

## **Mexico Country Handbook**

This handbook provides basic reference information on Mexico, 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 Mexico.

The Marine Corps Intelligence Activity is the community coordinator for the Country Handbook Program. This product reflects the coordinated U.S. Defense Intelligence Community position on Mexico.

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Mexico

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## KEY FACTS

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**Country Name.** Mexico

*Official Name.* *Estados Unidos Mexicanos (United Mexican States)*

*Short Form.* *Mexico*

**Head of State.** Felipe Calderon. (since 1 December 2006)

**Capital.** Mexico (*Distrito Federal*)

**Population.** 107,449,500 (July 2006 est.)

**Time Zone.** UTC (formerly GMT) minus 6 hours, but UTC minus 7 and UTC minus 8 hours in western states, and UTC minus 5 hours in Chetumal.

**Telephone Country Code.** 52.

**National Flag.** Three equal vertical bands of green (hoist side), white, and red. The coat of arms (an eagle perched on a cactus with a snake in its beak) is centered in the white band.

**Languages.** Spanish (official); secondary languages include Mayan, Nahuatl, and several regional indigenous languages.

**Currency.** Mexican Peso



**Exchange rates.** 1 Mexican Peso = 100 cents. US\$1 = 11.032 Mexican Pesos (2006).

**Calendar.** Gregorian. The standard calendar used in the West.

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## **U.S. MISSION**

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### **US Embassy**

*Location* Paseo de la Reforma,  
305 Colonia Cuauhtemoc,  
06500 Mexico, Distrito Federal

*Telephone* U.S. (011-52) 55 5080-2000  
MX (01-55) 5080-2000

*Facsimile* U.S. (011-52) 55 5511-9980  
MX (01-55) 5511-9980

*Website* <http://mexico.usembassy.gov>

*E-Mail* [ccs@usembassy.net.mx](mailto:ccs@usembassy.net.mx)

#### *Mailing Address*

*From within Mexico* Embajada de Estados Unidos  
Paseo de la Reforma 305  
Col. Cuauhtemoc  
06500 Mexico, D.F

*From the United States* American Embassy Mexico  
P.O. Box 9000  
Brownsville, TX 78520-9000

### **U.S. Consulate**

U.S. Consulates are located in Ciudad Juarez, Guadalajara, Hermosillo, Matamoros, Merida, Monterrey, Nogales, Nuevo Laredo, and Tijuana.



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**US Embassy, Mexico City**

## **Travel Advisories**

Crime in Mexico continues at high levels, and it is often violent, especially in Mexico City, Tijuana, Ciudad Juarez, Nuevo Laredo, and the state of Sinaloa. Other metropolitan areas have lower, but still serious, levels of crime. Low apprehension and conviction rates of criminals contribute to the high crime rate. Travelers should always leave valuables and irreplaceable items in a safe place, or not bring them. All visitors are encouraged to use hotel safes when available, avoid wearing obviously expensive jewelry or designer clothing, and carry only the cash or credit cards that



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### **U.S. Consulate, Monterrey**

will be needed on each outing. There are a significant number of pick-pocketing incidents, purse snatchings and hotel-room thefts. Public transportation is a particularly popular place for pocket pickers. U.S. citizen in Mexico who are victims of crime are encouraged to report the incident to the nearest police headquarters and to the nearest U.S. consular office.

Visitors should be aware of their surroundings at all times, even when in areas generally considered safe. Women traveling alone are especially vulnerable and should exercise caution, particularly at night. Victims, who are usually unaccompanied, have been raped, robbed of personal property, or abducted and then held while their credit cards were used at various businesses and ATMs. Armed street crime is a serious problem in all major cities. Some bars and nightclubs, especially in resort cities such as Cancun, Cabo San Lucas, Mazatlan, and Acapulco, can be havens

for drug dealers and petty criminals. Some establishments may contaminate or drug drinks to gain control over the patron.

U.S. citizens should be cautious when using ATMs in Mexico. If an ATM must be used, it should be accessed only during the business day at large, protected facilities (preferably inside commercial establishments, rather than at glass-enclosed, highly visible ATMs on streets). Pedestrians are sometimes accosted on the street and forced to withdraw money from their accounts using their ATM cards.

A number of U.S. citizens have been arrested for passing on counterfeit currency they had earlier received in change. If you receive what you believe to be a counterfeit bank note, bring it to the attention of Mexican law enforcement. Kidnappings continue at an alarming rate. So-called “express” kidnappings, an attempt to get quick cash in exchange for the release of an individual, have occurred in almost all the large cities in Mexico and appear to target not only the wealthy, but also the middle-class. U.S. businesses with offices in Mexico or concerned U.S. citizens may contact the US Embassy or any U.S. consulate to discuss precautions they should take.

Criminal assaults occur on highways throughout Mexico; travelers should exercise extreme caution at all times, avoid traveling at night, and may wish to use toll (*cuota*) roads rather than the less secure, free (*libre*) roads whenever possible. In addition, U.S. citizens should not hitchhike with, or accept rides from, or offer rides to strangers. Tourists should not hike alone in backcountry areas, nor walk alone on lightly-frequented beaches, ruins, or trails.

All bus travel should be during daylight hours and on first-class conveyances. Although there have been several reports of bus hijackings and robberies on toll roads, buses on toll roads have a markedly lower rate of incidents than buses (second and third

class) that travel the less secure free highways. The US Embassy advises caution when traveling by bus from Acapulco toward Ixtapa or Huatulco. Although the police have made some progress in bringing this problem under control, armed robberies of entire busloads of passengers still occur.

In some instances, U.S. citizens have become victims of harassment, mistreatment and extortion by Mexican law enforcement and other officials. Mexican authorities have cooperated in investigating such cases, but one must have the officer's name, badge number, and patrol car number to pursue a complaint effectively. Please note this information if you ever have a problem with police or other officials. In addition, tourists should be wary of persons representing themselves as police officers or other officials. When in doubt, ask for identification. Offering a bribe to a public official to avoid a ticket or other penalty is illegal.

It is increasingly common for extortionists to call prospective victims on the telephone, often posing as police officers, and demand payments in return for the release of an arrested family member, or to forestall a kidnapping. Prison inmates using smuggled cellular phones often place these calls. Since most such demands or threats are baseless, persons receiving such calls should be extremely skeptical and should contact the US Embassy or closest U.S. consulate, or the Department of State for assistance.

## **Entry Requirements**

### ***Passport/Visa Requirements***

The Mexico government requires that all U.S. citizens present proof of citizenship and photo identification for entry into Mexico. However, some U.S. citizens have encountered difficulty boarding flights in Mexico without a passport. The U.S. Embassy



recommends traveling with a valid U.S. passport to avoid delays or misunderstandings. A lost or stolen passport is easier to replace when outside of the United States than other evidence of citizenship. However, U.S. citizenship documents such as a certified copy (not a simple photocopy or facsimile) of a U.S. birth certificate, a Naturalization Certificate, a Consular Report of Birth Abroad, or a Certificate of Citizenship are acceptable. U.S. citizens boarding flights to Mexico should be prepared to present one of these documents as proof of U.S. citizenship, along with photo identification, such as a state or military issued ID. Driver's licenses and permits, voter registration cards, affidavits and similar documents are not sufficient to prove citizenship for readmission into the United States.

The Intelligence Reform and Terrorism Prevention Act of 2004 requires that by January 1, 2008, travelers to and from the Caribbean, Bermuda, Panama, Mexico, and Canada have a passport or other secure, accepted document to enter or re-enter the United States. As of December 31, 2006, this requirement will apply to all air and sea travel to or from Mexico.

### ***Immunization Requirements***

Immunizations are recommended against typhoid, hepatitis A and hepatitis B. Booster shots for tetanus-diphtheria and measles are also recommended. For visitors entering directly from the United States, no immunization certification is required. Those traveling from a part of the world infected with yellow fever must have a vaccination certificate.

### ***Customs Restrictions***

U.S. citizens bringing gifts to friends and relatives in Mexico should be prepared to demonstrate to Mexican customs officials

the origin and the value of the gifts. U.S. citizens entering Mexico by the land border can bring in gifts with a value of up to US\$50.00 duty-free, except for alcohol and tobacco products. Those entering Mexico by air or sea can bring in gifts with a value of up to US\$300.00 duty-free.

### ***Credit Cards/Banking***

Banks in Mexico are rapidly expanding and improving services. They tend to be open weekdays from 0900 until 1700, and often for at least a half day on Saturday. In larger resorts and cities, they can generally facilitate currency exchange anytime during business hours. During times when the currency is in flux, a bank may not exchange dollars, so check before standing in line. Some, but not all, banks charge a service fee of about 1 percent to exchange traveler's checks. However, one can pay for most purchases directly with traveler's checks at the establishment's stated exchange rate. Using personal checks drawn on a U.S. bank is discouraged—the bank will wait for the check to clear, which can take weeks, before providing money.

Travelers to Mexico can withdraw money from ATMs in most major cities and resort areas. The U.S. State Department has an advisory against using ATMs in Mexico for safety reasons, stating that they should only be used during business hours, but this pertains primarily to Mexico City, where crime remains a significant problem. In most resorts in Mexico, using ATMs is perfectly safe—just use the same precautions you would at any ATM. Universal bank cards (such as the Cirrus and PLUS systems) can be used.

Visa, MasterCard, and American Express are the most accepted cards in Mexico. Most expenses at hotels, restaurants, and in stores, as well as almost all airline tickets, can be charged. Cash is usually required for gasoline purchases in Mexico. Cash advances on credit cards usually require as much as 2 hours to process.

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## **GEOGRAPHY AND CLIMATE**

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### **Geography**

Mexico is about three times the size of Texas, or one-fifth the size of the United States. It is a vast upland plateau lying between two branches of the Sierra Madre Mountains plus the low-lying Yucatan Peninsula. The Sierra Madre range enters Mexico from Guatemala with elevations ranging from 1,828 to 2,438 meters (6,000 to 8,000 feet), then dips to low hills in the Isthmus of Tehuantepec and then rises abruptly to a jumble of scenic high peaks and intermountain basins. From this point, the Sierra Madre Occidental (west) extends north to Arizona and the Sierra Madre Oriental (east) extends northeast to the Texas border. The eastern mountains are not as high as those in the west.

Mountains and their plateaus occupy two thirds of the land area of Mexico. The highest elevations are found south of Mexico City. Citlaltepetl is Mexico's highest peak at 5,700 meters (18,700 feet); with an almost perfect conical shape, it is reminiscent of Fujiyama in Japan. Mountains and plateaus drop gradually toward the north. The western range descends steeply to the Pacific Ocean with few passes, while the eastern range is gentler, with gaps to the Gulf of Mexico at Tampico and Veracruz.

### ***Land Statistics***

<b>Total Land Area</b>	1,972,550 square kilometers (761,600 square miles)
<b>Coastline</b>	9,330 kilometers (5,800 miles)
<b>International Borders</b>	Belize: 250 kilometers (155 miles) Guatemala: 962 kilometers (598 miles) United States: 3,141 kilometers (1,951 miles)

<b>Land Use</b>	Arable land: 12.66 percent Permanent crops: 1.28 percent Other: 86.06 percent (2005)
<b>Elevation Extremes</b>	Lowest point: Laguna Salada –10 meters (–32 feet) Highest point: Volcan Pico de Orizaba 5,700 meters (18,700 feet)

### ***Bodies of water***

Mexico has approximately 150 rivers, two-thirds of which empty into the Pacific Ocean; the remainder flow into the Gulf of Mexico or the Caribbean Sea. Despite this apparent abundance, water volume is unevenly distributed throughout the country. Five rivers—the Usumacinta, Grijalva, Papaloapán, Coatzacoalcos, and Pánuco—account for 52 percent of Mexico’s average annual volume of surface water. All five rivers flow into the Gulf of Mexico; only the Río Pánuco is outside southeastern Mexico, which contains approximately 15 percent of the national territory and 12 percent of the national population. In contrast, northern and central Mexico, with 47 percent of the national area and almost 60 percent of Mexico’s population, have less than 10 percent of the country’s water resources.

### ***Topography***

Mexico is characterized by several different features. Mexico has high, rough mountains; with coastal plains; high plateaus and desert. Various massive mountain ranges including Sierra Madre Occidental to the west, Sierra Madre Oriental to the east, Cordillera Neovolcanica through the center, and Sierra Madre del Sur to the south. Mexico’s coastal plain, which covers more than 9,330 kilometers (5,800 miles) of coastline, extends along the Pacific coast

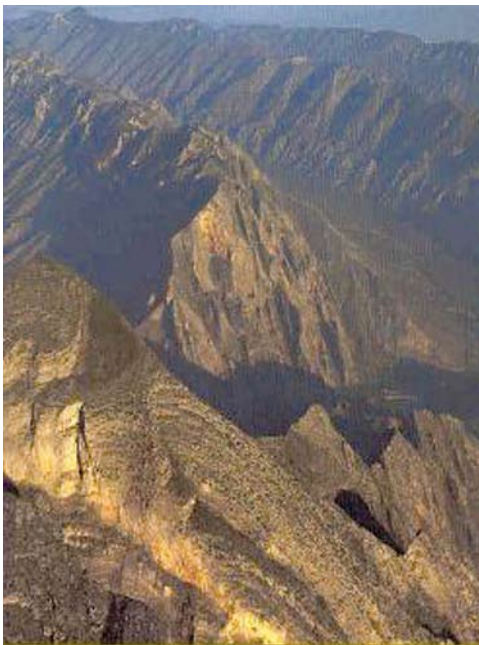
and the Gulf of Mexico. Most of the land area is higher than 1,000 meters (3,280 feet).

## ***Urban Centers***

### **Mexico City**

Mexico City is known as the *Distrito Federal* (Federal District) or simply as the DF. It is also one of the world's highest cities with an altitude of 2,250 meters (7,380 feet). Mexico City is a cosmopolitan capital. The all-glass skyscrapers, the stunning architecture, the elegant restaurants,

the deluxe hotels, residential areas with its palatial homes, and its modern supermarkets are all signs of a metropolitan center. Despite this, Mexico City remains the capital of a developing nation. Mexico City has an estimated population of 31.2 million people. Its altitude and location at 19 degrees north of the equator create a year round autumn-like climate. The city extends for almost 40 kilometers (25 miles) from north to south, and 25 kilometers (15 miles) from east to west. There are two distinct seasons, rainy (June to October) and dry (November to May). Mexico's summer months are from March through May. The temperature is the coolest between December and February.



**Sierra Madre Oriental**



**Mexico Topography**



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## **Mexico City**

### **Guadalajara**

Guadalajara is the second largest city in Mexico with a population of 4.5 million people, to include approximately 8,000 U.S. citizens. Guadalajara is the capital of Jalisco, one of the most significant states in Mexico, because of its agriculture, industry and coastal resorts which attract tourism. Guadalajara is almost completely surrounded by mountains cut by deep gorges. Guadalajara claims to have the best climate in North America with daily average temperatures of 20°C (68°F) year round. Guadalajara has taken steps in the past few years to modernize the city. They have widened and paved streets, built a new water and sewage system, and several new shopping malls; but it still maintains much of the essence of old Mexico. Don Miguel Hidalgo International (also known as Guadalajara International) Airfield is located 23 kilometers (14 miles) south of the U.S. Consulate.

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## **Monterrey**

Monterrey is the capital city of Nuevo Leon and the third largest city in Mexico. It is located in the northeastern part of Mexico, 915 kilometers (568 miles) north of Mexico City. It has a population of 4 million, and is the second most significant industrial and financial metropolis. The city is heavily industrialized, but the surrounding area is primarily agricultural and pastoral. Most rain falls from September to December, accompanied with high humidity. Summer often begins in March. Winters are short and mild, lasting from December to March. General Mariano Escobedo Airport (also known as Monterrey International) is located 19.6 kilometers (12.1 miles) northeast of the U.S. Consulate and Del Norte International Airport is located 16 kilometers (10 miles) north northwest of the U.S. Consulate.

## **Ciudad Juarez**

Ciudad Juarez is the capital city of Chihuahua and the seventh largest city in Mexico. It is located directly south-southeast of El Paso, Texas, and the Rio Grande. Ciudad Juarez has a blend of old and new, is tourist-oriented, and maintains strong cultural and economic ties with the United States. The mean daily maximum temperature in July is 35°C (95°F) and the mean daily minimum temperature in January is -1°C (31°F).

## **Tijuana**

The city of Tijuana is the largest Mexican city along the U.S. border and the ninth largest city in Mexico. It is located approximately 15 kilometers (9.3 miles) south of San Diego, California. Tijuana's primary economic base is tourism. Tijuana is 5 miles from the Pacific Ocean and is about 75 feet above sea level. More than 25,000 U.S. citizens live in Tijuana, and thousands of tourists cross the border daily. About 14 million tourists visit Tijuana



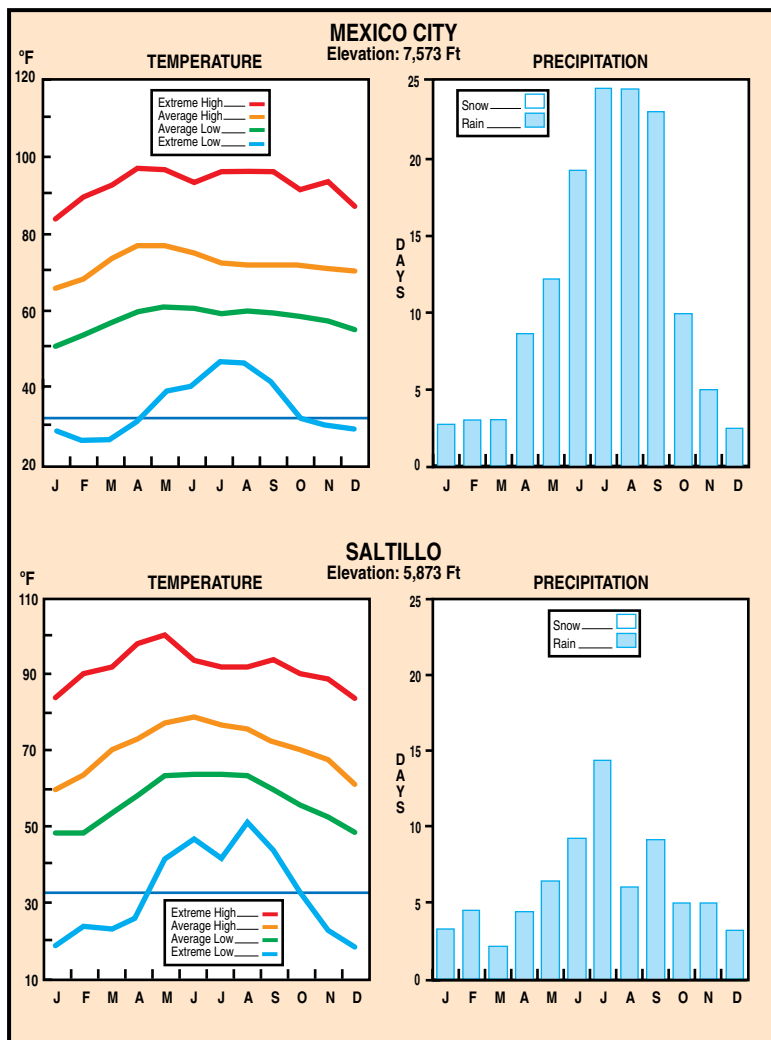
yearly. General Abelardo L. Rodriguez Airport (also known as Tijuana International) is located 4.8 kilometers (3 miles) north of the U.S. Consulate.

## **Climate**

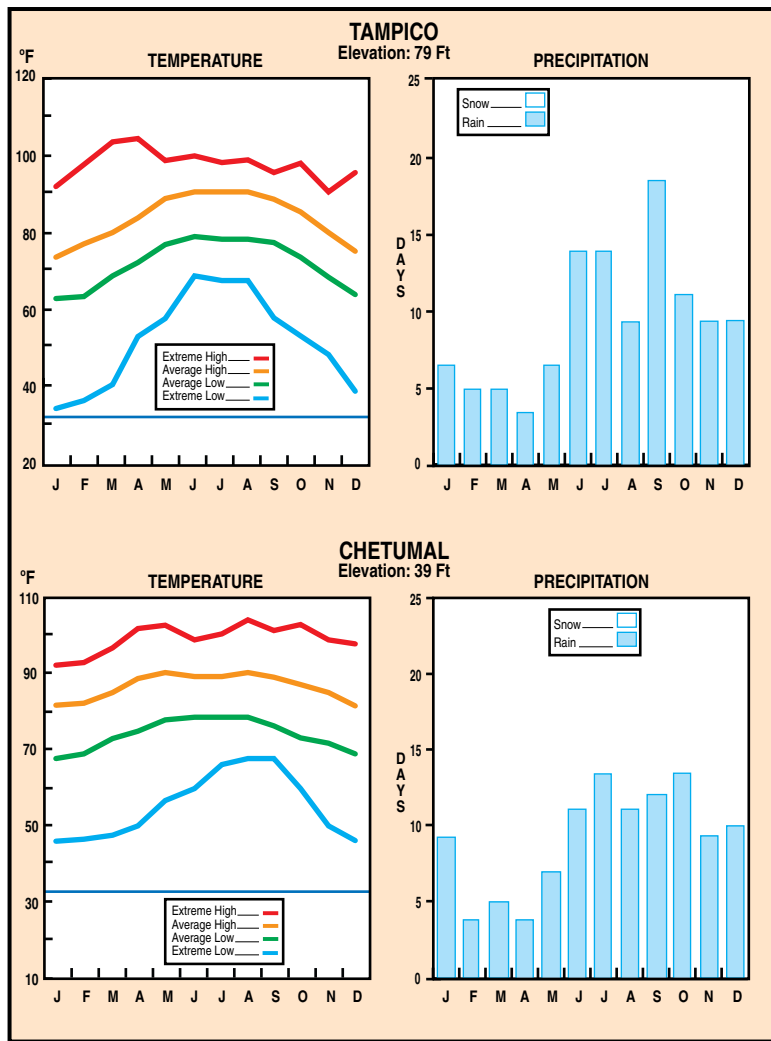
Mexico City, Guadalajara, and many other cities of Mexico lie in the central plateau where the climate is temperate all year. With Guadalajara and Mexico City situated high above sea-level, 5,069 feet and 7,349 feet respectively, these cities have moderately hot days in the summer months. On average Mexico City will have a high temperature of 88°F; Guadalajara will have an average high of 35°C (95°F). In Mexico City, expect temperatures in the upper 70s in April and May, in the lower 70s in the summer and fall, and in the upper 60s in the winter. The rainy season is from July to August, during which, Mexico City will likely receive rain showers lasting a couple of hours each afternoon.

The climate varies in southern Mexico and the Yucatan peninsula. In the south, some areas are dry; while others may receive as much as 15 feet of rainfall a year. In Oaxaca, which is more than 1,500 meters (5,000 feet) above sea level, the winter night temperatures can drop to less than 0°C (32°F), mid-day summer temperatures may be more than 37°C (100°F). On the peninsula temperatures vary greatly; Merida's temperature can rise as high as 42°C (108°F); Cozumel, just off the coast, rarely exceeds 32°C (90°F). The average daytime temperatures on the Yucatan Peninsula is in the upper 80s year-round, and nighttime temperatures seldom go below 15°C (60°F).

The Pacific coast has a pleasant climate year-round. The average daytime temperature in Acapulco is between 26°C and 32°C (80°F and 90°F), and nighttime temperatures are rarely cooler than 21°C (70°F). Acapulco receives most of its precipitation during the



## Mexico and Saltillo Weather



summer and early fall months, and there is almost no rain during the winter. A steady Pacific breeze keeps the ambiance pleasing. Further north along the Pacific coast, temperatures will drop at night but are relatively similar to that of Acapulco. In an average year, the maximum temperature experienced by Mazatlan or Puerto Vallarta will be in the mid 90s. To the north of Mazatlan, the Pacific coast evolves into a desert with a predictable increase in temperatures. In Guaymas, further north and closer to the Sonora desert, the average yearly temperature is 44°C (112°F).

Baja California has limited annual rainfall received during the late fall and winter months. The western coast of the peninsula experiences cooler year-round temperatures due to Pacific sea breezes. Conversely, temperatures on the eastern shore of the peninsula are higher. Ensenada, on the Pacific coast, will have yearly temperatures that do not exceed 35°C (95°F); but San Felipe, on the Gulf of California will have average temperatures as high as 44°C (118°F).

Most of northern Mexico is desert. As in all deserts, the days are very hot and the nights are cold, and during the winter, nighttime temperatures may drop below freezing. The daytime temperature is regularly above 37°C (100°F), except in the mountains, where the elevation cools the air. Monterrey in northeastern Mexico receives more rainfall and is not as harsh as the desert.

## ***Precipitation***

In southeast Mexico rainfall occurs all year, but most rainfall occurs between June and September. This region covers only 12 percent of Mexico, but receives the most rain. The rest of the regions in Mexico experience little rain, and many dry periods.

