narrow-gauge track, which runs parallel to the three major highways. There is also a small private network, Bandequa Railway, which has 102 kilometers (63 miles) of line, and operates 11 diesel locomotives, 17 railcars, 7 passenger cars, and 101 freight wagons. Plans to create a 28-kilometer (17-mile) commuter line in Guatemala City have recently been considered by FEGUA. The plan would involve constructing a 10–kilometer (6.2-mile) cross-town link between existing sections of the railway. Guatemala's network of 1,067millimeter-gauge line links with the Mexican system and with the El Salvadorian network. Guatemala's rail system, though not currently operating at peak efficiency, is important to Guatemalan economy. The railroad links the country's interior with the Atlantic and Pacific Oceans. These are the main routes by which its principal exports of coffee, bananas and sugar can be transported to markets.



**Transportation Network** 

Air

Guatemala has a well-developed air transport system. Of the 465 usable airfields, 11 are permanent, all-weather runways. The main airfields are La Aurora International (Guatemala City) and Santa Elena International. Government-owned Aviateca/Aerolineas de Guatemala has five Boeing 737-200s.

#### **Primary Airfields**

Name/	Elevation	Length/width	
Coordinates	m (ft)	m (ft)	Comments
Tikal International	128	3,000/45	Load classification number
165449N/0895154W	(420)	(9,840/148)	(LCN) 65
			Joint (Civil and Military)
Poptun	550	2,756/56	LCN 39
161933N/0892501W	(1,804)	(9,042/185)	Few facilities
La Polvora	201	1,600/18	LCN 39
170043N/0904639W	(660)	(5,249/60)	Few facilities
Pendeco	75	1,830/28	LCN 39
173159N/0904639W	(246)	(6,006/91)	Few facilities
La Aurora	1,509	2,987/60	LCN 70
143459N/0903139W	(4,952)	(9,800/196)	Joint (Civil and Military)
Puerto Barrios	10	2,730/35	LCN 72
154354N/0883507W	(33)	(8,956/115)	Joint (Civil and Military)
San Jose	14	2,008/43	LCN 59
135610N/0905009W	(46)	(6,587/141)	Joint (Civil and Military)
Chisec	230	1,367/28	LCN 39
154855N/0901628W	(755)	(4,485/93)	Few facilities
Santa Clara	12	1,113/40	LCN 39
135519N/0902205W	(39)	(3,650/130)	Few facilities
Extepeque Moynta	21	1,672/25	LCN 39
140802N/0912836W	(69)	(5,485/82)	Few facilities
Plata Grande	175	1,900/20	LCN 39
155951N/0904429W	(574)	(6,233/66)	Few facilities

### Maritime

#### Waterways

There are 260 kilometers (161 miles) of waterway that are navigable year-round, with an additional 730 kilometers (453 miles) during the rainy season. The Grande, which runs through the center of the nation, and the Negro in the west, are the most consistently navigable.

#### Ports

Guatemala has two major ports: Puerto Barrios on the Atlantic and Puerto Quetzal on the Pacific. In addition, there is a smaller port, Santo Tomas de Castilla, on the Atlantic.

**Puerto Barrios.** Located on the Atlantic coast, Puerto Barrios has one concrete pier more than 700 meters (2,296 feet) long, with a channel depth of 10 meters (32.8 feet). The southern wharf is 9.5 meters (31 feet) deep, while the northernmost wharf is 7.5 meters (25 feet) deep. The port has one 20-ton capable crane, 250 refrigerated container connections, a petroleum pipeline, and a roll-on/roll-off storage yard.

**Puerto Quetzal.** Located on the Pacific coast, Puerto Quetzal's principal wharf is 800 meters (2,624 feet) long with a depth of 11 meters (35 feet); its southern wharf is 170 meters (558 feet) long. It has three cranes with 16 to 18 ton capacity, 7,680 square kilometers (2,995 square miles) of covered storage, and open storage areas.

**Santo Tomas de Castilla.** The Atlantic coastal port of Santo Tomas de Castilla is government-operated and is the country's major container port. Its channel is 10 meters (32.8 feet) deep and its marginal-condition, 915 meter (3,001 feet) long wharf has an 8.8 meter (28.8 feet) deep channel. Assets include one 50-ton crane; two 35-ton cranes; one heavy-lift, 32-ton, rail-mounted crane; two 30-ton straddle carriers; and 3.46 hectares (8.5 acres) of open storage used for container marshaling). It also has a petroleum, oils, and lubricants (POL) pipeline manifold for transfer operations, and a nearby petroleum storage facility.

#### **Primary Ports**

	Cargo	Anchor Depth	Pier Depth	
Name/Coordinates	Capacity			Comments
Puerto Barrios 154403N/0883624W	20-ton crane	10	9.5	Berthing; Roll-on, roll-off capable
Puerto Quetzal	18-ton crane	11	10	Berthing;
135530N/0904630W				45,000 square meters
Santo Thomas	35- and 50-	7.3 - 10	10	of storage Berthing;
de Castilla	ton cranes			35,018 square meters
154140N/0883656W				of storage

### Communication

Communications technology in the capital region is far more advanced than in rural areas. The telephone, telegraph, and postal services are owned and operated by the government, but continuing liberalization of the economy is helping to privatize these services. The number of AM and FM stations is increasing, and privately-owned television sets are becoming more common. A similar increase in the number of telephone lines, along with the growing popularity of cellular and mobile phones, will also serve to modernize the nation.

## Radio and Television

There are 130 AM radio stations, 487 FM radio stations, and 26 television stations in Guatemala, with an estimated national audience of 600,000 radios and 1,325,000 television sets. Radio stations include five government and six educational stations. Two of the most significant are *La Voz de Guatemala* and Radio Cultural TGN. (The BBC World Service and Voice of America can be received). Other notable commercial stations include: *Emisoras Unidas de Guatemala*, Radio *Cinco Sesenta*, Radio Continental, Radio *Nuevo Mundo*, and Radio Panamericana.

The major commercial television stations are Channel 3 — Radio-Television Guatemala, Channel 5 — *Television Cultural y Educative; Tele Once; Televisiete*, and *Trecevision*.

### **Telecommunication**

There are 700,000 telephones in Guatemala, an average of 3.4 phone lines per 100 inhabitants, with more 200,000 lines available. There are more than 670,000 mobile, cellular phones in use as well. Local and domestic long-distance calls are inexpensive, but international direct calls are expensive. (AT&T, MCI, and Sprint offer direct-dial to the United States through a U.S. operator). Telqua, the state monopoly, has been sold to Daleen Technologies, while the Spanish consortium, Telefonica, has set up a rival network of fixed and mobile communications, with data transmission and information access. Telefonica Centroamerica Guatemala has spent US\$400,000 and created 3,000 jobs. The first stage of the program began with the creation of 500 jobs in a call center, a facility designed for those without long-distance telephone service in their homes. Telex facilities are available in the capital, and local telegrams can be sent from the central post office

## Internet

Public internet service began in November 1995, and has been growing at a rate of 30 percent per year; it is accessed 800,000 times a day by 65,000 internet users. There are five internet service providers in Guatemala, and several cyber cafes in the capital and in the major cities.

## Newspapers and Magazines

The major daily newspapers include the *Prensa Libre*, *La Hora*, *El Periodico*, and *Siglo Veintiuno*. Periodicals include *Infopress Centroamericana* (regional political/economic news) and *Panorama* (economic news). The press was once censored, but now operates relatively free from governmental interference. The *Guatemala Post* is a major English language newspaper, and is a daily publication.

### **Postal Services**

The postal service is slow and unreliable. A letter mailed from overseas can easily take a month or more to arrive at its destination in Guatemala. Airmail to the United States can take 10 to 14 days. Conditions may improve, however, as a private Canadian firm has taken over the internal system. Private American couriers, such as FedEx, are reliable.

## Satellites

Guatemala has access to one Atlantic Ocean INTELSAT satellite station, and connection to the Central American Microwave System. The Guatemalan Telecommunications Enterprise provides radio-telegraph and radio-telephone service, as well as INTELSAT business service and data communications for a packet switching network. American agencies such as NASA are assisting Guatemala with satellite coverage to help them to monitor their forestation programs. Geostationary environmental satellites also help monitor Guatemala's volcanic activity.

## CULTURE

### Statistics

Population:	13, 314,079 (July 2002 est)
$\overline{0}$ – 14 years:	41.8% (male 2,841,486; female, 2,725,343)
15 – 64 years:	54.5% (male 3,629,363; female, 3,630,273)
65 years and older:	3.7% (male 227,369, females, 260, 245)
Population growth rates	: 2.5%
Birth rate:	34.17 births/1,000 population
Death rate:	6.67 deaths/1,000 population
Infant mortality rate:	44.55 deaths/1,000 live births
Life expectancy at birth	:
Total population:	66.85 years
Female	69.66 years
Male	64.1 years

## Ethnic Groups

More than half of Guatemala's population is descendant from the Mayan Indian. Guatemala has by far the highest population percentage of Amerindians of any nation in Central America. Mestizos (Spanish and Indian parentage), also known as Ladinos, are the second largest ethnic group, followed by a smaller number of Black Caribes, descendants of black slaves who intermarried with Caribe Indians. One-quarter of the population lives in the capital's metropolitan area, though the majority of the Indian population still lives in the highlands. Many of the people who call themselves Indians have assimilated to urban life and speak predominantly Spanish.

The Ladinos are the most politically, socially, and economically dominant ethnic group. Ladino families generally live in urban areas or towns. The term 'Ladino' encompasses a varied ethnic mixture, ranging from those of European descent to those of Mayan descent who have adopted Ladino language and culture. Ladinos are Western in speech and dress, and reject Mayan lifestyles. The non-Ladino Mayans, on the other hand, speak a Mayan dialect, maintain the traditional lifestyles of their ancestors, and mainly inhabit the country's highlands.

## Society

### People

The extended family is the basis of Guatemalan society, and exerts significant influence over an individual. The father is the head of the family, but his wife controls the household, and is considered to be its heart. Family members are expected to share responsibilities and remain devoted to the family. Unmarried adults live with their parents, unless they must go elsewhere for work; adult children take care of elderly parents. In rural families, members often share a single home or family compound, and households may include grandparents and married sons and their families. While only the immediate family lives together in urban areas, grandparents are often included. Poverty is a serious problem in both urban and rural areas. The rural population often lives in adobe or bamboo dwellings with thatched or tin roofs, and they are often without running water or electricity. Poverty is highest in rural populations, and women are more likely than men to be poor. Much of the rural population suffers from malnutrition; the



Mayan Market

poor in Guatemala spend 70 percent of their income on basic foods that are often of low nutritional value.

Ladinos tend to value individual status and wealth, whereas the Mayan culture places more value on the good of the community. Consequently, the Mayans are viewed as socially inferior to the Ladinos, whose condescension toward the Mayan Indian is an attitude held over from the time of the Spanish conquest.

There is a marked difference between the employment opportunities offered to Ladinos and Mayans. Ladino women often work as secretaries, teachers, nurses, and in other skilled professions, while Mayan women are limited to selling produce, embroidering or weaving products for sale, and working in communal groups. Similarly, Mayan men work in the fields or perform other physical labor. Mayan men who have adopted Ladino culture may work in non-labor jobs, but are still restricted from many skilled professions due to lack of education, as well as cultural biases. Most skilled professions are reserved for Ladino men.

### **Education and Literacy Rates**

Provisions for health and social welfare are not of high quality, especially in the native Mayan communities. Education is nominally tuitionfree, but is not available in much of the country. Many Mayans do not speak Spanish, and the overall literacy rate, (60 percent), is poor. There are several thousand primary schools, yet more than half of school-aged children do not attend. Children often leave school because of family needs or because of inadequate instruction, supplies, or facilities. Moreover, in rural areas, many students do not speak Spanish, which is the language of instruction. For those able to attend, primary school lasts 5 years; after middle school, 3 years of secondary schooling (vocational training) is available. Those who want to attend a university must have college preparation, which is available only to the wealthy.

The adult literacy rate is 69 percent for men and 58 percent for women. For Mayan women, the rate is less than 20 percent. Only 40 percent of Mayans have access to formal schooling, compared to 75 percent of Ladinos. Girls in rural areas are the principal absentees in the education system since they often begin work in the home as young as 5 years of age. Women's education is not a priority in most Guatemalan families.

## Language

The primary language is Spanish, which is spoken by 60 percent of the population, and is the official language of the country. English is spoken in the capital city, particularly in service sectors such as the major hospitals. The Mayans speak their native language.

# Religion

Roman Catholicism is the dominant religion in Guatemala. Over the centuries, it has been combined with ancient Mayan rituals and beliefs among the Mayans in the highlands. The influence of Catholicism, however, is declining. During the past 20 years, many Guatemalans, especially the Mayan communities, have converted to various forms of Protestantism. Because the Protestant evangelical churches have had a significant impact, Protestants are collectively called evangelicos. An estimated 45 percent of the population is now Protestant, and tension exists between the Catholic Church and the Protestant denominations.

# Recreation

The most popular sports are soccer, basketball, and volleyball, and people often enjoy family outings to a beach or lake. *Cofradias* (religious fraternities devoted to a particular Catholic saint) offer a variety of recreational and leisure activities. Urban people enjoy television, but visiting is the most common leisure activity for Guatemalans.

## **Customs and Courtesies**

Occasions such as baptisms, first communions, the *Quincera* (a party to celebrate a girl's 15th birthday), and weddings are often celebrated with a family party. Gifts or flowers are customarily sent by those invited. At

social events, tardiness is expected. While an event may be scheduled to begin at a particular time, neither the organizer nor the invitees expect it to begin at that time, and events typically commence 1 or 2 hours later.

### Greetings

When meeting for the first time, people greet with a handshake and say "*mucho gusto*" (pleased to meet you). Among acquaintances, more common greetings are "*buenos dias*" (good day), "*buenas tardes*" (good afternoon), and "*buenas noches*" (good evening). Among friends, a more causal "*buenas*" or "*hola*" (hi) might be used. After greeting, one might be asked, "*como estas*?" (how are you?). Shaking hands heartily is common in most areas. Among friends, men usually shake hands and sometimes embrace, and Ladino women kiss each other on the cheek. A younger woman will kiss a male friend, but older women only kiss relatives. Some older women greet by grasping the person just below the elbow. In small groups, it is important to greet each individual. Also, a pat on the left shoulder with the right hand by a supervisor to a subordinate, or between friends in rural areas, is a gesture of trust that is neither too formal nor too familiar.

Men may greet familiars with an *abrazo*, a right handshake accompanied by the left arm embracing the other man around the shoulder. In larger groups, it is acceptable to offer a group greeting or simply greet as many people as possible. Guests greet hosts individually, regardless of the group size. When addressing others, using a title (*Senor, Senora, Senorita*, Doctor, etc.) shows respect. People show special respect for older people by using the titles *Don* (men) and *Dona* (women) with their first name. Common parting phrases include "*que le vaya bien*" (may all go well with you), "*nos vemos*" (see you later), and "*mas tarde*" (later).

Customs in the Indian highlands differ from the urban areas, and even from village to village. One should consult with knowledgeable sources before conducting prolonged activities in these areas.

## Gestures

Guatemalans do not point with the finger or hand because many finger and hand gestures are considered vulgar. Instead, people often purse and push their lips in the direction they are indicating. Similarly, people beckon by waving the hand downward (the hand held out horizontally, palm facing down). "No" can be communicated by wagging the index finger from side to side. Another verbalization is a "tsst" sound, which is often used to gain someone's attention in public. To emphasize a point, express surprise, or ask someone to hurry, Guatemalans may shake the hand quickly (as if attempting to shake water off it) so that the index and middle fingers strike each other and produce a popping sound.

#### Dress

In cities, people generally wear Western-style clothing, but more conservative than worn in the United States. Most rural Mayans, particularly women, have retained traditional dress. U.S.-style clothing such as halter-tops, shorts, and sleeveless undershirts are not common in Guatemalan dress. Guatemalan professionals prefer suits and ties (men) or appropriate dresses or suits (women) during the workday. The same attire is customary for most evening social affairs, and more casual clothes are worn to daytime social events.

# MEDICAL ASSESSMENT

# **Disease Risks to Deployed Personnel**

Guatemala is assessed as intermediate risk for infectious disease. Risk varies with location, individual exposures, and other factors.

## Food- or Waterborne Diseases

Sanitation is poor throughout the country, including major urban areas. Local food and water sources (including ice) are heavily contaminated with pathogenic bacteria, parasites, and viruses to which most U.S. service members have little or no natural immunity. If local food, water, or ice is consumed from unapproved sources, diarrheal diseases can be expected to temporarily incapacitate a high percentage of personnel within days. Hepatitis A and typhoid/paratyphoid can cause prolonged illness in a smaller percentage. Diseases such as brucellosis and Q fever are transmitted locally through unpasteurized dairy or raw animal products. In addition, viral gastroenteritis (e.g., Norovirus) and food poisoning (e.g., Bacillus cereus, Clostridium perfringens, Staphylococcus spp.) may cause significant outbreaks.

## Vector-borne Diseases

Personnel exposed to mosquitoes, sand flies, or other biting vectors are at high risk during the day or night, in both urban and rural areas, particularly from malaria, dengue fever, and leishmaniasis. Malaria is transmitted year-round (risk is typically elevated May through October, and may be elevated during rainy periods), primarily in rural areas at elevations below 1,500 meters. Risk of dengue fever is year-round in urban areas. Distribution of leishmaniasis is apparently restricted to the northern areas of the country, particularly the forested parts of the Peten.

## Bloodborne and Sexually Transmitted Diseases

Gonorrhea and chlamydia are common, along with a variety of other sexually transmitted diseases, including chancroid, herpes, syphilis, and venereal warts. HIV/AIDS and hepatitis B infections are also present. Though the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term impact on individuals is substantial.

### **Respiratory Diseases**

The rate of tuberculosis (TB) skin test conversions among personnel who have contact with the local population could be elevated over U.S. military baseline rates. In addition, there is a risk for acute respiratory infections such as colds, bronchitis, influenza, pharyngitis, and pneumonia, particularly in crowded living conditions.

## Water-contact Diseases

Personnel directly exposed to bodies of water such as lakes, streams, or irrigated fields could develop leptospirosis; the risk is risk year-round. Concentrations of the leptospirosis organism in lakes, rivers, or other surface water may vary significantly from location to location. In addition, bodies of surface water are likely to be contaminated with human and animal waste. Activities such as wading or swimming may result in exposures to enteric diseases such as diarrhea and hepatitis via incidental ingestion of water. Prolonged water contact also may lead to the development of a variety of potentially debilitating skin conditions such as bacterial or fungal dermatitis.

## Animal-contact Diseases

Personnel exposed to animals, animal products, or undercooked meat could develop symptomatic anthrax infection. Human rabies cases occur sporadically in Guatemala.

## **Medical Capabilities**

Guatemala's health care system is one of the worst in the western hemisphere. Modern medical care approaching U.S. standards is available only in Guatemala City; health care in the remainder of the country is well below U.S. standards. Less than half of the population has access to basic medical care, and in some remote regions, there is no formal health care infrastructure. These areas rely heavily on traditional medicine practitioners.

Some hospitals in Guatemala City use the Cruz Roja (Red Cross) ambulance service. Outside of Guatemala City, ambulance service is limited, and ambulances are not fully equipped with emergency medical treatment supplies and equipment.

Spanish is Guatemala's official language, though more than 20 Native American languages are spoken. Some health providers speak English.

Most medical facilities are inadequately designed, equipped, and maintained, and have an insufficient number of beds. Rural areas have severe shortages of professional medical personnel. Military medical personnel are usually competent, and most physicians are trained in Guatemalan medical schools. Many military physicians are skilled in trauma treatment because of their experience with civil war-injured patients and violent crime victims. There are shortages of medical supplies throughout the public health system, especially in remote areas. Private hospitals in Guatemala City are well stocked, and Guatemala's blood banks are generally safe by U.S. standards.

#### Key Medical Facilities

A full range of modern medical care is available in Guatemala City, but medical care outside the city is limited. In 1996, Guatemala's public hospitals had serious shortages of basic medicine and equipment, and some were on the verge of bankruptcy. However, care in private hospitals is adequate for most common illnesses and injuries. There are 60 public hospitals and 100 dispensaries across the country. Some of the best hospitals in Guatemala City include the following:

#### Centro Medico Militar (Central Military Hospital)

Location	End of Calle 2, Acatan Santa Rosita Zona 16 and 17
City	Guatemala City
Coordinates	14-37-37N 090-27-44W
Telephone	256-2369/2285/2289; 256-2404 (fax)
Type	Military
Beds	300 (800 surge capacity)
Capabilities	Medical — physical medicine and rehabilitation, radiol-
	ogy; <i>surgical</i> — maxillofacial and orthopedic surgery;
	ancillary — cardiac and intensive care units, emergency
	room, operating room, helipad, ambulance, blood bank,
	laboratory, physical therapy, trauma unit, x-ray.
Comments	Primary military hospital; considered one of the best in
	country. Some staff may speak English.

### Hospital Hogar Las America Llerrera-Uerandi

nospital noga	T Las America Lierrera-Oeranui			
Location	6A Avenida 871, Zona 10			
City	Guatemala City			
Coordinates	14-36-12N 090-30-35W			
Telephone	366-771; 2-91-9261/9269; 345959; 345952 (emer-			
	gency department); 315-192 (fax)			
Type	Private			
Beds	70			
Capabilities	Medical — allergy and immunology, cardiology, der-			
-	matology, emergency medicine, endocrinology, gastro-			
	enterology, general medicine, general internal			
	<i>medicine</i> — family medicine, hematology, infectious			
	diseases, nephrology, neurology, nuclear medicine,			
	oncology, pathology, pediatrics, physical medicine and			
	rehabilitation, psychiatry, radiology; <i>surgical</i> — anes-			
	thesia, cardiothoracic surgery, cardiovascular, general			
	•••			
	surgery, neurosurgery, obstetrics/gynecology, maxillo- facial surgery, ophthalmology, orthopedic surgery,			
	otorhinolaryngology (ENT), pediatric surgery, plastic			
	surgery, proctology, thoracic surgery, urology, vascular			
	surgery; <i>ancillary</i> — cardiac care unit, emergency			
	room, helipad, ambulance, blood bank, laboratory,			
	operating room; equipment — angiography, CT scan-			
	ner, defibrillator, dialysis unit, electrocardiogram, elec-			
	troencephalogram, endoscope, lithotripter, magnetic			
	resonance imaging, oxygen, ultrasound, x-ray.			
Comments	Modern private non-profit hospital. Number one hospi-			
	tal recommended by U.S. Embassy. Most physicians			
	are board certified. Helipad capable			
Centro Medico	•			
Location	6A Avenue 3-47, Zona 10			
City	Guatemala City			
Telephone	36-5061 32-3555 (administrative): 22-026 53-20278			

*Telephone* 36-5061, 32-3555 (administrative); 22-026, 53-20278 (emergency); 32-6151 (fax)

Type	Private	
Beds	77	
Capabilities	<i>Medical</i> — general medecine, infectious diseases, neurology; <i>surgical</i> — general surgery, plastic surgery; <i>ancillary</i> — emergency room, ambulance, blood bank, laboratory, operating room, pharmacy; <i>equipment</i> — computed tomography (CT) scanner, endoscope, ultrasound, x-ray.	
Comments	Recommended by the U.S. Embassy.	
General De Ac	cidentes	
Location	Diagonal 12, 0-30, Zona 9, at the end of the Cale Mon- tufar, near La Aurora Zoo	
City	Guatemala City	
Coordinates	Guatemaia City	
	221 611 221 124 226 855 (administrative), 22 026	
Telephone	321-611, 321-134, 326-855 (administrative); 22-026, 53-20278 (emergency)	
Type	Public	
Beds	350	
Capabilities	<i>Medical</i> — emergency medicine, general medicine, general internal medicine, family medicine, neurology; <i>surgical</i> — general surgery, neurosurgery, orthopedic surgery, urology; <i>ancillary</i> — 24-hour emergency room, ambulance, blood bank, laboratory, operating room, pharmacy; <i>equipment</i> — x-ray.	
Comments	Specializes in trauma, orthopedics, internal medicine.	

## HISTORY

Before the Spanish arrived in the early 1500s, the Mayan civilization flourished throughout much of Guatemala, but was already in decline by the time Pedro de Alvarado defeated the Mayans in 1523. After the conquest, Guatemala became the nexus for regional control under the socalled Captaincy General of Guatemala. The first colonial capital, Ciudad Vieja, was ruined by flood and earthquake in 1542, and the second capital, Antigua, was founded in 1543. By the 17th century, it had become one of the richest capitals in the New World. In 1773, the capital was destroyed by two earthquakes. Three years later, the third and present capital, Guatemala City, was founded.

Guatemala has a turbulent, post-independence history. After gaining independence from Spain in 1821, it briefly became part of the Mexican empire, then became part of a Central American federation. From the mid-19th century until the mid-1980s, Guatemala endured a series of dictatorships, insurgencies, coups, and stretches of military rule, with rare periods of representative government.

The Central American states were temporarily annexed by the self-styled Emperor of Mexico, Agustin de Iturbide in 1822. In the wake of his abdication the following year, the northern state of Chiapas decided to stay with Mexico, and Guatemala joined with the other Central American states in the United Provinces of Central America. Two political philosophies became dominant: the conservatives, who favored a strong central government and affiliation with the church; and liberals, who believed in a federal republic that would curtail landowners' privileges and the influence of the Catholic Church. The liberal-conservative conflict fueled a series of wars, and the confederation collapsed in 1838. Political leadership then degenerated into a series of dictatorships into the early part of the 20th century and ending with General Jorge Ubico.

In 1944, growing public impatience with Ubico's strict style of governance led to his overthrow by the October Revolutionaries — a group of dissident military officers, students, and liberal professionals. A civilian, Juan Jose Arevalo, was elected president in 1945 and remained in office until 1951. His social reforms were continued by his successor, Col. Jacobo Arbenz, who granted the communist Guatemalan Labor Party legal status in 1952. The communists managed to gain control of key peasant organizations, labor unions, and the ruling political party, including key government positions. Despite most Guatemalans' attachment to the ideals of the 1944 uprising, key segments of Guatemalan society and the military viewed Arbenz's policies with alarm. The military refused to defend the government when Col. Carlos Castillo Armas invaded the country from Honduras in 1954.

The assassination of President Castillo in 1957 precipitated a period of confusion, from which Gen. Miguel Ydigoras Fuentes emerged to become president in 1958. A revolt by junior military officers in 1960 failed, and some participants went into hiding, establishing the nucleus of a guerrilla movement with close ties with Cuba. In 1963 a new military government headed by Col. Enrique Peralta Azurdia restored order. The unconstitutional nature of the new regime, however, caused great dissension and increased the guerrilla ranks.

In 1966, Guatemala returned to civilian rule under Julio Cesar Mendez Montenegro. The army launched a major counterinsurgency campaign that largely broke the guerrilla movement in the countryside. The guerrillas then turned to urban insurgency and conducted an assassination campaign in 1968 that included murdering U.S. Ambassador John Mein.

Guatemala reverted to military rule in 1970 under Gen. Carlos Arana. A state of siege was declared and another counterinsurgency campaign ensued. The 1974 elections were disputed, with first Gen. Kjell Laugerud Garcia and then Gen. Fernando Romeo Luca Garcia assuming power. Meanwhile, guerrilla violence and government counter-measures escalated. The three principal insurgent groups - the Guerrilla Army of the Poor (EGP), the Revolutionary Organization of Armed People (ORPA), and the Rebel Armed Forces (FAR) - combined with the outlawed Guatemalan Communist Party (PGT) to form an umbrella organization, the Guatemalan National Revolutionary Unity (URNG). Communist killings were answered with government or rightist counter-terror, and involved such groups as the Secret Anti-Communist Army and the notorious White Hand. These groups murdered those suspected of involvement in left-wing activities.

In 1976, an earthquake later termed one of the century's worst natural disasters claimed 24,000 lives, injured 76,000, and left 1.5 million homeless. Controversy followed as foreign disaster relief was alleged to have been wasted by corruption and bureaucratic incompetence.

Political violence increased with the 1982 elections, and the URNG threatened disruption. The reconstituted rural insurgency had reached its apex of power in the highlands, recruiting heavily from the Indian communities. The elections were held, but the winner was deposed by junior officers claiming electoral fraud. The runner-up, General Efrain Jose Rios Montt, became president. He dissolved congress, canceled the 1965 constitution, suspended political party activity, imposed a state of siege, created a system of special courts independent of the regular judiciary, and established a plan to crush the insurgency.

Montt's "Beans and Bullets" campaign pushed food and development aid into the highland communities, and served to form and provide arms to local civilian defense forces. Eventually, the main insurgent units were broken by this campaign, but thousands died, including nonaligned Mayans caught between the guerrillas and government forces. Although successful, Montt was deposed by the army in 1983, as much for his Protestant evangelical views as for his suspension of civil liberties. An interim administration abolished the special courts and presided over the drafting of a new constitution in 1985. By year's end, new elections were held, and civilian Vinicio Cerezo took office in 1986.

President Cerezo divested the Guatemalan military's overt political role though it still maintained a strong, behind-the-scenes influence. The Department of Technical Investigations, believed to be engaged in extortion, robbery, political assassination, and kidnapping, was abolished. The first 2 years of Cerezo's term were characterized by a stable economy and a marked decrease in the level of political violence. However, two attempted coups marked the onset of renewed violence, and the administration came under heavy criticism for its reluctance to investigate human rights cases. Cerezo's administration ended with a faltering economy, strikes, protest marches, and allegations of corruption.

The 1990 election was won by Jorge Serrano and, despite a weak political base, he experienced some success in consolidating civilian control over the military and urging the military and URNG to participate in peace talks. The Serrano administration began reversing the economic deterioration inherited from the Cerezo administration by reducing inflation, passing a tax reform package, concluding an agreement with the International Monetary Fund, and clearing debts with international financial institutions. Furthermore, it increased cooperation in counterdrug matters with the United States, and prosecuted corrupt, high-level officials. However, when Serrano's support base eroded, his solution - a self-coup in 1992 - served as an attempt to dissolve congress, and then the Supreme Court the following year, apparently in an effort to fight corruption in the political and judiciary system. However, faced with international criticism and lack of domestic support, Serrano fled to Panama. Congress then elected the government's human rights investigator, Ramiro de Leon Carpio, as president.

President de Leon began his term with public and international support, but was unable to deliver on his pledge to fight corruption and poverty. His request for voluntary resignation of congress and the Supreme Court created a crisis that was resolved by the church's mediation. The result was a reform package endorsed by referendum in 1994 that included a reduction of presidential and legislative terms as well as congressional seats. However, cynicism among the electorate resulted in an estimated 20 percent turnout in the legislative elections held later that year. Stillcontroversial former president Rios Montt was elected president of the congress. The UN's Human Rights Verification Mission in Guatemala (MINUGUA) was established to verify a human rights concordance signed by the de Leon administration, and mediation talks between the insurgents and the government began. The former mayor of Guatemala City, Alvaro Enrique Arzu Irigoyen, made peace talks the cornerstone of his presidential platform, and he was elected in 1995. In March 1996, a temporary cease-fire between the URNG and government was negotiated. Following social and agrarian reform agreements negotiated in May, constitutional changes (including legislative reform) and military and police reforms came in September. In December, the final peace accord was signed in Mexico City, ending the 36-year insurgency, and reintegrating the URNG into civil society. Arzu asserted civilian control over the military and began to take greater steps against corruption.

In the election campaign of 1999, the ailing economy and unpopular austerity measures played into the hands of the Guatemalan Republican Front (FRG). Alfonso Portillo was elected president.

President Portillo's government is supported by protégés of the FRG party leader, General Montt, and former guerrilla sympathizers. President Portillo is Montt's son-in-law. While this may be appropriate in a time of national reconciliation, it also leads to rivalries within the government that have prevented it from making and delivering effective policy. Attempts by the judiciary to prosecute former dictator Rios Montt for atrocities committed during the civil war have caused internal stress within the FRG. Although Montt benefits from congressional immunity, scrutiny is on Portillo to prevent executive intervention in Montt's case. Portillo, a former leftist, could benefit from the removal of the former military dictator from the political scene, but the political consequences could also destabilize his administration.

President Alfonso Portillo took office in January 2000, with promises to strengthen democracy, prosecute human rights abusers, crack down on corruption, and fully implement the 1996 peace accords, which ended Guatemala's civil war. However, real power lies in the hands of General Efrain Rios Montt, the former military dictator whose policies led to the deaths or disappearance of thousands of people in 1982-83. Montt has returned to the political scene as president of Congress and leader of the



### **President Portillo**

governing FRG party. Government ministries, the judiciary, and the army are staffed with many of Montt's relatives and friends.

## **Chronology of Key Events**

1523	First Spanish settlements established	
1560	Kingdom of Guatemala established as an administrative	
	unit of the Spanish empire	
1821	Mexico declares independence from Spain	
1824	Guatemala gains independence from Mexico; joins Cen-	
	tral American confederation	
1839	Guatemala exits United Provinces of Central America	
1876	War with El Salvador	
1906	Second War with El Salvador	
1954	Arbenz purchases arms from Czechoslovakia; Arbenz	
	ousted in coup; Carlos Castillo Armas installed as president	
1954-85	Succession of military or military-backed governments	
1976	Earthquake kills 24,000	
	-	

1977	United States cuts off aid to Guatemala
1993-1995	President de Leon completes term; United States restores
	full ties
1996	Peace accords signed with URNG; 36-year conflict ends
2000	President Portillo wins Presidential election
2001	Rioting in August in response to proposed tax increases
2003	United States decertifies Guatemala in response to com-
	plicity in drug trafficking

## **GOVERNMENT AND POLITICS**

#### Government

#### Key Government Officials

Alfonso Portillo	
Juan Fracisco Reyes Lopez	
Edin Barrientos	
Luis Rabbe	
Otilia Lux de Coti	
General Robin Moran Munoz	
Eduardo Weyman	
Mario Torres	
Raul Archila	
Manuel Maza Castellanos	
Gabriel Orellana	

### National Government

Guatemala is a constitutional democratic republic with three branches of government. The executive branch is represented by a directlyelected president and vice-president who each serve a single 4-year term. The president has broad powers, and is commander-in-chief of the armed forces. The unicameral legislature, the National Congress, consists of 80 members serving 4-year terms. The judiciary has a supreme court with 13 members serving 5-year terms, and a constitutional court. Appointed by congress, justices are selected from a list drawn up by legal professionals.

## Local Government

There are 22 national departments (not including Guatemala City) administered by governors who are appointed by the president; the capital is administered by a popularly-elected mayor. Municipalities are governed by mayors and independent municipal councils, whose officials are popularly elected for 2-year terms.

## Politics

## **Elections and Suffrage**

National elections are held every 4 years, and voting is obligatory for literate citizens 18 years old and older, though there is no consequence for citizens who do not vote. Active duty members of the armed forces are not eligible to vote and are restricted to their barracks on election day.

## Political Parties

Political power in Guatemala has historically been a matter of personal rather than party influence. Although parties have general political orientations, they are more commonly identified with their leaders.

### Parties of the Right

- Party of National Advancement (Partido por el de Adelantamiento Nacional - PAN)
- Guatemalan Republican Front (Frente de Republicana de Guatemala - FRG)

### Parties of the Center Right

- Solidarity Action Movement
   (Movimiento para Accion y Solidaridad MAS)
- National Centrist Union (Union del Centro Nacional-UCN)

- Christian Democrat Party (*Christiano de Democracia Partido*-CDN)
- National Union of the Center (Union del Centro Nacional-UCN)



#### Departments

### Parties of the Left

- National Liberation Movement (Movimiento de Liberacion Nacional-MLN) The URNG became the MLN after the final peace accords were signed.
- Social Democratic Party (*Partido de Socialismo Democratia*-PSD)
- New Guatemalan Democratic Front-FDNG (formed 1996)

### **Advocacy Groups**

The largest interest groups are those representing the Indians and labor. Among the former is Nobel Prize-winner Rigoberta Menchu's.

## Foreign Relations

**United States.** Guatemala's relationship with the United States has been close, but at times strained. Many Guatemalans harbor resentment toward the United States, who they feel was directly responsible for sustaining the 36-year Guatemalan civil war. However, the United States remains Guatemala's largest trading partner, the source of most of Guatemala's invaluable tourist trade, and the primary contributor (through the World Bank and similar institutions) to aid funding Guatemala. The Bush administration has sought to continue aid and trade perks, but on a conditional status. In May 2001, the United States threatened to revoke Guatemala's trade privileges unless it dramatically improved its labor rights. In response, President Portillo visited Washington in July 2001 to lobby for trade benefits and to promote the package of fiscal reforms that he had trouble selling to the nation, but which are key to securing the support of the International Monetary Fund (IMF) and the international financial community.

U.S.-Guatemalan relations deteriorated in April 2002 following the disappearance of 3,000 kilos of cocaine seized by the National Anti-Narcotics Operations Department (DOAN). As a result, 80 percent of the Guatemalan police agents were suddenly replaced. The dismissals were part of a police purge launched by Interior Minister Eduardo Arevalo to answer Washington's concerns about corruption. The Bush administration applauded Guatemala for ending its border dispute with Belize, as well as for the landmark conviction of an army colonel for the 1990 murder of prominent human rights activist Myrna Mack. However, U.S. relations with Guatemala came close to collapse in October 2002 after Washington launched one of its most severe criticisms. A top Washington Latin American official accused the Portillo government of consorting with criminal gangs, allowing cocaine to be shipped through the country with impunity and being directly involved in corruption and money laundering. Guatemala recalled its ambassador from the United States and denied the accusations.

One of the lowest points in U.S.-Guatemalan relations came on 31 January 2003, when President George W. Bush announced that Guatemala would be decertified for the lack of cooperation in the fight against drug trafficking. The decertification would cause Guatemala to lose millions of dollars in aid from the United States. Nevertheless, the lack of certification, combined with President's Bush's failure to mention Latin America in his early 2003 state of the union address, has created tension in Guatemala. The lack of funds that certification would have provided are certain to have a detrimental affect on the Guatemalan economy.

**Belize.** Guatemala considers itself the rightful heir to the former Spanish empire's holdings in Central America. After achieving independence, Guatemala claimed a portion of the British Honduras (now Belize). In 1859, British rights to Belize were declared by treaty, but Guatemala later charged Britain with failing to fulfill specified obligations, and refused to recognize the sovereignty of British Honduras. Finally, in 1975, Guatemala demanded one-fourth of northern British Honduras as a precondition for recognizing Great Britain's sovereignty over the remaining territory. Even after Belize gained independence in 1981, Guatemala refused to recognize it, and continued to pursue its claim. Although Guatemala's political initiative was rejected by Belize, Great Britain, and the UN General Assembly, it resumed consular and commercial relations with Britain in 1986. Significant negotiations

between Belize and Guatemala, with the United Kingdom as an observer, resumed in 1988. Guatemala recognized Belize's independence in 1991, and diplomatic relations were established.

In January 2002, Foreign Minister Francisco Reyes Lopez announced that his government was willing to hold a referendum on the territorial dispute between his country and neighboring Belize. In April, mediators from the United States and Guyana arrived in Guatemala to plan a proposal to resolve the issue. President Portillo was optimistic that the OAS mediators would publish a proposed treaty by May 2002. Both nations have agreed to a common adjacency line, which checks squatters settling in Belize.

Meanwhile, the Belize government has decided to compensate the families of three Guatemalan nationals who were shot and killed during a confrontation with Belizean forces, who patrolled the disputed border between the two countries in November 2001. In a further indication of improved relations, Belize Prime Minister Said Musa travelled to Guatemala City where he witnessed the beginning of sister city relations between Belmopan and Guatemala in July 2002.

**Colombia.** Guatemala's standing as an international arbitrator received a boost following Colombian President Pastrana's invitation to Guatemala and El Salvador to provide assistance in finding a solution to Colombia's civil conflict in early 2002. Pastrana wanted to draw on the experience of Central American peace and reconciliation processes.

Likewise, to illustrate Guatemala's commitment to helping Colombia to end its internal conflict, Guatemala's Department of Arms and Munitions Control (DECAM) temporarily suspended the commercial license of a firm that belonged to two Israelis who were implicated in the purchase of Nicaraguan arms that ended up in the hands of Colombia's FARC guerrillas

**Mexico.** The flood of illegal refugees into Mexico during the height of the Guatemalan military's counter-insurgency campaign was a major source of tension between the two countries in the 1970s and 1980s.

Evidence of a more positive attitude to the refugee problem came in 1996 when Mexican president Ernesto Zedillo and Guatemalan president Arzu signed five agreements aimed at developing their countries' common border. The Mexican government also announced a stabilization plan for 35,000 Guatemalan refugees in Mexico. This plan involved converting refugee camps into permanent settlements and providing inhabitants with the option of adopting Mexican nationality. Of the 35,000 Guatemalan refugees in Mexico, half were born in Mexico.

In 2001, the Mexican President Vicente Fox launched the Puebla to Panama Plan (PPP), which seeks to accelerate the development of the Southern states of Mexico by improving infrastructure links to Central America, and developing an economic corridor through the isthmus. The Mexican government is anxious to improve economic conditions in the Chiapas region, which borders Guatemala and is home to Zapatista rebels. Investment in electricity, education, utilities and transportation networks by PPP should improve Guatemala's connections to neighboring Mexico and to bigger markets. Guatemala is also likely to benefit from streamlined customs procedures as well as a plan to promote ecotourism in the region.

In 2002, in a sign of good faith between the two governments, Presidents Vicente Fox and Alfonso Portillo signed an agreement to work together to combat money laundering. Portillo sees Mexico as a potential economic lifeline, should NAFTA be expanded while the Free Trade Agreement of the Americas has been slow to materialize.

**Other Major Countries.** In March 1998, Guatemala joined its Central American neighbors in signing a Trade and Investment Framework Agreement (TIFA). In 2000, it joined Honduras and El Salvador in signing a free trade agreement with Mexico, which went into effect in 2001.

# ECONOMY

Guatemala's agricultural sector dominates the economy with 25 percent of the gross domestic product (GDP), 70 percent of exports, and the use of half of the labor force. Coffee, sugar and bananas are the main agricultural products, with coffee accounting for 30 to 40 percent of export earnings.

Distribution of wealth is uneven; only 2 percent of the population owns 65 percent of arable lands The peace accords signed in 1996, which ended 36 years of civil war, removed a major obstacle to foreign investors. Former President Arzu, whose tenure ran from 1996 through 2000, lobbied for the implementation of economic modernization.

Guatemala mines a variety of metals, copper, tungsten, antimony and nickel, and a joint venture recently discovered gold deposits valued at more than US\$1 billion. Main imports include grains, garment pieces, machinery, electronics, petroleum products, chemicals, plastics, and paper products. Other main exports include cotton and meat. Certain resources, such as petroleum reserves, have not been exploited to their full potential.

Economic goals include increasing government revenues, finding more assistance from international donors, and increasing the efficiency of financial operations. Although worldwide prices were low for Guatemala's main exports, the economy grew by 3 percent in 2000 and 2.3 percent in 2001. Guatemala, along with Honduras and El Salvador, also concluded a free trade agreement with Mexico. The economy has been steadily growing, though under-employment remains high, and inflation, while reduced significantly, remains near 10 percent.

## Resources

Aside from Guatemala's strong agricultural and ore industries, Guatemala's exports also include furniture and farm equipment. Guatemala also remains one of the world's leading sources of cardamom, a spice, which can be used for culinary or medicinal purposes Domestic energy is supplied by wood fuel (90 percent), oil, agricultural by-products, and hydro-electric power (1 percent). The Chixoy watershed is the country's main source of hydroelectric power. Guatemala is self-sufficient in the production of electricity and is able to export electricy, which is supplied at 110 and 220 volts at 60 Hz.

## Statistics

GDP	\$48.3 billion
Growth	2.3%
Per Capita	\$3,700
Inflation Rate	7.6%
Debt	\$4.5 billion
Unemployment	7.5%
Imports	\$4.9 billion
Exports	\$2.9 billion
Labor Force	4.2 million

## THREAT

### Crime

The U.S. State Department has an active warning in place regarding Guatemala's criminal activity, which has become a serious problem throughout the country. Many violent crimes are committed against foreigners, who report inadequate assistance from the police. Because criminals are relatively immune from prosecution, major cities and their accompanying tourist sites are heavily targeted by criminals. The types of crimes vary from petty theft to drug smuggling, but robberies are most common. Kidnappings, rapes, and assaults occur during daylight hours, and car thieves conduct thefts at gunpoint on highways or major roads in broad daylight. Criminals have easy access to semi-automatic weapons such as AK-47s, and M-16s, and Guatemala's larger cities are dangerous after dark, as there are several large criminal gangs that roam the streets. The high level of corruption and weak law enforcement mean there is little done to reduce the level of crime, and there has been a recent rise in vigilante justice, especially in the countryside, where instigators have dealt harshly with outsiders who have attempted to interfere with retributions such as public lynchings, beatings, and other acts of vigilante justice.