## ***Phenomena***

Both coasts are susceptible to tropical storms and hurricanes. The hurricane season is at the peak for Mexico between August and October on the Gulf of Mexico and July through September along the Baja California peninsula. Southwestern Mexico is predisposed to earthquakes. Since the early 20<sup>th</sup> century, this part of Mexico has had 35 earthquakes, the strongest of which reached a magnitude of more than 7.0 on the Richter scale.

## ***Environment***

Deforestation has led to erosion problems within Mexico, where it is most pronounced in the northern areas. These problems are compounded by excessive cattle-raising, as well as irrigating land with water containing a high level of salinity. Another problem facing the nation is its severe air pollution within the urban areas. In the mid-1980s, a study of 12 urban areas worldwide concluded that Mexico City's residents had the highest levels of lead and cadmium in their blood. In response to the increasing levels of air pollution, the government instilled a "no driving day," for residents. Based on the numbers of their license plates, Mexicans are assigned a day each week during which they are not allowed to drive their vehicles.

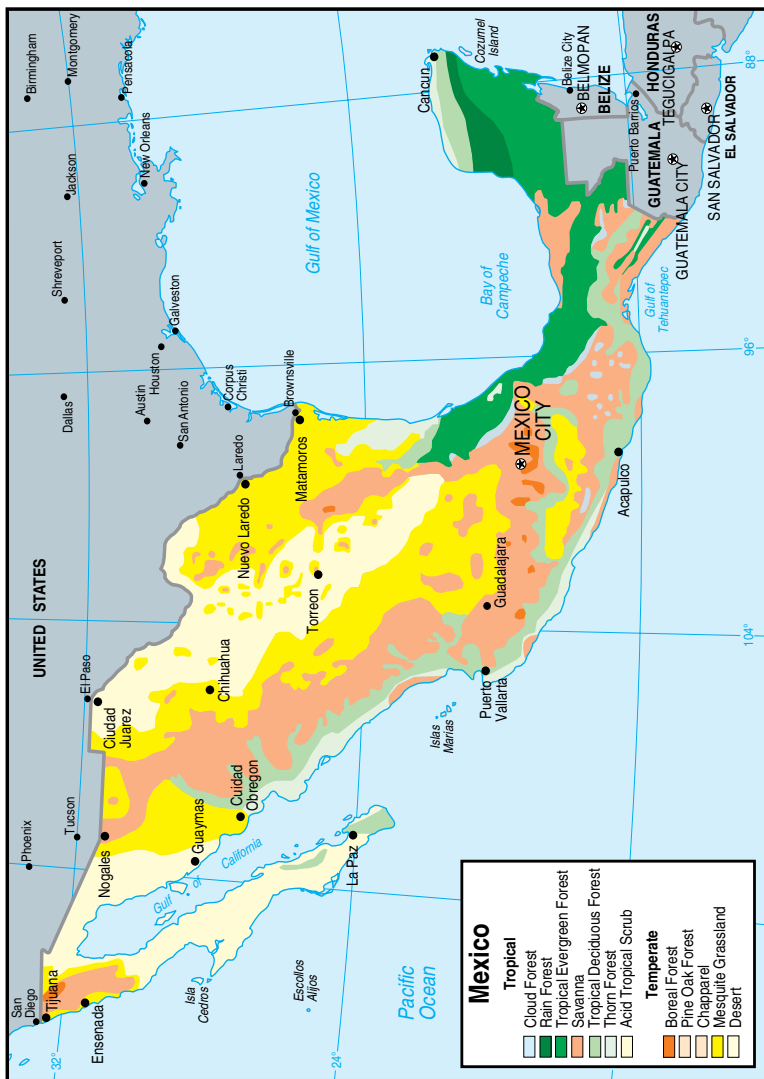
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# **TRANSPORTATION AND COMMUNICATION**

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## **Transportation**

Mexico has the most developed infrastructure in Latin America. The country is engaged in an extensive modernization program fueled by increasing trade demands, and centered on privatization, capital expansion, and increased resource availability. Road transport is the chief means of conveying passengers and freight in Mexico.



**Mexico Vegetation**

## **Roads**

Mexico's national road system consists of 349,038 kilometers (216,882 miles) of highway. Only 116,928 kilometers (72,656 miles) is paved, including 6,979 kilometers (4,337 miles) of expressway. The remaining 232,110 kilometers (144,226 miles) are unimproved roads. The national road system carries nearly 80 percent of Mexico's freight traffic. The five major north-south routes of the national road system are Routes 15/200, 45, 57, 85/190 (Pan-American Highway), and 180. Routes 40, 70, and 95 link them. Mountainous terrain makes east-west travel difficult. Road conditions beyond the primary routes are generally poor and reflect heavy usage. The national road system serves all major ports (profiled in this study) and the airfields profiled herein also are cleared by at least one all-weather, hard-surfaced road. The most significant road in the country is Route 85 (NAFTA Superhighway), which links Laredo, TX, and Mexico City.



**Air Pollution**

## ***Rail***

Mexico's national railroad system, the most significant means of long-haul transportation in the country, has generally paralleled the development of the road network. It promotes north-south movement and is concentrated in north and central areas. Mexico has more than 17,634 kilometers (10,957 miles) of standard gauge railroad; most of it is government-owned. The rail system is largely used for freight and has numerous connections with U.S. railroads. There is only one operational passenger train in Mexico. It travels along the Pacific coast from Chihuahua City through Copper Canyon to Los Mochis. There are three privately managed regional railway companies, Noreste, Pacifico-Norte, and Sureste, with an additional four privately managed short lines.

The subway system offers the quickest way to get around Mexico City. Approximately 4.7 million people ride it daily, making it the world's third-busiest subway, after those of Moscow and Tokyo. It has 175 stations and more than 200 kilometers (124 miles) of track on 11 lines. Trains arrive every 2 to 3 minutes during rush



**Mexico Subway**



hours; and at US\$.20 per ride, including transfers, it's also the world's least expensive subway.

All lines operate from 0500 to 0030 weekdays, 0600 to 0030 Saturdays, and 0700 to 0030 Sundays. Platforms and cars can become extremely crowded during rush hours (roughly 0730 to 1000 and 1500 to 2000). At these times the forward cars are reserved for women and children only.

## **Airports**

Mexico has numerous airfields dispersed throughout the country capable of supporting strategic airlift, including C-17 operations. There are 14 primary airfields (at least 8,000 feet long) and another 91 hard-surfaced airfields (at least 3,000 feet long). Most of the primary airfields are accessible by all-weather, hard-surfaced roads, which connect to other highways allowing access to the national highway system. While none are accessible by rail, many are located within 24 kilometers (15 miles) of commercial centers with rail sidings.

The following Mexico's primary airfields and their capabilities (elevation, length, and width are given in feet.)

<b>Airfield Name Coordinates</b>	<b>Elevation Surface</b>	<b>Length x Width</b>	<b>Capability</b>
Acapulco/General Juan N Alvarez Airport/ 16° 46.1'N 99° 46.0'W	16 Concrete	10,827 148	Capable of supporting heavy jet aircraft (bomber and fighter). Maintenance and POL limited for sustained operations
Cancun International/ 21° 01.9'N 086° 52.8'W	16 Asphalt	11,438 197	Medium to heavy transport operations.
Chihuahua/ General Robnerto Fierro Villalobos Airport/ 28° 42.3'N 105° 58.2'W	4,462 Asphalt	8,531 148	Airfield is capable of supporting limited jet and conventional air operations

<b>Airfield Name Coordinates</b>	<b>Elevation Surface</b>	<b>Length x Width</b>	<b>Capability</b>
Guadalajara/ Don Miguel Hidalgo International/ 20° 31.4'N 103°18.7'W	5,010 Concrete	13,124 197	Capable of handling any sustained modern fighter or bomber operations
La Paz/ General Manuel Marquez de Leon International 24° 06.1'N 110° 21.5'W	69 Concrete	8,203 148	One squadron of jet heavy bombers
Mazatlan/ General Rafael Buelna International/ Los Patos/ 23° 09.6'N 106° 16.2'W	33 Concrete w/Asphalt Overlay	8,859 197	Light Bomber Wing
Mexicali/ Genral Rodolfo Sanchez Taboada International 32° 37.5'N 115° 13.4'W	72 Concrete	8,530 148	Limited Capability of handling up to medium size aircraft operations
Mexico-Lic. Benito Juarez International/ Mexico DF International Airport AICM/ 19° 26.2'N 099° 04.4'W	1,266 Concrete	9,843 148	AMC suitable, C-141B, C-5, C-130, C-17, KC-10, KC-135, and C-9
Puerto Vallarta/ Licenciado Gustavo Diaz Ordaz International 20° 40.5'N 105° 16.4'W	19 Asphalt	10,171 148	Capable of medium transport operations on a limited basis
San Jose Del Cabo/ Los Cabos International 23° 08.0'N 109° 43.0'W	357 Asphalt	9,843 148	Heavy transport operations
Tampico/ General Francisco Javier Mina International 22° 17.4'N 097° 51.8'W	79 Concrete	8,367 148	Suitable for medium bomber and fighter operations
Tijuana/General Abelardo L Rodriguez International  32°32.4'N 116° 57.2'W	498 Concrete	8,202 148	Medium transport capable
Torreon 25° 34.0'N 103° 26.0'W	3,707 Asphalt	9,022 148	Airfield could support medium bombers and jet fighters on a limited basis.



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## **Benito Juárez International Airport**

### ***Maritime***

Mexico's maritime transport system is second in significance to its land transport system, except in various bulk cargoes, most notably petroleum. Mexico has five major international ports: Altamira, Tampico, and Veracruz on the Gulf coast; and Lázaro Cárdenas and Manzanillo on the Pacific coast. Mexico's inland waterways are not considered significant to its transportation infrastructure. Although there are nearly 2,900 kilometers (1,790 miles) of navigable inland waterways and a few major riverine ports (Tampico, Coatzacoalcos, Mazatlan), traffic is primarily limited to moving raw materials to processing plants or transshipment points. Only the lower reaches of major waterways are used by coastal craft and shallow draft barges.

## Rivers

Mexico has nearly 150 rivers, two-thirds of which empty into the Pacific Ocean and the remainder of which flow into the Gulf of Mexico or the Caribbean Sea. Despite this apparent abundance of water, water volume is unevenly distributed throughout the country. Five rivers—the Usumacinta, Grijalva, Papaloapán, Coatzacoalcos, and Pánuco—account for 52 percent of Mexico’s average annual volume of surface water. All five rivers flow into the Gulf of Mexico; only the Río Pánuco is outside southeastern Mexico, which contains approximately 15 percent of the national territory and 12 percent of the national population.

Mexico’s rivers are not navigable by large ships. Rather than serving as communication or commercial links, they have been harnessed as major sources of hydroelectric power, especially since the 1950s. The Grande de Santiago (a significant source of hydroelectric power) and Lerma rivers together form the largest and most significant river system in Mexico. The Rio Bravo (known



**Puerto Tampico**

as the Rio Grande in the United States) provides water for major irrigation projects and delineates the entire Texas-Mexico border.

## Ports

Mexico has several ports accessible to vessels at least 150 meters long, it has channel and anchorage depths of 7 meters or more, a large harbor, and advanced facilities.

Mexico's large and medium ports are equipped with excellent repair facilities and modern equipment. In addition to the ports listed here, Mexico has an additional 27 ports along its coasts.

### Primary Ports

Port	Coordinates	Harbor Size	Channel Depth	Pier Depth	Vessel Size
Acapulco	16° 50.0'N 99° 55.0'W	Small	23.2 m 76 ft	4–99 m 13–324 ft	500 m 1640 ft
Coatzacoalcos	18° 09.0'N 94° 25.0'W	Small	11.0–12.2 m 36 – 40 ft	8–84 m 26–275 ft	500 m 1640 ft
Manzanillo	19°03.0N 104°20.0W	Small	12.5–13.7 m 45–45 ft	6–13.5 m 19–442 ft	500 m 1640 ft
Tampico	22°13.0N 97°53.0W	Medium	11.0–12.2 m 36–40 ft	13–14 m 42–46 ft	500 m 1640 ft
Veracruz	19°12.0N 97°20.0W	Medium	7.9–10.7 m 26–35 ft	8–9 m 26–29 ft	500 m 1640 ft

## Communication

Mexico has the most advanced national telecommunication system in Latin America. This is directly related to the needs of the expanding oil industry, and the communication requirements of companies engaged in business resulting from NAFTA agreements.

### *Radio and Television*

There are more than 31 million radios in Mexico. Mexican radio broadcasting consists of 15 short-wave broadcast stations, 850 AM broadcast stations, and 545 FM broadcast stations.

There are approximately 26 million televisions and 236 television broadcast stations in Mexico. All broadcasts are in Spanish, except when showing a foreign film, which will be shown in its original language with Spanish sub-titles. Although Mexico has been a member of the INTELSAT consortium and has been able to receive satellite communications since the 1960s, television was unavailable to most of the population. There are four primary television stations: *Televisa* and *TV Azteca* (both privately-owned); and *Once TV* and *Television Metropolitana*.

### **Telecommunication**

There are more than 19 million main telephone line subscribers. There is adequate telephone service for the government and business; however, the general population has poor service. The more than 47 million mobile telephone subscribers outnumber land-line subscribers. The telephone infrastructure uses a domestic satellite system with 120 earth stations and microwave radio relays, and relies considerably on fiber-optic and coaxial cable. Mexico uses INMARSAT mobile earth stations, Central America Microwave System (CAMS) trunk lines, and high capacity Columbus-2 fiber-optic submarine cable to maintain connectivity to Morocco, Spain, Italy, the United States, the Virgin Islands, and the Canary Islands.

### **Internet**

The number of Mexican households owning a computer continues to increase. By the end of 2005, there were an estimated 17 million Internet users in Mexico and just over 2 million internet hosts. It is estimated that about half of the internet users are accessing the web from home computers and the remainder are using computers from work, internet cafés, libraries, or schools. In 2003, the government implemented the *e-Mexico* project, which aims to provide high-speed connection via satellite to more than 3,000 communities.

## **Newspapers and Magazines**

Mexico has several daily newspapers with national, state, and local circulation. All daily newspapers are privately owned. Mexican newspapers published in Spanish are: *El Excelsior*, *La Jornada*, (both left-leaning) and *El Financiero* (more business-oriented). *El Excelsior* is on the verge of bankruptcy. *Reforma*, founded in 1993, is the best selling newspaper. *Tiempo Libre*, issued on Thursdays, gives a week's listing of cultural activities in Mexico City, as well as updated information on museum exhibits and hours.

In English, the *News*, a right-leaning daily aimed at English-speaking foreigners, is available at most hotels and newsstands in tourist cities. The *Mexico City Journal*, published weekly, has feature articles on contemporary Mexican issues. *Time* and *Newsweek* are readily available. Weekly and monthly publications containing mostly travel information are available in hotels and travel agencies.

<b>Publication</b>	<b>Web Site</b>
<i>Excelsior</i>	<a href="http://www.excelsior.com.mx/">http://www.excelsior.com.mx/</a>
<i>La Jornada</i>	<a href="http://www.jornada.unam.mx/">http://www.jornada.unam.mx/</a>
<i>Reforma</i>	<a href="http://www.reforma.com/">http://www.reforma.com/</a>
<i>El Universal</i>	<a href="http://www.el-universal.com.mx/noticias.html">http://www.el-universal.com.mx/noticias.html</a>
<i>El Financiero</i>	<a href="http://www.elfinanciero.com.mx/ElFinanciero/Portal/">http://www.elfinanciero.com.mx/ElFinanciero/Portal/</a>
<i>Siempre!</i>	<a href="http://www.siempre.com.mx/">http://www.siempre.com.mx/</a>
<i>Tiempo Libre</i>	<a href="http://www.tiempolibre.com.mx/welcome.php">http://www.tiempolibre.com.mx/welcome.php</a>

## **Postal Services**

Post Offices are open Monday through Friday from 0900 to 1800. Surface mail sent from Mexico to another country is extremely slow; letters can be sent via air mail to expedite delivery by marking them *correo aereo* (air mail). Packages weighing less than 20

kilograms (44 pounds) can be sent from a central post office of a large town. To ensure the delivery of any package, you should send it *correo certificado* (registered mail). Mail can be received in Mexico from a hotel or the local post office. If it is sent to the post office, make certain the last name is in capital letters and underlined, and addressed to *Lista de Correos*. To obtain mail sent to you at a post office, ask for the *Lista de Correos* and present some identification. Mail sent to the *Lista de Correos* will be held for 10 days. MEXPOST is a delivery service offering fast and secure correspondence delivery within Mexico and with foreign countries. This company offers both pick up and delivery services. Federal Express and United Parcel Service are also available.

## **Satellites**

Mexico has international connectivity to the United States and Central and South America through 34 satellite earth stations.

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## **CULTURE**

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### **Statistics**

<b>Population</b>	107,449,525 (July 2006)
<i>Growth Rate</i>	1.16 percent (2006 est.)
<i>Density</i>	53.2 persons per square kilometer
<b>Ethnicity</b>	60 percent Mestizo (Amerindian-Spanish) 30 percent Amerindian, 9 percent White, 1 percent Other
<b>Age Structure</b>	
<i>0-14 years</i>	30.6 percent (2006 est.)
<i>15-64 years</i>	63.6 percent
<i>64 years and over</i>	5.8 percent
<b>Life expectancy</b>	75.41 years (2006 est.)



## ***Population Patterns***

Most of Mexico's population is mestizo. There are also a large number of Indians, along with a small number of Spanish, other Caucasians, Blacks, and Asians. About two-thirds of the population lives in the cities.

The Amerindian groups in Mexico represent a remarkable contrast to their mix-blood mestizo countrymen. There are great differences among the Indians, yet at the same time great similarities. In many parts of Mexico, the mestizo and the Indians often look alike. The differences are visible in the language and the clothing,



**Carriage Ride in Cozumel**

but most of all, in their basic attitudes toward life. The Indians tend to place the needs of the community above the needs of the individual, whereas the mestizos usually place themselves first. The Spanish conquistadors settled in Central Mexico, the indigenous population that did not assimilate was forced out of their homeland. Even today, most of the descendants of the original central Mexico tribes live in tiny villages around the valley of Mexico. Other tribes continue to live in the territory of their ancestors, usually on land that no one else desires. They live in the Mountains of Chiapas, the plateaus of the Yucatan, and the arid deserts in the north.

## ***Family***

Interpersonal relations are more important within Mexican society than impersonal, bureaucratic norms and regulations. *Parentela* (extended family) members, *compadres* (godparents), *cuates* (very close buddies), and friends expect from one another various degrees of loyalty, material and spiritual assistance, emotional support, physical protection, and even flexibility in the enforcement of laws, norms, and regulations.

Descendants are identified through bloodlines, which are traced equally through the father's and mother's side. Every person is, therefore, a member of two family lines. The person's name, which often includes the matrilineal after the patrilineal, represents this arrangement.

One's *parentela* usually includes all the descendants of a great-grandparent or of a grandparent on both the father's and the mother's sides. Thus, it is fairly common for a person to claim having a dozen or more uncles and aunts and several dozen cousins. However, this same person can easily identify the several degrees of the specific type of relationships that exist within the family.



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### Mexican Children

The Mexican household—that is, those family members who dwell under the same roof—differs from the North American household. Mexican households can include the parents’ nuclear family as well as that of a married son or daughter and their young children. Living arrangements vary among the different kinds of households. In most cases where two or more nuclear families live together, each keeps a separate budget and, often, a separate kitchen. After a few years of living with their parents, married children often set up independent households. Other household members can include out-of-town relatives and *arrimados* (literally “the leaned-on,” that is, renters or “permanent guests”).

Despite the changes that have occurred in Mexico’s society since 1940, the family remains the most significant social institution. Indeed, the economic crisis of the 1980s may have enhanced the

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family's role as the institution where they felt most secure and confident. Most viewed the family as the essential safety net providing help and protection. Economic survival often requires several family members to enter the workforce and pool their incomes. Remittances from one or more children working in the United States allow many families to continue living in rural areas.

The critical role of the Mexican family was confirmed in a 1995 national survey. Respondents associated the family with such positive terms as love, household, children, and well-being, and identified rejection by one's family as a worse occurrence than injustice, abuse of authority, poverty, or work conflicts.

Although Mexicans generally hold their families in high esteem, such may not be the case with those outside the family. Eighty percent of those interviewed by the Center for Educational Studies agreed that one should be cautious in relations outside the family.

Attitudes toward non-family members may be improving, however, as Mexicans increasingly endorse the tenets of a modern and open society. Mexicans have become tolerant of others and supportive of cultural differences. Such attitudes are particularly prevalent among Mexican youth and those with higher education and income.

For many families, however, *compadrazgo* (godparenting) offers a way to expand their support structure. Parents initiate this ritual kinship network by inviting a man and woman to serve as godparents for their child. Through *compadrazgo*, the child's parents and godparents—now known as *compadres* (literally “co-fathers”) and *comadres* (“co-mothers”)—enter into a complex relationship of rights and obligations. Often, the relationship cuts across social classes. When in need, parents often turn to their children's godparents for assistance. For example, an employer is expected to look first to his or her children's godparents when hiring addi-

tional workers. In exchange, the employer demands intense loyalty from the worker hired by that means.

Permanent social relations are also built through *cuatismo* among men and a comparable association among women. *Cuate* (from the Náhuatl word meaning twin brother) is used throughout Mexico to describe a special male friend or group of friends with whom one spends considerable leisure time and who can be trusted with intimate information. A *Cuate* can include up to 10 members who share common interests, who are bound by intense friendship and personal relations, and who commit themselves to assisting each other when in need.

### ***Role of Men and Women***

Beginning in the 1970s, changes occurred in women's role in the Mexican economy. In 1990, women represented 31 percent of the workforce, double the percentage recorded 20 years earlier. Demographics in the workforce also changed during this period. In



**Mexican Wedding**

1980, the typical female worker was younger than 25. Participation in the workforce was usually transitional and would end with marriage or childbirth. After the 1970s, however, an emerging feminist movement made it more acceptable for educated Mexican women to pursue careers. In addition, the economic crisis of the 1980s required many married women to reenter the workforce to help supplement the household income. About 70 percent of the women workers in the mid-1990s were employed in the service sector of the economy, usually at wages below those of men.

## **Education and Literacy Rate**

State education in Mexico is tuition-free and compulsory at the primary and secondary levels. Children from 6 to 11 years of age attend primary school. Primary and secondary schools last for 6 years each. Children age 4 years and older may attend nursery school. In 2000, only 70 percent of the population age 15 years or older had completed primary education, and of those age 15-19 years, approximately half are not attending school. Only 25 percent of the adult population has an upper secondary level education. However, more than 92 percent of the population age 15 years or older can read and write.

According to government estimates, spending on education in 2002 amounted to 6.8 percent of the GDP. The Mexico government distributes free textbooks and workbooks to all primary schools. In 1999, Mexico had 66,801 nursery schools, 97,627 primary schools, and 39,225 secondary schools, including 13,555 commercial and technical schools.

## **Recreation**

Some of Mexico's spectator sports include: Fútbol (soccer), Bull fighting, and professional wrestling. Other recreational activities



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## **Bullfight**

include music and dancing. Watching television is a favorite leisure activity. Soap Operas are especially popular.

## **Language**

Although Spanish is the official language, as many as 100 indigenous languages, including Tzotzil and Tzeltal (Mayan dialects), Nahuatl (Aztec), Otomi, Zapotec, and Mixtec are still spoken in parts of Mexico. About 15 percent of people who speak an indigenous language do not speak Spanish. English is taught in secondary schools, but competence is rare in most areas. In the larger cities, you can usually find someone who speaks English.

## **Religion**

About 89 percent of the population is Roman Catholic. Protestants account for 6 percent of the population, and various other religions make up the remaining 5 percent of the population. In 1857, the

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church was disestablished for many years. The church was then subjected to the Constitution of 1917, which placed the church under state control. In January of 1992, a constitutional amendment removed restrictions on the church. In Mexico, there are 14 archdioceses, 61 dioceses and 6 territorial prelatures.

## Customs and Courtesies

In Mexico, when dining, it is considered rude to have either hand placed on your lap, as is customary in the United States. Both hands should be in sight

at all times. In addition, never pick up any food with your hand unless the host does so first. Foods such as chicken, French fries, and pizza are eaten with a knife and fork. When eating out informally, it is considered rude to split the tab for food. Either offer to pay for the entire meal or let someone else do it. Latin Americans in general exercise more formality in public. For strangers, it is polite to use formal speech, using the *usted* rather than the *tu* form. Always bring a small gift or memento for any formal visits to military or governmental installations. Latin Americans are very rank conscious. There is a wide gap between officers and non-commissioned officers. Do not expect to conduct business on holidays or weekends in conjunction with holidays, on Mexico's National Day (15-16 September), *Semana Santa* (Holy Week), or



**Oaxaca-Posa Cathedral**



during the official vacation period for about three weeks around Christmas and New Years Day.