## Terrorism

The government and the URNG guerrillas signed a final peace accord in December 1996, ending 36 years of fighting. While there have been no armed encounters between URNG and the military since March 1996, there have been incidents involving certain groups in extortion and other criminal activity. No known major terrorist group has formed since the demobilization of the URNG. Although the URNG formally demobilized and surrendered some weapons, former members retain a military capability that may manifest itself in kidnappings, bombings, assassinations, armed assaults and setting up road blockades.

## Corruption

Corruption in the government, judiciary system, and police forces has increased significantly in recent years, and is the primary obstacle to antidrug and anti-crime efforts sponsored by the United States. Corruption is wide-spread; however, few high-level figures are ever charged or investigated. The United States has been aggressive in motivating the government of Guatemala to reduce corruption, and has cancelled the visas of a number of influential people who were suspected of being involved in organized crime, narcotics, corruption and money laundering.

## Kidnapping

Kidnapping is a common criminal activity in Guatemala. Politically motivated kidnappings have subsided, but nonpolitical kidnappings are prevalent and have involved U.S. citizens. During a period from 1994 to 1997, there were 11 kidnappings involving American-citizens who were residents of Guatemala; one was murdered. Foreigners, generally considered wealthy, are preferred targets in Guatemala.

## Drug Trafficking

Guatemala remains a major drug-transit country for South American cocaine and heroin en route to the United States and Europe. Large shipments regularly move through Guatemala by air, road, and sea with very little law enforcement intervention. The year 2002 was difficult for the Guatemalan authorities involved in counter narcotics efforts, despite regular U.S. technical assistance and training. Cocaine seizures had been reduced by half, and were far below historic averages. The problems of widespread corruption, acute lack of resources, weak leadership, and constant personnel turnover in law enforcement and other Guatemalan agencies continued to contribute to the lack of success in the war on drugs. The civilian police force's National Anti-Narcotics Operations Department (DOAN) stole more than double the cocaine that was legally seized. These problems, as well as human rights abuses, led to the elimination of DOAN and the firing of more than 75 percent of its personnel. The newly-established narcotics police, the Anti-Narcotics Analysis and Information Service (SAIA), has had some successes and has readily adapted U.S. training and technical assistance. The public ministry prosecutors' office has had marginal effect on bringing drug dealers to justice.

The SAIA and the nation's prosecutors are staffed with new personnel who have little experience. They need time in order to gain training and experience in fighting the drug traffickers in Guatemala. Also hindering the drug fight is the rise in violent crime, which forces the government to divert precious resources.

The United States provides more than US\$3 million annually in security assistance aimed at improving counter-narcotics capabilities. Until recently, Guatemala was a main source of heroin to the United States, as well as a significant transshipment point for marijuana. However, U.S.- supported aerial spraying and manual eradication was successful in reducing poppy and marijuana cultivation.

In the Caribbean, and in particular along the Belize and Honduras coasts, drug runners have established routes leading to the Mexican Gulf. The Guatemalan Navy continues to hunt pirates and drug runners, but the lack of economic resources limits their abilities.

## ARMED FORCES

### Mission

The armed forces' mission is to maintain national security, but includes other duties related to counterdrug operations, crime suppression, and border and economic zone security operations. The total number of military members is 33,950, with 32,000 in the army, 700 in the air force and 1,250 in the Navy. Guatemalan military doctrine is undergoing revision under the new strategic plan set forth by the previous administration. The new doctrine, like the previous one, is primarily defensive in nature, but new policies seek to change the armed forces' focus from a domestic counter-insurgency force to one capable of engaging in conventional warfare against external aggressors. The new doctrine maintains the regional and zonal commands established by prior doctrine.

## Personnel

The government and the URNG guerilla front signed a peace treaty on 29 December 1996 that outlines and agrees to certain changes to the armed services. The peace agreement called for the reduction of the army's strength by 33 percent in 1997 and the army's budget by 33 percent and to relinquish some of its powers to civilian authority. Compulsory military service may also be abolished or experience other changes.

The army, the preeminent military institution, has reduced its force in compliance with the peace treaty, leaving the number of army personnel

at 32,000. The navy has 1,250 personnel, including the naval infantry, while the air force has 700 personnel.

## **Training and Education**

Teenagers who want to pursue a military career receive pre-military training at one of the seven Adolfo V. Hall Institutes located in Guatemala City, Zacapa, Mazatenango, Coban, and Quezaltenango. Officers in all three services receive basic officers' training at the *Escuela Politecnia* (Military Academy) at San Juan Sacatepequez prior to service-specific training.

All army officers are graduates of the 4-year course at the Politecnia, and are initially commissioned into the infantry branch for 2 years, but may pursue their specialty thereafter. Enlisted members receive 3 months of basic training at the Gen. Aguilar Santa Maria training center at Jutiapa. Specialist training for both officers and enlisted is provided by the *Escuela de Aplicacion* (Technical School) in Guatemala City. There is an airborne school at Retalhuleu, a special forces school at Poptun, and several non-commissioned officer (NCO) schools. Most officers and senior NCOs receive additional training from the United States, Mexico, Venezuela, Argentina, France, Germany, Italy or Spain.

Air force officers receive their flight training at the *Escuela de Aviacion Militar* (Military Flight School) at Los Cipresales. Most receive advanced training in the United States, Mexico or Venezuela. Ground crews and support personnel are trained at the *Escuela de Aplicacion*, the *Escuela Tecnica de la Fuerza Aera* (air force technical school) or the *Escuela de Aviacion Militar* (flight school).

Naval officers receive specialist training and at-sea training with the Argentine and Venezuelan navies. The naval school trains enlisted personnel at Puerto Barrios. Specialist NCOs also receive supplementary training abroad. The naval infantry maintain an enlisted training center at Sipicate.

## Capabilities

The Guatemalan military, dominated by the Army, has been shaped by almost four decades of counterinsurgency operations. Its conventional capabilities have been largely ignored. The military has conducted successful marijuana and poppy eradication programs, but its ability to continue in the post-civil war era may decline. The military has a munitions factory, the *Fabrica de Munciones*, which manufactures small arms ammunition and assembles the Galil rifle under license. The military has also produced an indigenous armored fighting vehicle (AFV), the Armadillo, essentially an improvement of the Cadillac Gauge Commando.

Much equipment is in poor condition as a result of the arms embargo imposed by the United States and other nations during the 1970s and 1980s, declining budgets for replacement/maintenance, and the subsiding war. During the past 30 years, the military accumulated an extensive private network of hospitals, schools, stores, and housing for its exclusive use, but retention of this structure is questionable. At least 5 of the

Army Officer Rank Insignia	Subteniente	Teniente	Capitan Segundo	Capitan Primero	Mayor
U.S. Equivalent	Lieutenant 2nd Class	Lieutenant 1st Class	Captain 2nd Class	Captain 1st Class	Major
Teniente Coronel Lieutenant Colonel	Coronel Colonel	General de Brigada Brigadier General	General de Division Major General		

Army Rank Insignia

current 24 military zones will be eliminated, as more emphasis is placed on coastal law enforcement.

## Force Modernization

The Guatemalan military is struggling to meet the downsizing requirements of the peace accords. The military is required to turn over its internal security role to the new national police force (the PNC). Prior to the accords, the military began a modernization program that included a reemphasis on professional education and development. Missions will likely encompass border control, counterdrug operations, and periodic support to the PNC. Equipment acquisition is uncertain, as both force structure and end-strength will decline along with the military budget.

## Army

## Mission

The mission of the army is to maintain national security, to assist in crime suppression, and to conduct border control. However, as a practical matter, it is primarily a counter-insurgency organization with only limited conventional military resources.

## Organization

Until 1997, the army was organized into 2 combined-arms brigades; 2 Agrupamientos Tacticos (tactical groups) lacking the organic heavy mortars of the brigades; 5 Grupos de Operaciones (operational groups); 12 battalion/groups with special forces platoons and support elements; 23 independent battalions; 2 airborne battalions; a special forces battalion, or grupo; a Presidential Guard Battalion; an armor battalion; 6 independent armored reconnaissance squadrons; 12 field artillery batteries; 4 heavy mortar batteries; and varied combat support battalions.

This structure is changing. The heart of the military zone operational elements was regimental formations of three infantry battalions, a heavy weapons company, military police, and support units, along with the Agrupamientos Tacticos and Grupos de Operaciones, or tactical groups. The latter two formations were not tied to particular areas, and operated across zonal boundaries. Units were deployed down to the companylevel. The fate of the two elite combined-arms units, the *Mariscal Zavala Brigade* and the *Guardia de Honor Brigade* (both stationed in the capital), is unknown.

The army has succeeded in keeping one of its best formations, the elite Kaibil Groups, from being disbanded. There are three groups, which are company-sized units of 162 men. These soldiers are distributed among four platoons of 38 men, with nine soldiers per squad. Squads operate in two fire teams of four men and one team leader. They have standard light weapons such as the M4/M-16 rifle, M-203 grenade launcher and MP-12 sub machine guns. They carry no heavy weapons.



Elite Kaibil

Army units are organized along military zones. A military zone is usually associated with a prominent population center, and may have a significant military presence. It can also comprise a headquarters or schooling unit.

Three battalions from military zones 19, 20, and 24 were demobilized in January 1997. In March 1997, the army announced that two battalions in San Marcos and Coban, as well as two company-strength battalions of the National Defense Staff, were demobilized.

### Equipment

#### **Armored Vehicles**

Туре	Role	Quantity
M41A3	Light tank	10
M8	Armored car	7
RBY-Mk 1	Reconnaissance Vehicle	9
M113	Armored Personnel Carrier	10
V-100 Commando	Armored Personnel Carrier	7
Armadillo	Armored Personnel Carrier	30
Danto (Tapir)	Armored Fighting Vehicle	1
M42 Duster	Armored Fighting Vehicle	unk

Note: There were five additional Armadillos in the production line and it was planned to recover all 15 M113s and upgrade them to A2 standards. The Peace Treaty has halted the additional production of Armadillos (leaving only 30 operational) and only one M113 was recovered, bringing the total to 10. The Armadillos did get the transfer box from M35 2.5-ton trucks. The planned upgrade of the M8s with 20-mm gun turrets has been postponed.

### Artillery

Туре	Role	Quantity
105-mm M56 Yug	Howitzer	56
105-mm M101	Howitzer	12



## Parade

Туре	Role	Quantity
105-mm M102	Howitzer	12
75-mm M116	Howitzer	8
120-mm ECIA	Heavy mortar	18
107-mm M-30	Mortar	12

## **Infantry Direct Fire Weapons**

Туре	Role
M20	Bazooka/rocket launcher
75-mm M20	Recoilless rifle
90-mm M67	Recoilless rifle
30 cal Browning M1919A2	Machinegun
M1919 Browning	Machinegun
7.62-mm FN/MAG 58	Machinegun (BE)
7.62-mm M60	Machinegun
.50 cal M2 HB Browning	Machinegun
9-mm FN 35	Pistol
.45 cal M1911	Pistol

Туре	Role
M16A1/A2	Rifle
5.56-mm Galil	Rifle (IS)
H&K G-3	Rifle (GE)
FAL/SAR-48	Rifle (BE)
.30 cal M1/M2	Carbine
.30 cal M1 Garand	Rifle
M1C/D Garand	Sniper rifle
40-mm M79	Grenade launcher
M-203	Grenade launcher
9-mm Uzi	Submachinegun (IS)
9-mm Beretta M12	Submachinegun (IT)
.45 cal M3A1	Submachinegun
Air Force	

Despite the international arms embargo, the air force (*Fuerza Armadas de Avacion de Guatemala*) has proved to be an effective counterinsurgency force. However, its readiness rate has declined greatly in recent years, and overall serviceability may be less than 50 percent. Much of the decline occured during Guatemala's civil war, when the United States provided Guatemala only limited assistance to maintain its primarily U.S.-made equipment. Of the original 13 A-37 Dragonflies, only 2 are believed operational, while 70 to 80 percent of helicopters are believed inoperative due to lack of spare parts and engines. The air force's readiness rate is not likely to improve anytime soon.

## Organization

The air force's personnel count of 700 does not include the airborne brigade and the four anti-aircraft batteries, which are army units, but fall under the operational control of the air force. With these included, the air force's personnel count is probably closer to 3,000. The air force is organized into two flying wings: the *Ala Fija* (fixed-wing), and the *Ala Rotativa* (rotary-wing) elements.

### Equipment

#### **Fixed-wing aircraft**

Туре	Role	Quantity
Cessna A-37B	Light attack	2
Pilatus PC-7	Counter insurgency	4
AT-33	Strike/trainer	Unknown
IAI Araua 201	Transport	4
Bassier Turbo-67	Transport	3
Fokker F27-400M Troops	Transport	2
Cessna R182 Skylane RG	Communications	1
Cessna U206 Station air	Communications	2
Cessna T210 Turbo Centurion	Communications	4
Cessna R172K Hawk XP	Communications	1

#### **Rotary-wing aircraft**

Туре	Role	Quantity
Bell 212	Utility	8
Bell 412	Utility	5
Bell UH-1H Iroquois	Utility	7
Bell 206B JetRanger III	Utility	5
Bell 206L LongRanger	Utility	4

Note: the quantites given are estimates. Serviceability of aircraft is estimated at less than 50 percent.

#### La Aurora Air Base (Guatemala City)

Aircraft	Role	Quantity
C-47s	Cargo	6
Basler T-67s	Trainer	3
F-27s	Patrol/Transport	3
IAI Aravas	Armed Transport	6

## Navy

Essentially a small coastal patrol force, the navy's missions include port control, lifesaving, navigational aid maintenance, and limited hydrographic survey duties. The navy has played a key role in preventing the development of guerrilla activity in the southern provinces, while taking a more aggressive role along the Caribbean coast and internal waterways, particularly in 'brown-water' operations against guerrillas of the URNG. In the south, naval units have operated as rapid reaction forces by landing raiding parties along the coast. Small detachments of naval infantry have been deployed as part of the task forces sent to the eastern and northern regions that are most affected by guerrillas and drug runners. Sea-lift capabilities remain moderate in Guatemala; the navy is incapable of transporting more than small numbers of troops on ship, and can haul no vehicles. The navy is the least influential of the armed forces. However, it has expansion plans, primarily in the counterdrug and economic zone enforcement areas.

## Organization

The navy, with 1,250 personnel, has coastal and river patrol craft and landing craft, and is based at Santo Tomas de Castilla (Atlantic headquarters), at Puerto Quetzal (Pacific headquarters), and Sipicate (marine training center). The navy's headquarters are at Puerto Barrios. There is a riverine naval base at Pipilos and secondary bases at Livingston, Champerico, Valle Nuevo, Jutiapa, and Tecun Uman.

## Naval Infantry

The naval infantry consists of two understrength battalions (estimated 650 personnel) headquartered at Puerto Quetzal and Puerto Barrios. Each battalion has two rifle companies and one police company, and both battalions have detachments deployed to various locations in their areas of responsibilities. Graduates of the "Caiman" school (at Sipicate) form small reconnaissance detachments assigned to the battalions.

## Equipment

Class	Role	Quantity
BROADSWORD	Coastal Patrol Craft (PCF)	1
UTATLAN	Coastal Patrol Craft (PC)	2
CUTLASS	Coastal Patrol Craft (PC)	6
DAUNTLESS	Patrol Boat (PB)	1
VIGILANTE	Patrol Boat (PB)	6
MACHETE	Troop Carrier (LCP)	2

### **Paramilitary Forces**

The primary paramilitary force, called the Rural Civil Self-Defense Committees (PACs), was formed during a period from 1981 to 1982, in an effort to help combat insurgency in the Indian highlands. Under the military zone commander's authority, these local formations were armed with shotguns, rifles, and even sticks to protect individual villages. At its height, its total force ranged around 500,000 personnel. While fairly effective in resisting the insurgent presence, these organizations were also susceptible to abuse of power. The PACs were dissolved by legislative decree in November 1996, in accordance with the peace agreements. There was some local resistance to the dissolution of the selfdefense forces in areas where they had become the only source of local security in the absence of the police and army.

Another paramilitary organization, the *Comisionares Militar* (military commissioners), consisted of civilians given military ranks who performed paramilitary duties on an individual basis. Certain abuses that had been credited to the regular military were likely performed by commissioners. The commissioner system was also abolished in 1996.

## National Police

The national police has 9,800 personnel, and is divided into the regular police, a battalion-size special unit, the Hacienda (Treasury) police, and a reserve. The Military Mobile Police (PMA) has 2,000 personnel. The

government formed a joint task force in 1996 consisting of the national police, the PMA, and treasury police, and planned to hire an additional 4,000 new national police officers. The reorganization is based on integrating the military into a civil security support role in response to a rapidly increasing crime rate. The 2,500 to 3,000 treasury police, who function primarily as customs agents, will disband under the peace accords over the next 2 to 3 years.

The police are under the jurisdiction of the Ministry of the Interior, and 60 percent of the national police force is stationed in the capital, while the remainder is distributed among the various department capitals. The police are armed with revolvers, .30 caliber M1 carbines, and some light automatic weapons.

## APPENDIX A: Equipment Recognition

## **INFANTRY WEAPONS**

9-mm Uzi



Maximum Effective Range Caliber System of Operation Overall Length Feed Device Weight (Loaded) 200 m 9-mm Blowback, selective fire 650 mm (stock extended) 32-rd detachable box magazine 3.5 kg (metal stock)

### 9-mm Beretta M12



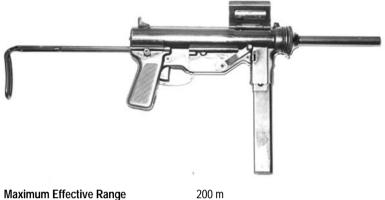
Maximum Effective Range Caliber System of Operation Overall Length Feed Device Weight (Loaded) 200 m 9-mm Blowback, selective fire 645 mm (stock extended) 20-, 32-, or 40-rd detachable box magazine 3.77 kg

5.56-mm Galil



Caliber System of Operation Overall Length Feed Weight (Empty) 5.56-mm gas, selective-fire 1.05 m 25-rd magazines 4 kg

### .45 M3A1/A3



Maximum Effective Rang Caliber System of Operation Overall Length Feed Device Weight (Loaded) 200 m .45 Blowback, automatic 757 mm (stock extended) 30-rd detachable box magazine 3.63 kg

**Note:** Image is M3 SMG; essentially the same weapon but the M3A1 has a small hole in the bolt for cocking vice a cocking handle as depicted.

## 5.56-mm M16A1



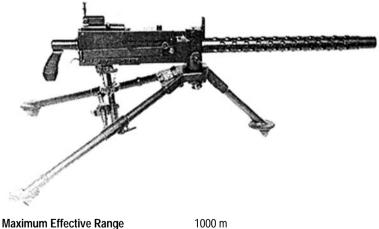
Caliber System of Operation Overall Length Feed Device Weight (Loaded) 5.56-mm Gas direct action, selective fire 990 mm 20- or 30-rd detachable box magiazines 3.68 kg (20-rd magazine)

### .30 M1 Carbine



Maximum Effective Range Caliber System of Operation Overall Length Feed Device Weight (Loaded) 300 m .30 caliber gas, self-loading (M1) selective fire (M2 and M3) 904 mm 15- or 30-rd detachable box magazine 2.77 kg

M1919



Maximum Effective Range Caliber System of Operation Feed 1000 m .30 caliber (7.6-mm) Automatic Belt

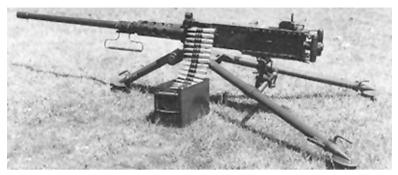
A-4

## 7.62-mm FN MAG



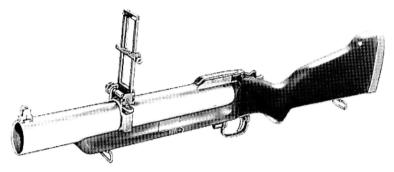
Maximum Effective Range Caliber System of Operation Overall Length Feed Device Weight (Loaded) 1,500 m 7.62-mm x 51 NATO Gas, automatic 1.26 m Belt 13.92 kg (with butt stock and bipod)

## .50 cal. Browning M2HB



Maximum Effective Range Caliber System of Operation Overall Length Feed Device Weight (Loaded) 1,500 m .50 caliber Browning (12.7-mm x 99) Short recoil 1.651 m 100-rd disintegrating link belt 38 kg

#### 40-mm M79 Grenade Launcher



Maximum Effective Range Operation Overall Length Sights Weight (Loaded) NOTE: Superseded in U.S. by M203 350 m Break-open; single shot 737 mm Fore, blade, rear, folding leaf, adjustable 2.95 kg

## 75-mm M20 Recoilless Rifle



Crew
Maximum Range
Combat Weight
Length

1 6,400 m (HEAT) 1.44 kg 2.08 m

#### 106-mm M-40A1 Recoilless Rifle



Weight Length Width Height Maximum Fire Range Maximum Rate of Fire Ammunition 209.5 kg 3404 mm 1524 mm (extended) 1118 mm (mounted) 7700 m 1 rds/min HEP-T or APERS-T, HEAT

**Description:** The M-40 Recoilless Rifle is designed for antipersonnel and antitank roles. It can be fired on the ground or while mounted on a truck.

## ARMOR

#### M41 Light Tank



Crew Armament

Maximum Speed Range Fuel Capacity Length Width Height Combat Weight Night Vision NBC Fording Gradient Vertical Obstacle Trench

#### 4

Main: 1 x 76-mm M32 rifled gun Coaxial: 1 x 7.62-mm M1919A4E1 MG Antiaircraft: 1 x 12.7-mm M2 MG 72 km/h 161 km 530 liters 8.2 m (gun fwd) 3.2 m 2.72 m 23,495 kg Yes No 1.06 m 60% 0.71 m 1.828 m

## Armadillo



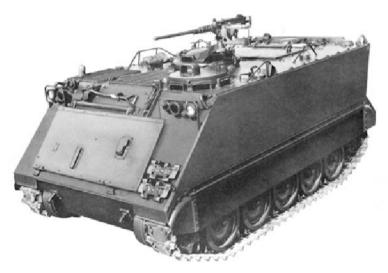
Crew/Passengers Type	3 + 13 4 x 4
Armament	1 x 12.7-mm AA MG 1 x 7.62-mm MG
Maximum Speed	100 km/h
Maximum Range	1,200 km
Fuel Capacity	454 liters
Combat Weight	10,000 kg
Length	6.15 m
Width	2.8 m
Height	2.5 m
Night Vision	No
NBC	No

#### **RBY-MK1**



Crew/Passengers Type Maximum Speed Maximum Range Fuel Capacity Combat Weight Length Width Height Night Vision NBC 2 + 6 4 x 4 100 km/h (cross-country 50 km/h) 550 km 140 liters 10,000 kg 5.023 m 2.038 m 1.54 m Optional No

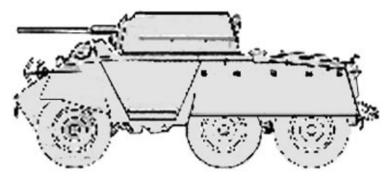
#### M113



Crew/Passengers Туре Armament Maximum Speed Maximum Range **Fuel Capacity Combat Weight** Length Width Height **Night Vision** NBC Fording Gradient Vertical Obstacle Trench

2 + 11 Tracked 1 x 12.7-mm AA MG 58 km/h 480 km 360 liters 12,094 kg 4.92 m 3.11 m 2.52 m Yes Yes Amphibious 60% 0.61 m 1.68 m

## **M8 Greyhound**



Primary Equipment Secondary Equipment Body Length Body Width Axles Crew Engine Combat Weight Configuration Main Armament Ammunition Heiaht Armament (coaxial) Ground clearance Armament (A/A) Armor (hull) Armor (turret) Fording Maximum Road Speed Gradient Maximum Range Vertical Obstacle

Armored Fighting Vehicle Wheeled Light Armored Vehicle 5 m 2.3 m) 3 V-6 /110 horsepower, gasoline 7,892 kg 6 x 6 37-mm gun Up to 80 rounds 2.247 m 7.62-mm machinegun 0.29 meters 12.7-mm machinegun 3.17-19.05 mm 19.05 mm 0.609 m 90 km/h 60 % 560 km

**Recognition:** Clipped in front (angled corners); fenders even in rear (square corners); two forward hatch on left and right sides; round shaped turret in center, right side; 1 turret hatch; muzzle doesn't extend past chassis

0.304 m

## ARTILLERY

## 105-mm M101



Crew	8
Maximum Range	11,270 m
Rate of Fire	10 rds/min
Combat Weight	2,030 kg
Length	5.991 m
Width	3.65 m
Height	1.574 m
Prime Mover	6 x 6

## 105-mm M102



Crew	8
Maximum Range	15,100 m
Rate of Fire	10 rds/min
Combat Weight	1,496 kg
Length	5.18 m
Width	1.96 m
Height	1.594 m
Prime Mover	6 x 6

## 105-mm Oto Melera Model 56 Pack Howitzer



Crew
Weight
Length
Width
Height
Maximum Road Speed
Maximum Fire Range
Maximum Rate of Fire
Ammunition

7 1,290 kg 4.8 m (extended) 2.9 m (extended) 1.93 m Towed 10,575 m 4 rds/min HE(M1), HEAT(M67)

**Description:** The Model 56 Pack Howitzer can be dismantled into several subassemblies for easy transport by truck or aircraft. It has two rubber wheels and may or may not be equipped with a shield.

#### 40-mm M42A1



Crew Armament

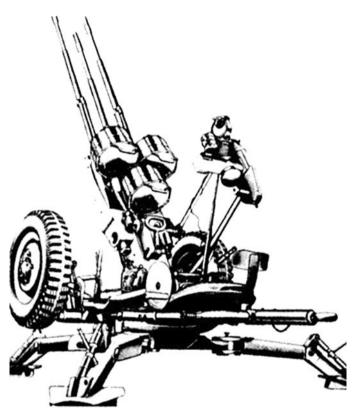
Maximum Firing Range Rate of Fire (Per Barrel) Traverse Combat Weight Maximum Road Speed Maximum Road Range Fuel Capacity NBC System Night Vision Prime Mover 6

(Main) 2 x 40-mm cannon (Secondary) 7.62-mm M1919A4MG 1,500-2,000 m 1,000 rds/min 360° 1,800 kg 72.4 km/h 161 km 530 liters No Driver only 4x4

#### 20-mm GAI-DO1



Crew Operation Maximum Range Rate of Fire (Per Barrel) Traverse Combat Weight Prime Mover 5 (1 on gun) Gas, automatic 1,500-2,000 m 1,000 rds/min 360° 1,800 kg 4x4



Crew Maximum Range Rate of Fire (Per Barrel) Feed Combat Weight Length Width Height

6 5,500 m (horizontal) 4,000 m (vertical under 80 degrees) 700 rds/min (cyclic) 60-rd drum magazines 1,100 kg 4.3 m (travelling) 1.27 m (travelling) 1.47 m (travelling)

### GAI-BO1 20-mm



Crew Maximum Range Rate of Fire (Per Barrel) **Combat Weight** Length Width Height

3

1,500-2,000 m 1,000 rds/min (cyclic) 405 kg (firing) 4.71 m (firing) 1.55 m (firing) 1.2 m (firing)

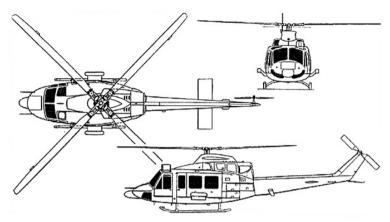
# AIRCRAFT

#### UH-1H



Туре	Transport helicopter
Crew	2
Armament	Provisions for door-mounted weapons
Maximum Speed	110 knots
Maximum Range	463 km
Main Rotar Diameter	14.72 m
Length	12.62 m
Height	4.15 m

## **Bell-412 Transport**



Crew Armament

Range Main Rotar Diameter Weight (mission) Length Height 1 + 11-14 30mm cannon, 40mm grenade launcher, a/g rocket packages 511 kilometers 14.02 m 4,100 kilograms 17.62 meters 4.41 meters

## Bell 206A/B



Туре	Turbine-powered light helicop
Accommodation	Pilot + 4
Maximum Speed	115 knots
Maximum Range	676 km
Max Take-off Weight	1,451 kg
Main Rotar Diameter	10.16 m
Length	11.82 m
Height	2.91 m

#### Bell 212



Type Accomodations Maximum Speed Maximum Range Max Take-off Weight Length Height Twin-turbine utility helicopter Pilot/up to 14 passengers 111 knots 450 km 5,080 kg 17.46 m 3.92 m

## Bell 214 Super Transport



Туре
Accomodations
Maximum Speed
Maximum Range
Max Take-off Weight
Length
Height

Twin-turboshaft transport helicopter Pilot; co-pilot/up to 18 passengers 138 knots 858 km 7,938 kg 18.95 m 4.84 m

## Bell 206L-1 Long Ranger



Type Accomodations Maximum Speed Maximum Range Max Take-off Weight Length Height Single engine, light transport helicopter Pilot; co-pilot/up to 5 passengers 130 knots 550 km 1,837 kg 10.1 m 3.1 m

# Cessna A-37B Dragonfly



Туре	2 seat, light attack
Crew	2
Armament	Various
Maximum Speed	440 km/h
Maximum Range	1,628 km
Max Take-off Weight	6,350 kg
Height	2.70 m
Length	8.62 m

# Arava 201



Twin-turboprop STOL light transport
Maritime surveillance duties
2/20
ELINT
2 x .50-mm Browning MGs optional; 6 x 82-mm rockets; rearward firing MG
278 knots
630 km
6,804 kg
20.96 m
13.03 m
5.21 m

## F27 Fokker 200/400



Type Role Crew/Passengers Armament Patrol Speed Maximum Range Max Take-off Weight Twin-turboprop Maritime patrol; transport 2/4 Various 227-333 km/h 1,850 km 20,410 kg

## NAVAL VESSELS

### **KUKULKAN Class**



Complement Armament Maximum Speed Maximum Range Displacement (t) LOA/Beam/Draft ft (m) Radars 20 (5 officers) 2 x Oerlikon 20-mm 204; 2 x 7.62-mm MGs 22 kts 1,150 miles at 20 kts 110 full 105 x 20.4 x 6.3 (32 x 6.2 x 1.9) Surface search: Furuno; I-band

#### **UTATLAN Class**



Number in Country Complement Armament Maximum Speed Maximum Range Displacement (t) LOA/Beam/Draft ft (m) Radars

#### 3

7 (4 officers) 2 x Oerlikon 20-mm 204; 2 x 7.62-mm MGs 22 kts 400 miles at 12 kts 54 full 85 x 18.7 x 7.2 (25.9 x 5.7 x 2.2) Surface search: Furuno: I-band

#### **CUTLASS Class**



Number in Country Complement Armament Maximum Speed Maximum Range Displacement (t) LOA/Beam/Draft ft (m) Radars

#### 6

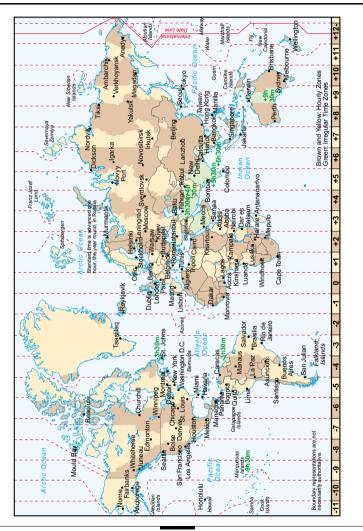
10 (2 officers) 2 x Oerlikon 20-mm 204; 2-3 x 12.7-mm MGs 25 kts 400 miles at 15 kts 45 full 64.5 x 17 x 3 (19.7 x 5.2 x 0.9) Surface search: Furuno; I-band

### **VIGALANTE Class**



Number in Country Complement Armament Maximum Speed Displacement (t) LOA/Beam/Draft ft (m) Radars 6 4 1 x 12.7-mm MG 40 kts 3.5 full 26.6 x 10 x 1.8 (8.1 x 3 x 0.5) Surface search: Furuno; I-band

# APPENDIX B: International Time Zones



## Coordinated Universal Time (UTC)

To use the table, go to the country you are interested in, and add the number of hours corresponding to the United States time zone to the current time. The UTC is also known as Greenwich Mean Time (GMT).

Country	UTC	Eastern	Central	Mountain	Pacific
Afghanistan	+4.5 H	+9.5 H	+10.5 H	+11.5 H	+12.5 H
Albania	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Algeria	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
American Samoa	-11.0 H	-6.0 H	-5.0 H	-4.0 H	-3.0 H
Andorra	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Angola	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Antarctica	-2.0 H	+3.0 H	+4.0 H	+5.0 H	+6.0 H
Antigua and Barbuda	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Argentina	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Armenia	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Aruba	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Ascension	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Australia North	+9.5 H	+14.5 H	+15.5 H	+16.5 H	+17.5 H
Australia South	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Australia West	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Australia East	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Austria	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Azerbaijan	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Bahamas	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Bahrain	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Bangladesh	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Barbados	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Belarus	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Belgium	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Belize	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Benin	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Bermuda	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Bhutan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Bolivia	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Bosnia Herzegovina	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Botswana	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Brazil East	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Brazil West	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
British Virgin Islands	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Brunei	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Bulgaria	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Burkina Faso	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Burundi	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Cambodia	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Cameroon	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Canada East	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Canada Central	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Canada Mountain	-7.0 H	-2.0 H	-1.0 H	+0.0 H	+1.0 H
Canada West	-8.0 H	-3.0 H	-2.0 H	-1.0 H	+0.0 H
Cape Verde	-1.0 H	+4.0 H	+5.0 H	+6.0 H	+7.0 H
Cayman Islands	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Central African Rep.	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Chad Republic	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Chile	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
China	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Christmas Island	-10.0 H	-5.0 H	-4.0 H	-3.0 H	-2.0 H
Colombia	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Congo	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Cook Island	-10.0 H	-5.0 H	-4.0 H	-3.0 H	-2.0 H
Costa Rica	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Croatia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Cuba	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Cyprus	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Czech Republic	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Denmark	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Djibouti	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Dominica	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Dominican Republic	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Ecuador	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Egypt	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
El Salvador	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Equatorial Guinea	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Eritrea	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Estonia	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Ethiopia	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Falkland Islands	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Fiji Islands	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Finland	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
France	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
French Antilles	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
French Guinea	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
French Polynesia	-10.0 H	-5.0 H	-4.0 H	-3.0 H	-2.0 H
Gabon Republic	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Gambia	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Georgia	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Germany	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Ghana	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Gibraltar	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Greece	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Greenland	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Grenada	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Guadeloupe	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Guam	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Guatemala	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Guinea-Bissau	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Guinea	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Guyana	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Haiti	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Honduras	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Hong Kong	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Hungary	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Iceland	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
India	+5.5 H	+10.5 H	+11.5 H	+12.5 H	+13.5 H
Indonesia East	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Indonesia Central	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Indonesia West	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Iran	+3.5 H	+8.5 H	+9.5 H	+10.5 H	+11.5 H
Iraq	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Ireland	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Israel	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Italy	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Jamaica	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Japan	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Kazakhstan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Kenya	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Kiribati	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Korea, North	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Korea, South	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Kuwait	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Kyrgyzstan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Laos	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Latvia	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Lebanon	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Lesotho	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Liberia	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Libya	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Liechtenstein	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Lithuania	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Luxembourg	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Macedonia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Madagascar	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Malawi	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Malaysia	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Maldives	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Mali Republic	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Malta	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Marshall Islands	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Mauritania	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Mauritius	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Mayotte	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Mexico East	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Mexico Central	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Mexico West	-7.0 H	-2.0 H	-1.0 H	+0.0 H	+1.0 H
Moldova	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Monaco	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Mongolia	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Morocco	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Mozambique	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Myanmar (Burma)	+6.5 H	+11.5 H	+12.5 H	+13.5 H	+14.5 H
Namibia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Nauru	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Nepal	+5.5 H	+10.5 H	+11.5 H	+12.5 H	+13.5 H
Netherlands	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Netherlands Antilles	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
New Caledonia	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
New Zealand	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Newfoundland	-3.5 H	+1.5 H	+2.5 H	+3.5 H	+4.5 H
Nicaragua	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Nigeria	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Niger Republic	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Norfolk Island	+11.5 H	+16.5 H	+17.5 H	+18.5 H	+19.5 H
Norway	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Oman	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Pakistan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Palau	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Panama, Rep. of	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Papua New Guinea	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Paraguay	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Peru	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Philippines	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Poland	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Portugal	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Puerto Rico	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Qatar	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Reunion Island	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Romania	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia West	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia Central 1	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Russia Central 2	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Russia East	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Rwanda	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Saba	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Samoa	-11.0 H	-6.0 H	-5.0 H	-4.0 H	-3.0 H
San Marino	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Sao Tome	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Saudi Arabia	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Senegal	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Seychelles Islands	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Sierra Leone	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Singapore	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Slovakia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Slovenia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Solomon Islands	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
Somalia	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
South Africa	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Spain	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Sri Lanka	+5.5 H	+10.5 H	+11.5 H	+12.5 H	+13.5 H
St. Lucia	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Maarteen	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Pierre & Miquelon	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
St. Thomas	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Vincent	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Sudan	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Suriname	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Swaziland	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Sweden	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Switzerland	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Syria	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Taiwan	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Tajikistan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Tanzania	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Thailand	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Тодо	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Tonga Islands	+13.0 H	+18.0 H	+19.0 H	+20.0 H	+21.0 H
Trinidad and Tobago	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Tunisia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Turkey	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Turkmenistan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Turks and Caicos	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Tuvalu	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Uganda	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Ukraine	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
United Arab Emirates	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
United Kingdom	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Uruguay	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
USA Eastern	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
USA Central	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
USA Mountain	-7.0 H	-2.0 H	-1.0 H	+0.0 H	+1.0 H
USA Western	-8.0 H	-3.0 H	-2.0 H	-1.0 H	+0.0 H
USA Alaska	-9.0 H	-4.0 H	-3.0 H	-2.0 H	-1.0 H
USA Hawaii	-10.0 H	-5.0 H	-4.0 H	-3.0 H	-2.0 H
Uzbekistan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Vanuatu	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
Vatican City	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Venezuela	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Vietnam	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Wallis & Futuna Islands	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Yemen	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Yugoslavia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Zaire	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Zambia	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Zimbabwe	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

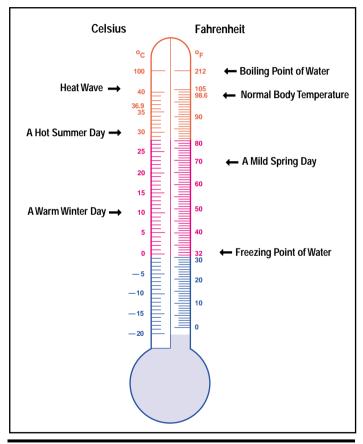
# APPENDIX C: Conversion Charts

Multiply by	To find
0.04	Inches
0.39	Inches
3.28	Feet
1.09	Yards
0.62	Miles
25.40	Millimeters
2.54	Centimeters
30.48	Centimeters
0.91	Meters
1.61	Kilometers
0.16	Sq. Inches
1.20	Sq. Yards
0.39	Sq. Miles
2.47	Acres
6.45	Sq. Cm
0.09	Sq. Meters
0.84	Sq. Meters
2.60	Sq. Km
0.40	Hectares
0.035	Ounces
2.21	Pounds
1.10	Short Tons
28.35	Grams
0.45	Kilograms
2.12	Tons
	$\begin{array}{c} 0.04\\ 0.39\\ 3.28\\ 1.09\\ 0.62\\ 25.40\\ 2.54\\ 30.48\\ 0.91\\ 1.61\\ \end{array}$ $\begin{array}{c} 0.16\\ 1.20\\ 0.39\\ 2.47\\ 6.45\\ 0.09\\ 0.84\\ 2.60\\ 0.40\\ \end{array}$ $\begin{array}{c} 0.035\\ 2.21\\ 1.10\\ 28.35\\ 0.45\\ \end{array}$

Units of Volume	Multiply by	To find
Milliliters	0.20	Teaspoons
Milliliters	0.06	Tablespoons
Milliliters	0.03	Fluid Ounces
Liters	4.23	Cups
Liters	2.12	Pints
Liters	1.06	Quarts
Liters	0.26	Gallons
Cubic Meters	35.32	Cubic Feet
Cubic Meters	1.35	Cubic Yards
Teaspoons	4.93	Milliliters
Tablespoons	14.78	Milliliters
Fluid Ounces	29.57	Milliliters
Cups	0.24	Liters
Pints	0.47	Liters
Quarts	0.95	Liters
Gallons	3.79	Liters
Cubic Feet	0.03	Cubic Meters
Cubic Yards	0.76	Cubic Meters
Units of Speed		
Miles per Hour	1.61	Km per Hour
Km per Hour	0.62	Miles per Hour

# Temperature

To convert Celsius into degrees Fahrenheit, multiply Celsius by 1.8 and add 32. To convert degrees Fahrenheit to Celsius, subtract 32 and divide by 1.8.



**Temperature Chart** 

# APPENDIX D: Holidays

New Year's Day
Easter *
Labor Day
Army Day
Bank Worker's Day (Banks are closed.)
Feast of the Assumption
Independence Day
Columbus Day
Revolution Day
All Saints Day
Christmas Eve (afternoon only)
Christmas Day
New Year's Eve (afternoon only)

\*Preceding Easter Sunday are the following holidays: Holy Thursday, Good Friday, and Holy Saturday.

# APPENDIX E: Language

# Spanish

- ....

## Key Words and Phrases

English	Span
Please.	Por fa
Stop.	Alto.
Danger.	Pelig
Help.	Soco
Bring help.	Traig
Come here.	Veng
Right away.	Pront
I am an American.	Soy A
Which way is north?	Dond
Which is the road to?	Cual
Draw me a map.	Dibuj
Take me there.	Lleve
Take me to a doctor.	Lleve
How far is it?	A que
Goodbye.	Adios
I don't understand.	No co
How are you?	Como
Where is the U.S.	Dond
Embassy?	De E
Where is the	Dond
Police station?	De po
I am hungry.	Teng
I am thirsty.	Teng
How much does this cost?	Cuan
What is the time?	Que

#### Spanish

avor. Iro. orro. ja ayuda. ga aca/aqui. ito. Americano de esta el norte? es el camino para. . ? jeme un plano. eme alla. eme a un medico. e distancia esta? S. omprendo. o esta usted? de esta la Embajada stados Unidos (Americana) de esta la estacion olicia? io hambre. o sed. nto cuesta esto? hora es?

What time (does) it start? The train The bus The car The aircraft Yes / No Thank you Thank you very much You're welcome Excuse me! Sorry!

#### Spanish

A que hora empieza? El tren El autobus. El carro El avion Sí / No Gracias Muchas gracias De nada Con permiso! Lo siento!

# Basic Expressions, Greetings, and Conversation

## English

Are you here on vacation? Yes. I'll be here for three weeks. Are you here alone? I'm here with my friends. When can I call you? Tomorrow afternoon. Where shall we meet? Shall we go to the ... I'll be back later. See you later. I want . . . Good morning / Good day Good afternoon Good evening / Good night How are you doing? How is it going? Very well, thanks. And you? Pleasure to meet you.

## Spanish

Está aquí de vacaciones? Sí. Yo estaré aquí por tres semanas. Está solo(a)? Estoy aquí con mis amigos. Cuándo puedo llamarle? Mañana por la tarde. Dónde nos encontramos? Vamos a la ...? Vuelvo mas tarde. Hasta luego. Yo Quiero . . . Buenos días **Buenas tarde** Buenas noches Cómo está? Cómo le va? Muy bien, gracias. Y usted? Mucho gusto en conocerle.

I speak a little Spanish. What's your name? My name is .... Where are you from? I am from the United States.