Occasions such as baptisms, first communions, the *Quinceanera* (a party to celebrate a girl's 15<sup>th</sup> 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; guests begin arriving at least 30 minutes after the scheduled beginning of the event.

One who is invited to a Mexican's home is not expected to bring a gift. However, a guest should reciprocate by extending an invitation for a meal. When choosing a gift, however, avoid silver. Mexicans are proud of their own silver, which is among the purest in the world.

When purchasing something in a store, it is rude to pay by placing money on the counter; instead, place it in the cashier's hands.

## **Greetings**

When meeting for the first time, people greet with a handshake and say *mucho gusto* (please to meet you). Among acquaintances, more common greetings are *buenos dias*, (good day), *buenas tardes*, (good afternoon), *buenas noches*, (good evening). Among friends, a more casual *buenas*, or *hola*, (hello) might be used. After greeting, one might be asked, *como estas?* (How are you?) Shaking hands heartily is common in most areas. 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. Women should initiate handshakes with men.

Men may greet familiars with an *abrazo* (hug), a right handshake accompanied by the left arm embracing the man around the shoulder, which may result in back-slapping. In larger groups, it is acceptable to offer a group greeting or simply greet as many people as possible. At a party, one should deliver a slight bow to the company when entering a room. When addressing others, using a title (e.g., *señor*, *Señora*, *Señorita*, or *Doctór*) shows respect. People show special respect for older people by using the titles *Don* for men, and *Doña* for 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). Departing guests are expected to shake hands with each guest.



**Native Housing in Kabah**

Conversations usually take place at a much closer physical distance than in the United States. Stepping back to increase the personal space is considered unfriendly and will likely result in the Mexican closing the distance again. Avoid frequent eye contact and do not look too intently at others.

Mexicans will use a *psst* sound to gain somebody's attention; this is not considered rude. Taking the Lord's name in vain is extremely offensive to Mexicans.

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

## ***Gestures***

Men should avoid placing their hands in their pockets while in public. Placing the hands on one's hips should also be avoided, as it is seen as confrontational. Do not make the "O.K." gesture. This gesture is considered vulgar. When indicating height of an individual, use the index finger. When indicating the height of an animal, use the whole hand.

## ***Topics to avoid***

When engaging in conversation with Mexicans, it would be impolite to discuss religion, politics, illegal aliens, and the Mexican-American War, and you should not engage in conversation that unfavorably compares Mexico to the United States.

## ***Dress***

In cities, dress tends to be quite formal. Men usually wear a shirt and long trousers. Women can wear anything reasonably respectable. For more formal occasions, men may wear a tie and jacket and women may wear a dress. Mexicans tend to dress as classy

as they can afford. Mexican businessmen generally wear Western-style clothing (suits and ties), but their clothing is more conservative than that which is worn in the United States. In Mexico, femininity is strongly encouraged in women's attire, provided it is not provocative or revealing. Businesswomen will almost always wear high heels and hosiery, dresses, skirted suits, or skirts and blouses. Acceptable casual wear for men includes pants and a light shirt with a sweater for cooler evenings. Blue jeans are acceptable for casual dress, if they are clean and in good condition.



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### Clothing

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## MEDICAL ASSESSMENT

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### Infectious Disease Risks to Deployed Personnel

Mexico is assessed as an intermediate-risk country for infectious diseases. Without force health protection measures, mission effectiveness will be seriously jeopardized.

The following is a brief summary of the infectious disease risks in Mexico. Risk varies greatly depending on location, individual exposures, and other factors.

## ***Food- or Water-borne Diseases***

Sanitation varies with location, but is typically well below U.S. standards. Local food and water sources (including ice) may be 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 from unapproved sources is consumed, diarrhea can be expected to temporarily incapacitate a high percentage of personnel within days. Hepatitis A, typhoid fever, and hepatitis E can cause prolonged illness in a smaller percentage of U.S. personnel exposed to contaminated food or water sources.

## ***Vector-borne Diseases***

The insect-borne diseases posing the greatest risk include dengue fever, leishmaniasis (both cutaneous and visceral), and malaria. Personnel exposed to mosquitoes, ticks, sand flies, or other biting vectors are at high risk.

Dengue occurs year-round and country-wide below 1,200 meters (3,940 feet) elevation, particularly in coastal urban areas. Cases have occurred at elevations up to 1,760 meters (5,700 feet) in some southern areas. All four serotypes of dengue have been reported in Mexico, and mosquito populations are reportedly increasing due to uncontrolled urbanization. Leishmaniasis, transmitted by sand flies that are most active between dusk and dawn, is a risk year-round, but reportedly is elevated from November through March in the Yucatan Peninsula. Malaria risk occurs year-round; foci occur in rural areas below 1,000 meters (3,280 feet) elevation, including the valleys of central Mexico, and coastal areas where foci occur as far north as Guaymas on the Pacific coast and Tampico on the Gulf coast; risk is highest in the south (including

the States of Oaxaca, Guerrero, Chiapas, and Campeche) and in Sinaloa State on the Pacific coast.

### ***Sexually Transmitted Diseases***

Gonorrhea, chlamydia, and other infections are common, and may affect a high percentage of personnel who have sexual contact, particularly with prostitutes. HIV/AIDS and hepatitis B infections also are risks and are associated with unprotected sexual contacts. Though the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term health impact on individuals is substantial.

### ***Water-contact Diseases***

Riverine operations or activities involving extensive water contact may result in personnel being temporarily debilitated with leptospirosis.

### ***Respiratory-borne Diseases***

Acute respiratory infections such as colds, bronchitis, influenza, pharyngitis, and pneumonia are a risk, particularly in crowded living conditions. In addition, tuberculosis skin test conversions among personnel who have contact with the local population could be elevated over U.S. military baseline rates.

### ***Animal-contact Diseases***

Throughout Mexico, human rabies cases occur sporadically. Dogs are the main source for human rabies cases; however, human cases attributed to rabid vampire bats have also been reported.

## Medical Capabilities

Although many facilities provide care equivalent to U.S. standards, the overall efficiency of health care services is poor because no unified referral system exists.

Emergency medical care in Mexico does not meet U.S. standards. Ambulance services exist in major cities. The Mexico government has several helicopters designated or configured for medical evacuation from major cities.

Mexico's preeminent hospitals offer state-of-the-art technology and services. The most developed medical resources are in Mexico City, where several private, Institute of Social Security and Services for Government Workers (ISSSTE), and Mexico Social Security Institute (IMSS) facilities provide services comparable to those found in large U.S. cities. In smaller cities and towns, the quality of public health care generally is substandard.

Spanish is the primary language spoken in hospitals, although many doctors also speak English. Various Mayan, Nahuatl, and other regional indigenous languages are also spoken.

The Mexican Social Security Institute provides for the health insurance needs of private-sector employees and their families (46 percent of the total Mexican population). The National Institute of Social Security and Services for State Workers covers government workers and their families (10 percent of the population). The rest of the population—the poor, indigenous peoples, and workers in the informal sector—was until recently without medical insurance. Private insurance is available, but the middle class and wealthy are the main consumers, because the premiums are out of reach for low-income Mexicans. In January 2004, Mexico instituted a landmark series of reforms through the “Seguro Popular” initiative, which now provides access to health care and phar-

maceuticals to nearly 22 million previously uninsured Mexicans, almost one fifth of Mexico's population. The government's goal is to enroll 50 million people by 2010.

The Mexico Red Cross regulates and supervises blood bank activities. Despite uneven enforcement of donor regulations, the confidence level in Mexico's HIV testing program and blood supply is similar to that in the United States.

U.S. Military personnel traveling on orders should call International S.O.S before going to a foreign medical facility. The phone number from inside the United States is 1-800-834-5514. If calling from Mexico, call 011-800-877-8000, then enter the U.S. toll-free number when prompted. In rural areas of Mexico it may be necessary to use the alternate access number, 95-800-877-8000.

## **Key Medical Facilities**

### ***American British Cowdray (ABC) Hospital***

***Coordinates*** 19-24-03N 099-12-10W

***Location*** Sur 136, No. 116 Col. Las Americas,  
Postal Code 1120

***City*** Mexico City

***Telephone*** (5) 230-8000; emergency (5) 230-8161,  
(5) 230-8162, (5) 272-8500, fax (5) 515-9119

***Type*** Private, 160 beds

***Capabilities*** Medical—general, nuclear medicine; surgical—general, obstetrics/gynecology (OB/GYN), pediatrics; ancillary—24-hour emergency room, intensive care unit/cardiac care unit (ICU/CCU), x-ray, pharmacy, laboratory, blood bank.

***Comments*** English-speaking staff. Helipad on hospital roof.



## ***Central Military Hospital***

***Coordinates*** 19-26-14N 099-12-58W

***Location*** Periferico Avila Camacho, esq. con Gral Cabral, located on the periphery road south of the defense headquarters, close to a highly visible landmark large Mexican soldier monument. Facility is East of the Hipodrome of Americas.

***City*** Mexico City

***Telephone*** (5) 557-3100; fax (5) 395-1881

***Type*** Military, 900 to 1,200 beds

***Capabilities*** Medical—cardiology, gastroenterology, nuclear medicine, neurology, pediatrics; surgical—cardiac, urology, ophthalmology, OB/GYN; ancillary—emergency room, ICU/CCU, pharmacy, laboratory (microbiology, pathology), physical therapy, respiratory therapy, blood bank.

***Comments*** Staff includes 200 military physicians. Some English-speaking staff. Two helipads.

## ***Hospital Angeles del Prado (del Pedegral)***

***Coordinates*** 19-18-45N 099-13-16W

***Location*** Camino A. Santa Teresa 1055,  
Colonia Heroes de Padierna

***City*** Mexico City

***Telephone*** (5) 652-1188; emergency (5) 652-6987,  
(5) 652-1540, (5) 652-1188; fax (5) 652-8598

***Type*** Private, 200 beds

***Capabilities*** Medical—internal; surgical—most subspecialties including neurosurgery, traumatology, orthopedic; ancillary—emergency room, ICU/CCU, trauma

**Capabilities** unit, x-ray, laboratory, diagnostic radioisotopes, delivery suite, pharmacy, physical therapy, radiation therapy, respiratory therapy, blood bank.  
(*cont.*)

**Comments** English-speaking staff.

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## HISTORY

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### Early History

Mexico was first inhabited 20,000 years before the arrival of Columbus. Ancient people from Siberia crossed the Bering Straits and migrated from Alaska, through Canada, and the United States into Modern day Mexico. Their descendants forged the Aztec and Mayan civilizations that ruled Middle America until the 16<sup>th</sup> Century.

In April 1519, Spaniard Hernán Cortés landed on the east coast near Veracruz. He promptly burned all but one of his ships, giving his men only one option: conquer the enemy. King Montezuma II, King of the Aztec civilization, welcomed Cortés, his troops, and Indian allies into the Aztec capital Tenochtitlan (present day Mexico City), believing him to be Quetzalcoatl. (According to Aztec lore, the god Quetzalcoatl was to return from the east during the Aztec calendar year, equivalent to 1519.) Inside the palace, Cortés took Montezuma hostage.

Years of battles followed between Cortés and the Aztecs. Tenochtitlan fell to the Spaniards, ushering in 3 centuries of colonial rule. The Mesoamerican Indian population decreased from 25 million before Cortés' arrival to 1 million by 1605, primarily from a smallpox epidemic. Mexico became New Spain, Tenochtitlan was razed and Mexico City was built. The Viceroy presided from Mexico City, the capital of New Spain.

The Colonial era spanned from the 16<sup>th</sup> to the 18<sup>th</sup> centuries. A system existed where Spanish-born citizens ruled over New Spain, and indigenous-born Indians were forced into slavery, working in mines or on farms. Mexicans of Spanish descent, called *criollos*, or creoles; acquired fortunes in mining, ranching, and agriculture, and also held political office commensurate with their wealth. The mestizos of Spanish and Indian descent were above the Indian and African slaves in the caste system. By the 18<sup>th</sup> century, the creoles and mestizos accounted for about half the population.



**Hernán Cortés**

Discontent with the limitations and laws Spain forced upon its colony, and the success of the American Revolution, people of New Spain began to dream of Independence. On 16 September 1810, Miguel Hidalgo y Costilla, a *criollo* parish priest, issued his call to rebellion, the *Grito de Dolores*. After 11 years of bitter battle, Spain granted Mexico its independence on 24 August 1821. The newly founded country recognized only the Roman Catholic religion, recognized all Mexican citizens as equal, and created a constitutional monarchy. Leader of the Mexican Army, Agustín de Iturbide crowned himself Emperor Agustín I. Within a year, Gen-

eral Antonio Lopez de Santa Anna, rebelled, forcing the Emperor to abdicate his throne. Iturbide was executed and the birth of a new Republic followed.

During 22 years of instability, 36 presidents presided over the fledgling republic. Most of its leaders failed to improve the country. In 30 years, there were 50 governments, mostly the result of military coups. General Antonio Lopez de Santa Anna was president for 11 of the governmental changes. He earned the title “perpetual dictator.” Santa Anna is most notably remembered as the man who gave away half of the nation’s territory to the United States. In 1835, settlers of Texas from the United States decided to secede from Mexico. After defeating the Texans at the Alamo, Santa Anna was badly beaten by Sam Houston at San Jacinto. Shortly thereafter, Texas gained its independence. In 1845, the



**Palanque Chiapas Ruins**

U.S. Congress voted to annex Texas and to extend its borders to include New Mexico, Arizona, and California, triggering the Mexican-American War, 1846-47. After the United States captured Mexico City, Santa Anna signed the Treaty of Guadalupe Hidalgo (1848) relinquishing Texas, California, Nevada, Utah, and most of Wyoming, Colorado, New Mexico, and Arizona to the United States. In 1853, Santa Anna agreed to the conditions of the Gadsden Purchase, which gave the remainder of New Mexico and Arizona to the United States for 10 million dollars.

A civil war from 1858 to 1860 over internal reform left Mexico bankrupt. In 1861, Mexico stopped payment on all foreign debt. France, Spain, and Great Britain protested by sending troops to Mexico. France went as far as declaring Mexico a colony, inciting another war. By 1867, Mexico had re-established its republic.

In 1876, following the Tuxtepec Rebellion, Jose De La Cruz Porfirio Diaz declared himself president. For the next 35 years, Diaz ruled Mexico with an iron fist. He would not allow political opposition; he banned free elections and free press. Control was maintained by a merciless army. In 1908, Diaz said that Mexico was ready for democracy and would welcome real opposition. In 1910, Diaz had himself re-elected as president, sparking the armed rebellion of 20 November 1910, resulting in the government's collapse.

The Mexican Revolution was not a battle of the oppressed for democracy and freedom; rather a 10-year struggle for leadership among shifting allegiances. Attempts to create a stable government were never successful and the revolution was remembered as a period of starvation and violence during which more than a million people died. After the revolution, President Calles focused on rebuilding Mexico's infrastructure. Calles founded the

National Revolutionary Party (PNR), which was the forerunner to today's Institutional Revolutionary Party (PRI).

In 1966, students from the National Autonomous University expressed their outrage with President Gustavo Diaz Ordaz (1964-1970). The student uprising called for democratic liberties, a change in the single-party rule, and more freedom of speech.

Mexico's economy experienced a boom in the late 1970s with the discovery of oil reserves. The economy grew by 8 percent in 1979 and 7 percent in 1980. With the increase in revenues from oil, Mexico financed industrial growth along the Mexico and U.S. border. The revenues also helped finance growth in agriculture. The 1982 glut in the world oil market forced Mexico into a recession and nearly caused Mexico to default on its foreign debt. Mexico experienced its worst recession in decades. On 19 September 1985, an earthquake measuring 8.1 on the Richter scale devastated Mexico City, killing an estimated 8,000 people and causing more than US\$4 billion in damages. The economy continued to worsen.

President Carlos Salinas de Gortari began his term in 1988. He quickly conceded several governorships to the National Action Party (PAN) so as not to lose further credibility. He gained popular support by renegotiating Mexico's crippling national debt and controlling Mexico's inflation. Salinas supported Mexico's participation in the North American Free Trade Agreement (NAFTA) with the United States and Canada. The agreement, which became effective 1 January 1994, is considered one of his administration's milestones and brought Mexico into the global economy.

On New Year's Day 1994, the same day NAFTA went into effect, a rebel uprising was led by masked peasants known as the Zapatista Army of National Liberation (EZLN) in the southern state of Chiapas. The Zapatistas feared NAFTA would further exploit

the already poverty ridden indigenous tribes of southern Mexico. Many Mexicans, especially those living in the rural areas live in poverty. During the 12-day insurrection, the Zapatistas killed 193 people; captured of the state capital, Cristobal de las Casas; and occupied estates, ranches, and farms. The Zapatistas demanded the government improve the social and economic conditions of the indigenous tribes. The uprising was subsequently put down by the Mexico military's swift action. Even today, the Mexican government continues to have confrontations with the EZLN.

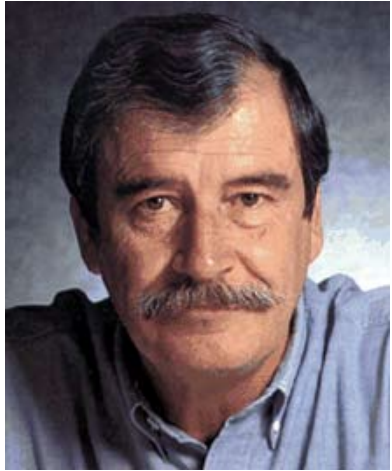
Luis Donaldo Colosio (PRI) was chosen succeed President Salinas. While at an election rally in Tijuana, Colosio was assassinated. Salinas quickly appointed Ernesto Zedillo as the PRI candidate to succeed him. Zedillo won the election in August 1994. Three weeks after President Zedillo took office in December 1994, the Mexican Peso lost a large portion of its value and Mexico quickly descended into another economic recession. It has been estimated that more than 2.5 million Mexicans illegally entered the United States each year during this time. By the end of President Zedillo's term in 2000, the Mexican Peso had reached the purchasing power it had before 1994.

## **Recent History**

In July 2000, Mexico witnessed the fall of the PRI. For the first time in 7 decades, the opposition party presidential candidate won the election. Vincente Fox of the National Action Party (PAN), a rancher and former CEO of the Coca Cola company's Mexico division, beat Zedillo's hand-picked successor from the PRI party. President Fox ordered the army troops out of Chiapas as a show of good faith toward the Zapatistas and their plight for the Indian peasants. In March 2001, Congress passed an amendment to the Constitution on the rights of indigenous cultures. Fox still faced difficult issues

regarding the economy, crime, and drug cartels.

In January 2005, six prison officers were killed, execution style, at the end of their work day. The prison officers got into their vehicles, and were on their way home when they ran into a road block operated by suspected drug cartel operators. They were handcuffed and blindfolded before they were shot to death. In response to the killings, President Fox ordered army units to seal off the prison and neighboring towns.



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**Former President Vicente Fox**

In September 2006, Felipe Calderón won the presidential elections. He is a member of the National Action Party (PAN) and was elected for the 1 December 2006 to 1 December 2012 term. He is a Harvard-educated attorney and has advocated a tougher stance on crime in Mexico.

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## **CHRONOLOGY**

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- 1519-1521** Spanish explorer Hernando Cortes lands at Veracruz, establishes Spanish colony.
- 1810** (Sept 16) Mexico proclaims independence from Spain, war for independence begins.
- 1821** Spain formally recognizes Mexico's independence.
- 1836** Texas declares independence from Mexico.



- 1846-1848** Mexican-American War
- May 1862** Mexico forces defeat French at Battle of Puebla
- 1864-1867** Archduke Maximilian of Austria established as Emperor of Mexico by Napoleon III of France.
- 1867-1871** Benito Juarez deposes Maximilian and returns to power.
- 1910-1920** Mexican Revolution
- 1914** U.S. forces land at Veracruz, dictator Huerta defeated and forced into exile.
- 1915** Pancho Villa's bandits raid U.S. border towns, murdering U.S. citizens.
- 1916** Gen. John Pershing's punitive expedition pursues Villa's forces into Mexico.
- 1917** Mexico's constitution ratified.
- 1994** Zapatista Army revolts in state of Chiapas, quickly ended with negotiated cease-fire.
- 1994** North American Free Trade Agreement between Mexico, United States, and Canada takes effect.
- 2000** Vicente Fox elected President, ending PRI party's 70-year hold on presidency.
- 2002** Roberto Madrazo wins the contest to lead the PRI.
- 2004** More than 250 women between 17–22 years of age murdered in border city of Ciudad Juarez.
- 2005** Six prison officers are murdered and Mexico's top-security jails are put on high alert amid escalating tension between the authorities and drug gangs.
- 2006** PAN candidate Felipe Calderón elected president.

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## GOVERNMENT AND POLITICS

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### Government

Mexico is a federal republic made of 31 states and the Federal District of Mexico. Its constitution was enacted in 1917 after the revolution. The constitution set forth a government that separated the power between the executive, legislative, and judicial branches. In addition, it subordinated the rights of private property to public interest and made specific provision for land reform, restraining the power and influence of the clergy, and stressing the rights of labor. The constitution forbids the president from serving two consecutive terms. This hamstrings his ability to be accountable to voters, thus encouraging corruption. The constitution can be amended. The states maintain control over internal affairs, yet are united federally for national affairs.

### National Level

#### ***Executive Branch***

The President is elected to a 6-year, non renewable term. As head of state, he promulgates and executes the laws of Congress. Congress can delegate power to the President to allow him to legislate via executive decree during specific economic and financial circumstances. The President appoints 19 cabinet members to include comptroller general and the attorney general; the latter must be confirmed by the Senate. There is no Vice President.

One of the unique features of Mexico's presidency has been the secretive and mysterious process of presidential succession. Since the 1930s, Mexico's presidents have enjoyed the right to personally name their successor. During the final 2 years of a *sexenio* (6-year term), a president selects a short list of candidates for the



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## **President Felipe Calderón**

nomination from among an inner circle within the cabinet. Before announcing the nominee, an event known as the *destape* (unveiling), a president gauges public opinion of the candidates. The *destape* has been criticized for being undemocratic and anachronistic in the age of mass communication. Beginning with the 2000 elections, presidential candidates will be selected by a nominating convention, similar to that followed by the other major parties.

## ***Legislative Branch***

Mexico has a bicameral congress (*Congreso de la Union*). The Senate (*Camara de Senadores*) has 128 seats and senators serve for 6 years; 96 are elected by popular vote, and 32 are allocated on the basis of each party's popular vote. The Federal Chamber of Deputies or (*Camara Federal de Diputados*) has 500 seats and

deputies serve for 3 years; 300 members are directly elected by popular vote; the remaining 200 are allocated on the basis of each party's popular vote. Neither deputies nor senators can be elected for consecutive terms in the same house.

The powers of the Congress include the right to pass laws, impose taxes, declare war, approve the national budget, approve or reject treaties and conventions made with foreign countries, and ratify diplomatic appointments. The Senate addresses all matters concerning foreign policy, approves international agreements, and confirms presidential appointments. The Chamber of Deputies, much like the United States House of Representatives, addresses all matters pertaining to the government's budget and public expenditures. As in the United States, in cases of impeachment, the Chamber of Deputies has the power to prosecute, and the Senate acts as the jury. Each legislative chamber has a number of committees that study and recommend bills. If there is disagreement between the chambers, a joint committee is appointed to draft a compromise version.

## ***Judicial Branch***

The Judicial Branch consists of the Supreme Court of Justice (*Corte Suprema de Justicia*), circuit courts, and district courts. The Supreme Court is made up of 21 judges, who are appointed by the president with consent of the Senate and serve for 6 year terms. The federal courts have jurisdiction over civil and criminal matters pertaining to enforcing and interpreting federal laws. There are 68 district courts and several appellate courts.

Mexico's legal system is based on Spanish civil law with some influence of the common law tradition. Unlike the U.S. version of the common law system, under which the judiciary enjoys broad pow-

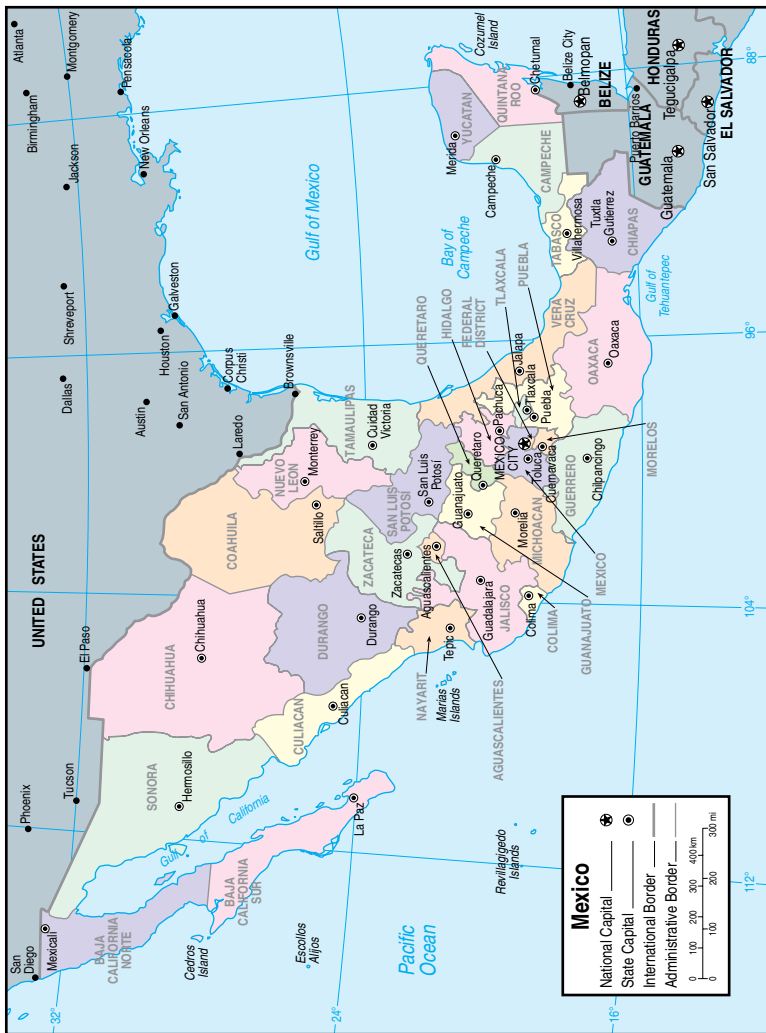
ers of jurisprudence, Spanish civil law is based on strict adherence to legal codes and minimal jurisprudence. Unlike the U.S. system, where courts may rule on basic constitutional matters, the Mexico Supreme Court of Justice is prohibited by the constitution from applying its rulings beyond any individual case. Within this restricted sphere, the Supreme Court of Justice generally displays greater independence in relation to the president than does the legislature.

## **Key Government Offices**

<i>President</i>	Felipe Calderón
<i>Secretary of Agriculture</i>	Alberto Cardenas Jimenez
<i>Secretary of Communications and Transport</i>	Luis Tellez
<i>Secretary of National Defense</i>	Guillermo Galvan Galvan
<i>Secretary of Economy</i>	Eduardo Sojo
<i>Secretary of Energy</i>	Georgina Kessel
<i>Secretary of Environment and Natural Resources</i>	Juan Rafael Elvira Quezada
<i>Secretary of Foreign Relations</i>	Patricia Espinosa
<i>Ambassador to the United States</i>	Carlos Alberto De Icaza Gonzalez

## **Local Level**

The lowest level of government in Mexico is the municipality. Municipal governments are responsible for a variety of public services, including water and sewerage; street lighting; cleaning and maintenance; public safety and traffic; slaughterhouse supervision; and maintaining parks, gardens, and cemeteries. Municipalities also assist state and federal governments in providing elementary education, emergency fire and medical services, environmental protection, and maintenance of historical landmarks. Municipal



## Administrative Divisions

governments, headed by a mayor or municipal president (*regente*) and a municipal council, are popularly elected for 3-year terms. State governors are elected for 6-year terms.

## **Politics**

### ***Political Parties***

#### **Institutional Revolutionary Party**

The *Partido Revolucionario Institucional* (Institutional Revolutionary Party–PRI), Mexico’s official party, was the country’s preeminent political organization from 1929 until the early 1990s. Until the early 1980s, the PRI’s position in the Mexican political system was hegemonic, with opposition parties posing little or no threat to its power base or near monopoly of public office. This situation changed during the mid-1980s, as opposition parties began to seriously challenge PRI candidates for local, state, and national-level offices.

#### **National Action Party**

Founded in 1939, the National Action Party (*Partido Acción Nacional* – PAN) was the first effective opposition party to develop in Mexico. The PAN emerged as a conservative reaction against the nationalizations and land confiscations by the Cárdenas government during the 1930s. The PAN resembled a standard Christian Democratic party, and its early support derived primarily from the Roman Catholic Church, the business sector, and other groups. The PAN is much more conservative than the PRI on social issues. Since the mid-1980s, the its economic program has been almost indistinguishable from that of the PRI governments it has attempted to supplant. The PAN has traditionally favored a limited

role of the government in the economy, an orientation that has been adopted by the PRI during the past 15 years.

### **Democratic Revolutionary Party**

The *Partido Revolucionario Democrático* (Democratic Revolutionary Party – PRD), evolved from the *Frente Democrático Nacional* (National Democratic Front – FDN) was established in 1989. The PRD’s party program emphasizes social welfare concerns and opposes most economic reforms implemented since the mid-1980s. Although the PRD holds a good part of the former communist and socialist parties’ rank and file, the PRD is controlled by former PRI leaders. An estimated 70 percent of its leadership consists of former PRI members, while 30 percent consists of former members of Mexico’s communist and socialist parties.

### **Voting**

Although not enforced, voting is compulsory for all citizens 18 years old and older.

### **Foreign Relations**

Traditionally, Mexico’s foreign policy has been considered leftist, pro-revolutionary, and nationalistic. Demonstrating independence from United States foreign policy, Mexico supported the Cuban government during the 1960s, the Sandinista revolution in Nicaragua during the late 1970s, and leftist revolutionary groups in El Salvador during the 1980s. Mexico has played a minor role in international affairs through most of its history. Mexico’s role in international affairs was limited until the 1970s, mainly because of the country’s need to concentrate on domestic issues, particularly on internal stability and economic growth.



The discovery of vast petroleum reserves during the 1970s, however, placed Mexico at the forefront of oil producers and exporters. Mexico was the principal supplier of oil to the United States after the 1973 energy crisis. The heavy inflow of dollars contributed to changing Mexico's perceptions of its role in world affairs while increasing its potential of becoming an important regional power. In economic terms, good relations with the United States have long been critical for Mexico, given that its northern neighbor is its principal trading partner of both exports and imports. For its part, the United States gives serious consideration to its relations with Mexico because of Mexico's strategic location on the United States southern border and because Mexico has the largest oil deposits in Latin America.

Relations between the countries have often been tense. Analysts attribute much of this to the great disparities in wealth between the two countries; a history of U.S. intervention that makes Mexico highly critical and suspicious of the United States; cultural differences and stereotypes of both nations; and the high levels of interdependence on many socioeconomic and political issues, both at the national level and in border areas. In the past, Mexico defied the United States on a number of crucial hemispheric issues. Mexico never broke relations with the Cuban communist regime as did the rest of Latin America in the early 1960s.

In the 1990s, the three most pressing bilateral issues were drugs, trade, and illegal immigration. Drug trafficking is a pressing issue for both Mexico, as a producer and point of entry of the drug trade from South America into the United States drug market, and the United States, as a major consumer. Mexico insists that drug trafficking would not exist without the enormous and growing market in the United States, thus placing responsibility on its northern neighbor. Nevertheless, the corruption and crime provoked by the

growing drug business in Mexico have forced the Mexico government to take domestic anti-drug measures.

A trade and environmental agreement signed in late 1989 led to an expansion of bilateral trade and investment with the United States. In 1990, Mexico began negotiations with the United States and Canada over NAFTA. NAFTA's main objective is to remove all trade barriers and investment obstacles among the three countries over a 15-year period. Negotiations concluded in 1992, and NAFTA was approved in 1993. The agreement was activated on 1 January 1994, creating the world's richest and largest trading bloc.

A third pressing issue between the two countries continues to be illegal immigration of Mexicans into the United States. By the mid-1990s, this issue occupied center stage in United States-Mexican relations. Since the 1960s, the number of Mexican illegal immigrants into the United States has soared to an average of 300,000 to 500,000 per year.

### ***International Organizations***

Mexico is a member of many international organizations, to include the following:

- Asia-Pacific Economic Co-operation (APEC)
- International Atomic Energy Agency (IAEA)
- International Federation of Red Cross and Red Crescent Societies (IFRC)
- International Monetary Fund (IMF)
- International Police (Interpol)
- International Organization for Migration (IOM)
- North American Free Trade Agreement (NAFTA)
- Nuclear Energy Agency (NEA)

- Organization of American States (OAS)
- Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL)
- Organization for the Prohibition of Chemical Weapons (OPCW)
- United Nations (UN)
- World Confederation of Labor (WCL)
- World Customs Organization (WCO)
- World Federation of Trade Unions (WFTU)
- World Health Organization (WHO)
- World Trade Organization (WTO)

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## **ECONOMY**

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### **Statistics**

<i>Gross Domestic Product</i>	US\$1.067 trillion (2005 est.)
<i>Inflation rate/</i>	3.3 percent (2005 est.)
<i>Consumer price index</i>	
<i>Unemployment rate</i>	3.6 percent plus underemployment of about 25 percent (2005 est.)
<i>Per Capita Income</i>	US\$10,000 (2005 est.)
<i>Balance of Trade</i>	Imports: US\$223.7 billion (2005 est.) Exports: US\$213.7 billion (2005 est.)
<i>Major Imports</i>	Metal-working machines, steel mill products, agricultural machinery, electrical equipment, car parts for assembly, repair parts for motor vehicles and aircraft.
<i>Major Exports</i>	Manufactured goods, oil and oil products, silver, fruits, vegetables, coffee, cotton.

## Resources

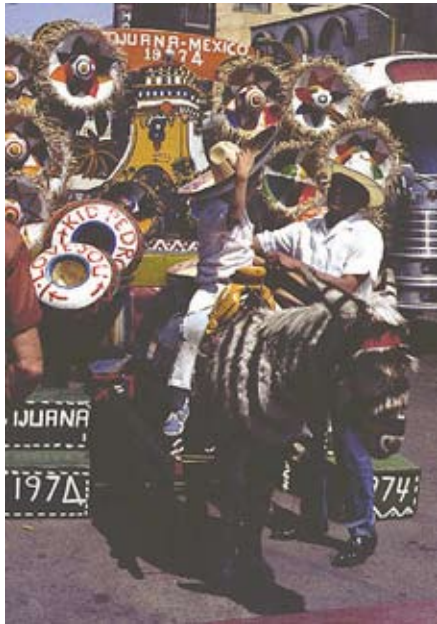
Mexico has the second largest oil reserves in the America's (Venezuela has the largest) with 30.8 billion barrels and 30.1 trillion cubic feet of natural gas. Mexico is also one of the world's principal sources of silver and sulfur, and is self sufficient in coal, copper, iron, lead, zinc, and gold; some of its rare metals include uranium and strontium.

## Foreign Investment

Mexico continues to attract significant amounts of foreign investment with very low labor costs. Its largest investor is the United States, with more than half of the total. Other investors include the United Kingdom, the Netherlands, Japan, Germany, Switzerland, France, and Canada.

## Reforms and Outlook

Mexico has a free market economy with a combination of modern and outmoded industry and agriculture, increasingly dominated by the private sector. The number of state-owned enterprises in Mexico has decreased from more than 1,000 in 1982 to less than 200 in 2000. The Zedillo administration privatized and



Vendor in Tijuana

expanded competition in seaports, railroads, telecommunications, electricity, natural gas distribution, and airports. A strong export sector helped cushion the economy's decline in 1995 and led the recovery from 1996-2000. Private consumption became the leading driver of growth in 2000, accompanied by increased employment and higher real wages. Mexico still needs to overcome many structural problems as it strives to modernize



**Restaurant in Tijuana**

its economy and raise living standards. Income distribution is very unequal, with the top 20 percent of income earners accounting for 55 percent of income. Trade with the United States and Canada has tripled since NAFTA was implemented. In 2000, Mexico completed free trade agreements with the European Union, Israel, El Salvador, Honduras, and Guatemala, and is pursuing additional trade agreements with other countries in Latin America and Asia to lessen its dependence on the United States.

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## **THREAT**

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### **CRIME**

Crime in Mexico continues at high levels and has become increasingly violent in major cities such as Mexico City, Tijuana, and Ciudad Juarez. Low apprehension and conviction rates contribute to

the high crime rate. Armed robbery, sexual assaults against women, and kidnappings are especially high in Mexico City. The most frequently reported crimes are taxi cab robberies, pocket picking, and purse snatching. Criminal assaults occur along highways throughout Mexico; and it is not uncommon for uniformed police to perpetrate crimes by stopping vehicles and seeking money.

Bars and nightclubs in resort cities like Acapulco, Cancun, Cabo San Lucas, Mazatlan, and Puerto Vallarta are known hangouts for drug dealers and petty criminals. Victims have been raped, robbed, or abducted and then held while their credit cards were used at various businesses and ATMs.

Kidnapping continues at high rates. “Express” kidnappings (attempts to get quick cash in exchange for the release of an individual) have occurred in larger cities in Mexico. The government and congress have been working to create a law that will allow authorities to freeze bank accounts and properties of the victims to deter kidnapping. According to a report published by the Citizen Council for Public Security and Criminal Justice, 422 kidnappings were registered in Mexico during 2003; however, private security companies



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**Cancun**

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disagree with official statistics and assert that around 3,000 cases were registered in Mexico during 2003 and that the trend is rising.

Drug cartels in the north and guerilla strongholds in the south are increasingly using kidnapping to supplement their income. Guerilla groups are kidnapping authorities and businessmen to acquire funds to continue operations. Mexico is second in the world to Colombia for kidnappings.

A relatively new form of crime on the rise in Mexico is telephone extortion. An anonymous caller will demand money, and in exchange, the individual called, or his family members will not be kidnapped or killed.

Drug gangs have also become involved in trading counterfeit goods. Organizations smuggle replica name-brand clothing, handbags, and shoes from Taiwan and China. Pirated software and



**Mexican Gang Members**

DVDs also provide high profit margins. Arms and drug trafficking organizations are attracted to this lucrative crime.

A report by John Hopkins University concluded that Mexico has one of the most widespread networks dedicated to the immigrant smuggling. Most of those smuggled are exploited as domestic servants or prostitutes.

## **Terrorism**

### ***Zapatista National Liberation Army***

In the southernmost state of Chiapas, a social conflict resulted in insurgents taking up arms against the government in 1994. The conflict was based on the government's alleged indifference to poverty. After 12 days of fighting a cease-fire was negotiated that remains in effect today. Although the Zapatista National Liberation Army (EZLN) posed no real threat to the federal government itself, they served to illustrate the depth of dissatisfaction in certain regions and the strength of anti-government forces in Mexico. The EZLN was recognized as a legitimate opposition party in 1996. Upon his inauguration, President Fox ordered many troops out of Chiapas, dismantled road blocks, closed military bases, and submitted revised peace accords to Congress. In August 2001, the peace accords were ratified by more than half



**EZLN Leader Marcos**



the state legislatures and became law. There are no armed opposition movements capable of overthrowing the state militarily, but the Zapatistas demonstrated an ability to successfully exploit social, economic, and political discontent. There has been an increase in poppy and marijuana crops in recent years in the Zapatista-controlled zones of the Chiapas. In the first 4 months of 2004, 18 hectares of poppy and 20 of marijuana were destroyed by army soldiers.

## **Corruption**

Public corruption in Mexico occurs at virtually all levels, and it is difficult to assess because it varies from state to state. It was likely at its highest level in the early 1990s under PRI rule. Investigators found approximately US\$130 million in bank accounts belonging to the brother of former President Carlos Salinas. It has been assessed that more than half the domestic and foreign companies operating in Mexico set aside money for the sole purpose of paying off state employees.

Reducing corruption was a key issue for President Fox and his administration. However, in a highly corrupt government, it was nearly impossible for Fox to pass anti-corruption reforms. The United Nations estimates that more than 95 percent of crime in Mexico still goes unpunished. According to a UN report, Mexico will continue to endure corruption as long as judges and lawyers are independent. It is estimated that 50 to 70 percent of judges are corrupt and that most civil cases do not make it through the legal system without paying a bribe.

## **Drug Trafficking**

Drug trafficking from and through Mexico is the major source of drugs entering the United States. About 70 percent of the Colombia's cocaine entering the United States transits through Mexico.

About 60 – 80 percent of the marijuana entering the United States comes from Mexico, as well as 20 percent of the heroin. Mexico is also a major supplier of methamphetamines, along with being a transit point for MDMA (ecstasy) from Europe. There is no known cultivation of coca leaf in Mexico.

The cocaine smuggled into the United States from Mexico, is usually transported by private aircraft or ship from Colombia, and then transported by land across the United States-Mexican border. They are transported on tractor trailers, rail cars, and privately owned vehicles crossing the border. When transported by land, the drugs are usually stored in the vehicle's hidden compartments, or mixed with legitimate cargo on tractor trailers and rail cars. Other methods of smuggling include by boat, and daily pedestrian traffic crossing the border. Drug dealers prefer Go-fast vessels or Panga's when smuggling over water, and prefer using the Eastern Pacific transit zone (EPAC) because of the vastness of the area, which has no natural chokepoints. Most of the drug traffic by air consists of flights from southern Mexico airfields to clandestine airfields close to the U.S. border. This method is preferred along with the maritime option, to avoid the drug checkpoints along the major roads.

Although there is a significant drug trafficking problem within Mexico, there have been many counterdrug accomplishments. Coordination of United States and Mexican efforts to combat drug trafficking increased greatly during the terms of presidents Salinas (1988-94), Zedillo (1994-2000), and Fox (2000-2006). Cooperation between the two countries on narcotic crop eradication dates from 1961. The United States gave as much as US\$20 million a year in financial support to the anti-drug campaign for 2 decades until Mexico assumed all of the costs of the programs in 1993. DEA agents continue to serve in Mexico, and the United States supplies leased helicopters to aid Mexico's efforts. President Fox

has fostered an environment of improved information sharing between Mexico's counterdrug entities and the DEA. This improved cooperation has helped apprehend key drug traffickers.

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## **ARMED FORCES**

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### **Organization of National Defense**

The organization of the Mexico armed forces at the cabinet level is distinct from that of many other Latin American nations. Instead of a single ministry consolidating the command of the army, navy, and air force, two government ministries are directly responsible for national defense: the Secretariat of National Defense and the Secretariat of the Navy. The head of each of these secretariats is a military officer who holds cabinet rank and has regular, direct access to the president, who is the supreme commander of the armed forces.

The secretary of national defense is selected by the president from the ranks of active army general officers. The secretary normally serves for 6 years. Similarly, the secretary of the navy is chosen from the ranks of active admirals. Operating through the General Staff, the Secretariat of National Defense commands the army and air force units, the army zonal commands, and logistics and administrative directorates. Under the Secretariat of the Navy are the chief of naval operations, the chief of naval staff, and the naval zones that control operational forces.

There are approximately 250,000 active armed forces personnel. The army has 187,000; the air force, 11,500; and the navy, 47,000. The army total at any one time included about 60,000 conscripts. No conscripts were assigned to the air force or navy. A reserve

force of 300,000 is claimed, although this number is a manpower pool rather than an existing trained force.

The size of the armed forces is modest, considering Mexico's size and significance. Mexico has the smallest number of military personnel per capita of any country of Latin America. Latin America as a whole had 3.5 soldiers per 1,000 people in 1991. The corresponding figure for Mexico was 1.9 soldiers per 1,000 people. Despite the steady personnel increase in the armed forces (they have roughly doubled in size since the mid-1970s) the number of soldiers per capita has remained remarkably steady because of the parallel increase in population. The Constitution prohibits the Mexico armed forces from operating outside of Mexico territory during peacetime.
































## **Army**

### ***Mission***

The roles of the Mexico military are laid out in four defense plans. They address national defense, internal security, disaster relief, and anti-drug operations. Recent developments indicate that internal security and disaster relief will take priority.

### ***Organization***

The Mexico Army is divided into 40 military zones, which correspond to each of the 31 states and the DF. Three states: Chiapas, Guerrero, and Veracruz each have three zones. Each zone is garrisoned by one or more infantry battalions, most also have at least one cavalry regiment and a variable complement of combat and logistic support units. The units are divided into the military zones vice in a traditional Corps or Division organization.

Ground Forces		2nd Lieutenant		2nd Lieutenant		Ensign
		Lieutenant		Lieutenant		Lieutenant Junior Grade
		Captain		Captain		Lieutenant
		Senior Captain		Senior Captain		Lieutenant Commander
		Major		Major		Commander
		Lieutenant Colonel		Lieutenant Colonel		Captain
		Colonel		Colonel		Commodore
		Brigadier General		Brigadier General		Rear Admiral
		Major General		Major General		Vice Admiral
		Lieutenant General				Admiral
		General - Defense Minister				Navy Secretary

## Armed Forces Officer Rank Structure

## ***Personnel***

The army has approximately 187,000 personnel.

## ***Equipment***

<b>Reconnaissance Vehicles</b>	<b>Quantity</b>
M-8	40
ERC-90F Lynx	119
VBL	40
MOWAG	25
MAC-1	40
<b>Armored Personnel Carriers</b>	<b>Quantity</b>
HWK-11	40
M-2A1 half-track	32
VCR/TT	40
DN-III	24
DN-IV Caballo	40
DN-V Toro	70
AMX-VCI	495
BDX	95
LAV-150	26
BTR-60	Unknown
<b>Towed Artillery</b>	<b>Quantity</b>
75-mm Pack Howitzer M-116	18
<b><i>105-mm</i></b>	
M-2A1/M-3	16
M-101/M101A	80
M-56	80
<b>Self-Propelled Artillery</b>	<b>Quantity</b>
75-mm DN-V Bufalo	5

<b>Mortars</b>	<b>Quantity</b>
81-mm M29/M29A1	1,500
<b>120-mm:</b>	
MO-120-LT	75
M65	60
MO-120-RT-61	32
<b>Antitank Guided Missiles</b>	<b>Quantity</b>
Milan (includes 8 VBL)	Unknown
<b>Anti-Aircraft Artillery</b>	<b>Quantity</b>
12.7-mm M-55	40
20-mm GAI-BO1	40
<b>Recoilless Gun</b>	<b>Quantity</b>
82-mm B-300	Unknown
<b>Antitank Guns</b>	<b>Quantity</b>
37-mm M-3	30
<b>Surface to Air Missile Systems</b>	<b>Quantity</b>
RBS-70	Unknown

## **Air Force**

### ***Mission***

The air force is limited to maritime patrol and counter-narcotics.

### ***Organization***

The air force is part of the army. The air force is responsible for three military air regions and has 12 major air bases.

### ***Personnel***

The air force has 11,500 personnel and more than 200 aircraft.

## ***Equipment***

### **Aircraft**

<b>Fighters</b>	<b>Quantity</b>
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F-5E	8
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F-5F	2
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<b>Combat Control</b>	<b>Quantity</b>
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PC-7	70
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AT-33	17
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<b>Reconnaissance</b>	<b>Quantity</b>
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Commander 500S	10
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SA 2-37A	2
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C-26	4
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<b>Transport</b>	<b>Quantity</b>
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Convair CV-580	1
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Lockheed L-1329 Jetstar	1
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Cessna 500 Citation	1
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C-118	1
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C-130A	7
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L-100 Hercules	1
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Commander 500S	10
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IAI-201 (transport/SAR)	9
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<b>Presidential Transport</b>	<b>Quantity</b>
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Boeing 757	1
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Boeing 727-100	3
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<b>Liaison/Utility</b>	<b>Quantity</b>
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IAI Arava	9
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King Air A90	1
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King Air C90	3
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Super King 300	1
Musketeer	1
Beech Bonanza P-33C	29
Cessna 182S	73
Cessna 206	11
Cessna 210	11
PC-6	4
Turbo Commander	6
<b>Training</b>	<b>Quantity</b>
Maule METERS-7	6
Maule MXT-7-180	21
PT-17 Stearman	12
SF-260	30
<b>Armed Helicopters</b>	<b>Quantity</b>
Bell 205 A	1
Bell 206B	15
Bell 206L-3	7
<b>Transport Helicopters</b>	<b>Quantity</b>
S-70A	6
Mi-2	1
Mi-8	11
Mi-17	24
Mi-26T	1
<b>Search and Rescue Helicopters</b>	<b>Quantity</b>
MD 530F	24

## **Navy**

### ***Mission***

The Navy's missions are to defend and secure Mexico's interior and exterior waters and extensive coastline; prevent illegal smug-

gling by sea; assist the security services in maintaining internal order; conduct search and rescue operations; and protect its Exclusive Economic Zone (EEZ), natural resources around jurisdictional waters, and aerial space against hostilities.

## ***Organization***

Major naval bases are located at Guaymas, Lazaro Cárdenas (new Pacific HQ), Manzanillo, Salina Cruz, Tampico, and Veracruz (Mexican Gulf HQ), with light forces based at Acapulco (former Pacific HQ) and Ciudad del Carmen. The country is divided into six naval regions, three on each side of the country. Each region is divided into 9 naval zones, which correspond to the 17 coastal states. There are additional Naval Sectors that reflect further segmentation of existing zones. There is a Central Naval Region that has an HQ in Mexico City.