### Spanish

Yo hablo un poco de español. Cómo se llama? Me llamo ... De dónde es usted? Yo soy de los Estados Unidos.

# Questions, Responses, and Descriptive Words

English Who? What? When? Where? Why? Which? Where is? Where are? Where can I find? How much? How many? How much does this cost? What is this / that in Spanish? What does this / that mean?	Spanish Quién? Qué? Cuándo? Dónde? Porqué? Cuál? Dónde está? Dónde está? Dónde puedo encontrar? Cuánto? Cuánto? Cuántos? Cuánto cuesta? Cómo se dice esto/eso en español? Qué significa esto / eso?
I do not understand. Do you understand? Can you repeat that?	No entiendo. Entiende? Puede repetir eso? (Puede repetirlo?) Puede tener 2/Me puede der?
Can I have? Can you show me? Can you tell me? Can you help me? Give me Yes, I am. No, I am not.	Puedo tener?/Me puede dar? Puede mostrarme? Puede decirme? Puede ayudarme? Déme? Sí, yo soy.
No, Familiot.	No, yo no soy.

Yes, I can. No, I cannot. OK, no problem. Big / Small Better / Worse Cheap / Expensive Easy / Difficult Good / Bad Hot / Cold Here / There Now / Later Open / Close Right / Wrong

# Commonly Used Verbs

English

to Be (I "Am", you, we "Are")

to Be Able (I , you, we "Can") to Believe (I, you, we Believe) to Bring (I , you, we Bring) to Come (I , you, we Come) to Do, Make (I, you, we Come) to Do, Make (I, you, we Make) to Eat (I, you, we Eat) to Give (I , you, we Go) to Have (I , you, we Go) to Have (I , you, we Have) to Know (I , you, we Have) to Go Out (I , you, we Know) to Leave to Live (I, you, we Live) to Put (I , you, we Put) to Say (I , you, we Say)

## Spanish

Sí, yo puedo. No, no puedo. Ésta bien, no hay problema. Grande / Pequeño Mejor / Peor Barato / Caro Fácil / Difícil Bueno / Mal Caliente / Frío Aquí / Allí / Allá Ahora / Mas tarde Abierto / Cerrado Correcto / Incorrecto

# Spanish

Estar (Estov, Está, Estamos) Ser (Soy, es, somos) Poder (Puedo, Puede, Podemos) Creer (Creo, Cree, Creemos) Traer (Traigo, Trae, Traemos) Venir (Vengo, Viene, Venimos) Hacer (Hago, Hace, Hacemos) Comer (Como, Come, Comemos) Dar (Doy, Da, Damos) Ir (Voy, Va, Vamos) Tener (Tengo, Tiene, Tenemos) Saber (Sé, Sabe, Sabemos) Salir (Salgo, Sale, Salimos) Irse (me voy, Se va, Nos vamos) Vivir (Vivo, Vive, Vivimos) Poner (Pongo, Pone, Ponemos) Decir (Digo, Dice, Decimos)

to See (I, you, we See) to Speak (I, you, we Speak) to Want (I, you, we Want) to Work (I, you, we Work)

# Personal Pronouns and Relatives

# English

I/We You (informal / formal) He / She / They (male / female) My or Mine (male & female) Your / Yours (informal: masc./fem) Your / Yours (formal: masc./fem) His / Hers / Theirs Man / Woman Friends (male / female) Bovfriend / Girlfriend Family Relative Children Husband / Wife Father / Mother Son / Daughter Brother / Sister Grandfather / Grandmother Uncle / Aunt Cousin (male / female) Nephew / Niece

# Directions and Places

## English

Where is the...? How do I get to...?

## Spanish

Ver (Veo, Ve, Vemos) Hablar (Hablo, Habla, Hablamos) Querer (Quiero, Quiere, Queremos) Trabajar (Trabajo, Trabaja, Trabajamos)

# Spanish

Yo / Nosotros Tú / usted ÉL/ Ella / Ellos / Ellas Mi / Mío (Mía) Tu / El tuyo / La tuya Su / El suvo / La suva Su / Su / Suyo / Suya Hombre / Muier Amigos / Amigas Novio / Novia Família Pariente Hijos Esposo / Esposa Padre / Madre Hijo / Hija Hermano / Hermana Abuelo / Abuela Tío / Tía Primo / Prima Sobrino / Sobrina

# Spanish

Dónde está...? Cómo puedo ir a...?

Is it near here? It's not verv far. How do you get there? Is it within walking distance? ls it..? Near / Far Here / There North / South Fast / West Left / Right Straight / Forward Up / Down Airport Apartment Bakery Bank Bar Beach Building Church City / Town Downtown Fire Station Hospital Hotel House Laundry Library Movie Theater Night Club Office Park Pharmacy

#### Spanish

Está cerca de aquí? No está muy lejos. Cómo se va allí? Se puede ir caminando? Fs..? Cerca / Lejos Aquí / Allí /Allá Norte / Sur Este / Oeste Izquierda / Derecha Siga derecho Arriba / Abajo Aeropuerto Apartamento Panadería Banco Bar Playa Edificio Iglesia Ciudad / Pueblo FI Centro Estación de bomberos Hospital Hotel Casa Lavandería Biblioteca Cine Club Nocturno Oficina Parque Farmacia

Police Station Post Office Restaurant Store Street / Road Supermarket

# Dining at a Restaurant

## English

I'm hungry / thirsty. Can you recommend a good restaurant? Could we have a table? Non-smoking area I would like something to eat / drink. Could you bring me a menu, please? Food Breakfast Lunch / Dinner Can you bring me...? Fork / Knife / Spoon Plate / Cup / Glass / Napkin The bill (check), please. What do you recommend? I would like .... Bananas Beans Beer Beer (Draft) Bread Butter Cake Cheese

### Spanish

Comisaría / Estación de policía Correo Restaurante Tienda Calle / Camino Supermercado

# Spanish

Tengo hambre /sed. Puede recomendarme un buen restaurante? Puede darnos una mesa? Prohibido de fumar Yo guisiera algo para comer / beber. Puede traerme una carta, por favor? Comida Desayuno Almuerzo / Cena Puede traerme...? Tenedor / Cuchillo / Cuchara Plato / Taza / Vaso/ Servilleta La cuenta, por favor. Oué me recomienda? Yo quisiera... Guineo Friioles Cerveza Cerveza de barril Pan Manteguilla Pastel Oueso

### English Chicken Coffee Cup of coffee Desserts Eggs Fish Fruit Meat Milk Orange Juice Pork Potatoes Rice Rice and Beans Salad Shrimp Salt and Pepper Soup Steak Stew Sugar Теа Vegetables Water Wine

#### Spanish

Pollo Café Una taza de cafe Postres Huevos Pescado Fruta Carne I eche Jugo de naranja Cerdo Patatas (Papas) Arroz Arroz y Frijoles Ensalada Camarones Sal y Pimienta Sopa Bistec Guisado Azúcar Τé Legumbres (Vegetales) Água Vino

# Colors

# English

What color is it? Light... Dark... Black Blue

# Spanish

De qué color es? ...Claro ...Oscuro Negro Azul Brown Green Grey Orange Pink Purple Red White Yellow Marrón Verde Gris Naranja Rosado Violeta Rojo Blanco Amarillo

# Days of the Week and Time

## English

What day is it today? Week Day Date Sunday Monday Tuesday Wednesday Thursday Friday Saturday Last week Next week Weekend Yesterday / Today / Tomorrow The day before yesterday Now / Later In the morning / afternoon During the day In the evening / at night What time is it? Hours / Minutes / Seconds

# Spanish

Qué día es hoy? Semana Día Fecha Domingo Lunes Martes Miércoles Jueves Viernes Sábado La Semana pasada La Próxima semana El Fín de semana Ayer / Hoy / Mañana Anteaver Ahora / Mas tarde De (en) la mañana / de (en) la tarde Durante el día De (en) la noche Oué hora es? Horas / Minutos / Segundos

It's one o'clock. It's two o'clock. Five past three Ten to four Noon / Midnight

# Year, Months, and Seasons

### English

Year This Year Last year Next year The months January / February March / April May / June July / August September / October November / December Seasons Spring / Summer Autumn / Winter

# Numbers

# English

Number Zero (0) One (1) Two (2) Three (3) Four (4) Five (5) Six (6)

## Spanish

Es la una. Son las dos. Son las tres y cinco. Son las cuatro menos diez. Mediodía / Medianoche

## Spanish

Año Éste año El Año pasado El Próximo año Los Meses Enero / Febrero Marzo / Abril Mayo / Junio Julio / Agosto Septiembre / Octubre Noviembre / Diciembre Estaciones del año La Primavera / El Verano El Otoño / El Invierno

# Spanish

Número Zero Uno (counting) Un (mas.) / una (fem.) Dos Tres Cuatro Cinco Seis

English	Spanish
Seven (7)	Siete
Eight (8)	Ocho
Nine (9)	Nueve
10	Diez
11	Once
12	Doce
13	Trece
14	Catorce
15	Quince
16	Dieciséis
17	Dieciséte
18	Dieciséte
19	Dieciocho
20	Diecinueve
21	Veinte
22	Veintiuno
23	Veintidos
30	Veintitres
40	Treinta
50	Cuarenta
60	Cuarenta
70	Cinquenta
80	Sesenta
90	Setenta
100	Ochenta
101	Noventa
102	Ciento uno
110	Ciento uno
102	Ciento dos
110	Ciento y diez
120	Ciento y veinte
200	Dos cientos
110	Ciento y diez
120	Ciento y veinte
200	Dos cientos
500	Quinientos
1,000	Mil
10,000	Diez mil

English	Spanish
100,000	Cien mil
1,000,000	Un million
First	Primero
Second	Segundo
Third	Tercero

## Continents, Countries, and Nationalities

English	Spanish
Where are you from?	De dónde es usted?
What nationality are you?	De que nacionalidad es usted?
I am from	Yo soy de
Europe	Europa
North America	América del Norte (Norteamérica)
South America	América del Sur (Sudamérica)
Bolivia	Bolivia
Brazil	Brasil
Canada	Canadá
Colombia	Colombia
Portugal	Portugal
Peru	Perú
Russia	Rusia
United States	Los Estados Unidos
Canadian	Canadiense
Canadian	Canadiense
American (man / woman)	Americano / Americana

# **Professions and Occupations**

English What do you do? I am a ... Commander Dentist Doctor Driver

## Spanish

Cuál es su profesion? Yo soy... Comandante Dentista Médico Chofer

Farmer Fisherman Government employee Guard Housewife I aborer Marine (Corps) Mechanic Messenger Officer Pilot Policeman Sailor Salesman Shop keeper Soldier Student Teacher

### Spanish

Granjero Pescador Empleado de gobierno Guardia Ama de casa Trabajador Infantería de Marina Mecánico Mensajero Oficial Piloto Policía Marinero Vendedor Tendero Soldado Estudiante Profesor(a)

# Map Terminology and Terrain

English Atlantic Ocean Bay Beach Border Bridge Canyon Cave Coast City / Town Current Dam Dirt Road Spanish

Océano Atlántico Bahía Playa Frontera Puente Cañon Cueva Costa Ciudad / Pueblo Corriente Represa Carretera

Fast / West Forest Harbor (Port) High-water mark Hill House Island Lake Line of Latitude / Longitude Main road Map Meadow Meridian Mountain North / South Orchard Path Park Paved Road Peninsula River Road (Street) Rock Sand Sand dunes Sea (Ocean) Surf South America Swamp Tree Tunnel Valley Village

#### Spanish

Este / Oeste Bosaue Puerto Marea alta Colina Casa Isla Lago Linea de latitud / longitud Camino principal Mapa Prado Meridiano Montaña Norte / Sur Huerto Caminito Parque Carretera pavimentada Península Rin Camino / Calle Piedra Arena Dunas Mar Resaca América del Sur Sudamérica Pantano Árhol Túnel Valle Aldea

English Wall	<b>Spanish</b> Muro
Water	Agua
Waves	Olas

# METOC and Weather Terminology

### English Weather Weather forecast Weather Chart Weather Map Do you think it's going to ...? Clear sky Clouds Cloudy Foa Ice Hot / Cold / Warm Lightning Moon Overcast Precipitation Rain Sky Stars Sun Temperture Thunder Thunderstorm Warm front / Cold front Wind Wind direction Wind speed

#### Spanish

Tiempo Pronóstico del tiempo Carta del tiempo Mapa meteorológico Piensa que va a ...? Cielo claro Nubes Nublado Neblina Hielo Caliente (Calor) / Frío / Tibio Relámpago Luna Encapotado Precipitación Lluvia Cielo Estrellas Sol Temperatura Trueno Tormenta Frente caliente / frente frío Viento Dirección del Viento Velocidad del Viento

# Medical Phrases

## English

I need a doctor. Is there a doctor here? I am a doctor. I am a corpsman / medic. I am a dentist. Nurse Do you need help? I will examine you. Are you injured? Are you in pain? Are you sick? What is wrong with you? Where does it hurt? How long have you been sick?

I am going to help you. Don't be afraid. Calm down. Can you walk / stand / sit? Are you taking any medicine? Do you have any allergies? How old are you? Do you have ...? Do you need ...? I must take you to the hospital. I must give you a shot. I will take an X-ray. Open your mouth. You need to take these.

## Spanish

Necesito un médico Hay un médico aquí? Soy médico. Sov médico. Soy dentista. Sov enfermera. Necesita ayuda? Vov a examinarlo. Está herido? Tiene dolor? Está enfermo? Qué le pasa? Dónde le duele? Hace cuánto tiempo que está enfermo(a)? Voy a ayudarle. No tenga miedo. Cálmese. Puede caminar / pararse / sentarse? Está tomando medicina? Tiene alergias? Cuántos años tiene? Tiene ...? Necesita ...? Voy a llevarlo al hospital. Voy a ponerle una inyección. Voy a tomar un rayo-X. Abra la boca. Necesita tomar estos.

## Medical Terms

## English

Antibiotics Bandage Bed / Blanket / Pillow Blood / Bleeding

Breathing (deep / shallow) Broken Bruise Burn(s) Choke Clean Cough / Cold Critical / Serious Dead Dehydration Diarrhea Disinfectant Fever Heat Stroke Ice Infection Medicine Nausea / Vomiting Pain Shock Shot / Injection Sore / wound Stretcher Temperature Unconscious / Conscious

## Spanish

Antibióticos Vendaje Cama / Manta (Frazada) / Almohada Sangre / Sangramiento (Noun), Sangrando (verb) Respiración (profunda / superficiál) Quebrado (Partido) Contusión (Morado) Ouemadura(s) Atragantar Limpio (a) Tos / Resfriado (Catarro) Crítico / Serio Muerto (a) Deshidratación Diarrea Desinfectante Fiebre Insolacion Hielo Infección Medicina Náusea / Vómito Dolor Postración Invección Dolorido / Herida Camilla Temperatura Inconsiente / Consiente

# Parts of the Body

English	Spanish
Arm	Brazo
Back	Espalda
Bone	Hueso
Ear	Oreja
Eyes	Ojos
Face	Cara
Fingers	Dedos
Foot	Pie
Hand	Mano
Head	Cabeza
Heart	Corazón
Leg	Pierna
Mouth	Boca
Muscle	Músculo
Neck	Cuello
Nerve	Nervio
Ribs	Costillas
Spine	Columna vertebral
Shoulder	Hombro
Stomach	Estómago
Teeth	Dientes
Military Torms	

## Military Terms

English Adjutant Admiral Aircraft Airfield Air Force Ammunition Amphibious

### Spanish

Ayudante Almirante Avion Aerodromo Fuerza Aerea Municion Anfibio

Antiaircraft Armed Forces Armor/armored Armored car Armored personnel carrier Army Artillery Assault Attack Aviation Barracks Base **Battalion** Battery Battle Boat **Bomber** Brigade **Brigadier General** Cadet Cannon Captain (army) Captain (naval) Coast Guard Colonel Combat Command Commander Commander (naval) Commander-in-Chief Communications Company Conscript

#### Spanish

Anti aereo Fuerzas Armadas Blindaje/blindado Camion blindado Blindado porta-personal Ejercito Artilleria Asalto Ataque Aviacion Cuartel Base, cama Batayon Bateria **Botella Bote Bombardero** Brigada General de Brigada Cadete; (a Oficial) Canon Capitan Capitan de Navio Servicio de GuardaCostas Coronel Combate Comando, mando Comandante Capitan de Fragata Commandante General Comunicaciones Compania Conscripto

### English Corporal Corps Corvette Counterdrug Crew Cutter Defense Destroyer Division Drugs Engineer Enlisted man Ensign (naval rank) Subteniente Entrench Equipment Escort Field artillery Fighter (aircraft) Fighter bomber Fire control Fleet Flight Ford Formation Fortification Fortify Forward observer Foxhole Front Front line Fuze Garrison

#### Spanish

Cabo Cuerpo Corbeta Contradrogas Dotacion; triplacion Ancha Defensa Destructor de flota Division Drogas Ingeniero Alistado, soldado raso Alferez de Fragata\Navio) Subteniente Atrincherar Masterial Escolta Artilleria de campana (Avion de) Caza Caza bombardero Direccion de tiro Flota: escuadra Puente para peatones Vado: vadear Formacion Fortificacion Fortificar Observador avanzado Hoya de tirador Frente Linea del frente Espoleta Guarnicion, cuartel

Gas/protective mask Grenade Grenade launcher Grid azimuth Grid coordinates G.M. angle Grid north Grid square Gunner Gunship Halt Heat exhaustion Heatstroke Heavy machinegun Helicopter Helmet High ground Hill Howitzer Hydrographic chart I.D. card Immobilize Indirect fire Infantry Infiltrate Information Installation Intelligence Intelligence Officer Intelligence report Interdiction Internal defense Interrogate

#### Spanish

Mascara antigas Granada Lanzagranada Acimut de cuadriculado Coordenadas de cuadriculado Anglo magnetica cuadriculado Norte de cuadriculado Cuadricula Apintador de la pieza Bote armado Hacer alto Agotamiento por el salor Insolacion Ametrailladora pesada Helicoptero Casco Terreno elevado Colina Obus Carta hidrografica Tarjeta de idential Immovilizar Fuego indirecto Infanteria Infiltrarse Informacion Instalacion Inteligencia Oficial de inteligencia Informe de inteligencia Interdecir, bloquear Defensa interna Interrogar

Issue Joint Joint exercise Joint force Joint operation Joint training Junior leader Key terrain Landing craft I and mine Leadership Liaison Liaison Officer Lieutenant Light data Line of sight Listening post Live ammo Logistics Long range Machinegun Major Marines Master Sergeant Max effective range Max rate of fire Max speed Mechanized Medical Officer Messenger Mess hall Meteorological Military Attache

#### Spanish

Distribuir Conjunto(a) Ejercico conjunto Fuerza coniunta Operacion conjunto Adiestramiento conjunto Jefe subordinado Terreno clave Embarcacionde desembario Mina terrestre Lider de mando **Enlace** Oficial de enalce Teniente Datos sobre la claridad Linea de mira Puesto de eschucha Municion activa Logisticia Argo alcance Ametralladora Mayor Infanteria de Marina Sargento Maestro Alcance eficaz maximo Cadencia maxima de tiro Velocidad maxima Mecanizado Oficial medico Mensajero Comedor Meteorologicos Agregado militar

### English Minefield Minimum Misfire Mission Mobile Mobility Mortar Motorized Motor pool Mountain range Mounted patrol Munitions Muzzle Night NCO Objective Observation Observation post Obstacle Offensive Officer **Off-limits** On site Open fire Operational Operations Order Organizational Overwatch Pack (noun) Paramilitary Password Patrol

#### Spanish

Campo minado Minimo Fallar el tiro Mision Movil Movilidad Mortero Motorizado Centro de vehiculos motorizados Cordillera Patrulla motorizada Municions Boca Nocturno Clase de Tropa Objectivo Observacion Puesto de observacion Obstaculo Ofensiva Oficial Zona vedada On posicion Abrir fuego Operacional Operacions Orden Organico(a) Vigilar, vigilancia Mochila Paramilitar Contrasena Patrulla

Patrolling Perimeter Photograph Physical security Pistol Platoon Police Pontoon Port (direction) Port (installation) Preplanned Prisoner Private Private First Class Public affairs Pursuit Quadrant Ouartermaster Rear sight Recoil Reconnaissance Recruit Reference Refugee Regulations Reinforce Relief Replacement Rescue Reserve Restricted Resupply Retrograde

#### Spanish

Patrullaie Perimetro Fotograff Seguridad fisica Pistola Peloton Policia Pontones Babor Puerto Planeado de antemano Prisonero Soldado raso Soldado de Primera Clase Asuntos publicos Persecucion Cuadrante Intendencia Alza Retroceso Reconcimeinto Recluta Referencia Refugiado Reglamentos Reforzar Relieve Remplazo Rescatar Reserva Restringida Reabastecimiento Retrogado

### English Rifle Rifleman Riot control Roadblock Rocket Rocky Rough Round (ammo) Safety (weapon) Sailor Secondary Secret Sector Security Self-propelled Semiautomatic Sensor Sentry Sergeant Serviceability Ship Shore line Shotgun Signal Situation Sketch Small Smoke Soldier Special Squad Staff Sergeant Starboard

#### Spanish

Fusil Fusillero Suprecion de motines Barricada Cohete Rocoso (pedregoso) Escabroso Tiro Seguro Marinero Secundarios Secreto Sector Seguridad Autopropulsado Semiautomatico(a) Sensor Centinela Sargento Utilidad Buque Litoral Escopeta Senales Situacion Croquis Pequeno Fumigena Soldado Especial Escuadra Sargento de Segunda Clase Estribor

### English Supply Support Supporting Surveillance Tactical Tank Target Task Tear gas Telecommunications Temporary duty Tent Terrain Topographic Tracer Trafficability Training Transportation Trench Trigger Troops True Turret Upstream Vehicle Visibility Warrant Officer Water supply Windage Withdrawal 7one

### Spanish

Abastecimientos Apovo De apoyo Vigilancia Tactica(o) Tanque Blanco Tarea Gas lacrimogeno Telecomunications Servicio interino Tienda de campana Terreno Topografico Trazadora Transitabilidad Instruccion, adiestramiento Transporte Trinchera Disparador; gatillo Tropas Verdad Torreta Corriente arriba Vehiculo Visibilidad Suboficial Abastecimiento de agua Correccion-viento Replique 7ona