The Mexico Navy's regional headquarters are:

- 1<sup>st</sup> Naval Region Commander Madero (HQ Tampico, Tamaulipas).
- 2<sup>d</sup> Naval Region Mazatlan (HQ Mazatlan, Sinaloa).
- 3<sup>d</sup> Naval Region Lerma Campeche (HQ Lerma, Campeche).
- 4<sup>th</sup> Naval Region Manzanillo Colima (HQ Manzanillo, Colima).
- 5<sup>th</sup> Naval Region Yukalpelten, Yucatan (HQ Yukalpeten, Yucatan).
- 6<sup>th</sup> Naval Region Acapulco Guerrero

## ***Personnel***

The Navy has approximately 48,000 personnel, including 1,100 naval aviation and 5,000 naval infantry personnel.

## ***Operational and Tactical Doctrine***

The navy's major foreign influence since the 1940s has been the United States. Navies from the United States, Chile, Colombia, Peru, Ecuador, and Panama conduct exercises with Mexico. Tactical and operational doctrine is dominated by the concept of defense and security of the national territory including air space, surface of the sea, coast, natural resources on their maritime jurisdiction, and the EEZ.

## ***Training***

The Naval Academy at Veracruz may reestablish courses for Naval Surface Warfare Officers transferring into Naval Infantry billets. The Naval Infantry also operates basic training centers for enlisted personnel at Manzanillo and Insepán. Naval Infantry units rely more on on-the-job training than formal schooling. In January 2000, Mexico opened the Armed Forces to women. Service is strictly voluntary, is not subject to military discipline, and is fulfilled by attending 6-hour training sessions every Saturday. The Naval Academy at Veracruz created new educational specialties in Naval Weapon Systems, Intelligence, Electronic Information Communication, and Logistic and Operations Analysis.

## ***Equipment***

The Mexico Navy has two destroyers and three frigates that were delivered between 1982 thru 2000. Additionally, the Mexico Navy has 186 patrol ships, 18 auxiliary vessels, 1 tank landing ship, and 130 aircraft.

The Mexico Navy has bought Russian Igla portable air-defense missile systems to protect offshore oil deposits against terrorist attack.

<b>Name</b>	<b>Quantity</b>
<i>Maritime Patrol</i>	
Casa C-212-200M Aviocar	8
<i>Transports</i>	
AN-32	6
Bombardier DHC-8 Q200	1
Bombardier De Havilland DHC5-D	1
Fokker F-27	1
Learjet 24D	1
Learjet 25D	1
Learjet 31A	1
Learjet 60	1
Rockwell Commander 980	2
Rockwell Turbo Commander 1000	3
<i>Trainers</i>	
Beech F-33A	5
Beech F-33C	6
Cessna 152 II	6
Maule MX-7-180	12
Moravan Zlin Z 242L	10
Valmet L-90TP Redigo	8
<i>Utility/Liaison</i>	
Beech Twin Bonanza	1
Beech King Air 90	1
Cessna 310Q	3
Cessna 337G	2

Cessna 180A	2
Cessna 402B	2
Lancair Super ES	2
Lancair LV-P	1

***Helicopters***

SA-319B Alouette II	3
Bell 47G/J	3
Bell UH-1H Iroquois	2
As-555AF Fenec	3
Mbb Bo-105c	5
Mbb Bo-105cb	6
Mc Donnell Douglas Md-500e	3
Md-902 Explorer	8
Mi-2	4
Mi-24P	4
Mi-8 MTV1	20
Robinson R22	2
Robinson R44	1
Rotor Way Exec 162f	1

<b>Ship Class</b>	<b>Type</b>	<b>Quantity</b>
GEARING FRAM I	Destroyer DD	2
FLETCHER	Destroyer DD	1
KNOX	Frigate FF	3
EDASLL	Large Training/Patrol PST	1
BRONSTEIN	Large Patrol Ship PS	2
CHARLES LAWRENCE	Frigate FF	1
CROSLEY	Frigate FF	2

<b>Ship Class</b>	<b>Type</b>	<b>Quantity</b>
HOLZINGER 2000	Large Patrol Ship PS	6
HOLZINGER (Improved HALCON)	Large Patrol Ship PS	4
URIBE (HALCON)	Patrol Combatant PG	6
GUANAJUATO	Patrol Boat PB	1
AUK	Large Patrol Ship PS	17
ADMIRABLE	Patrol Combatant PG	11
CENTENARIO	Coastal Patrol Craft PC	1
AZTECA	Coastal Patrol Craft PC	30
CAPE (PGM 71)	Coastal Patrol Craft PC	3
POINT	Patrol Boat PB	2
ISLA CORONADA	Patrol Boat PB	4
LAGUNA (ex-POLIMAR)	Patrol Boat PB	7
STRIDSBAT 90H	Patrol Boat PB	40
LAGO	River Patrol Craft PB	5
ARRECIFE (OLMECA II)	River Patrol Craft PB	13
PIRAÑA	Patrol Boat PB	36
MAKO MARINE 295	Patrol Boat PB	10
SEA FORCE 730 RIBs	Patrol Boat PB	5
ONJUKU	Survey Ship AGS	1
ROBERT D CONRAD	Research Vessel AGOR	2
RIO HONDO	Survey Ship AGS	1
HUMBOLT	Research Vessel AGOR	1
FABIUS	Patrol Craft Tender AGP	1
LST 511-1152	Landing Ship Tank LST	2
USUMACINTA	Logistic Support Ship AP/AK/AH	2
RIO LERMA	Logistic Support Ship	1
PORTERO DEL LLANO	Logistic Support Ship	2
DURANGO	Personnel Transport AP	1
RIO SUCHIATE	Support Ship AKS	1

<b>Ship Class</b>	<b>Type</b>	<b>Quantity</b>
RIO NAUTLA	Support Ship AKS	1
ADMIRABLE	Research Vessel AGOR	1
RIO TONALA	Light Support Ship AKSL	1
RIO TEHUANTEPEC	Transport AKS	1
LAS CHOAPAS	Self-Propelled Fuel Barge YOG/YO	2
CUAUHTEMOC	Sail Training Ship AXS	1
V4-M-A1 (QUEZALCOATL)	Ocean Tug ATA	2
ABNAKI	Tug ATF	4
VARIOUS	Floating Docks	4
BAHIA	Dredger	7
LLAGUNA	Dredger	14

## **Naval Infantry**

### ***Mission***

The mission of Mexico's naval infantry is to provide an elite rapid intervention capability (airborne battalion), amphibious landing, and security force from high water mark to 10 kilometers (6.2 miles) inland, and 10 kilometers (6.2 miles) on either side of major waterways

### ***Organization***

The Mexico Naval Infantry is reorganizing; a process that began at least 2 years ago, and may result in expansion. There are likely insufficient funds to carry out the full program. In the past, the Naval Infantry existed as a combination of groups, battalions, companies, and detachments, generally under the local naval command. The total strength was approximately 35 company-size units.

## ***Personnel***

The Naval Infantry is a part of the Mexico Navy. The Naval Infantry's total force is estimated at 5,000 personnel.

## ***Training***

The Naval Infantry has its own school at San Luís Carpizo that conducts continuation training to graduates of the Naval Academy. It also operates basic training centers at Manzanillo and Insepán for other ranks.

## ***Disposition***

There are three naval infantry brigades, one each based at Veracruz, Acapulco, and Manzanillo. The parachute brigade is based at Mexico City; and two artillery battalions are based at Frontera and Puerto Madero. There are also infantry battalions in Mexico City, Ensenada, La Paz, Guaymas, Lerna, Mazatlan, Yucalpeten, Chetumal, and Lazaro Cárdenas.

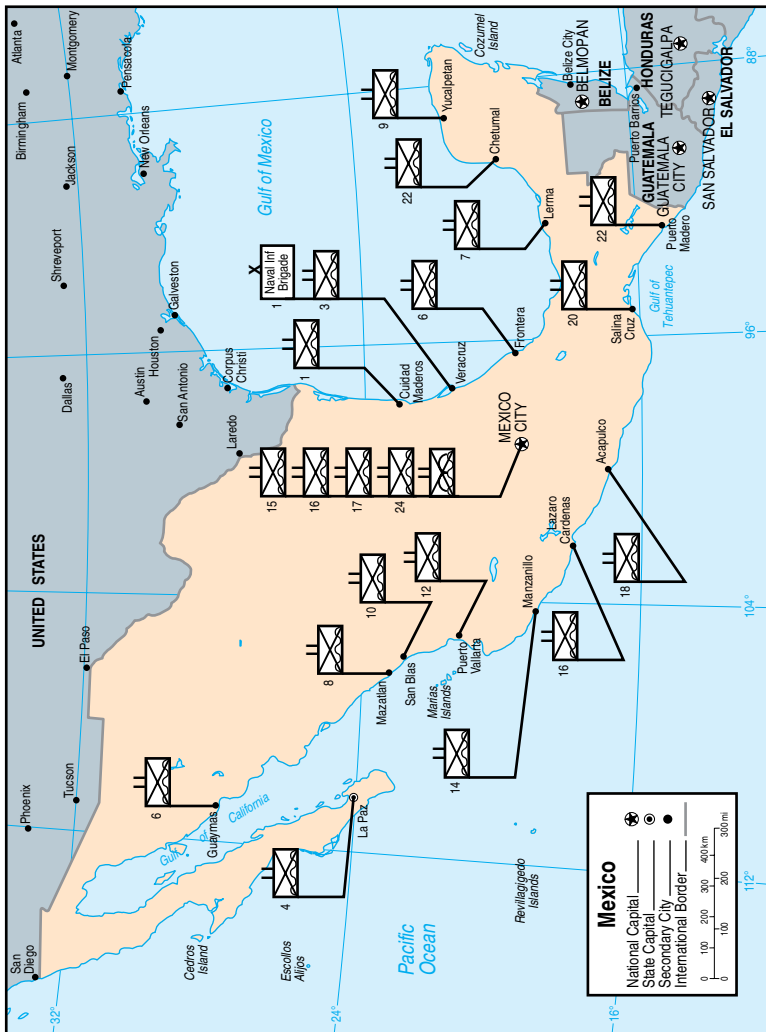
## ***Equipment***

The Mexico Naval Infantry is equipped with a diverse, but mostly obsolete weapons inventory. This includes VAP-3550 amphibious vehicles; M40A1 106-mm recoilless rifles; Soltam 60-mm and 81-mm mortars; M56 105-mm pack howitzers; OTO Melara 105-mm howitzers; and Bofors 40-mm AAGs mounted on M35 REO trucks. Small arms include 7.62-mm G3 rifles, 5.56-mm HK-33/HK-53 assault rifles/submachine guns, and Israeli Galils.

## ***Paramilitary***

Since the Zapatista insurrection of 1994, paramilitary groups have increased in Chiapas. Between 1994 and 1998 the paramilitaries





## Naval Infantry Locations

are believed to have murdered at least 123 indigenous people, including 45 in a massacre in the village of Acteal in December 1997. It is alleged that local authorities and the military tolerated these paramilitary attacks. The most significant paramilitary groups are:

- Peace and Justice
- Los Chinchulines
- Anti-Zapatista Revolutionary Indigenous Movement
- Tomas Munzer Group
- First Force
- San Bartolome de los Llanos Alliance
- Armed Forces of the People
- Red Mask
- Degolladores

## **Police Forces**

There are many police units in Mexico, including the Federal Judicial Police, State Judicial Police, Federal District Judicial Police, Preventive Police, Auxiliary Police, National Security Directorate Police, Municipal Police, Riot Police, Bank Police, Customs Police, Subway Police, Highway Police, Forest Police, Rural Police, Riot Police, *Grupo Zorros*, and the Inspector's Group. Among the most renowned of the police units was the anti-narcotics unit of the Federal Judicial Police (PJF) and the Grupo Tiburon of the Office of the Attorney General, both of which were reorganized in 1990 by then-President Salinas in response to complaints of human rights violations.

## **Organization**

Each Mexico State has its own police force. The state police enforce state laws within their jurisdiction and assist the federal police in enforcing federal laws. Large cities have special units, such as the Park Police and the Foreign Language Police. At the municipal-

ity level, the pace is generally slower, except on weekends, when the rural folks come to town for church, marketing, and drinking, which can lead to fighting and violence. Municipal police forces in state capitals are under the command of state governors.

### ***Personnel***

The Mexican Police Forces has an overall strength of approximately 365,000 personnel.



**AFI Police**

## ***Training***

The efficiency and degree of professionalism of Mexico's police varies greatly by region. Some states maintain well trained and equipped forces compatible with those found in highly developed countries, while other state police forces are severely hindered by incompetence, corruption, and subordination to local political elite. Efforts to strengthen law enforcement agencies are being made.

## ***Disposition***

Mexico police forces are evenly deployed throughout the country.

## ***Equipment***

The police forces are equipped with an array of small arms, backed by infantry support weapons (in the case of some of the larger forces). Some of these forces also deploy a small number of airplanes and helicopters.

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## APPENDIX A: Equipment Recognition

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### INFANTRY WEAPONS

#### 5.56-mm M16A1



<b>Caliber</b>	5.56 x 45 mm
<b>Effective Range</b>	800 m
<b>Rates of Fire</b>	
<b>Cyclic</b>	700 rounds/minute
<b>Automatic</b>	60 to 80 rounds/minute
<b>Single-Shot</b>	40 to 50 rounds/minute
<b>Method of Operation</b>	Gas blowback direct action, air-cooled, selective fire (Automatic, single-shot) (3-round burst available)
<b>Feed Device</b>	20- or 30-round detachable box magazine
<b>Weight (Loaded)</b>	3.85 kg (20-round magazine)
<b>Overall Length</b>	990 mm
<b>NOTE:</b>	optional bayonet (knife and wire cutter) and under-barrel grenade launcher available.

## 0.30-in Carbine M1



<b>Caliber</b>	.30 in
<b>Effective Range</b>	300 m
<b>Method of Operation</b>	Gas, self-loading
<b>Feed</b>	15- or 30-round detachable box magazine
<b>Overall Length</b>	904 mm
<b>Weight (Loaded)</b>	2.77 kg

## 7.62-mm Assault Rifle G3



<b>Cartridge</b>	7.62 x 51.0 mm
<b>Maximum Range</b>	2,400 m
<b>Effective Range</b>	400 m
<b>Cyclic Rate of Fire</b>	500 to 600 rounds/minute
<b>Method of Operation</b>	Retarded gas blowback
<b>Feed Device</b>	20-round box magazine
<b>Weight Loaded</b>	5.1 kg
<b>Length</b>	1,025 mm

## 5.56-mm Submachinegun/Short Assault Rifle HK 53



<b>Cartridge</b>	5.56 x 45 mm NATO
<b>Cyclic Rate of Fire</b>	700 rounds/minute
<b>Method of Operation</b>	Delayed blowback; selective-fire (single-shot and automatic)
<b>Feed Device</b>	25- or 30-round box magazine
<b>Weight Empty</b>	3 kg
<b>Overall Length</b>	755 mm (563 mm with butt retracted)

## 7.62-mm Assault Rifle FN FAL



<b>Cartridge</b>	7.62- x 51-mm NATO
<b>Effective Range</b>	800 m
<b>Cyclic Rate of Fire</b>	600 to 700 rounds/minute
<b>Method of Operation</b>	Gas, selective or semiautomatic fire
<b>Feed Device</b>	20-round detachable box magazine
<b>Weight</b>	4.45-6 kg, depending on variant
<b>Overall Length</b>	1,090 mm (standard model)



## .50-in Heavy Machinegun Browning M2 HB



<b>Cartridge</b>	050 Browning (12.7- x 99-mm)
<b>Maximum Range</b>	6,765 m
<b>Effective Range</b>	Over 1,500 m
<b>Cyclic Rate of Fire</b>	450 to 600 rounds/minute
<b>Method of Operation</b>	Short recoil, selective fire
<b>Feed Device</b>	100-round disintegrating-link belt
<b>Weight Loaded</b>	38 kg
<b>Overall Length</b>	1.656 m

## 40-mm M203 Grenade Launcher



<b>Cartridge</b>	40 x 46 mm
<b>Method of Operation</b>	Breech loaded, sliding barrel
<b>Effective Range</b>	Point target 150 m; area target 350 m
<b>Weight (Loaded)</b>	1.63 kg
<b>Overall Length</b>	380 mm

**NOTE:** The M203 grenade launcher was originally designed for attachment to the M16-series assault rifles. The M203 can be used attached to an M16 assault rifle or M4 carbine, or as a standalone weapon attached to a modified stock.

## ARMOR

### Armored Reconnaissance Vehicle M-8



<b>Crew</b>	4
<b>Armament</b>	37-mm rifled gun and 12.7-mm machinegun
<b>Range</b>	560 km
<b>Maximum Speed</b>	90 km/h
<b>Gradient</b>	60 percent
<b>Vertical Step</b>	0.3 m
<b>Fording</b>	0.6 m
<b>Combat Weight</b>	5,700 kg
<b>Length x Width x Height</b>	5.0 x 2.5 x 2.2 m
<b>Fuel Capacity</b>	212 liters of gasoline

## Tracked Infantry Fighting Vehicle AMX VCI



<b>Crew; Passengers</b>	3; 10
<b>Armament</b>	12.7-mm machinegun or turret with 7.5 or 7.62-mm machinegun
<b>Road Range</b>	550 km
<b>Maximum Speed</b>	64 km/h
<b>Gradient/Side Slope</b>	60/30 percent
<b>Vertical Step</b>	0.65 m
<b>Trench</b>	1.6 m
<b>Fording</b>	1 m
<b>Combat Weight</b>	15,000 kg
<b>Length x Width x Height</b>	5.7 x 2.67 x 2.1 (2.4 with turret) m

## Armored Reconnaissance Vehicle ERC 90 Lynx



<b>Crew</b>	3
<b>Armament</b>	90-mm F1 gun; 7.62-mm coaxial machinegun; 2x 80-mm smoke grenade dischargers
<b>Range</b>	950 km
<b>Maximum Speed</b>	95 km/h
<b>Maximum Water Speed</b>	7.2 km/h with hydrojets
<b>Gradient/Side Slope</b>	60/30 percent
<b>Vertical Step</b>	0.8 m
<b>Trench</b>	1.1 m
<b>Fording</b>	Amphibious
<b>Combat Weight</b>	8,300 kg
<b>Length x Width x Height</b>	7.7 x 2.5 x 2.3 m, gun forward
<b>Fuel Capacity</b>	242 liters of diesel
<b>NOTE:</b>	another 7.62-mm machinegun is optional.

## Armored Reconnaissance Vehicle Car Panhard VBL



<b>Crew; Passengers</b>	2 to 3; 0 to 4 depending on variant
<b>Armament</b>	7.62- or 12.7-mm machinegun; possibly HOT ATGM
<b>Road Range</b>	600 km
<b>Maximum Speed</b>	95 km/h
<b>Maximum Water Speed</b>	4.5 km/h
<b>Gradient/Side Slope</b>	50/30 percent
<b>Trench</b>	0.50 m
<b>Fording</b>	0.9 m
<b>Combat Weight</b>	3,550 kg
<b>Length x Width x Height</b>	3.82 x 2.02 x 2.14 (with overhead weapon station)

**NOTE:** The VBL is amphibious with minor preparation. It may be fitted with an air-defense radar system, antitank weapon system, light or heavy machinegun, or 20-mm Rh 202 automatic cannon.

## Armored Personnel Carrier M2/M3A1 Halftrack



<b>Crew; Passengers</b>	2; 11
<b>Armament</b>	Various guns
<b>Road Range</b>	336 km
<b>Maximum Speed</b>	72 km/h
<b>Gradient</b>	60 percent
<b>Vertical Step</b>	0.31 m
<b>Trench</b>	0.55 m
<b>Fording</b>	0.81 m
<b>Combat Weight</b>	9,100 kg
<b>Length x Width x Height</b>	6.17 x 2.48 x 2.26 m
<b>NOTE:</b> also used as a prime mover for antiaircraft artillery.	

## Armored Personnel Carrier HWK-11



<b>Crew; Passengers</b>	2; 10
<b>Armament</b>	Possibly 7.62-mm machinegun
<b>Road Range</b>	320 km
<b>Maximum Speed</b>	65 km/h
<b>Gradient/Side Slope</b>	60/30 percent
<b>Vertical Step</b>	0.68 m
<b>Trench</b>	2 m
<b>Fording</b>	1.2 m
<b>Combat Weight</b>	11,000 kg
<b>Length x Width x Height</b>	5.05 x 2.53 x 1.59 m

**NOTE:** an engine upgrade provides 400-km range and 60-km/h top speed.

## Armored Personnel Carrier DN-IV Caballo



<b>Crew; Passengers</b>	2; 7
<b>Armament</b>	20-mm cannon and 7.62-mm machinegun.
<b>Road Range</b>	750 km
<b>Maximum Speed</b>	80 km/h
<b>Combat Weight</b>	9,500 kg
<b>Length x Width x Height</b>	5.78 x 2.50 x 1.90 m



## Armored Reconnaissance Vehicle DN-V Toro, Bufalo



<b>Armament</b>	20-mm cannon and 7.62-mm coaxial machine-gun; 81-mm mortar; or 75-mm gun (Bufalo)
<b>Road Range</b>	750 km
<b>Maximum Speed</b>	80 km/h
<b>Combat Weight</b>	7,500 kg
<b>Length x Width x Height</b>	5.86 x 2.50 x 2.37 m
<b>NOTE:</b>	the Bufalo is a 75-mm self-propelled artillery variant of the Toro (shown).

## Armored Car BDX



<b>Crew; Passengers</b>	2; 10
<b>Armament</b>	Turret-mounted twin 7.62-mm machinegun
<b>Road Range</b>	500 to 900 km
<b>Maximum Speed</b>	100 km/h
<b>Gradient/Side Slope</b>	60/40 percent
<b>Trench</b>	0.4 m
<b>Fording</b>	Amphibious
<b>Combat Weight</b>	10,700 kg
<b>Length x Width x Height</b>	505 x 2.5 x 2.84 m

## Light Armored Car MOWAG Roland 4x4 LAV



<b>Crew; Passengers</b>	3; 3
<b>Armament</b>	Remote controlled 7.62- or 12.7-mm machinegun
<b>Maximum Speed</b>	110 km/h
<b>Road Range</b>	550 km
<b>Gradient/Side Slope</b>	60/30 percent
<b>Vertical Obstacle</b>	0.39 m
<b>Fording</b>	1.0 m
<b>Combat Weight</b>	4,700 kg
<b>Length x Width x Height</b>	4.44 x 2.01 x 2.03 m
<b>Fuel Capacity</b>	170 liters

## Armored Personnel Carrier LAV-150 Commando, LAV-150S



<b>Crew; Passengers</b>	3; 2 to 8
<b>Armament</b>	
<b>Main</b>	20-mm Oerlikon gun
<b>Coaxial</b>	7.62-mm machinegun
<b>Road Range</b>	800 km
<b>Maximum Road Speed</b>	112 km/h
<b>Maximum Water Speed</b>	5.0 km/h
<b>Gradient/Side Slope</b>	60/30 degrees
<b>Vertical Step</b>	0.61 m
<b>Fording</b>	Amphibious
<b>Combat Weight</b>	9,800 kg (Commando); 10,900 kg (-150S)
<b>Length x Width x Height</b>	5.70 x 2.36 x 2.54 m (Commando); 6.27 x 2.39 x 2.69 m (-150S)

## Armored Assault Vehicle VAP-3550



<b>Crew; Passengers</b>	3; 18
<b>Road Range</b>	800 km (80 km in water)
<b>Maximum Road Speed</b>	87 km/h (5.5 kn in water)
<b>Gradient/Side Slope</b>	60/30 percent
<b>Fording</b>	Amphibious
<b>Combat Weight</b>	12,500 kg

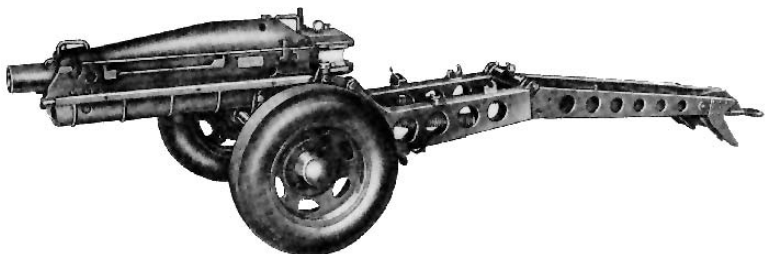
## ARTILLERY

### 50-mm Rocket Launcher FIROS-6



<b>Crew</b>	2
<b>Caliber</b>	50.55 mm (SNIA 2-inch air-to-ground rocket)
<b>Configuration</b>	6 rows of 8 tubes
<b>Range</b>	6,550 m
<b>Rate of Fire</b>	10 rounds/second
<b>Elevation Limits</b>	-5 to 45 degrees
<b>Traverse Limits</b>	105 degrees left of right
<b>Travelling Weight</b>	2,670 kg
<b>Traveling Length x Width x Height</b>	3.80 x 1.60 x 2.45 m
<b>Emplacement; Displacement Time</b>	3; 1 minute

## 75-mm Pack Howitzer M116 (M1A1)



<b>Range</b>	91 m (direct fire) to 8,797 m
<b>Rates of Fire</b>	
<b>Burst</b>	16 rounds/minute for 30 seconds
<b>Normal</b>	5 rounds/minute for 10minutes
<b>Sustained</b>	150 rounds/hour
<b>Elevation Limits</b>	-5 to +45 degrees
<b>Traverse Limits</b>	3.0 degrees left or right
<b>Combat Weight</b>	537 kg
<b>Length x Width, Travel Mode</b>	3.20 x 1.27 m

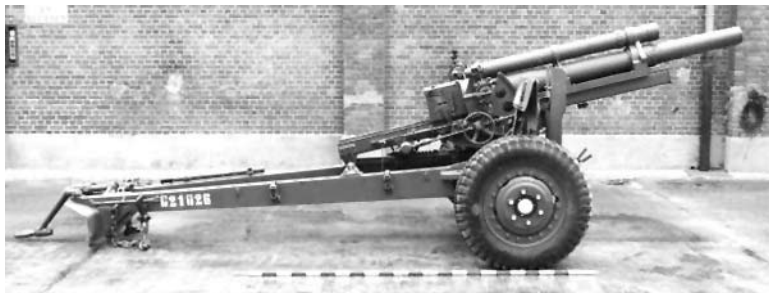
## 105-mm Howitzer M-56



<b>Crew; Section Size</b>	6; 7
<b>Caliber</b>	105.0 mm x 14
<b>Maximum Range</b>	10,222 m (conventional); 13,000 m (extended)
<b>Rates of Fire</b>	
<b>Sustained</b>	2 rounds/minute
<b>Normal</b>	3 rounds/minute
<b>Burst</b>	4 rounds/minute
<b>Elevation Limits</b>	-5 to +65 degrees
<b>Traverse Limits</b>	28 degrees left or right
<b>Travelling Weight</b>	1,500 kg
<b>Traveling Length x Width x Height</b>	3.77 x 1.5 x 1.9 m
<b>Emplacement/Displacement Time</b>	2 to 3 minutes

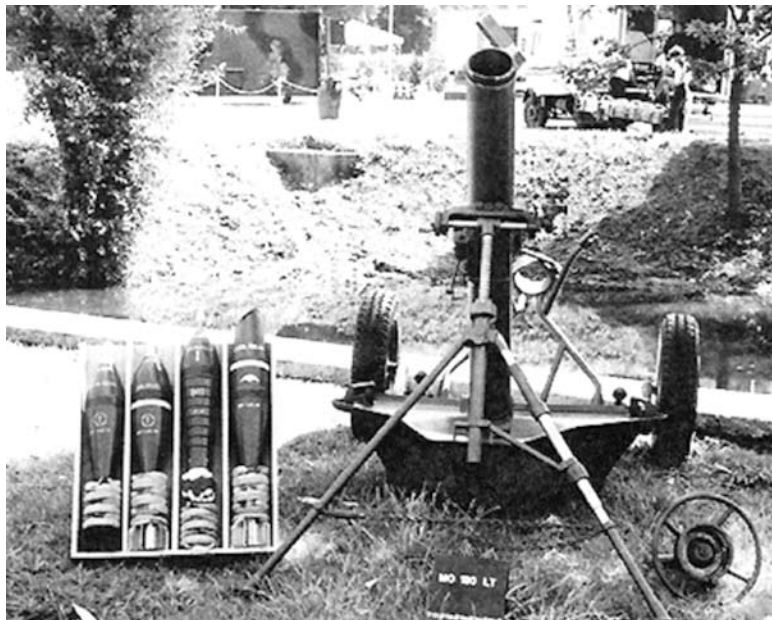


## 105-mm Howitzer M101A



<b>Crew</b>	7
<b>Caliber</b>	105.0 mm
<b>Maximum Range</b>	11,270 m (conventional) 15,000 m (extended)
<b>Rates of Fire</b>	
<b>Sustained</b>	2 rounds/minute
<b>Normal</b>	3 rounds/minute
<b>Burst</b>	10 rounds/minute for 3 minutes
<b>Elevation Limits</b>	-5 to +66 degrees
<b>Traverse Limits</b>	22.4 degrees left, 23 degrees right
<b>Travelling Weight</b>	1,859 kg
<b>Travelling Length x Width x Height</b>	5.99 x 2.16 x 1.58 m
<b>Emplacement/Displacement Time</b>	2 to 3 min.

## 120-mm Mortar MO-120-LT



<b>Range</b>	1,100 to 8,135 m (13,000 m extended)
<b>Ammunition Types</b>	HE, HE-RA, smoke, illumination, practice, marker
<b>Burst Rate of Fire</b>	18 rounds/minute
<b>Elevation Limits</b>	+40 to +85 degrees
<b>Traverse Limits</b>	7.5 degrees left or right
<b>Tube; Baseplate Weight</b>	131 kg; 194 kg
<b>Length of Barrel</b>	2,060 mm

## 120-mm Mortar Soltam M-65



<b>Crew</b>	6
<b>Maximum Range</b>	6,500 m (with M48 bomb)
<b>Rate of Fire</b>	10 rounds/minute
<b>Travelling Weight</b>	351 kg

**NOTE:** Can be deployed in the traditional manner or mounted in an APC or similar vehicle.

## 120-mm Towed Rifled Mortar MO-120-RT, RT-61



<b>Range</b>	1,100 to 8,350 m
<b>Ammunition Types</b>	Frag-HE (PR 14, PR PA), IR illumination
<b>Burst Rate of Fire</b>	18 rounds/minute
<b>Elevation Limits</b>	40 to 85 degrees
<b>Traverse Limits</b>	7.5 degrees left or right
<b>Travel Weight</b>	582 kg
<b>Travel Length x Width</b>	2.70 x 1.55 m
<b>Emplacement/Displacement Time</b>	Less than 2 minutes
<b>Prime Mover</b>	VAB M120 (variant of VAB APC)

**NOTE:** a range of 13,000 m is possible with the PR PA rocket-assisted projectile.

## 81-mm Mortar M29, M29A1



<b>Type</b>	Manportable, smooth-bore
<b>Crew; Section Size</b>	2; 5
<b>Ammunition</b>	HE, smoke, illumination
<b>Range</b>	72 to 4,800 m
<b>Rates of Fire</b>	
<b>Burst</b>	30 rounds/minute
<b>Normal</b>	15 to 18 rounds/minute
<b>Sustained</b>	4 to 8 rounds/minute
<b>Elevation Limits</b>	45 to 85 degrees
<b>Traverse Left, Right</b>	5.3 degrees each direction
<b>Weight Empty</b>	43 kg
<b>Tube Length</b>	1,295 mm

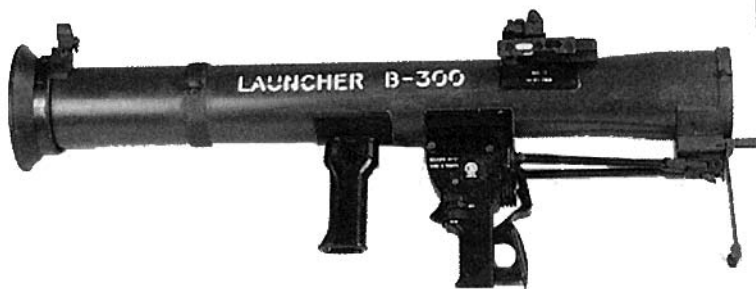
# ANTIARMOR

## MILAN Ground Launcher



<b>Range and Flight Endurance</b>	2,000 m in 12.5 seconds
<b>Night Vision Device</b>	Thermal imaging
<b>Warhead Type</b>	Unitary shaped charge
<b>Warhead Penetration</b>	1,000 mm of RHA
<b>Guidance/Command Link</b>	SACLOS/Wire
<b>Attack Profile</b>	Direct line of sight
<b>Launch Platforms</b>	Ground tripod, compact turret

## 82-mm Light Anti-armor Weapon System IMI B-300



<b>Caliber</b>	82-mm
<b>Types of Rounds</b>	HEAT, HEFT (HE Follow-Through)
<b>Effective Range</b>	400 m
<b>Armor Penetration</b>	Greater than 400 mm of RHA
<b>Weight Loaded</b>	8 kg (launcher 3.5 kg, round 4.5 kg)
<b>Length Loaded</b>	1,350 mm (launcher 775 mm)

## AIR DEFENSE

### 12.7-mm Quad AA Mchinegun M55



<b>Crew</b>	4 (1 on mount)
<b>Caliber</b>	12.7 mm
<b>Ammunition</b>	AP, API, API-T, ball, incendiary, training
<b>Operation</b>	Recoil; automatic fire
<b>Effective Ranges</b>	
Vertical	1,000 m
Horizontal	1,500 m
<b>Rate of Fire per Barrel</b>	
Cyclic	450 to 550 rounds/minute
Practical	150 rounds/minute
<b>Feed</b>	210-round belt
<b>Elevation Limit</b>	-10 to +90 degrees
<b>Traverse Limit</b>	360 degrees
<b>Travel Weight</b>	1,338 kg

**NOTE:** M55 designates the system comprising the M45C mount, four M2 HB machine-guns, and M20 trailer. This system can be pulled by a 4x4 tactical vehicle. M16 designates the self-propelled 4-barrel system mounted on an M3 halftrack.

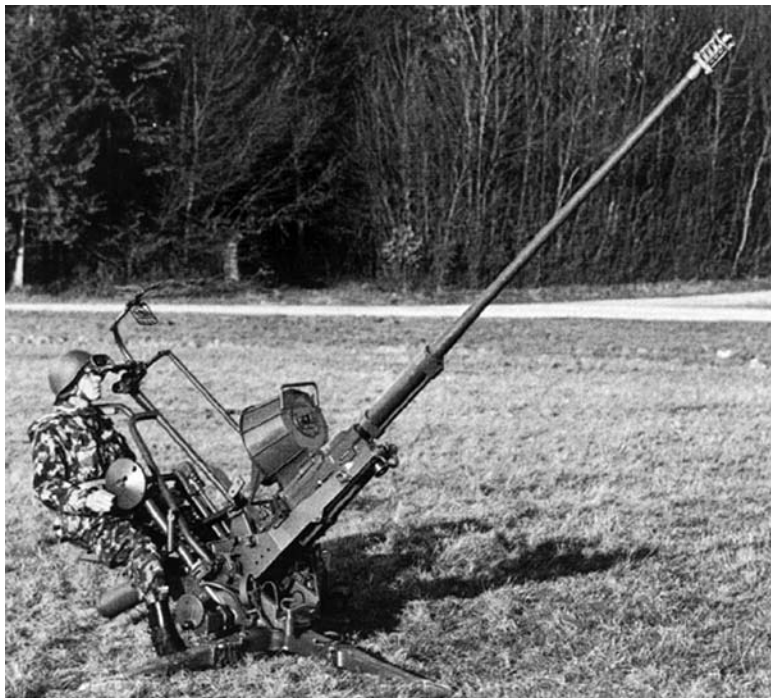


## RBS-70 MANPADS with Mark 2 Missile



<b>Crew</b>	2
<b>Type</b>	2-stage, low-altitude SAM
<b>Warhead</b>	1.5-kg HE-fragmentation
<b>Fuze</b>	Impact and active laser proximity
<b>Guidance</b>	Modulated laser beam riding
<b>Ranges</b>	
<b>Head-On Target</b>	Approximately 200 to 7,000 m
<b>Crossing Target</b>	Approximately 200 to less than 4,000 m
<b>Altitude</b>	0 to 4,000 m above ground level
<b>Reload Time</b>	Less than 7 seconds
<b>Weight</b>	26.5 kg (container-launcher with missile)
<b>Length of Launcher</b>	1.745 m (with end caps)

## 20-mm ADA GAI-B01



<b>Crew</b>	3
<b>Caliber</b>	20 mm x 128
<b>Ammunition</b>	HEI, HEI-T, AP-T, SAPHEI, SAPHEI_T
<b>Method of Operation</b>	Gas blowback, automatic fire
<b>Ranges</b>	
<b>Tactical Range</b>	2,000 m
<b>Vertical Range</b>	5,200 m
<b>Horizontal Range</b>	7,000 m
<b>Rate of Fire</b>	1,000 rounds/minute
<b>Feed Device</b>	20- or 50-round drum magazine
<b>Elevation Limit; Rate</b>	-7 to +83 degrees; 40 degrees/second
<b>Traverse Limit; Rate</b>	Unlimited; 60 degrees/second
<b>Weight</b>	410 kg

# AIRCRAFT

## F-5E, -5F TIGER II



<b>Mission</b>	Fighter, ground attack
<b>Maximum Speed</b>	709 kn
<b>Range</b>	1,341 nmi
<b>Armament</b>	
<b>Primary</b>	2x AAMs on wingtips; 1x or 2x 20-mm cannon in fuselage
<b>Secondary</b>	Up to 3,175 kg of mixed ordnance including rockets, missiles, and cluster bombs
<b>Service Ceiling</b>	15,790 m
<b>Maximum Takeoff Weight</b>	11,214 kg (E); 11,409 kg (F)
<b>Weight Empty</b>	4,410 kg (E); 4,797 kg (F)
<b>Overall Length x Wingspan x Height</b>	14.45 (E)/15.65 (F) x 8.13 x 4.07 (E)/4.13 (F) m
<b>NOTE:</b> F-5F is a tandem two-seat trainer version of the F-5E.	

## AT-33A Silver Star



<b>Role</b>	Trainer
<b>Crew</b>	2
<b>Maximum Speed</b>	518 kn
<b>Endurance</b>	3:05
<b>Service Ceiling</b>	14,480 m
<b>Armament</b>	May have 2x 0.50-in machineguns (T-33A only)
<b>Weight Empty; Loaded</b>	3,810 kg ; 5,432 kg
<b>Length x Wingspan x Height</b>	11.48 x 11.85 x 3.55 m

**NOTE:** AT-33AN has an upgraded engine and avionics and is built in Canada.

## Pilatus PC-9M Advanced Turbo Trainer



<b>Role</b>	Combat-capable trainer
<b>Crew</b>	2
<b>Maximum Operating Speed</b>	320 kn
<b>Range, No Reserves</b>	1,065 nmi
<b>Service Ceiling</b>	11,580 m
<b>Armament</b>	12.7-mm gun pods; 7-round rocket launchers; practice bombs
<b>Maximum Underwing Stores</b>	1,040 kg
<b>Weight Empty</b>	1,725 kg
<b>Length x Wingspan x Height</b>	10.13 x 10.13 x 3.26 m

## Pilatus PC-7 Turbo Trainer



<b>Role</b>	Armed trainer
<b>Crew</b>	2, stepped tandem
<b>Maximum Operating Speed</b>	270 kn
<b>Range</b>	1,420 nmi
<b>Service Ceiling</b>	10,060 m
<b>Equipment</b>	3 hardpoints under each wing for various stores
<b>Underwing Load Capacity</b>	1,040 kg
<b>Length x Wingspan x Height</b>	10.18 x 10.19 x 3.26 m

## Schweizer SA 2-37A



<b>Mission</b>	Multisensor surveillance, communication relay
<b>Crew</b>	2 side by side
<b>Maximum Cruising Speed</b>	130 kn
<b>Endurance</b>	Up to 12 hours
<b>Service Ceiling</b>	5,490 m
<b>Possible Surveillance Equipment</b>	LLLTV, FLIR, cameras
<b>Maximum Mission Payload</b>	340 kg
<b>Length x Wingspan x Height</b>	8.46 x 18.75 x 2.36 m
<b>NOTE:</b> SA 2-37A overflight is inaudible at 600 m and 22 percent of maximum power.	

## Fairchild C-26A, Metro III



<b>Mission</b>	Transport
<b>Crew; Passengers</b>	2; 19
<b>Maximum Cruising Speed</b>	246 kn
<b>Range, 1,315-kg payload</b>	1,614 nmi with fuel reserves
<b>Service Ceiling</b>	7,620 m
<b>Maximum Takeoff Weight</b>	7,484 kg
<b>Weight Empty</b>	4,309 kg
<b>Length x Wingspan x Height</b>	18.09 x 17.37 x 5.08 m

**NOTE:** can be quickly adapted to accommodate passengers, medical evacuation, or cargo.

## Convair CV580



<b>Mission</b>	Transport
<b>Crew; Passengers</b>	2; 56
<b>Cruising Speed</b>	260 kn
<b>Service Ceiling</b>	Over 7,000 m
<b>Maximum Takeoff Weight</b>	Over 24,950 kg
<b>Length x Wingspan x Height</b>	24.84 x 32.12 x 8.59 m

**NOTE:** the CV580 is similar in appearance to the CV640 shown.



## L-1329 Jetstar



<b>Mission</b>	Transport
<b>Crew; Passengers</b>	2; 10
<b>Maximum Cruising Speed</b>	475 kn
<b>Range with Maximum Payload</b>	2,602 nmi with 30-minute reserves
<b>Service Ceiling</b>	10,970 m
<b>Maximum Payload</b>	1,280 kg
<b>Maximum Takeoff Weight</b>	19,844 kg
<b>Length x Wingspan x Height</b>	18.42 x 16.60 x 6.23 m

## Cessna 500 Citation



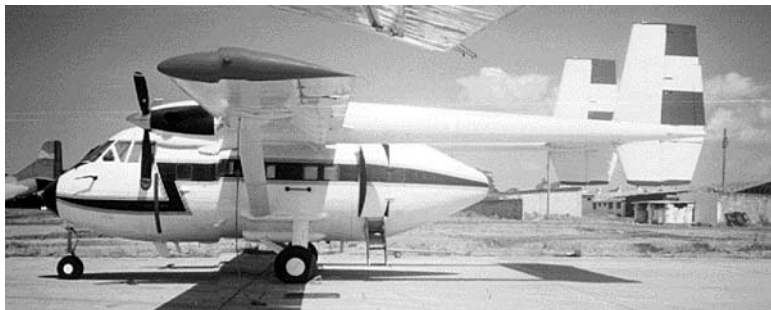
<b>Mission</b>	Executive transport
<b>Crew; Passengers</b>	2; 5
<b>Maximum Cruising Speed</b>	357 kn (4,536-kg weight, 10,670-m altitude)
<b>Range, Average Conditions</b>	1,328 nmi
<b>Maximum Altitude</b>	12,495 m
<b>Maximum Normal T-O Weight</b>	5,375 kg
<b>Weight Empty</b>	3,008 kg
<b>Length x Wingspan x Height</b>	13.26 x 14.35 x 4.37 m

## C-130A, L-100 Hercules



<b>Mission</b>	Tactical transport and multimission
<b>Crew</b>	4 or 5
<b>Passengers</b>	92 troops, 64 paratroopers, or 74 litter patients with 2 attendants (H)
<b>Maximum Cruising Speed</b>	325 kn
<b>Range with Maximum Payload</b>	2,046 nmi
<b>Service Ceiling</b>	10,060 m
<b>Maximum Payload</b>	19,356 kg (H)
<b>Maximum Normal T-O Weight</b>	70,310 kg
<b>Length x Wingspan x Height</b>	29.79 x 40.41 x 11.66 m, overall

## Arava 201



<b>Type</b>	STOL light transport
<b>Crew; Passengers</b>	1 to 2; 24 troops or 16 paratroops and 2 dispatchers
<b>Maximum Speed</b>	175 kn
<b>Range with 45-min. Reserves</b>	140 nmi (maximum payload)
<b>Service Ceiling</b>	7,620 m
<b>STOL Takeoff Run</b>	293 m
<b>Maximum Payload</b>	2,313 kg
<b>Maximum Takeoff Weight</b>	6,804 kg
<b>Length x Wingspan x Height</b>	13.03 x 20.96 x 5.21 m

**NOTE:** electronic warfare configurations are available for the Arava 201.

## 757-200



**Mission**

**Crew; Passengers**

**Cruising Speed**

**Range with 201 Passengers**

**Initial Cruising Altitude**

**Operating Weight Empty**

**Maximum Normal T-O Weight**

**Length x Wingspan x Height**

Executive transport

2+1; 195 to 231 depending on passenger accommodations

Approximately 485 kn

2,570 to 3,930 nmi depending on engines

10,790 m or greater depending on engines

58,325 to 58,620 kg

99,790 or greater depending on engines

47.32 x 38.05 x 13.56 m

## 727-100



**Mission**

**Crew; Passengers**

**Maximum Cruising Speed**

**Range**

**Initial Cruise Altitude**

**Operating Weight Empty**

**Maximum Takeoff Weight**

**Length x Wingspan x Height**

Executive transport

2+1; Up to 131

Approximately 513 kn

Approximately 2,160 nmi

10,060 m

44,633 kg

83,820 kg

46.69 x 32.92 x 10.36 m

## Beech King Air C90A, A90



<b>Crew; Passengers</b>	2; 6
<b>Maximum Level Speed</b>	249 kn
<b>Ferry Range</b>	1,264 nmi
<b>Range with Maximum Payload</b>	191 nmi
<b>Service Ceiling</b>	8,809 m
<b>Maximum Takeoff Weight</b>	4,581 kg
<b>Weight Empty</b>	3,086 kg
<b>Length x Wingspan x Height</b>	10.8 x 15.3 x 4.3 m

## Pilatus PC6/B Turbo Porter



<b>Type</b>	STOL utility aircraft capable of operating in harsh environmental conditions and from unimproved strips
<b>Crew; Passengers</b>	1; up to 10
<b>Maximum Cruising Speed</b>	140 kn
<b>Maximum Range</b>	875 nmi (with external fuel)
<b>Service Ceiling</b>	9,150 m
<b>Takeoff Run</b>	110 m
<b>Landing Run</b>	73 m
<b>Maximum Takeoff Weight</b>	2,200 kg
<b>Weight Empty</b>	1,215 kg
<b>Length x Wingspan x Height</b>	10.9 x 15.1 x 3.20 m
<b>NOTE:</b>	can be adapted for transport, ambulance, search and rescue, survey and photography, etc.

## Turbo Commander 690B



<b>Role</b>	Transport
<b>Crew; Passengers</b>	1; 6
<b>Maximum Cruising Speed</b>	280 kn
<b>Range with 45-min. Reserves</b>	740 nmi, with maximum payload
<b>Service Ceiling</b>	10,060 m
<b>Maximum Takeoff Weight</b>	4,649 kg
<b>Length x Wingspan x Height</b>	13.52 x 14.22 x 4.56 m

## Twin Commander 690C, 695, 695A; Jetprop 840, 980, 1000



<b>Mission</b>	Transport
<b>Crew; Passengers</b>	1; 7
<b>Maximum Cruising Speed</b>	290 to 310 kn, depending on variant
<b>Range with 45-min. Reserves</b>	1,780 to 2,080 km depending on variant
<b>Maximum Ceiling</b>	9,450 to 10,670 m, depending on variant
<b>Maximum Takeoff Weight</b>	4,683 to 5,080 kg, depending on variant
<b>Length x Wingspan x Height</b>	13.10 x 15.89 x 4.55 m

## Aermacchi SF-260E WARRIOR



<b>Mission</b>	Training, light attack, low-level strike, forward air control, forward air support, armed reconnaissance
<b>Crew</b>	2
<b>Maximum Speed</b>	290 kn
<b>Range</b>	710 nmi
<b>Service Ceiling</b>	6,100 m
<b>Armament</b>	7.62-mm or .50-cal gun pods, small bombs, parachute flares, cartridge throwers on 2x underwing hardpoints
<b>Maximum Takeoff Weight</b>	1,350 kg
<b>Length x Wingspan x Height</b>	7.10 x 8.35 x 2.41 m



## An-32B CLINE



<b>Type</b>	Short- to medium-range transport
<b>Crew; Passengers</b>	3 or 4; 50
<b>Maximum Cruising Speed</b>	286 kn
<b>Range</b>	
<b>Ferry</b>	1,134 nmi
<b>With Maximum Payload</b>	486 nmi
<b>Service Ceiling</b>	9,400 m
<b>Armament</b>	Provision for bombs on 4 under-wing racks (up to 500 kg each)
<b>Maximum Droppable Payload</b>	6,700 kg
<b>Maximum Takeoff Weight</b>	27,000 kg
<b>Weight Empty</b>	16.900 kg
<b>Length x Wingspan x Height</b>	23.68 x 29.20 x 2.75 m

## C-212 Aviocar



<b>Mission</b>	Transport
<b>Crew; Passengers</b>	2; 16 troops
<b>Maximum Speed</b>	194 kn
<b>Range</b>	With max payload, 260 nmi
<b>Armament</b>	Optional cannon, machine guns, or rocket pods
<b>Maximum Payload</b>	2,700 kg
<b>Takeoff Weight</b>	7,700 kg
<b>Length x Wingspan x Height</b>	15.16 x 19 x 6.68 m

**NOTE:** Pictured is the maritime version of the CASA 212.

## Bombardier DHC-8 (Dash 8) Q200



<b>Type</b>	Airliner
<b>Crew; Passengers</b>	2+1; 37
<b>Maximum Cruising Speed</b>	290 kn
<b>Range with 37 Passengers</b>	928 nmi
<b>Service Ceiling</b>	4,938 m
<b>Maximum Takeoff Weight</b>	15,649 kg
<b>Weight Empty</b>	10,486 kg
<b>Length x Wingspan x Height</b>	22.25 x 25.91 x 7.49 m

## F-27 Friendship



<b>Mission</b>	Transport
<b>Passengers</b>	Typically 42, but can accommodate up to 60
<b>Maximum Speed</b>	259 kn
<b>Range</b>	1,40 nmi
<b>Service Ceiling</b>	9,145 m
<b>Maximum Payload</b>	6,438 kg
<b>Length x Wingspan x Height</b>	23.56 x 29.00 x 8.50 m

## E-2C Hawkeye



<b>Type</b>	Shipborne and land-based airborne early warning and control aircraft
<b>Flight Crew; Staff</b>	2; 3
<b>Operational Speed</b>	323 kn
<b>Range</b>	1,540 nmi
<b>Endurance</b>	6:15
<b>Service Ceiling</b>	11,278 m
<b>Maximum Takeoff Weight</b>	24,687 kg
<b>Weight Empty</b>	18,363 kg
<b>Length x Wingspan x Height</b>	17.6 x 24.6 x 5.6 m

## Learjet 25D



<b>Type</b>	Twin-jet light executive aircraft
<b>Crew; Passengers</b>	2; 8
<b>Maximum Cruising Speed</b>	464 kn
<b>Range, 4 Passengers and Max. Fuel</b>	1,438 nmi (45-minute fuel reserves)
<b>Maximum Takeoff Weight</b>	6,804 kg
<b>Length x Wingspan x Height</b>	14.50 x 13.35 x 3.73 m

## Learjet 31A



<b>Type</b>	VIP Transport
<b>Crew; Passengers</b>	2; 8
<b>Maximum Cruising Speed</b>	481 kn
<b>Range</b>	1,562 nmi
<b>Service Ceiling</b>	9,510 m
<b>Maximum Payload</b>	862 kg
<b>Maximum Takeoff Weight</b>	7,031 kg
<b>Length x Wingspan x Height</b>	14.83 x 13.35 x 3.75 m

## Learjet 60



<b>Type</b>	VIP Transport
<b>Crew; Passengers</b>	2; 10
<b>Maximum Cruising Speed</b>	466 kn
<b>Range with 6 Occupants</b>	2,685 nmi
<b>Service Ceiling</b>	7,195 m
<b>Maximum Payload</b>	1,070 kg
<b>Maximum Takeoff Weight</b>	10,659 kg
<b>Weight Empty</b>	6,364 kg
<b>Length x Wingspan x Height</b>	17.89 x 13.34 x 4.44 m

## Aermacchi (Valmet) M-290TP RediGO



<b>Type</b>	Military trainer and multipurpose aircraft
<b>Crew</b>	2 to 4
<b>Range</b>	650 nmi
<b>Maximum Level Speed</b>	224 kn
<b>Service Ceiling</b>	6,340 m
<b>Armament</b>	Provisions include 6 underwing attachments—maximum external stores load 800 kg
<b>Maximum Takeoff Weight</b>	1,900 kg
<b>Weight Empty</b>	970 kg
<b>Length x Wingspan x Height</b>	8.5 x 10.6 x 3.2 m
<b>NOTE:</b>	Coastal patrol version may carry a radar pod beneath one wing. Shown above with gun pods.