## Military Vocabulary and Service Specific Terms

English Ammunition **∆**ntenna Armed Forces Armed personnel Barb wire Barracks Barrel (gun) Bullets Base Battle Briefing Camp Cannon Car (automobile) Chemical warfare Combat Commander Communications Compass Danger Danger, high voltage Flag Flagpole Friend / enemy Group / unit Guard Hand-to-hand fighting Headquarters Helicopter Identification papers Infrared laser rangefinder Spanish Municiones Antena Fuerzas armadas Personal armado Alambre de púas Barracas Cañón Balas Base Batalla Reunión de información Campamento Cañón Carro Guerra química Combate Comandante Comunicaciones Compás Peligro Peligro, Alto-voltaje **Bandera** Asta de bandera Amigo / Enemigo Grupo / Unidad Guardia Combate mano-a-mano Quartel-general Helicóptero Documentos de identificación Telémetro láser de infrarroja

Instructor Intelligence Intelligence Officer Knife / bayonet Leader Machine gun Magazine (weapon) Map Military Police Mission Officer Open fire! Patrol Position Prisoners Restricted area (no entry) Radio Radar antenna Reconnaissance Retreat Rifle Rope Semiautomatic pistol Special forces Target Train Truck Uniform (military) War

# Army Specific Terms

#### English

Antitank rocket launcher

#### Spanish

Instructor Inteligencia Agente de inteligencia Cuchillo / Bayoneta l íder Ametralladora Peine Mapa Policía militar Mision Oficial ¡Abre fuego! Patrulla Posicion Prisioneros Area Restringida/Prohibida entrada Radio Antena de radar Reconocimiento Retirada Rifle Soga Pistola semi-automática **Fuerzas Especiales** Blanco Tren Camion Uniforme Guerra

#### Spanish

Lanzacohetes antitanque

Armored personnel carrier Army Artillery Grenade launcher Hand grenade Infantry Mine field Mortar Parachute Paratrooper Rocket launcher Sleeping bag Soldier Stronghold (fortification) Tank Tent Trigger

# Navy Specific Terms

### English

Aircraft carrier Anchor Boat Bow / stern Crew Deck Destroyer Flight deck Frigate Guided-missile cruiser Hatch Hull Inflatable boat (RIB)

#### Spanish

Vehículo blindado Eiército Artillería Lanzador de granada Granada de mano Infantería Campo minado Mortero Paracaídas Soldado paracaidista Lanzacohetes Saco de dormir Soldado Fortaleza Tanque Tienda Gatillo

## Spanish

Portaviones Ancla Barco Proa / popa Tribulación Cubierta Destructor Cubierta de aterrizaje Fragata Crucero misil teledirigido Escotilla Casco Bote inflable (El Zodiac)

Landing craft Life raft Marine (Corps) Minesweeper Navy Periscope Port / starboard Sailor SCUBA diver

Ship Shipyard Submarine Torpedos Warship

# Air Force Specific Terms

### English

Air intake Aircraft Air Force Airfield Airplane (propeller) Cockpit (cabin) Cockpit canopy Combat aircraft Control stick Control stick Control tower Ejection seat Fighter-Bomber Flaps Jet Jet engines

#### Spanish

Lancha de desembarco Balsa salvavidas Infantería de Marina Buscaminas Marina de guerra Periscopio Babor / estribor Marinero Hombre rana / Buzo de escafandra autónoma Barco Astillero Submarino Torpedos Buque de guerra

### Spanish

Entrada de aire Nave aérea Fuerza Aérea Campo de aterrizaje Avion de hélice Cabina del piloto Cubierta de la cabina Avión de combate Palanca de mando Torre de control Asiento eyectable Avión de caza-bombardero Alerones Jet Motores de reacción

Missile(s) Pilot Runway Tarmac (apron) Taxiway Terminal building Transport aircraft Wing

# Security and Combat Situations

## English

Halt! Keep away! Not a step further! Stay where you are! Stop or I will shoot / fire! Hands up! Don't move! Follow our orders! Does anyone speak English? Do you understand? I do not speak English. I do not understand. Surrender! Open fire! Do you have weapons? Answer the question! Give me your weapon! Lay down your weapon! Come with me! Follow me! Hurry up / slow down! Move! Lie down

#### Spanish

Misil Piloto Pista de aterrizaje Pista Pista de taxi Terminal de pasajeros Avión de transporte Alas

### Spanish

Pare! Pare va! Ouédese donde está! Pare o tiro! Manos arriba! No se mueva! Obedesca! Alquien habla inglés? Entiende? No hablo inglés. No entiendo. Ríndase! Abre Fuego! Tiene armas? Responda! Deme su arma! Ponga el arma en el suelo! Venga conmigo! Sígame! Apúrese / mas despacio! Andel Échese al suelo!

Line up! Move back! You are a prisoner.

# Interrogation and Identification

## English

Come here! Don't be frightened! We want to help you. Do you speak Spanish? Do you speak English? Please, speak more slowly. I don't speak... I don't understand. Do you need medical attention? Are you carrying a weapon? We must search you. Do you have any explosives? We must search this place. Come with me! Wait here Do you have any identification papers? Tiene algun(os) documento(s) de What is your name? Where are you from? What is your date of birth?

What is your place of birth?

What nationality are you?

What is your occupation?

What is your rank / title?

Where do vou serve?

Were you in the armed forces?

What group / unit do you belong to?

#### Spanish

Póngase en fila! Para atrás! Usted es prisionero.

### Spanish

Venga acá! No tenga miedo! Queremos ayudárle. Habla español? Habla ingles? Por favor, hable más despacio. No hablo... No entiendo Necesita atención médica? Está usted armado? Tenemos que registrarlo. Tiene explosivos? Tenemos que registrar este lugar. Venga conmigo! Espere aqui. identificación? Cuál es su nombre? De dónde es usted? Cuál es su fecha de nacimiento? Dónde nació? De que nacionalidad es usted? Cuál es su profesión? Estaba en las fuerzas armadas? Cuál es su rango / título? A que grupo /unidada pertenece? Dónde sirve?

Where is your unit? Who is in charge? Who is your leader? Answer the question! Be quiet!

#### Spanish

Dónde está su unidad? Quién es el encargado? Quién es su líder? Responda! Silencio!

# Civil Affairs and Refugee Operations

### English

Don't be afraid. We are Americans. Do you need help? Do you need medical attention? How many are sick? Are there any dead? What happened? Where are you from? Where are you going? Where is your family? Are you married? How many children do you have? Do you have food? Do you have water? Do you need ...? Food Water Medicine Protection Shelter Clothing Shoes We have food / water. Form a line! Come one at a time!

## Spanish

No tenga miedo. Somos americanos. Necesita avuda? Necesita atención médica? Cuántos están enfermos? Hay algún muerto? Qué pasó? De dónde es usted? A dónde va? Dónde está su familia? Está casado? Cuántos hijos tiene? Tiene comida? Tiene aqua? Necesita ...? Comida Agua Medicina Protección Refugio Ropa Zapatos Tenemos comida / agua. Formen una línea! Vengan uno a uno!

You are next. Don't push. We have plenty of food. Go home!

# Maritime Refugee Operations

## English

Where did you sail? How many days have you been at sea? Is your engine working? How many people are in the boat?

Have you met any other ships? You must have an escort. We will take you aboard ship. We are going to / to the ... We will get there in ...days. Where is the latrine? The latrine is to the right / left / straight ahead.

#### Spanish

Usted es el próximo. No empuje. Tenemos suficiente comida. Vayase a su casa!

## Spanish

De que puerto salió? Cuántos días estuvo al mar? Su motor funciona? Cuántas personas hay en el barco? Encontró otros barcos? Debe tener una escolta. Vamos a llevarle a bordo. Vamos a / a la... Vamos a llegar allá en ...dias. Dónde está la letrina? La letrina está a la derecha/ a la izquierda / en frente.

# APPENDIX F: International Road Signs



# APPENDIX G: Deployed Personnel's Guide to Health Maintenance

DoD-prescribed immunizations and medications, including birth control pills, should be brought in sufficient quantity for deployment's duration.

Only food, water, and ice from approved U.S. military sources should be consumed. Consuming food or water from unapproved sources may cause illness. Food should be thoroughly cooked and served hot.

Thorough hand-washing before eating and after using the latrine is highly recommended, as is regular bathing. Feet should be kept dry and treated with antifungal powder. Socks and underwear should be changed daily; underwear should fit loosely and be made of cotton fiber.

Excessive heat and sunlight exposure should be minimized. Maintaining hydration is important, as are following work-rest cycles and wearing uniforms properly. Sunglasses, sunscreen (SPF 15 or higher), and lip balm are recommended. Drinking alcohol should be avoided. Personnel with previous heat injuries should be closely monitored.

Uniforms should be worn properly (blouse boots). DEET should be applied to exposed skin and uniforms treated with permethrin; permethrin is not intended for use on skin. Proper treatment and wear of uniform, plus application of DEET to exposed skin, decreases the risk of diseases transmitted by biting insects.

Overcrowded living areas should be avoided. Ventilated living areas and avoiding coughing or sneezing toward others will reduce colds and other respiratory infections. Cots or sleeping bags should be arranged "head to toe" to avoid the face-to-face contact that spreads germs.

Contact with animals is not recommended. Animals should not be kept as mascots. Cats, dogs, and other animals can transmit disease. Food should not be kept in living areas as it attracts rodents and insects, and trash should be disposed of properly. Hazardous snakes, plants, spiders, and other insects and arthropods such as scorpions, centipedes, ants, bees, wasps, and flies should be avoided. Those bitten or stung should contact U.S. medical personnel.

All sexual contact should be avoided. Properly used condoms offer some protection from sexually transmitted diseases but not full protection.

Stress and fatigue can be minimized by maintaining physical fitness, staying informed, and sleeping when the mission and safety permits. Alcohol should be avoided as it causes dehydration, contributes to jet lag, can lead to depression, and decreases physical and mental readiness. Separation anxiety, continuous operations, changing conditions, and the observation of human suffering will intensify stress. Assistance from medical personnel or chaplains is available.

# Additional Information

### Water

If unapproved water, as found in many lakes, rivers, streams, and city water supplies must be used in an emergency, the water may be disinfected by:

- Adding calcium hypochlorite at 5.0 ppm for 30 minutes;
- Adding Chlor-Floc or iodine tablets according to label instructions;
- Heating water to a rolling boil for 5 to 10 minutes; or
- Adding 2 to 4 drops of ordinary chlorine bleach per quart of water and waiting 30 minutes before using it.

Either U.S. military preventive medicine or veterinary personnel should inspect bottled water supplies. Bottled water does not guarantee purity; direct sunlight on bottled water supplies may promote bacterial growth.

Water in canals, lakes, rivers, and streams is likely contaminated; unnecessary bathing, swimming, and wading should be avoided. If the tactical situation requires entering bodies of water, all exposed skin should be covered to protect from parasites. Following exposure, it is important to dry vigorously and change clothing.

# Rodents

Rodents should not be tolerated in the unit area; they can spread serious illness. Diseases may be contracted through rodent bites or scratches, transmitted by insects carried on rodents (such as fleas, ticks, or mites), or by contamination of food from rodent nesting or feeding. Personnel can minimize the risk of disease caused by rodents by:

- Maintaining a high state of sanitation throughout the unit area;
- Sealing openings 1/4 inch or greater to prevent rodents from entering unit areas;
- Avoiding inhalation of dust when cleaning previously unoccupied areas (mist these areas with water prior to sweeping; when possible, disinfect area using 3 ounces of liquid bleach per 1 gallon of water).
- Promptly removing dead rodents. Personnel should use disposable gloves or plastic bags over the hands when handling any dead animal and place the dead rodent/animal into a plastic bag prior to disposal.
- Seeking immediate attention if bitten or scratched by a rodent or if experiencing difficulty breathing or flu-like symptoms.

#### Insects

Exposure to harmful insects, ticks, and other pests is a year-round, worldwide risk. The following protective measures reduce the risk of insect and tick bites:

- Use DoD-approved insect repellents properly;
- Apply DEET on all exposed skin;
- Apply permethrin on clothing and bed nets;
- Tuck bed net under bedding; use bed net pole;
- Avoid exposure to living or dead animals;
- Regularly check for ticks;
- Discourage pests by disposing of trash properly; eliminate food storage in living areas; and
- Cover exposed skin by keeping sleeves rolled down when possible, especially during peak periods of mosquito biting (dusk and dawn); keep undershirts tucked into pants; tuck pant legs into boots.

Uniforms correctly treated with permethrin, using either the aerosol spraycan method (reapply after sixth laundering) or with the Individual Dynamic Absorption (IDA) impregnation kit (good for 6 months or the life of the uniform) will help minimize risks posed by insects. The date of treatment should be labeled on the uniform.

Bed nets should be treated with permethrin for protection against biting insects using either the single aerosol spray can method (treating two bed nets) or the unit's 2-gallon sprayer. All personnel should sleep under mosquito nets, regardless of time of day, ensure netting is tucked under bedding, and use poles to prevent bed nets from draping on the skin.

#### **DoD-approved insect repellents are:**

IDA KIT: NSN 6840-01-345-0237 Permethrin Aerosol Spray: NSN 6840-01-278-1336 DEET Insect Repellent: NSN 6840-01-284-3982

## Hot Weather

If heat is a threat in the area, personnel should:

- Stay hydrated by drinking water frequently;
- Follow work-rest cycles;
- Monitor others who may have heat-related problems;
- Wear uniforms properly;
- Use a sun block (SPF 15 or higher), sunglasses, and lip balm;
- During hot weather, wear natural fiber clothing (such as cotton) next to the skin for increased ventilation;
- Seek immediate medical attention for heat injuries such as cramps, exhaustion, or stroke. Heat injuries can also occur in cold weather;
- Avoid standing in direct sunlight for long periods; be prepared for sudden drops in temperature at night, and construct wind screens if necessary to avoid blowing dust or sand.

#### Sunscreens:

Sunscreen lotion: NSN 6505-01-121-2336 Non-alcohol lotion base sunscreen: NSN 6505-01-267-1486

#### WORK/REST TABLE

		EAS WOR		MODER WOR		HARD WORK			
Heat Cat	WBGT Index ( <sup>o</sup> F)	Work / Rest	Water Intake (Qt/Hr)	Work / Rest	Water Intake (Qt/Hr)	Work / Rest	Water Intake (Qt/Hr)		
1	78 – 81.9	NL	1/2	NL	3/4	40/20 min	3/4		
2	82 - 84.9	NL	1/2	50/10 min	3/4	30/30 min	1		
3	85 - 87.9	NL	3/4	40/20 min	3/4	30/30 min	1		
4	88 - 89.9	NL	3/4	30/30 min	3/4	20/40 min	1		
5	> 90	50/10 min	1	20/40 min	1	10/50 min	1		

The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specific heat category. Individual water needs will vary +/- (plus/minus) 1/4 qt/hr. NL = no limit to work time per hour. Rest means minimal physical activity (sitting or standing) and should be done in shade if possible. **Caution:** Hourly fluid intake should not exceed 1 <sup>1</sup>/<sub>2</sub> quarts. Daily intake should not exceed 12 quarts. Note: MOPP gear adds 10<sup>o</sup> to WBGT Index.

## Food

High risk food items such as fresh eggs, unpasteurized dairy products, lettuce or other uncooked vegetables, and raw or undercooked meats should be avoided unless they are from U.S. military approved sources. Those who must consume unapproved foods should choose low risk foods such as bread and other baked goods, fruits that have thick peels (washed with safe water), and boiled foods such as rice and vegetables.

## Human Waste

Military-approved latrines should be used when possible. If no latrines are available, personnel should bury all human waste in pits or trenches.

## **Cold Weather**

If cold weather injuries are a threat in the area, personnel should:

- Drink plenty of fluids, preferably water or other decaffeinated beverages;
- Closely monitor others who have had previous cold injuries;
- Use well-ventilated warming tents and hot liquids for relief from the cold. Watch for shivering and increase rations to the equivalent of four MREs per day;
- Not rest or sleep in tents or vehicles unless well ventilated; temperatures can drop drastically at night;
- Dress in layers, wear polypropylene long underwear, and use sunglasses, scarf, unscented lip balm, sunscreen, and skin moisturizers;
- Insulate themselves from the ground with tree boughs or sleeping mats and construct windscreens to avoid unnecessary heat loss; and
- Remember that loss of sensitivity in any body part requires immediate medical attention.

WIND SPEED			COOLING POWER OF WIND EXPRESSED AS "EQUIVALENT CHILL TEMPERATURE"																			
KNOTS	MPH	TEMPERATURE (°F)																				
CALM	CALM	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60
		EQUIVALENT CHILL TEMPERATURE																				
3 - 6	5	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-70
7 - 10	10	30	20	15	10	5	0	-10	-15	-20	-25	-35	-40	-45	-50	-60	-65	-70	-75	-80	-90	-95
11 - 15	15	25	15	10	0	-5	-10	-20	-25	-30	-40	-45	-50	-60	-65	-70	-80	-85	-90	-100	-105	-110
16 - 19	20	20	10	5	0	-10	-15	-25	-30	-35	-45	-50	-60	-65	-75	-80	-85	-95	-100	-110	-115	-120
20 - 23	25	15	10	0	-5	-15	-20	-30	-35	-45	-50	-60	-65	-75	-80	-90	-95	-105	-110	-120	-125	-135
24 - 28	30	10	5	0	-10	-20	-25	-30	-40	-50	-55	-65	-70	-80	-85	-95	-100	-110	-115	-125	-130	-140
29 - 32	35	10	5	-5	-10	-20	-30	-35	-40	-50	-60	-65	-75	-80	-90	-100	-105	-115	-120	-130	-135	-145
33 - 36	40	10	0	-5	-10	-20	-30	-35	-45	-55	-60	-70	-75	-85	-95	-100	-110	-115	-125	-130	-140	-150
Winds / 40 MPH Little Add Effe	LITTLE DANGER					Fle	INCREASING DANGER Flesh may freeze within 1 minute								GREAT DANGER Flesh may freeze within 30 seconds							

# First Aid

# Basic Lifesaving

Those caring for injured persons should immediately:

- Establish an open airway,
- Ensure the victim is breathing,
- Stop bleeding to support circulation,
- Prevent further disability,
- Place dressing over open wounds,
- Immobilize neck injuries,
- Splint obvious limb deformities, and
- Minimize further exposure to adverse weather.

# **Injuries and Care**

# Shock

- Symptoms:
  - □ Confusion
  - □ Cold, clammy skin
  - □ Sweating
  - □ Shallow, labored, and rapid breathing
  - □ Rapid pulse

### ■ Treatment:

- □ An open airway should be maintained.
- □ Unconscious victims should be placed on their side.
- □ Victims should be kept calm, warm, and comfortable.
- □ Lower extremities should be elevated.
- □ Medical attention should be sought as soon as possible.

# Abdominal Wound

- Treatment:
  - □ Exposed organs should be covered with moist, clean dressing.
  - □ Wound should be secured with bandages.
  - **D** Displaced organs should never be reintroduced to the body.

# Bleeding

- Treatment:
  - Direct pressure with hand should be applied; a dressing should be used if available.
  - □ Injured extremity should be elevated if no fractures are suspected.
  - □ Pressure points may be used to control bleeding.
  - □ Dressings should not be removed; additional dressings may be applied over old dressings.
- Tourniquet:
  - □ NOTE: Tourniquets should only be used when an injury is life threatening.
  - □ A 1-inch band should be tied between the injury and the heart, 2 to 4 inches from the injury, to stop severe bleeding; wire or shoe strings should not be used.
  - □ Band should be tight enough to stop bleeding and no tighter.
  - Once the tourniquet is tied, it should not be loosened.
  - □ The tourniquet should be left exposed for quick visual reference.
  - □ The time that the tourniquet is tied and the letter "T" should be written on the casualty's forehead.

# Eye Injury

Treatment:

- Embedded objects should not be removed; dressings should secure objects to prohibit movement.
- Bandages should be applied lightly to both eyes.
- Patients should be continuously attended.

# Chest Wound

Symptoms:

- Sucking noise from chest
- Frothy red blood from wound

### Treatment:

- Entry and exit wounds should be identified; wounds should be covered (aluminum foil, ID card).
- Three sides of the material covering the wound should be taped, leaving the bottom untaped.
- Victim should be positioned to facilitate easiest breathing.

# Fractures

Symptoms:

- Deformity, bruising
- Tenderness
- Swelling and discoloration

### Treatment:

- Fractured limb should not be straightened.
- Injury should be splinted with minimal movement of injured person.
- Joints above and below the injury should be splinted.
- If not in a chemical environment, remove clothing from injured area.
- Rings should be removed from fingers.
- Check pulse below injury to determine blood flow restrictions.

# Spinal, Neck, Head Injury

Symptoms:

■ Lack of feeling and/or control below neck

Treatment:

- Conscious victims should be cautioned to remain still.
- Airway should be checked without moving injured person's head.

- Victims who must be moved should be placed, without bending or rotating victim's head and neck, on a hard surface that would act as a litter (door, cut lumber).
- Head and neck should be immobilized.

# Heat Injuries

### **Heat Cramps**

Symptoms:

- Spasms, usually in muscles or arms
- Results from strenuous work or exercise
- Loss of salt in the body
- Normal body temperature

### Heat Exhaustion

Symptoms:

- Cramps in abdomen or limbs
- Pale skin
- Dizziness, faintness, weakness
- Nausea or vomiting
- Profuse sweating or moist, cool skin
- Weak pulse
- Normal body temperature

#### Heat Stroke

Symptoms:

- Headache, dizziness
- Red face/skin
- Hot, dry skin (no sweating)
- Strong, rapid pulse
- High body temperature (hot to touch)

Treatment:

- Victim should be treated for shock.
- Victim should be laid in a cool area with clothing loosened.
- Victim can be cooled by sprinkling with cool water or fanning (though not to the point of shivering).
- If conscious, victim may drink cool water (2 teaspoons of salt to one canteen may be added).
- Seek medical attention immediately; heat stroke can result in death.

## Burns

Burns may be caused by heat (thermal), electricity, chemicals, or radiation. Treatment is based on depth, size, and severity (degree of burn). All burn victims should be treated for shock and seen by medical personnel.

## Thermal/First Degree

Symptoms:

- Skin reddens
- Painful

Treatment:

- Source of burn should be removed.
- Cool water should be applied to the affected area.