## Mi-26T HALO



<b>Type</b>	Heavy-lift transport
<b>Crew; Passengers</b>	5; 82
<b>Maximum Dash Speed</b>	159 kn
<b>Range, Transport Mission</b>	318 nmi at 137 kn
<b>Service Ceiling</b>	4,600 m
<b>Main Rotor</b>	
<b>Number of Blades</b>	8
<b>Diameter</b>	32.0 m
<b>Maximum Payload</b>	20,000 kg
<b>Maximum Design Takeoff Weight</b>	56,000 kg
<b>Basic Weight Empty</b>	28,200 kg
<b>Fuselage Length x Width x Height</b>	35.9 x 3.5 x 8.1 m

## S-70A-24, UH-60L Blackhawk



<b>Type</b>	Medium-lift transport
<b>Crew; Passengers</b>	3; 14
<b>Maximum Dash Speed</b>	170 kn
<b>Range</b>	306 nmi
<b>Armament</b>	Provisions for 2x pintle-mounted crew-served weapons (typically, 7.62-mm machineguns)
<b>Cargo or Sling Load Capacity</b>	4,082 kg
<b>Maximum Takeoff Weight</b>	9,979 kg (10,659 kg with external load)
<b>Main Rotor</b>	
<b>Number</b>	4
<b>Diameter</b>	16.4 m
<b>Fuselage Length x Width x Height</b>	15.4 x 2.4 x 3.8 m

## Bell 205, 205A-1 (UH-1H Iroquois)



<b>Type</b>	Medium-Lift Transport
<b>Crew; Passengers</b>	2; 11
<b>Maximum Speed</b>	115 kn
<b>Range</b>	270 nmi
<b>Armament</b>	Provisions for crew-served, door-mounted weapons
<b>Cargo Handling or Sling Load</b>	1,814.4 kg
<b>Maximum Takeoff Weight</b>	4,309.2 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	2
<b>Diameter</b>	14.72 m
<b>Fuselage Length x Width x Height</b>	17.37 x 2.61 x 3.87 m (with skid)

## Bell 206B JetRanger II



<b>Role</b>	Light-lift transport
<b>Crew; Passengers</b>	2; 3
<b>Cruising Speed</b>	118 kn
<b>Range</b>	375 nmi
<b>Weapons</b>	Rockets possible
<b>Maximum Takeoff Weight</b>	1,451.5 kg
<b>Empty Weight</b>	Approximately 1,000 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	2
<b>Diameter</b>	10.2 m
<b>Fuselage Length x Width x Height</b>	9.6 x 1.96 x 2.9 m (including skids)

## Bell 206L-3 LongRanger III



<b>Role</b>	Light-lift transport
<b>Crew; Passengers</b>	2; 5
<b>Dash Speed</b>	109 kn
<b>Range</b>	375 nmi
<b>Cargo Handling or Sling Load</b>	907.2 kg
<b>Maximum Takeoff Weight</b>	1,882 kg (1,927.8 kg with external load)
<b>Main Rotor</b>	
<b>Number of Blades</b>	2
<b>Diameter</b>	11.3 m
<b>Fuselage Length x Width x Height</b>	10.1 x 2.3 x 3.1 m (including skids)
<b>NOTE:</b>	206L-3 is a stretch version of the 206B.

## Mi-24P HIND F



<b>Type</b>	Twin-turbine gunship and transport helicopter
<b>Crew; Passengers</b>	2 or 3; 8
<b>Maximum Speed</b>	173 kn
<b>Range</b>	243 nmi
<b>Armament</b>	Twin 30-mm GSh-30-2 gun; assorted rockets, ATGMs, AAMs, gun pods
<b>Maximum External Stores</b>	2,400 kg
<b>Maximum Takeoff Weight</b>	12,000 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	5
<b>Diameter</b>	17.30 m
<b>Length x Width x Height</b>	17.51 x 1.70 x 3.97 m

## Mi-8MT, -8MTV-1 (Mi-17) HIP H



<b>Type</b>	Twin-turbine, multirole medium helicopter
<b>Crew; Passengers</b>	3; 24 combat troops
<b>Maximum Cruising Speed</b>	135 kn
<b>Range</b>	267 nmi (440 nmi with auxiliary fuel)
<b>Armament</b>	Various
<b>Payload</b>	Internal 1,815 kg; external 1,360 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	5
<b>Diameter</b>	21.29 m
<b>Fuselage Length x Height</b>	25.35 x 5.54 m

## MI-2 HOPLITE



<b>Role</b>	Light general-purpose, including observation
<b>Crew</b>	2
<b>Range with Maximum Fuel</b>	313 nmi
<b>Armament</b>	Rockets, ATGMs, and AAMs, or 23-mm cannon and 4x 7.62-mm machineguns
<b>Payload</b>	800 kg
<b>Main Rotor</b>	
<b>Number</b>	3
<b>Diameter</b>	14.50 m
<b>Fuselage Length x Width x Height</b>	11.9 x 1.6 x 3.8 m



## Mi-8 HIP C



<b>Type</b>	Twin-turbine, multipurpose helicopter
<b>Crew; Passengers</b>	3; 26
<b>Maximum Cruising Speed</b>	225 km/h
<b>Range</b>	308 nmi (532 nmi with auxiliary fuel)
<b>Armament</b>	12.7-mm machinegun in nose
<b>Payload</b>	Internal 1,815 kg; external 1,360 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	5
<b>Diameter</b>	21.29 m
<b>Fuselage Length x Height</b>	25.33 x 5.54 m

## AS555 Fennec



<b>Role</b>	Assault
<b>Crew; Passengers</b>	1; 5
<b>Maximum Speed</b>	150 kn
<b>Range with Standard Load</b>	375 nmi
<b>Service Ceiling</b>	3,800 m
<b>Armament</b>	20- or 7.62-mm gun pods, 68- or 70-mm rockets torpedo, AAMs
<b>Basic Weight Empty</b>	1,448 kg
<b>Maximum Takeoff Weight</b>	2,600 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	3
<b>Diameter</b>	10.7 m
<b>Fuselage Length x Width x Height</b>	10.9 x 1.9 x 3.14 m

## MD902 Explorer



<b>Mission</b>	Light lift
<b>Crew; Passengers</b>	1; 7
<b>Maximum Speed</b>	140 kn
<b>Range</b>	Approximately 300 nmi
<b>Service Ceiling</b>	Approximately 5,500 m
<b>Armament</b>	0.50-in Gatling or M2 machinegun in pod; 70-mm rockets
<b>Basic Weight Empty</b>	1,481 kg
<b>Maximum Vertical Takeoff Weight</b>	2,835 kg (with internal load only) (3,130 kg with external load)
<b>Main Rotor</b>	
<b>Number of Blades</b>	5
<b>Diameter</b>	10.3 m
<b>Fuselage Length x Width x Height</b>	9.9 x 1.6 x 3.7 m

## MD 530F Lifter



<b>Mission</b>	Reconnaissance
<b>Crew; Passengers</b>	2; 2 to 5
<b>Maximum Dash Speed</b>	152 kn
<b>Range</b>	206 nmi
<b>Maximum Payload</b>	907.2 kg
<b>Maximum Design Takeoff Weight</b>	1,406.2 kg (1,701 kg with external load)
<b>Main Rotor</b>	
<b>Number of Blades</b>	5
<b>Diameter</b>	8.4 m
<b>Fuselage Length x Width x Height</b>	7.5 x 1.4 x 2.5 m

## MD-500E



<b>Mission</b>	Reconnaissance
<b>Crew; Passengers</b>	2; 2 to 5
<b>Maximum Dash Speed</b>	152 kn
<b>Range</b>	255 nmi
<b>Maximum Payload</b>	907.2 kg
<b>Maximum Design Takeoff Weight</b>	1,360 kg (1,610 kg with external load)
<b>Main Rotor</b>	
<b>Number of Blades</b>	5
<b>Diameter</b>	8.1 m
<b>Fuselage Length x Width x Height</b>	7.3 x 1.4 x 2.6 m

## SA 319B Alouette III



<b>Mission</b>	Light lift
<b>Crew; Passengers</b>	1; 6
<b>Maximum Speed</b>	100 kn
<b>Range</b>	267 nmi
<b>Service Ceiling</b>	3,200 m
<b>Armament</b>	Assorted guns, missiles, or rockets
<b>Basic Weight Empty</b>	1,139.0 kg
<b>Maximum Payload</b>	970 kg
<b>Maximum Takeoff Weight</b>	2,200 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	3
<b>Diameter</b>	11.02 m
<b>Fuselage Length x Width x Height</b>	12.84 m

## MBB Bo 105-C, -CB



<b>Type</b>	Light lift
<b>Crew; Passengers</b>	1; 6
<b>Maximum Speed</b>	100 kn
<b>Range</b>	267 nmi
<b>Service Ceiling</b>	3,200 m
<b>Armament</b>	Assorted guns, missiles, or rockets
<b>Basic Weight Empty</b>	1,139.0 kg
<b>Maximum Payload</b>	970 kg
<b>Maximum Takeoff Weight</b>	2,200 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	3
<b>Diameter</b>	11.02 m
<b>Fuselage Length x Width x Height</b>	12.84 m

## Bell 47G, J;



<b>Mission</b>	Light lift
<b>Crew; Passengers</b>	1; 2
<b>Maximum Dash Speed</b>	90 kn
<b>Range</b>	245 nmi
<b>Maximum Takeoff Weight</b>	Approximately 1,300 kg
<b>Main Rotor</b>	
<b>Number of Blades</b>	2
<b>Diameter</b>	10.7 m
<b>Fuselage Length x Height</b>	9.5 x 2.8 m



# SHIPS

## GEARING Class (FRAM I) Destroyer DD



<b>LOA x Beam x Draft</b>	
<b>Displacement (full load)</b>	3,600,000 kg
<b>Complement</b>	295
<b>Cruising Speed</b>	26.8 kn
<b>Range</b>	4,500 nmi at 20 kn
<b>Weapons</b>	
<b>Guns</b>	2x 127-mm x 38; 2x twin 127-mm x 38; 2x quad 40-mm; 2x twin 40-mm; 11x 20-mm
<b>Torpedo Tubes</b>	10x 533-mm
<b>Other</b>	6x depth charge throwers, 2x racks; may carry ASROCs
<b>Aviation</b>	BO-105 helicopter and hangar
<b>NOTE:</b>	<i>Netzahualcoytl</i> shown above.

## KNOX Class Frigate FF



<b>Max. LOA x Beam x Draft</b>	133.5 x 14.3 x 7.8m
<b>Displacement (full load)</b>	3,877,000 kg
<b>Complement</b>	288
<b>Maximum Sustained Speed</b>	27 kn
<b>Range</b>	2,765 nmi at 27 kn
<b>Weapons</b>	
<b>Guns</b>	1x 127-mm x 54; 6x 20-mm x 70
<b>Missiles</b>	1x launcher for Sea Sparrow SAM; 1x octuple ASROC launcher with two cells modified for Harpoon ASMs
<b>Other Weapons</b>	4x torpedo tubes
<b>Aviation</b>	BO-105 CB Helicopter and hangar
<b>Radar Systems</b>	
<b>Surface Search</b>	Raytheon SPS-10 or Norden SPS-67
<b>Air Search</b>	Lockheed SPS-40 B
<b>Fire Control</b>	Western Electric SPG-53D/F
<b>Sonar</b>	General Electric SQS-26X
<b>NOTE:</b>	<i>Ignacio Allende</i> shown above.

## CHARLES LAWRENCE Class, CROSLY Class FF



<b>LOA x Beam x Draft</b>	93.3 x 11.3 x 3.8 m
<b>Displacement (full load)</b>	1,633,000 kg
<b>Complement</b>	221
<b>Speed</b>	13 kn
<b>Range</b>	5,000 nmi at 13 kn
<b>Guns</b>	1x 127-mm x 38; 3x twin40-mm x 60; 6x 20-mm x 80
<b>Surface Search Radar System</b>	Kelvin Hughes

## EDSALL Class Training Large Patrol Ship PST



<b>Max. LOA x Beam x Draft</b>	93.2 x 11.2 x 3.2 m
<b>Displacement (full load)</b>	1,626,000 kg
<b>Complement</b>	216
<b>Speed</b>	20.4 kn
<b>Range</b>	13,000 nmi at 12 kn
<b>Guns</b>	3x 76-mm x 50; 2x twin 40-mm x 60; 1x quad 40-mm x 60
<b>Radar Systems</b>	
<b>Navigation</b>	KH-14/9
<b>Surface Search</b>	KH-17
<b>Fire Control</b>	Mk-26 Mod 0

**NOTE:** *Commandante Manuel Azueta* shown.

## BRONSTEIN Class Large Patrol Ship PS



<b>Max. LOA x Beam x Draft</b>	113.2 x 12.3 x 7.0 m
<b>Displacement (full load)</b>	2,650,000 kg full load
<b>Complement</b>	207
<b>Speed</b>	23.5 kn
<b>Range</b>	4,000 nmi at 15 kn
<b>Weapons</b>	
<b>Guns</b>	1x twin 76-mm x 50 or 1 Bofors 57-mm x70
<b>Missiles</b>	Octuple ASROC launcher
<b>Other Weapons</b>	2x triple 324-mm torpedo tubes
<b>Aviation</b>	Helicopter platform but no hangar
<b>Radar Systems</b>	
<b>Navigation</b>	Marconi LN66
<b>Surface Search</b>	Raytheon SPS-10F
<b>Air Search</b>	Lockheed SPS-40D
<b>Fire Control</b>	General Electric Mk 35
<b>Sonar</b>	EDO/General Electric SQS-26 AXR

NOTE: *Hermenegildo Galeana* shown above.

## OAXACA Class Gunship PS



<b>Max. LOA x Beam x Draft</b>	86.0 x 10.5 x 3.6 m
<b>Displacement (full load)</b>	1,680,000 kg
<b>Complement</b>	77
<b>Speed</b>	20 kn
<b>Guns</b>	1x 76-mm x 62; 1x 25-mm
<b>Aviation</b>	Eurocopter AS 565 Panther helicopter
<b>Radar Systems</b>	
<b>Navigation</b>	Terma Scanter 2001
<b>Surface Search</b>	Terma Scanter 2001
<b>Fire Control</b>	Alenia NA-25

**NOTE:** OAXACA Class is derived from HOLZINGER Class. *Baja California* shown above.

## DURANGO Class Gunship PS



<b>Max. LOA x Beam x Draft</b>	81,8 x 10.5 x 2.8 m
<b>Displacement (full load)</b>	1,470,000 kg
<b>Complement</b>	77
<b>Speed</b>	18 kn
<b>Guns</b>	1x triple 57-mm x 70B
<b>Aviation</b>	MD 902 Explorer helicopter
<b>Surface Search Radar</b>	DECCA 64 MN

**NOTE:** DURANGO Class is derived from HOLZINGER Class. *Durango* shown above.

## HOLZINGER (Improved HALCON) Class Gunship PS



<b>Max. LOA x Beam x Draft</b>	74.4 x 10.5 x 3.4 m
<b>Displacement (full load)</b>	1,290,000 kg
<b>Complement</b>	75
<b>Speed</b>	22 kn
<b>Range</b>	3,820 nmi at 16 kn
<b>Guns</b>	1x 40-mm x 60; 1x twin 40-mm x 60
<b>Aviation</b>	BO-105 CB
<b>Radar Systems</b>	
<b>Navigation</b>	Kelvin Hughes Nucleus
<b>Surface Search</b>	Raytheon SPS-64(V)6A

**NOTE:** *General Felipe B Berriozabal* shown above.



## SIERRA Class Gunship PS



<b>Max. LOA x Beam x Draft</b>	70.4 x 10.5 x 2.8
<b>Displacement (full load)</b>	1,344,000 kg
<b>Complement</b>	76
<b>Speed</b>	18 kn
<b>Weapons</b>	
<b>Guns</b>	1x triple 57-mm x 70B
<b>Missiles</b>	SA-N-10 IR-homing SAM
<b>Aviation</b>	MD 902 Explorer helicopter
<b>Radar</b>	
<b>Surface Search</b>	I-band
<b>Air and Surface Search</b>	E/F-band

**NOTE:** SIERRA Class is derived from the HOLZINGER Class. *Justo Sierra Mendez* shown above.

## AUK Class Large Patrol Ship PS



<b>LOA x Beam x Mean Draft</b>	67.5 x 9.8 x 3.3 m
<b>Displacement (full load)</b>	1,269,800 kg
<b>Complement</b>	105
<b>Speed</b>	18 kn
<b>Range</b>	6,900 nmi at 10 kn
<b>Guns</b>	1x 76-mm x 50; 2x twin 40-mm x 60; possibly 2x twin 12.7-mm machineguns
<b>Radar Systems</b>	
<b>Navigation</b>	KH-14/9
<b>Surface Search</b>	SPS-5B

## ADMIRABLE Class Patrol Combatant PG



<b>LOA x Beam x Draft</b>	56.3 x 10.1 x 2.6 m
<b>Displacement (full load)</b>	940,000 kg
<b>Complement</b>	98
<b>Speed</b>	15 kn
<b>Range</b>	4,300 nmi at 10 kn
<b>Guns</b>	1x 76-mm x 50; 2x twin 20-mm
<b>Aviation</b>	Platform for one BO-105C
<b>Surface Search Radar System</b>	Kelvin Hughes 14 series

## ALIYA (SAAR 4.5) Guided Missile Patrol Combatant PGG



<b>LOA x Beam x Mean Draft</b>	61.7 x 7.6 x 2.9 m
<b>Displacement (full load)</b>	500,000 kg
<b>Complement</b>	53
<b>Speed</b>	31 kn
<b>Range</b>	3,000 nmi at 17 kn
<b>Guns</b>	2x 20-mm x 65; 4x 12.7-mm x 90; 1x 20-mm Phalanx MK 15-0
<b>Other Weapons</b>	ASMs
<b>Aviation</b>	Helicopter platform and hangar

## URIBE (HALCON) Patrol Combatant PG



<b>LOA x Beam x Draft</b>	67 x 10.5 x 3.5 m
<b>Displacement (full load)</b>	910,000 kg
<b>Complement</b>	54
<b>Speed</b>	22 kn
<b>Range</b>	5,000 nmi at 13 kn
<b>Guns</b>	1x Bofors 40-mm x 70
<b>Aviation</b>	BO-1205C
<b>Surface Search Radar</b>	DECCA AC 1226

**NOTE:** *Angel Ortiz Monasterio* shown above.

## GUANAJUATO Class Patrol Boat PB



<b>LOA x Beam x Draft</b>	80.5 x 11.5 x 4 m
<b>Displacement (full load)</b>	1,797,000 kg
<b>Complement</b>	140
<b>Speed</b>	14 kn
<b>Range</b>	3,000 nmi
<b>Guns</b>	2x 102-mm x 45; 2x 40-mm 60; 4 20-mm
<b>Surface Search Radar System</b>	Kelviin Hughes

## CENTENARIO Class Coastal Patrol Craft PC



<b>LOA x Beam x Draft</b>	52.5 x 9 x 2.6 m
<b>Displacement (full load)</b>	450,000 kg
<b>Complement</b>	36
<b>Speed</b>	30 kn
<b>Guns</b>	Twin Bofors 40-mm x 60
<b>Surface Search Radar</b>	Racal Decca
<b>NOTE:</b> <i>Democrata</i> shown above.	

## AZTECA Class Large Patrol Craft PC

UNCLASSIFIED



<b>Max. LOA x Beam x Draft</b>	34.4 x 8.7 x 2.2 m
<b>Displacement (full load)</b>	150,000 kg
<b>Complement</b>	20
<b>Speed</b>	24 kn
<b>Range</b>	1,537 nmi at 14 kn
<b>Guns</b>	1x 40-mm x 60 and 1z 20-mm or 7.62-mm machinegun
<b>Radar Systems</b>	
<b>Navigation Radar System</b>	Marconi SPS-59(V)
<b>Surface Search</b>	Kelvin Hughes
<b>NOTE:</b>	



## USCG CAPE (PGM 71) Coastal Patrol Craft PC



<b>LOA x Beam x Draft</b>	29 x 5.8 x 1.8 m
<b>Displacement (full load)</b>	106,700 kg
<b>Complement</b>	15
<b>Speed, Full Power</b>	21 kn
<b>Maximum Sustained Speed</b>	20 kn
<b>Economical Speed</b>	8 kn
<b>Range</b>	2,300 nmi at 8 kn
<b>Guns</b>	2x 12.7-mm x 90
<b>Other Weapons</b>	
<b>Radar System</b>	SPS-64

## USCG POINT Class (A- and C-Series) Large Patrol Craft PC



<b>LOA x Beam x Draft</b>	25.3 x 5.2 x 1.8 m
<b>Displacement (full load)</b>	67,000 or 66,000 kg
<b>Complement</b>	10
<b>Speed, Full Power</b>	23.5 kn
<b>Economical Speed</b>	8 kn
<b>Range</b>	1,500 nmi at 8 kn
<b>Guns</b>	2x 12.7-mm x 90 machineguns
<b>Navigation Radar System</b>	SPS-64

## LAGUNA (ex-POLIMAR) Class Patrol Boat PB



<b>Max. LOA x Beam x Draft</b>	20.6 x 4.9 x 1.2 m
<b>Displacement (full load)</b>	57,900 kg
<b>Complement</b>	8
<b>Speed, Full Power</b>	16 kn
<b>Maximum Sustained Speed</b>	11 kn
<b>Guns</b>	1x 20-mm
<b>Navigation Radar System</b>	Raytheon-1700

## ISLA CORONADA Class Fast Attack Craft PB



<b>Type</b>	Fast Attack Craft
<b>Max. LOA x Beam x Draft</b>	25 x 5.5 x 1.2 m
<b>Displacement (full load)</b>	52,000 kg
<b>Complement</b>	9
<b>Speed</b>	50 kn
<b>Weapons</b>	
<b>Guns</b>	1x 12.7-mm and 2x 7.62-mm machineguns
<b>Other</b>	May carry the MM 15 short-range ASM
<b>Radar Systems</b>	
<b>Surface Search</b>	Raytheon SPS 69
<b>Fire control</b>	Thomson-CSF Agrion
<b>NOTE:</b>	<i>Isla Cozumel</i> is shown above with two MM 15 ASMs.