## Thermal/Second Degree

Symptoms:

- Skin reddens and blisters
- Very painful

Treatment:

- Source of burn should be removed.
- Cool water should be applied to the affected area.
- Blisters should not be broken.
- A dry dressing should cover the affected area.

### Thermal/Third Degree

Symptoms:

- Charred or whitish looking skin
- May burn to the bone
- Burned area not painful; surrounding area very painful

### Treatment:

- Source of burn should be removed.
- Clothing that adheres to burned area should not be removed.
- A dry dressing should cover the affected area.

## **Electrical Burns**

Treatment:

- Power source must be off.
- Entry and exit wounds should be identified.
- Burned area should be treated in accordance with its severity.

## **Chemical Burns**

Treatment:

- Skin should be flushed with a large amount of water; eyes should be flushed for at least 20 minutes.
- Visible contaminants should be removed.
- Phosphorus burns should be covered with a wet dressing (prevents air from activating the phosphorous)

# Cold Injuries

## Hypothermia

Symptoms:

- Body is cold under clothing
- Victim may appear confused or dead

Treatment:

- Victim should be moved to a warm place.
- Wet clothing should be removed; victim should be dressed in warm clothing or wrapped in a dry blanket.
- Body parts should not be rubbed.
- Victims must not consume alcoholic beverages.

## Frostbite

Symptoms:

- Skin appears white or waxy
- Skin is hard to the touch

## Treatment:

- Victim should be moved to a warm place.
- Affected area should be warmed in 104 to 108° F (40° C) water for 15 to 30 minutes (NOT hot water).
- Affected area should be covered with several layers of clothing.
- Affected area must not be rubbed.
- Victim must seek medical attention.

# **Emergency Life-Saving Equipment**

Equipment may be improvised when necessary. Following is a list of possible uses for commonly found items.

Shirts = Dressings/Bandages Belts, Ties = Tourniquets, Bandages Towels, Sheets = Dressings/Bandages Socks, Panty Hose, Flight cap = Dressings/Bandages Sticks or Tree Limbs = Splints Blankets = Litters, Splints Field Jackets = Litters BDU Shirts = Litters/Splints Ponchos = Litters/Bandages Rifle Sling = Bandages M-16 Heat Guards = Splints

# APPENDIX H: Individual Protective Measures

# Security Threats

Individual protective measures are the conscious actions which people take to guard themselves against physical harm. These measures can involve simple acts such as locking your car and avoiding areas where crime is rampant. When physical protection measures are combined they form a personal security program, the object of which is to make yourself a harder target. The following checklists contain basic individual protective measures that, if understood and followed, may significantly reduce your vulnerability to the security threats overseas (foreign intelligence, security services, and terrorist organizations). If you are detained or taken hostage, following the measures listed in these checklists may influence or improve your treatment.

# Foreign Intelligence and Security Services

- Avoid any actions or activities that are illegal, improper, or indiscreet.
- Guard your conversation and keep sensitive papers in your custody at all times.
- Take it for granted that you are under surveillance by both technical and physical means, including:
  - □ Communications monitoring (telephone, telex, mail, and radio)
  - □ Photography
  - Search
  - □ Eavesdropping in hotels, offices, and apartments
- Do not discuss sensitive matters:
  - □ On the telephone
  - □ In your room
  - □ In a car, particularly in front of an assigned driver

- Do not leave sensitive personal or business papers:
  - □ In your room
  - □ In the hotel safe
  - □ In a locked suitcase or briefcase
  - □ In unattended cars, offices, trains, or planes
  - □ Open to photography from the ceiling
  - □ In wastebaskets as drafts or doodles
- Do not try to defeat surveillance by trying to slip away from followers or by trying to locate "bugs" in your room. These actions will only generate more interest in you. If you feel you are under surveillance, act as naturally as possible, go to a safe location (your office, hotel, U.S. Embassy), and contact your superior.
- Avoid offers of sexual companionship. They may lead to a room raid, photography, and blackmail. Prostitutes in many countries report to the police, work for a criminal organization, or are sympathetic to insurgent or terrorist organizations; in other words, are anti-U.S. Others may be employed by an intelligence service.
- Be suspicious of casual acquaintances and quick friendships with local citizens in intelligence/terrorist threat countries. In many countries, people tend to stay away from foreigners and do not readily or easily make contact. Many who actively seek out friendships with Americans may do so as a result of government orders or for personal gain.

In your personal contacts, follow these guidelines:

- Do not attempt to keep up with your hosts in social drinking.
- Do not engage in black market activity for money or goods.
- Do not sell your possessions.
- Do not bring in or purchase illegal drugs.
- Do not bring in pornography.

- Do not bring in religious literature for distribution. (You may bring one Bible, Koran, or other religious material for your own personal use.)
- Do not seek out religious or political dissidents.
- Do not take ashtrays, towels, menus, glasses, or other mementos from hotels or restaurants.
- Do not accept packages, letters, etc., from local citizens for delivery to the U.S.
- Do not make political comments or engage in political activity.
- Do not be lured into clandestine meetings with would-be informants or defectors.
- Be careful about taking pictures. In some countries it is unwise to take photographs of scenes that could be used to make unfavorable comparisons between U.S. and local standards of living or other cultural differences. Avoid taking any photographs from moving buses, trains, or aircraft.

The following picture subjects are clearly prohibited in most countries where an intelligence or terrorist/insurgent threat is evident:

- □ Police or military installations and personnel
- □ Bridges
- □ Fortifications
- Railroad facilities
- □ Tunnels
- Elevated trains
- Border areas
- Industrial complexes
- Port complexes
- Airports

# Detention

Most intelligence and security services in threat countries detain persons for a wide range of real or imagined wrongs. The best advice, of course, is to do nothing that would give a foreign service the least reason to pick you up. If you are arrested or detained by host nation intelligence or security, however, remember the following:

- Always ask to contact the U.S. Embassy. You are entitled to do so under international diplomatic and consular agreements, to which most countries are signatories.
- Phrase your request appropriately. In Third World countries, however, making demands could lead to physical abuse.
- Do not admit to wrongdoing or sign anything. Part of the detention ritual in some threat countries is a written report you will be asked or told to sign. Decline to do so, and continue demanding to contact the Embassy or consulate.
- Do not agree to help your detainer. The foreign intelligence or security service may offer you the opportunity to help them in return for releasing you, foregoing prosecution, or not informing your employer or spouse of your indiscretion. If they will not take a simple no, delay a firm commitment by saying that you have to think it over.
- Report to your supervisor immediately. Once your supervisor is informed, the Embassy or consulate security officer needs to be informed. Depending on the circumstances and your status, the Embassy or consulate may have to provide you assistance in departing the country expeditiously.
- Report to your unit's security officer and your service's criminal investigative branch upon returning to the U.S. This is especially important if you were unable to report to the Embassy or consulate in country. Remember, you will not be able to outwit a foreign intelligence organization. Do not compound your error by betraying your country.

# Foreign Terrorist Threat

Terrorism may seem like mindless violence committed without logic or purpose, but it is not. Terrorists attack soft and undefended targets, both people and facilities, to gain political objectives they see as out of reach by less violent means. Many of today's terrorists view no one as innocent. Thus, injury and loss of life are justified as acceptable means to gain the notoriety generated by a violent act in order to support their cause.

Because of their distinctive dress, speech patterns, and outgoing personalities, Americans are often highly visible and easily recognized when they are abroad. The obvious association of U.S. military personnel with their government enhances their potential media and political worth as casualties or hostages. Other U.S. citizens are also at risk, including political figures, police, intelligence personnel, and VIPs (such as businessmen and celebrities).

Therefore, you must develop a comprehensive personal security program to safeguard yourself while traveling abroad. An awareness of the threat and the practice of security procedures like those advocated in crime prevention programs are adequate precautions for the majority of people. While total protection is impossible, basic common sense precautions such as an awareness of any local threat, elimination of predictable travel and lifestyle routines, and security consciousness at your quarters or work locations significantly reduce the probability of success of terrorist attacks.

To realistically evaluate your individual security program, you must understand how terrorists select and identify their victims. Terrorists generally classify targets in terms of accessibility, vulnerability, and political worth (symbolic nature). These perceptions may not be based on the person's actual position, but rather the image of wealth or importance they represent to the public. For each potential target, a risk versus gain assessment is conducted to determine if a terrorist can victimize a target without ramifications to the terrorist organization. It is during this phase that the terrorist determines if a target is "hard or soft." A hard target is someone who is aware of the threat of terrorism and adjusts his personal habits accordingly. Soft targets are oblivious to the threat and their surroundings, making an easy target.

Identification by name is another targeting method gathered from aircraft manifests, unit/duty rosters, public documents (Who's Who or the Social Register), personnel files, discarded mail, or personal papers in trash. Many targets are selected based upon their easily identifiable symbols or trademarks, such as uniforms, luggage (seabags or duffle bags), blatant national symbols (currency, tatoos, and clothing), and decals and bumper stickers.

# Travel Security

Travel on temporary duty (TAD/TDY) abroad may require you to stay in commercial hotels. Being away from your home duty station requires increasing your security planning and awareness; this is especially important when choosing and checking into a hotel and during your residence there.

The recent experiences with airport bombings and airplane hijacking suggest some simple precautions:

- You should not travel on commercial aircraft outside the continental U.S. in uniform.
- Prior to traveling by commercial aircraft, you should screen your wallet and other personal items, removing any documents (that is, credit cards, club membership cards, etc.) which would reveal your military affiliation.

**NOTE:** Current USMC policy requires service members to wear two I.D. tags with metal necklaces when on official business. Also, the current I.D. card must be in possession at all times. These requirements include travel to or through terrorist areas. In view of these requirements, the service member must be prepared to remove and

conceal these and any other items which would identify them as military personnel in the event of a skyjacking.

- You should stay alert to any suspicious activity when traveling. Keep in mind that the less time spent in waiting areas and lobbies, the better. This means adjusting your schedule to reduce your wait at these locations.
- You should not discuss your military affiliation with anyone during your travels because it increases your chances of being singled out as a symbolic victim.
- In case of an incident, you should not confront a terrorist or present a threatening image. The lower profile you present, the less likely you will become a victim or bargaining chip for the terrorists, and your survivability increases.

# Hostage Situation

The probability of anyone becoming a hostage is very remote. However, as a member of the Armed Forces, you should always consider yourself a potential hostage or terrorist victim and reflect this in planning your affairs, both personal and professional. You should have an up-to-date will, provide next of kin with an appropriate power-of-attorney, and take measures to ensure your dependents' financial security if necessary. Experience has shown that concern for the welfare of family members is a source of great stress to kidnap victims.

Do not be depressed if negotiation efforts appear to be taking a long time. Remember, chance of survival actually increases with time. The physical and psychological stress while a hostage could seem overpowering, but the key to your well-being is to approach captivity as a mission. Maintaining emotional control, alertness, and introducing order into each day of captivity will ensure your success and survival with honor.

During interaction with captors, maintaining self respect and dignity can be keys to retaining status as a human being in the captor's eyes. Complying with instructions, avoiding provocative conversations (political, religious, etc.), and establishing a positive relationship will increase survivability. Being polite and freely discussing insignificant and nonessential matters can reinforce this relationship. Under no circumstance should classified information be divulged. If forced to present terrorist demands to the media, make it clear that the demands are those of the captor and that the plea is not made on your behalf. You must remember that you are an American service member; conduct yourself with dignity and honor while maintaining your bearing.

Hostages sometimes are killed during rescue attempts; consequently, you should take measures to protect yourself during such an action. Drop to the floor immediately, remain still and avoiding any sudden movement; select a safe corner if it offers more security than the floor. Do not attempt to assist the rescuing forces but wait for instructions. After the rescue, do not make any comment to the media until you have been debriefed by appropriate U.S. authorities.

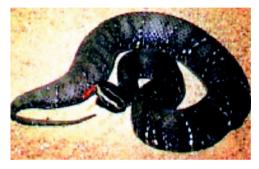
# APPENDIX I: Dangerous Animals and Plants

# Snakes

## Cantil

### Description:

Adult length is usually 0.8 to 1.4 meters. It is a heavy-bodied snake. Body color is quite variable, but most specimens have a series of alternating pale and dark transverse bands,



often separated by thin white lines. All have two distinct lines of pale scales on each side of the head, one just above eye level, the other just above the jaw line.

#### Habitat:

Most frequently found in seasonally dry scrub forest and large, grassy plains containing scattered trees. Mainly nocturnal; it often shelters in crevices or under rocks.

#### Activity and behavioral patterns:

Aggressive when provoked; will strike repeatedly.

### Venom's effects:

Primarily hemotoxic; necrotic effects reportedly extensive. Fatalities have been recorded.

## Terciopelo

#### **Description:**

Adult length usually 1.2 to 1.8 meters, with a maximum of 2.5 meters It is a moderately slender snake. Background color and patterns are highly variable, but many



specimens have what appears to be a series of X markings down the back. Its snout is markedly pointed.

#### Habitat:

Found at elevations from sea level to 1,300 meters in northern areas of its range, and to 2,700 meters in southern areas. Most often found in tropical rainforest and tropical evergreen forest. In drier habitats, it stays mainly near rivers and other water sources.

### Activity and behavioral patterns:

Terrestrial, but is occasionally found in bushes and low trees. Nocturnal; will often seek prey near human habitations and in or near cultivated areas. Unpredictable when disturbed; it is easily provoked to strike. It moves very rapidly, reverses direction abruptly, and defends itself vigorously. Extremely dangerous and often fatal.

#### Venom's effects:

Carries a large supply of potent venom that is primarily hemotoxic and cytotoxic; its bite can result in systemic internal bleeding and local tissue destruction.

### Eyelash Palm Pit Viper

#### **Description:**

Adult length usually less than 0.6 meter; it is a moderately slender snake with a prehensile tail. Background color and markings are extremely variable. Most specimens



have a background color of green, olive green, or gray-green, finely suffused with black; a pure yellow phase can be found from Honduras through Panama. All specimens have upright scales above their eyes that resemble eyelashes, though this feature is usually less conspicuous in snakes from Ecuador and Colombia.

#### Habitat:

Most often found in tropical wet forest, wet subtropical forest (cloud forest), and mountain area wet forest. Usually found in shrubs, trees, and vine tangles close to rivers and streams. Has been found at elevations up to 2,650 meters in Colombia.

#### Activity and behavioral patterns:

Primarily arboreal and diurnal. Characteristically coils with mouth wide open when disturbed. Usually not aggressive, but reportedly can be quick to bite when disturbed.

#### Venom's effects:

Pit viper venom is primarily hemotoxic, but also may contain neurotoxic components. Specific antivenins are not produced.

### Guatemalan Palm Pit Viper

#### **Description:**

Adult length 0.6 to 0.7 meters; a moderately slender snake with a prehensile tail. Background green to bluegreen, usually with no distinctive patterning. Side of the head lacks a postocular stripe.



#### Habitat:

Most often found in lower montane wet forest and moist forest at elevations of 500 to 2,000 meters.

#### Activity and behavioral patterns:

Arboreal and diurnal. Usually not aggressive and remains quietly coiled in vegetation, but will strike if brushed against or touched.

#### Venom's effects:

Venom is primarily hemotoxic, but may also contain neurotoxic components. Specific antivenins are not produced.

### Godman's Montane Pit Viper

#### **Description:**

Adult length 0.4 to 0.6 meters; a stout snake. Background highly variable, but usually dark.

#### Habitat:

Usually found in wet



and dry forest and fields, at elevations between 1,600 and 3,200 meters.

### Activity and behavioral patterns:

Diurnal/nocturnal; often found along forest paths. Aggressive; will vigorously defend itself.

#### Venom's effects

Although bites may result in considerable swelling, they reportedly are not especially dangerous, and no fatalities have been recorded.

### Jumping Pit Viper

#### **Description:**

Adult length 0.4 to 0.9 meters; is a stout-bodied snake. Background color varies from gray to brown, often with pink, red, or purple undertones. Its back has a series of dark,



diamond-shaped markings. Older specimens darken considerably.

#### Habitat:

Most often found in forested areas, including tropical rain forest and lower cloud forest.

#### Activity and behavioral patterns:

Nocturnal; usually slow-moving and not aggressive, but may make a wide, open-mouth display when disturbed, and can strike with up to half its body length. Terrestrial, but may climb a short distance up trees.

#### Venom's effects:

Hemotoxic and relatively mild; snakebite victims have reportedly experienced only localized pain and swelling, with no permanent damage.

## Neotropical Rattlesnake

#### **Description:**

Adult length 1 to 1.8 meters; a relatively stout snake with a prominent spinal ridge, most evident near the front of its body. Both the background color and body pattern are



extremely variable; however, in nearly all specimens, dark blotches on the body are extended rearward into prominent stripes.

#### Habitat:

Primarily found in semiarid regions and dry holes in more humid environments. Not found in rainforest. Can be found at elevations of less than 700 meters, but has been found at up to 1,000 meters in Costa Rica, 2,000 meters in Mexico and Colombia, 2,300 meters in Peru, and 2,800 meters in Venezuela.

#### Activity and behavioral patterns:

Most active during twilight and early morning hours. When threatened, it will escape if allowed, but it will assume a defensive coil and strike if cornered or startled. In the defensive position, it will raise a third of its body off the ground.

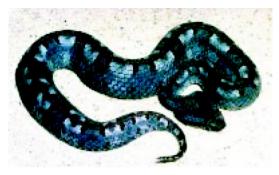
#### Venom's effects:

Reportedly the most dangerous snake in the region. Has both hemotoxic and neurotoxic components, varying among the subspecies. Primarily hemotoxic in Mexican and Central American races, the venom of South American species has myotoxic and neurotoxic components; bites have a high fatality rate. Local tissue damage and swelling is minimal, but the myotoxic component causes extensive skeletal muscle necrosis.

# Rain Forest Hog-nosed Pit Viper

### **Description:**

Adult length is usually 0.3 to 0.6 meters. A moderately stout pit viper with an upturned snout. Background



colors include tan, brown, red-brown, yellow-brown, gray-brown, and gray. Most specimens have a narrow red line down the middle of the back, and a dorsal pattern of rectangular patches of alternating colors. Some specimens are gray, with a row of small, black rectangular patches on either side of the middorsal stripe.

### Habitat:

Found primarily in lowland rainforest and mountain area wet forest at elevations of less than 900 meters, though it has been found at elevations of 1,900 meters in Colombia.

### Activity and behavioral patterns:

Active during day and night. Mostly terrestrial, but can be found climbing in shrubs or small trees. Frequently found coiled in patchy sunlight in leaf litter, and is very hard to see because of coloration and small size.

### Venom's effects:

Venom may be more toxic than usual for the genus; human fatalities have been attributed to its bite. Venom is predominantly hemotoxic with necrotic (tissue-destroying) factors. Most species have a relatively low venom yield, and the bite usually has mild to moderately severe effects. There are no specific antivenins manufactured.

# Yellow-blotched Palm Pit Viper

#### **Description:**

Adult length is usually 0.5 to 1.0 meters. It is a moderately slender snake with a prehensile tail. The background color is yellowgreen, usually with



black-bordered yellow blotches along its back. The top of the head usually has black markings, which often fuse to form stripes. Most specimens have a broad, dark stripe extending from the eye to the back of the head.

### Habitat:

Most commonly found in lower montane rainforest (cloud forest) at elevations of 1,200 to 2,300 meters.

### Activity and behavioral patterns:

Diurnal. Usually arboreal, but may be encountered at ground level or among low vegetation. It is usually not aggressive, and will remain quietly coiled in vegetation, but it will strike if touched or threatened.

### Venom's effects:

Bites have resulted in human deaths. Venom is primarily hemotoxic, but also may contain neurotoxic components. Antivenom specific to this viper is not produced.

# Slender Hog-nosed Pit Viper

### **Description:**

Adult length usually 0.4 to 0.5 meters, with a maximum of 0.8 meters. A relatively slender pit viper with an upturned snout. Background colors include tan, brown,



gray and gray-brown, with a narrow white, yellow or rust brown middorsal line bisecting a series of roughly rectangular, dark brown to black dorsal blotches.

### Habitat:

Found in seasonally dry forests, including tropical dry and arid forest, subtropical dry forest, and the drier portions of tropical moist forests, at elevations up to 1,000 meters.

### Activity and behavioral patterns:

Most frequently encountered at night, and is most active during the local rainy seasons. It is alert and quick to strike, though fatalities have not been recorded.

#### Venom's effects:

Venom is predominantly hemotoxic, with necrotic (tissue destroying) factors. Most species have relatively low venom yield, and bite usually has mild to moderately severe effects. There are no specific antivenins manufactured for this viper.

# March's Palm Pit Viper

### **Description:**

Adult length is usually 0.5 to 1.0 meters. It is a moderately slender snake with a prehensile tail. Background color is yellow-green to bluegreen, usually without a pattern. Some specimens may have indis-



tinct blue or yellow-green mottling along the back. The head lacks a distinct stripe.

### Habitat:

Most common in rainforest, lower montane wet forest, and cloud forest at elevations of 500 to 1,500 meters.

### Activity and behavioral patterns:

Arboreal. It is commonly encountered coiled in trees or bushes. Usually non-aggressive, but will strike if touched or threatened.

### Venom's effects:

Venom is primarily hemotoxic, but may also contain neurotoxic components. Specific antivenom for this viper is not produced. Fatalities have been recorded.

# Coral Snakes

There are several variations of coral snake in the country, all of which have a fatal bite, and should be avoided.

# Variable Coral Snake

### **Description:**

Maximum adult length is less than 0.8 meters. Has a yellow snout tip, and the head is black with a broad yellow ring behind the eyes.



Body pattern varies; usually has broad red rings separated from broad black rings by narrow yellow rings.

### Habitat:

Found in tropical rain forest, evergreen forest, deciduous forest, cloud forest, and pine-oak forest. Seen at elevations up to 1,350 meters.

### Activity and behavioral patterns:

A major cause of coral snake bites in Mexico and Guatemala. Coral snakes are usually non-aggressive; most bites occur during attempts to capture the snake.

### Venom's effects:

Coral snake venom is primarily neurotoxic.

# Central American Coral Snake

# No Photograph Available.

### **Description:**

Maximum adult length may exceed 1 meter. Quite variable; may be bicolored or tricolored. Head black, usually with a yellow (red in bicolored specimen) ring of variable width at about the midpoint. Body pattern usually consists of relatively broad red (may be quite dull) and black rings (the red rings often much broader than the black ones), usually separated by narrower yellowish rings (in tricolored specimens).

# Habitat:

Found in lowland rain forest, dry forest, lower cloud forest and lower montane dry forest at elevations of up to 1,600 meters.

# Activity and behavioral patterns:

This species is the major cause of coral snakebites in Central America. Coral snakes usually are not aggressive; most bites occur during attempts to capture the snake.

### Venom's effects:

Venom has myonecrotic toxins, and neurotoxins with presynaptic and postsynaptic effect; has caused human fatalities.

# Arthropods

# Scorpions

Although the scorpions in the region are capable of inflicting a painful sting, none are known to be life-threatening.

# Spiders

Although there are several spider species found in the region that are capable of inflicting a painful bite, including some very large and physically imposing tarantulas, only the black widow spiders are known to be life-threatening.

# Insects

There is little specific information of medical importance regarding insects. However, nearly all coun-



tries have at least one species of moth which has venomous/urticating hairs and/or whose larva (caterpillar) has venomous spines. Some caterpillars are very hairy (such as puss moths and flannel moths) and almost

unrecognizable as caterpillars, with long silky hairs that completely cover the shorter venomous spines. Others bear prominent clumps of still, venomous spines on an otherwise smooth body. Contact with these caterpillars can be very painful. Some are brightly colored.

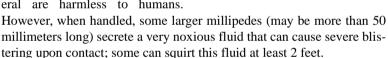
Paederus are small (usually 4 to 7 millimeters), slender rove beetles that do not look like typical beetles, and have very short wing covers that expose most of their flexible abdomens. When crushed, their body fluid contains an agent that will blister skin on contact. The lesions take at least a week to heal and the area remains painful for two weeks. The substance is extremely irritating if it gets into the eyes, and temporary blindness has been reported.

# Centipedes

Area centipedes are capable of inflicting a painful bite, none are known to be life-threatening.

# Millipedes

Millipedes do not bite and in general are harmless to humans.



# Plants

# Agave

# **Other Names:**

Century plant, agave, maguey.

# Mechanisms of toxicity:

The American species are not edible; some contain saponins, oxalic acid, and others calcium oxalate crystals called raphides. The sap is irritating.



### **Comments:**

The agave plant family has 650 species in tropical and subtropical regions. They are widely cultivated, thick-stemmed plants with confusing, controversial taxonomy. The leaves are long and narrow with spiny edges. It is used in cultured ornamentals, medicinals, and food sources (the heart is cooked in tortillas). It is a source of pulque (a fermented beverage) or mexal (a type of brandy), and is used as a fiber source for making paper.

# Cashew

### Mechanisms of toxicity:

The red or yellow fruit has a shell that contains a brown, oily juice. Will blister skin on contact (oils used to mark up skin for tribal rituals), and on ingestion will cause severe gastroenteritis. Fumes resulting from the roasting process are irritating to eyes and face. Tar from the bark causes blistering and is used in poison arrows in Africa.



### **Comments:**

The toxin is removed in a heating process before the nuts are released. Yellow-to-purple fruit is edible.

# Blistering Ammania

### No Photograph Available.

### Mechanisms of toxicity:

Found mostly in wet places; has an extremely acrid sap that causes intense pain and blistering on contact with skin

### **Comments:**

Often confused with loosestrife plants in the primrose family.

# Cowitch Cherry

### Mechanism of toxicity:

The genus is found in tropical America, particularly in the Caribbean. It is a tree or shrub, and sometimes has stinging hairs.

### **Comments:**

With careful handling, many parts of the plant can be cooked and eaten.

# Dalechampia

# No Photograph Available.

# Mechanisms of toxicity:

Some species with stinging glands cause irritant dermatitis.

### **Comments:**

A member of the Euphorbeacea family. Common in Mexico.

# African Teak

### Other names:

Osage Orange, fustic, bow wood.

# Mechanisms of toxicity:

Benzophenones, xanthones, stilbenes, flavonoids, and tannins known to the genus. It has a milky, bitter sap, and yields an

orange dye that causes dermatitis.

### **Comments:**

Twelve species are in tropical America, South Africa, and Madagascar.





# Pigeonberry

Other name: Golden dewdrop

#### Mechanisms of toxicity:

Roots contain dioscorine (an alkaloid), diosgenin (a steroidal saponin), diosbulbine (a diterpene lactone). Berries and leaves have a saponin that causes



sleepiness, fever, and seizures; child fatalities have been recorded. Contact can cause dermatitis.

#### **Comments:**

Tree or shrub with many yellow to orange globular juicy fruits with few seeds. Small flowers are light blue or white. Native to tropical America. Grown as an ornamental shrub in tropical and subtropical areas.

# Velvet Bean

### Other names:

Cowitch, cowhage, pica-pica, ox eye bean, horse-eye bean.

### Mechanisms of toxicity:

Many of the species' pods and flowers are covered with irritant hairs (proteolytic enzymes). Can be dangerous if they become embedded in



the eye. Beans tend to be foul tasting, even after thorough boiling, so little danger of ingestion exists.

### **Comments:**

Many species are widely naturalized.

# Panama Tree

**Other names:** Castano, tartargum.

#### Mechanisms of toxicity:

The seeds are edible, but the pods have stiff internal bristles that can easily penetrate the skin, causing intense irritation.

### **Comments:**

There are an estimated 200 tropical species.

# Nettle Tree

#### Other names:

Ortiga brava, pringamoza.

#### Mechanisms of toxicity:

Can be trees or shrubs, and have powerfully stinging hairs. The intensity of the sting is species-variable. The bushy,

tree-like varieties tend to be more irritating. Any contact with leaves or branches can cause severe burning pain that can last for more than 24 hours. There is no permanent damage.

### **Comments:**

There are 35 native species in tropical and southern Africa, and tropical America. They are often used as hedges or local medicinals.





# Indian laurel

### Other names:

Mastwood, domba oil, pinnay oil

### Mechanisms of toxicity:

Cream-colored, resinous sap is irritating to the skin and eyes; round fruit contains one large, poisonous seed. Sap is toxic.



Leaves contain cyanide and a saponin.

#### **Comments:**

Upright, dense, low-branched tree with smooth, leathery leaves (to 15 centimeters) and white flowers with 4 petals. Native to tropical Asia -- originally from India and the Pacific islands.

# Crownflower

Other name: Milkweed

### Mechanisms of toxicity:

The sap has an extreme irritant effect on the eyes; also causes an allergic type contact vesicant skin reaction. The active



principles include calcium oxalate, a proteolytic enzyme, digitalis-like glycosides, and an unidentified allergen.

### **Comments:**

The flowers are candied by Chinese in Java. Poisoning has caused fatality. The plant has been used as arrow poison in Africa, and the roots used as chew-sticks.

# Elephant's ear

### Other names:

Taro, calo, dasheen, eddo, black caladium.

### Mechanisms of toxicity:

Leaves and roots contain calcium oxalate crystals, or raphides, which boiling



renders harmless. Concentration varies from plant to plant. Irritant; painful stinging and burning of the lips and mouth recedes slowly; causes by dysphonia and dysphagia.

#### **Comments:**

One of the most commonly cultivated food plants in Polynesia. Young leaves and tubers edible; rich in starch; good substitute for the potato. Used for making poi in Hawaii.

# Shanshi

### Mechanisms of toxicity:

Hallucinogenic effects. Has caused death.

### **Comments:**

This is a group of deciduous shrubs or small trees with red, yellow or purple/black berry-like



fruit. Has five one-seeded nutlets. Bark used for tanning, crushed fruit as a fly poison. Used in folk remedies.

# Spurge Laurel

### Other names:

February daphne, merezon, mezereon.

# Mechanisms of toxicity:

The entire plant is toxic. The resin is acrid; it has been used as pepper substitute, with fatal consequences. Vesicular dermatitis on skin contact (extract used by beggars to induce skin lesions to arouse pity).



### **Comments:**

A very dangerous ornamental. A folk

remedy for many symptoms ("dropsy," "neuralgia," snakebite, etc.).

# Croton

### Other names:

Ciega-vista, purging croton.

# Mechanisms of toxicity:

Long-lasting vesicular dermatitis results from contact with the toxic resin. The cathartic and purgative properties of the toxins (croton oil, a phorbol, in



leaves, stems, and seeds) causes severe gastroenteritis, even death; 20 drops potentially lethal (the oil applied externally will blister the skin). Many members covered with hundreds of sticky hairs that cling to the skin if contacted. Contact with the eyes can be very serious.

# **Comments:**

The croton can be a wooly-haired annual herb, an evergreen bush, or small tree with smooth, ash-colored bark, yellow-green leaves, small flowers, and fruit.

# Jimsonweed

### Other names:

Thorn-apple, stinkweed, Devil's trumpet.

### Mechanisms of toxicity:

Entire plant is toxic because of tropane alkaloids. Fragrance from the flowers may cause respi-



ratory irritation, and the sap can cause contact dermatitis. People have been poisoned through consumption of crushed seeds accidentally included in flour; also through attempting to experience the hallucinogenic "high." Jimsonweed has quickly fatal potential.

### **Comments:**

Called Jamestown weed after the mass poisoning of soldiers sent to quell Bacon's Rebellion in 1666, who ate the seeds during a severe food shortage. Jimsonweed is often confused with Angel's Trumpet.

# Buck Thorn

### Other names:

Calderonii, tuilldora, coyotillo.

### Mechanisms of toxicity:

Poisonous; associated with weakness and muscle paralysis. Slow onset; toxins are anthraquinone glycosides in the fruit, which causes paraly-



sis. Leaves are also poisonous. The fruit is eaten, despite its toxicity.

### **Comments:**

Grows only in dry regions; never near the Atlantic coast. Used as timber.

# Beach Apple

#### Other names:

Manchineel, manzanillo

Mechanisms of toxicity:

Fruit has been confused with crabapples, resulting in serious poisoning and death. Symptoms occur 1 to 2 hours after



ingesting the fruit or leaves. Oral irritation with gastroenteritis, bloody diarrhea. Also causes severe dermatitis.

#### **Comments:**

A coastal tree cultured as a windbreak.

# Bulb Yam

### Other name:

Air potato, wild yam

Mechanisms of Toxicity: Tubers contain diosgenin, a steroidal saponin, the alkaloid dioscorine, and a norditerpene lactone (diosbulbine). This and other yams are poisonous when eaten raw. Causes gastro-



enteritis (nausea, bloody diarrhea). Can be eaten with special preparation. Has been used to commit murder. Found in the lowlands.

### **Comments:**

A prickly climber with a cluster of tubers just below the soil surface. Considered the chief "famine-food" of the tropical East. Poisonous unless properly prepared. Other species of this genus are good to eat with no special preparation, such as goa yam and buck yam.

### Mole Plant

#### Other names:

Caper spurge, Mexican fire plant, milkweed, red spurge, poison spurge, mala mujer, cypress spurge, cat's milk, wartwort, sun spurge, candelabra cactus, Indian spurge tree, milkwood, pencil



tree, pencil cactus, rubber euphorbia.

#### Mechanisms of toxicity:

Herbs, often with colored or milky sap, contain complex terpenes; irritates eyes, mouth, and gastrointestinal tract, and causes dermatitis by direct contact. Rain water dripping from plant can contain enough toxin to cause dermatitis and keratoconjunctivitis; can blind. Some have urticating hairs (skin contact breaks off ends and toxic chemicals are injected). The caper spurge has killed those who mistook the fruit for capers. The Mexican fire plant was thought to have medicinal properties in the first century and has killed children. Red spurge causes dermatitis. The pencil cactus has an abundant, white, acrid sap extremely irritating to the skin; has caused temporary blindness when splashed in the eyes, and has killed as a result of severe gastroenteritis after ingestion.

### **Comments:**

There are 2,000 species of extremely variable form; may appear as herbs, shrubs or trees — many are cactus-like. Fruit is usually a capsule opening in three parts, each one seeded; sometimes a drupe.

# Heliotrope

### Other names:

Cherry pie, scorpion's tail, Indian heliotrope.

# Mechanisms of toxicity:

Contains pyrrolizidine alkaloids. Cause of large epidemics (Afghanistan, India) of illness following ingestion of bread made with flour contaminated with members of this genus. The pathological effects (Budd-Chiari syndrome) take weeks to months, and death comes slowly over years. Chronic copper poisoning has been associated with this plant.



### **Comments:**

A large genus of worldwide distribution (250 tropical and temperate trees and shrubs).

# Bitter Apple, Bitter Gourd

# No Photograph Available.

### Mechanisms of toxicity:

Dried pulp is a drastic purgative that has caused bloody diarrhea, even toxic colitis and death; chemical nature unclear.

# **Comments:**

Has a thick tap-root and numerous coarse, sprawling, branched stems up to 18 feet long. Leaves are longer than they are wide and have stiff hairs on both surfaces. Tend to be most abundant in dry inland areas. Botanical literature frequently confused as to identification; easy to mistake for harmless plants.

# Sandbox Tree

**Other names:** Huru, bombardier

# Mechanisms of toxicity:

The toxins include hurin and huratoxin. Hurin is a plant lecithin, and inhibits protein syn-



thesis in the intestinal wall; it causes, after a delay of several hours, nausea, vomiting, and diarrhea. Huratoxin is presumed to be the irritating agent in the sap, which causes dermatitis and keratoconjunctivitis. Has been used as a fish poison.

#### **Comments**:

A tree that grows to 60 feet; bears a woody fruit resembling a small pumpkin. When dry, the fruit pod explodes with considerable force (dangerous to handle when dry) and makes a popping sound, which gives it the name of 'bombardier tree'.

# Guao

### Mechanisms of toxicity:

Several species cause contact dermatitis.

### **Comments:**

Several species have long leaf stems with few or no branches. Leaves are often spiny and clustered



at the ends of the branches; flowers are small and green.

# Trumpet Plant

**Other name:** Chalice vine

### Mechanisms of toxicity:

The entire plant is toxic; has tropane alkaloids.

### **Comments:**

Climbing or erect woody

vines with large showy yellow or cream-yellow flowers in a trumpet shape. Fruit is a fleshy elongated berry. Has been used as a source of sacred hallucinogens in Mexico.

# Таріоса

### Other names:

Manioc, cassava, yuca

### Mechanisms of toxicity:

Several varieties contain a toxin that breaks down in heat. Bitter or sweet casava cannot be distinguished other than by taste. Bitter casava is poisonous when eaten raw.



Cooking (with several changes of water) eliminates the toxic principle, but the process requires special preparation.

### **Comments:**

The genus includes almost 100 species (trees, shrubs, and herbs) that are found in the tropical and warm Americas. Some varieties are used as a significant food source. Same subfamily as Croton. Shrubby tree 3-5 feet high. Widely cultivated. Large, tuberous roots are rich in starch.



# Poison Ivy

### Other names:

Manzanillo, western poison oak, eastern poison oak, poison sumac, Chinese/Japanese lacquer tree, Japanese tallow or wax tree, scarlet rhus.

# Mechanisms of toxicity:



All contain allergenic nonvolatile oils known as urushiols in the resin canals. These oils are highly sensitizing, causing delayed, type IV sensitivity in some individuals.

#### **Comments:**

All species are deciduous, and the leaves turn red before being shed. Poison ivy is a climbing or trailing vine with trifoliate, alternate leaves that are smooth above and hairy beneath. Poison oak is never a climbing shrub, and is alternately three-leafed, smooth above and hairy beneath. It is found in disturbed areas and along trails in North America, and is a common cause of dermatitis. Poison sumac is a shrub or small tree with 7 to 13 alternate leaflets, and is found in swampy areas of North America. Very few cases of dermatitis are caused by this species because it inhabits isolated areas and few people are exposed to it. Some individuals suffer intense, debilitating reactions from contact with the sensitizing chemicals.

# Jaborandi plant

### No Photograph Available.

### Mechanisms of toxicity:

There are 22 tropical American species containing alkaloids (mainly pilocarpine), that cause miosis, increased salivation, diaphoresis, bronchospasm (increased airway resistance, bronchial smooth muscle tone, and increased secretions), pulmonary edema, cardiovascular instability, and increased intraocular pressure.

# Castor Oil Plant

**Other name:** Castorbean

### Mechanisms of toxicity:

Used to make a feed supplement; a lecithin, which is a highly toxic chemical, and some low-molecular



weight glycoproteins with allerenic activity have caused serious poisoning. Nuts are attractive, with a hazelnut-like taste, but toxic ricin is present in high concentration (2-6 seeds can be fatal). Seeds are used to make necklaces, which requires boring a hole through the seed; this allows the possibility of seed's toxin to reach the skin and enter the body through minor abrasions. Poisoning is evident after several hours.

### **Comments:**

Seeds have been found in Egyptian graves dating as far back as 4,000 B.C. Cultivated worldwide for 6,000 years for producing castor oil.

# Peppertree

### Other names:

Peruvian mastic tree, Brazilian peppertree, Christmas berry, Florida Holly, broadleafed peppertree.

### Mechanisms of toxicity:

All parts contain urushiol triterpene. Cutting branches can



cause volatile resin to contact skin or eyes, and can cause severe dermatitis, facial swelling, and keratoconjunctivitis. Used as medicinal and as an additive in pepper. Very strong gastrointestinal irritant.

### **Comments:**

Used in many medicinal decoctions and as treatment for skin disorders (e.g. warts). Many children have been poisoned by eating the fruits.

# Scarlet Wisteria

### Other names:

Corkwood tree, bagpod, purple sesbane, false poinciana, rattlebush.

### Mechanisms of toxicity:

All parts are poisonous; most poisonings due to use in herbal



teas. Causes Budd-Chiari syndrome. Seeds contain saponins. Up to 24 hours after ingestion, nausea and vomiting occur, with abdominal pain, abnormal accumulation of serous fluid in the abdominal cavity, abnormal enlargement of the spleen, severe diarrhea, hemolysis (red blood cell destruction), respiratory failure, and death.

### **Comments:**

Deciduous shrub or small tree with drooping, red-orange flowers in axillary clusters; June-September. Fruit is a legume with partitions between seeds. Native to South America.

# Strychnine

### Other names:

Nuxvomica tree, Snakewood tree.

### Mechanisms of toxicity:

Entire plant, including seeds, contains powerfully acting indole alkaloid strychnine, which can be fatal.



### **Comments:**

Genus of 190 different trees, shrubs, and vines with berry-like fruits. Found in most tropical regions. Some fruit considered edible despite dangerous seeds. A source of curare, which is obtained by stripping and macerating its bark. Curare, now used as a muscle relaxant, was formerly used as an arrow poison by South Americans.

# Physic Nut

### Other names:

Purging nut, pinon, tempate, Barbados nut.

# Mechanisms of toxicity:

Has a quickly fatal potential. The fruit has two or three black, oily, pleasant tasting,



poisonous seeds containing a plant lecithin (a toxalbumin called curcin) which, in contrast to many of the toxic lecithins, causes rapid toxicity. The roots and leaves are also toxic. Has caused fatalities; severe toxicity can follow ingestion of a single seed. Also has intensely cathartic oil that has been used in lamps and for cooking, and has caused fatal intoxication. The bark has been used as a fish poison. The plant is also a skin irritant (hairs), as are all euphorbs.

### **Comments:**

One hundred and seventy species of warm and tropical northern American trees or shrubs, usually with red flowers. Naturalized worldwide. Fruit is a three-sided capsule in many species.

# Black Nightshade

### Other names:

Deadly/common nightshade, horse nettle, bittersweet, Jerusalem cherry, nipple fruit, quena, wild tomato, apple of Sodom, white-edged nightshade.

### Mechanisms of toxicity:

The fruit of the Jerusalem cherry is a black berry. Fully ripe berries can be eaten; unripe berries contain solanine alkaloids, which can cause gastroeritis, weakness, and circulatory depression. Can kill

#### **Comments:**

There are 2,000 species of herbs, vines, and shrubs that are covered with small, star-shaped hairs. Has white, yellow, or blue flowers. Berries can have dry or juicy pulp and several seeds.

# White Snake Root

**Other names:** Fall poison, richwood

### Mechanisms of toxicity:

The entire plant is extremely toxic, with tremetol (a highly toxic complex alcohol) and several glycosides. "Milk sickness" is caused by drinking milk from a cow that has eaten this weed. Slow onset of symptoms (less than 24 hours), which include nausea, vomiting, tremors, jaundice, anuria, and prostration.



Has killed; was a major cause of deaths in the early 1800s. Causes liver and kidney degeneration.

### **Comments:**

A perennial herb of roadsides, fields, open woods, and pastures. There are many similar, white-flowered species that require expertise to identify them. Modern milk-processing methods eliminate danger from consuming milk of cows that have eaten the weed.

# **Pokeweed**

### Other names:

Pokeberry, poke salet.

### Mechanisms of toxicity:

Mature stems, roots, and berries are poison (saponins in foliage and roots). Can cause death if not prepared properly.

### **Comments:**



Young shoot tips eaten in many cultures, including Canada. Requires proper preparation (boiled with water changes; water contains toxic substances). Dye from berries used to color ink, wine, and sweets.

# APPENDIX J: International Telephone Codes

	nternational Te	lephone Codes	
Algeria	213	Malta	356
Australia	61	Mexico	52
Austria	43	Morocco	212
Bahrain	973	Netherlands	31
Belgium	32	Nigeria	234
Brazil	55	New Zealand	64
Canada	1	Norway	47
China	86	Oman	968
Cyprus	357	Philippines	63
Denmark	45	Portugal	351
Dibouti	253	Qatar	974
Egypt	20	Republic of Korea	82
Ethiopia	251	Saudi Arabia	966
Finland	358	Senegal	221
France	33	Seychelles	248
Gabon	241	Singapore	65
Germany	49	Somalia	252
Greece	30	South Africa	27
Hawaii	1	Spain	34
Hong Kong	852	Sweden	46
Indonesia	62	Switzerland	41
Iran	98	Syria	963
Iraq	964	Taiwan	886
Ireland	353	Tanzania	255
Israel	972	Thailand	66
Ivory Coast	225	Tunisia	216
Japan	81	Turkey	90
Jordan	962	UAE	971
Kenya	254	United Kingdom	44
Kuwait	965	United States	1
Libya	218	Yemen	967
Madagascar	261	Zambia	260
Malaysia	60	Zimbabwe	263
AT&T (public phones)	0072-911	On-base	550-HOME or
	or 0030-911		550-2USA

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