## STRIDSBAT 90H Class (COMBATBOAT 90 HMN) Patrol Boat PB



<b>LOA x Beam x Draft</b>	15.9 x 3,8 x 0.8 m
<b>Displacement (full load)</b>	18,700 kg
<b>Complement</b>	3
<b>Embarked Troops</b>	21
<b>Speed, Full Power</b>	47 kn
<b>Range</b>	240 nmi at 35 kn
<b>Guns</b>	3x 12.7-mm machineguns

## OLMECA II (ARRECIFE) Class Patrol Boat PB



<b>Max. LOA x Beam x Draft</b>	16.7 x 4.4 x 2.4 m
<b>Displacement (full load)</b>	18,000 kg
<b>Complement</b>	15
<b>Speed, Full Power</b>	25 kn
<b>Range</b>	460 nmi at 10 kn
<b>Guns</b>	1x 12.7-mm machinegun
<b>Navigation Radar System</b>	Raytheon 1900

## MAKO MARINE 295 Class PB



<b>LOA x Beam x Draft</b>	6.8 x 2.3 x 0.3 m
<b>Complement</b>	2
<b>Speed</b>	40 kn
<b>Range</b>	190 nmi at 40 kn
<b>Guns</b>	1x or 2x 7.62-mm machinegun
<b>NOTE:</b>	carried by <i>Democrata</i> .

## LST 511-1152, Landing Ship Tank LST



<b>Max. LOA x Beam x Draft</b>	100 x 15.3 x 4.3 m
<b>Displacement (full load)</b>	4,145,000 kg
<b>Complement</b>	116
<b>Embarked Troops</b>	133
<b>Maximum Sustained Speed</b>	11 kn
<b>Range</b>	24,000 nmi at 9 kn
<b>Guns</b>	6x 20-mm x 70; 4x 40-mm x 60; 2x twin 40-mm x 60
<b>Navigation Radar System</b>	SPS-21
<b>Echo Sounder</b>	UQN-1 series
<b>NOTE:</b>	<i>Rio Panuco</i> shown above. <i>Rio Papaloapan</i> has been stripped of armament.

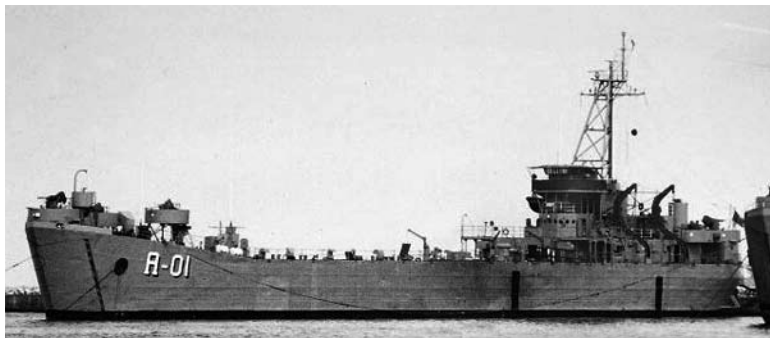


## ADMIRABLE Class Oceanographic Research Ship AGOR



<b>Max. LOA x Beam x Draft</b>	56.3 x 10.1 x 4.4
<b>Displacement (full load)</b>	910,000 kg
<b>Complement</b>	64
<b>Speed</b>	15 kn
<b>Range</b>	4,300 nmi at 10 kn
<b>Guns</b>	1x 76-mm x 50; 4x 7.62-mm machineguns
<b>Navigation Radar</b>	Kelvin Hughes
<b>NOTE:</b> <i>Aldebaran</i> (H-02) is shown above with old number (A08).	

## FABIUS Class Patrol Craft Tender AGP



<b>Max. LOA x Beam x Draft</b>	100 x 15.3 x 4.5 m
<b>Displacement (full load)</b>	3,698,000 kg
<b>Complement</b>	241
<b>Speed</b>	12 kn
<b>Amphibious Landing Craft</b>	2x LCVPs
<b>Guns</b>	2x quad 40-mm x 60
<b>Radar System</b>	Decca-505
<b>Sonar System</b>	Echo Sounder

**NOTE:** Manzanillo shown above.

## RIO HONDO, Survey Ship AGS



<b>LOA x Beam x Draft</b>	36.6 x 8.5 x 2.1 m
<b>Displacement (full load)</b>	362,900 kg
<b>Complement</b>	20
<b>Speed</b>	10 kn
<b>Range</b>	6,000 nmi

## ARNEB Class (*Tarasco*, ex-*Rio Lerma*) Logistic Support Ship AK



<b>Max. LOA x Beam x Draft</b>	86 x 12.4 x 4.9 m
<b>Displacement (full load)</b>	1,970,000 kg
<b>Complement</b>	35
<b>Speed at Full Power</b>	14 kn
<b>Cargo Capacity</b>	Over 700,000 kg

## HUASTECO (USUMACINTA) Class Transport AP



<b>LOA x Beam x Draft</b>	70.1 x 12.8 x 5.5 m
<b>Displacement (full load)</b>	2,650,000 kg
<b>Complement</b>	57
<b>Embarked Troops</b>	300
<b>Speed</b>	16 kn
<b>Range</b>	5,500 nmi at 14 kn
<b>Guns</b>	1x 40-mm x 60; 1x twin 40-mm x 60
<b>Aviation</b>	Platform for MBB BO 105C

**NOTE:** *Rio Usumacinta* shown above.

## PORTERO DEL LLANO, Logistic Support Ship AOT



<b>LOA x Beam x Draft</b>	170.7 x 22.6 x 9.4 m
<b>Displacement (full load)</b>	27,432,000 kg
<b>Complement</b>	30
<b>Speed, Full Power</b>	14.6 kn

## DURANGO Class Personnel Transport AP



<b>LOA x Beam x Draft</b>	78.2 x 11.2 x 3.1 m
<b>Displacement (full load)</b>	1,814,000 kg
<b>Complement</b>	149
<b>Embarked Troops</b>	450
<b>Speed</b>	14 knk
<b>Range</b>	3,000 nmi at 12 kn
<b>Guns</b>	1x 10-2-mm; 2x 57-mm; 4x 20-mm

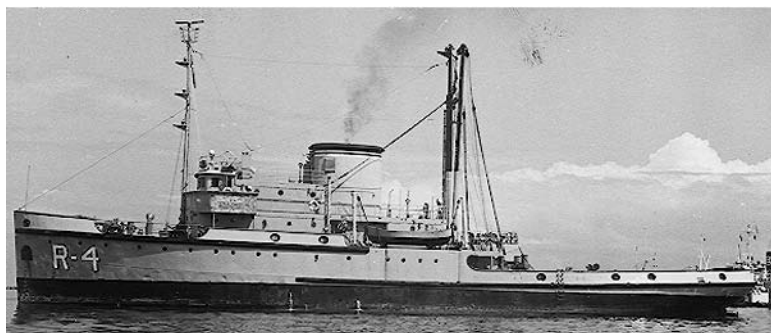
## MAYA Class, Support Ship AKS



<b>LOA x Beam x Draft</b>	48.8 x 11.8 x 4.9 m
<b>Displacement (full load)</b>	924,000 kg
<b>Complement</b>	15
<b>Speed, Full Power</b>	12 kn

**NOTE:** *Rio Nautla* shown above (old number)..

## V4-M-A1 Ocean Tug ATA



<b>LOA x Beam x Draft</b>	59.2 x 11.5 x 5.7 m
<b>Displacement (full load)</b>	1,825,000 kg
<b>Complement</b>	90
<b>Maximum Sustained Speed</b>	14 kn
<b>Range</b>	19,000 nmi at 14 kn
<b>Guns</b>	2x 20-mm x 70; 1x 76-mm x 50
<b>Other Weapons</b>	
<b>Radar System</b>	KH-14/9

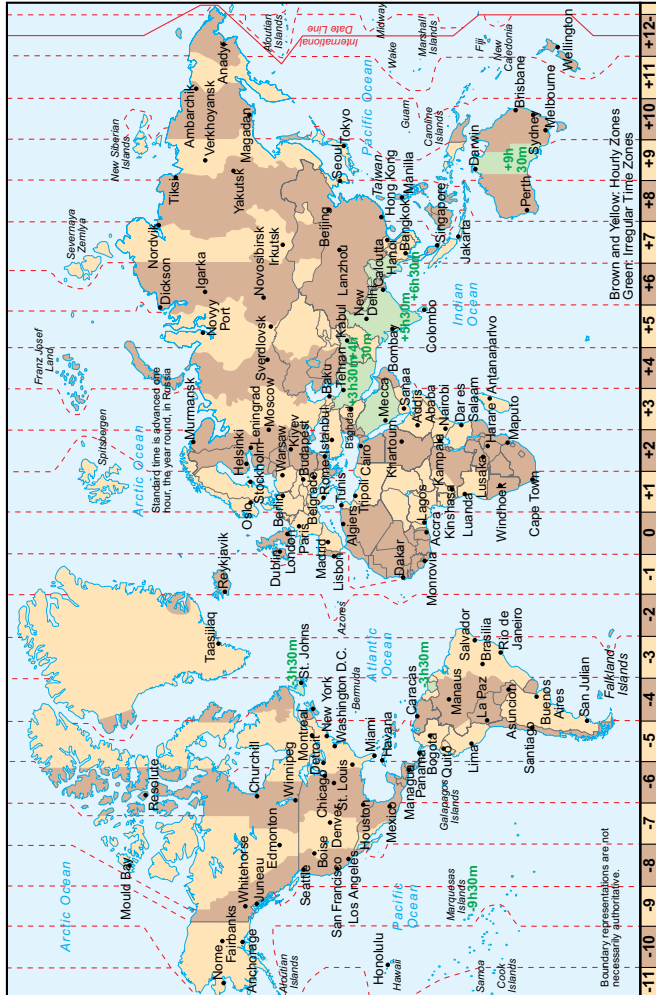
## ABNAKI Class Tug



<b>LOA x Beam x Draft</b>	62.5 x 11.7 x 5.2 m
<b>Displacement (full load)</b>	1,488,000 kg
<b>Complement</b>	75
<b>Speed</b>	10 kn
<b>Range</b>	6,500 nmi at 10 kn
<b>Guns</b>	1x 76-mm x 50
<b>Navigation Radar System</b>	Marconi LN66



# 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

<b>Country</b>	<b>UTC</b>	<b>Eastern</b>	<b>Central</b>	<b>Mountain</b>	<b>Pacific</b>
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
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

<b>Country</b>	<b>UTC</b>	<b>Eastern</b>	<b>Central</b>	<b>Mountain</b>	<b>Pacific</b>
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
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

<b>Country</b>	<b>UTC</b>	<b>Eastern</b>	<b>Central</b>	<b>Mountain</b>	<b>Pacific</b>
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
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

<b>Country</b>	<b>UTC</b>	<b>Eastern</b>	<b>Central</b>	<b>Mountain</b>	<b>Pacific</b>
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
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

<b>Country</b>	<b>UTC</b>	<b>Eastern</b>	<b>Central</b>	<b>Mountain</b>	<b>Pacific</b>
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
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. Maarten	-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

<b>Country</b>	<b>UTC</b>	<b>Eastern</b>	<b>Central</b>	<b>Mountain</b>	<b>Pacific</b>
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
Togo	+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
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 Is.	+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



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## APPENDIX C: Conversion Charts

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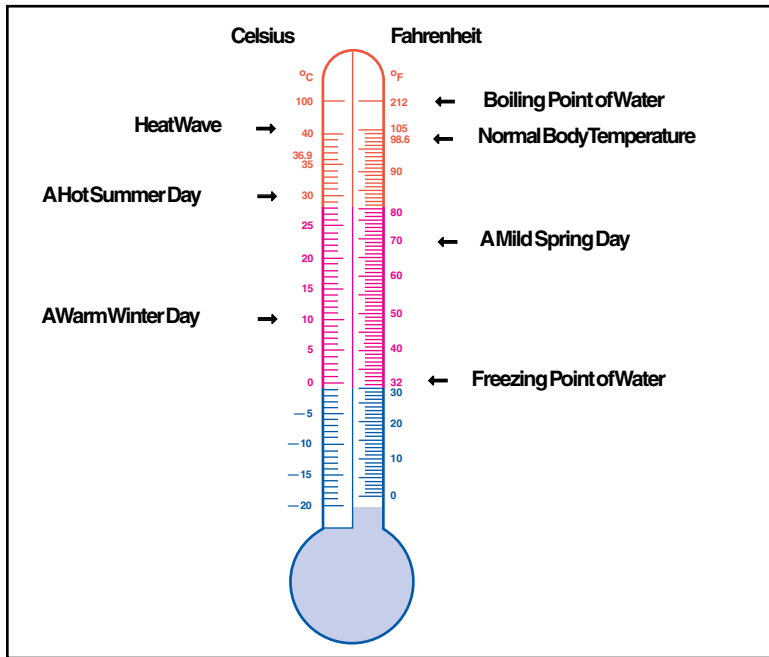
### When You Know

<b>Units of Length</b>	<b>Multiply by</b>	<b>To find</b>
Millimeters	0.04	Inches
Centimeters	0.39	Inches
Meters	3.28	Feet
Meters	1.09	Yards
Kilometers	0.62	Miles
Inches	25.40	Millimeters
Inches	2.54	Centimeters
Feet	30.48	Centimeters
Yards	0.91	Meters
Miles	1.61	Kilometers
<b>Units of Area</b>		
Sq. Centimeters	0.16	Sq. Inches
Sq. Meters	1.20	Sq. Yards
Sq. Kilometers	0.39	Sq. Miles
Hectares	2.47	Acres
Sq. Inches	6.45	Sq. Cm
Sq. Feet	0.09	Sq. Meters
Sq. Yards	0.84	Sq. Meters
Sq. Miles	2.60	Sq. Km
Acres	0.40	Hectares
<b>Units of Mass and Weight</b>		
Grams	0.035	Ounces
Kilograms	2.21	Pounds
Tons (100kg)	1.10	Short Tons
Ounces	28.35	Grams
Pounds	0.45	Kilograms
Short Tons	2.12	Tons

<b>Units of Volume</b>	<b>Multiply by</b>	<b>To find</b>
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
<b>Units of Speed</b>		
Miles per Hour	1.61	Kilometers 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



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## **APPENDIX D:**

### **Holidays**

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#### **National Holidays**

According to Mexico Federal Labor Law, Mexico holidays falling on the weekend are observed on the preceding Friday or subsequent Monday. The US Embassy is also closed during these holidays, in addition to normal U.S.-observed holidays.

January	New Year's Day
February 5	Constitution Day
March 21	Birth of Benito Juarez
March 24*	Holy Thursday
March 25*	Good Friday
April 21-24	Easter
May 1	Mexico Labor Day
May 5	Anniversary of Battle of Puebla
September 16	Mexico Independence Day
October 12	Discovery of America
November 1	All Saint's Day
November 20	Mexican Revolution Day
December 12	Day of Our Lady of Guadalupe
December 24-25	Christmas

\* Denotes estimated day. The day falls within a Thursday and Friday.



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## APPENDIX E:

### Language

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#### Spanish

#### *Key Words and Phrases*

##### **English**

Please.  
Stop.  
Danger.  
Help.  
Bring help.  
Come here.  
Right away.  
I am an American.  
Which way is north?  
Which is the road to..?  
Draw me a map.  
Take me there.  
Take me to a doctor.  
How far is it?  
Goodbye.  
I don't understand.  
How are you?  
Where is the U.S.  
Embassy?  
Where is the  
Police station?  
I am hungry.  
I am thirsty.  
How much does this cost?  
What is the time?  
What time (does) it start?

##### **Spanish**

Por favor.  
Alto.  
Peligro.  
Socorro.  
Traiga ayuda.  
Venga aca/aqui.  
Pronto.  
Soy Americano.  
Donde esta el norte?  
Cual es el camino para. . ?  
Dibujeme un plano.  
Lleveme alla.  
Lleveme a un medico.  
A que distancia esta?  
Adios.  
No comprendo.  
Como esta usted?  
Donde esta la Embajada  
de Estados Unidos (Americana)  
Donde esta la estacion  
de policia?  
Tengo hambre.  
Tengo sed.  
Cuanto cuesta esto?  
Que hora es?  
A que hora empieza?

**English**

The train  
 The bus  
 The car  
 The aircraft  
 Yes / No  
 Thank you  
 Thank you very much  
 You're welcome  
 Excuse me!  
 Sorry!

**Spanish**

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?

**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?



**English**

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

**Spanish**

Mucho gusto en conocerle.  
 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?  
 I understand.  
 I do not understand.  
 Do you understand?  
 Can you repeat that?  
  
 Can I have...?  
 Can you show me...?  
 Can you tell me...?

**Spanish**

Quién?  
 Qué?  
 Cuándo?  
 Dónde?  
 Porqué?  
 Cuál?  
 Dónde está...?  
 Dónde estan...?  
 Dónde puedo encontrar...?  
 Cuánto?  
 Cuántos?  
 Cuánto cuesta?  
 Cómo se dice esto/eso en español?  
 Qué significa esto / eso?  
 Entiendo.  
 No entiendo.  
 Entiende?  
 Puede repetir eso? (Puede repetirlo?)  
 Puedo tener..?/Me puede dar?  
 Puede mostrarme...?  
 Puede decirme...?

## **English**

Can you help me?

Give me ...

Yes, I am.

No, I am not.

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

## **Spanish**

Puede ayudarme?

Déme...?

Sí, yo soy.

No, yo no soy.

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

## ***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 make)

to Eat (I, you, we eat)

to Give (I , you, we give)

to Go (I, you, we go)

to Have (I , you, we have)

### **Spanish**

Estar (Estoy, Está, Estamos)

(temporary) 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)

**English**

to Know (I , you, we know)  
 to Go Out (I , you, we go out)  
 to Leave  
 to Live (I, you, we live)  
 to Put (I , you, we put)  
 to Say (I , you, we say)  
 to See (I , you, we see)  
 to Speak (I , you, we speak)  
 to Want (I , you, we want)

to Work (I, you, we work)

**Spanish**

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

***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)  
 Boyfriend / Girlfriend  
 Family  
 Relative  
 Children  
 Husband / Wife  
 Father / Mother

**Spanish**

Yo / Nosotros  
 Tú / usted  
 Él / Ella / Ellos / Ellas  
 Mi / Mío (Mía)  
 Tu / El tuyo / La tuya  
 Su / El suyo / La suya  
 Su / Su / Suyo / Suya  
 Hombre / Mujer  
 Amigos / Amigas  
 Novio / Novia  
 Familia  
 Pariente  
 Hijos  
 Esposo / Esposa  
 Padre / Madre

**English**

Son / Daughter  
Brother / Sister  
Grandfather / Grandmother  
Uncle / Aunt  
Cousin (male / female)  
Nephew / Niece

**Spanish**

Hijo / Hija  
Hermano / Hermana  
Abuelo / Abuela  
Tío / Tía  
Primo / Prima  
Sobrino / Sobrina

***Directions and Places*****English**

Where is the...?  
How do I get to...?  
Is it near here?  
It's not very far.  
How do you get there?  
Is it within walking distance?  
Is it...?  
Near / Far  
Here / There  
North / South  
East / West  
Left / Right  
Straight / Forward  
Up / Down  
Airport  
Apartment  
Bakery  
Bank  
Bar  
Beach  
Building  
Church  
City / Town

**Spanish**

Dónde está...?  
Cómo puedo ir a...?  
Está cerca de aquí?  
No está muy lejos.  
Cómo se va allí?  
Se puede ir caminando?  
Es...?  
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

Downtown	El Centro
Fire Station	Estación de bomberos
Hospital	Hospital
Hotel	Hotel
House	Casa
Laundry	Lavandería
Library	Biblioteca
Movie Theater	Cine
Night Club	Club Nocturno
Office	Oficina
Park	Parque
Pharmacy	Farmacia
Police Station	Comisaría / Estación de policía
Post Office	Correo
Restaurant	Restaurante
Store	Tienda
Street / Road	Calle / Camino
Supermarket	Supermercado

## ***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

### **Spanish**

Tengo hambre /sed.

Puede recomendarme un buen restaurante?

Puede darnos una mesa?

Prohibido de fumar

Yo quisiera algo para comer / beber.

Puede traerme una carta, por favor?

Comida

Desayuno

Almuerzo / Cena

## English

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  
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

## Spanish

Puede traerme...?  
Tenedor / Cuchillo / Cuchara  
Plato / Taza / Vaso/ Servilleta  
La cuenta, por favor.  
Qué me recomienda?  
Yo quisiera...  
guineo  
frijoles  
Cerveza  
Cerveza de barril  
Pan  
Mantequilla  
Pastel  
Queso  
Pollo  
Café  
una taza de café  
Postres  
Huevos  
Pescado  
Fruta  
Carne  
Leche  
Jugo de naranja  
cerdo  
Patatas (Papás)  
arroz  
Arroz y Frijoles  
Ensalada  
Camarones  
Sal y Pimienta  
Sopa

**English**

Steak  
Stew  
Sugar  
Tea  
Vegetables  
Water  
Wine

**Spanish**

Bistec  
guisado  
Azúcar  
Té  
Legumbres (Vegetales)  
Água  
Vino

**Colors****English**

What color is it?  
Light...  
Dark...  
Black  
Blue  
Brown  
Green  
Grey  
Orange  
Pink  
Purple  
Red  
White  
Yellow

**Spanish**

De qué color es?  
...claro  
...oscuro  
Negro  
Azul  
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

**Spanish**

Qué día es hoy?  
Semana  
Día  
Fecha  
domingo  
lunes

**English**

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

**Spanish**

martes  
miércoles  
jueves  
viernes  
sábado  
La Semana pasada  
La Próxima semana  
El Fin de semana  
Ayer / Hoy / Mañana  
Anteayer  
Ahora / Mas tarde  
de (en) la mañana /  
de (en) la tarde  
Durante el día  
de (en) la noche  
Qué hora es?  
Horas / Minutos / Segundos  
Es la una.  
Son las dos.  
Son las tres y cinco.  
Son las cuatro menos diez.  
Mediodía / Medianoche

***Year, Months, and Seasons*****English**

Year  
This Year  
Last year  
Next year  
The months  
January / February  
March / April

**Spanish**

Año  
Éste año  
El Año pasado  
El Próximo año  
Los Meses  
enero / febrero  
marzo / abril



**English**

May / June  
July / August  
September / October  
November / December  
Seasons  
Spring / Summer  
Autumn / Winter

**Spanish**

mayo / junio  
julio / agosto  
septiembre / octubre  
noviembre / diciembre  
Estaciones del año  
La Primavera / El Verano  
El Otoño / El Invierno

**Numbers****English**

Number  
Zero (0)  
One (1)  
  
Two (2)  
Three (3)  
Four (4)  
Five (5)  
Six (6)  
Seven (7)  
Eight (8)  
Nine (9)  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19

**Spanish**

Número  
Zero  
Uno (counting) Un (mas.) /  
una (fem.)  
Dos  
Tres  
Cuatro  
Cinco  
Seis  
Siete  
Ocho  
Nueve  
Diez  
Once  
Doce  
Trece  
Catorce  
Quince  
Dieciséis  
Diecisiete  
Dieciocho  
Diecinueve

**English**

20  
21  
22  
23  
30  
40  
50  
60  
70  
80  
90  
100  
101  
102  
110  
120  
200  
500  
1,000  
10,000  
100,000  
1,000,000  
First  
Second  
Third

**Spanish**

Veinte  
Veintiuno  
Veintidos  
Veintitres  
Treinta  
Cuarenta  
Cinquenta  
Sesenta  
Setenta  
Ochenta  
Noventa  
Cien / Ciento  
Ciento uno  
Ciento dos  
Ciento y diez  
Ciento y veinte  
Dos cientos  
Quinientos  
Mil  
Diez mil  
Cien mil  
Un million  
Primero  
Segundo  
Tercero

***Continents, Countries, and Nationalities*****English**

Where are you from?  
What nationality are you?  
I am from...  
Europe

**Spanish**

De dónde es usted?  
De que nacionalidad es usted?  
Yo soy de...  
Europa

**English**

North America

South America

Bolivia

Brazil

Canada

Colombia

Portugal

Peru

Russia

United States

Canadian

American (man / woman)

**Spanish**

América del Norte

(Norteamérica)

América del Sur (Sudamérica)

Bolivia

Brasil

Canadá

Colombia

Portugal

Perú

Rusia

Los Estados Unidos

Canadiense

Americano / Americana

***Professions and Occupations*****English**

What do you do?

I am a ...

Commander

Dentist

Doctor

Driver

Farmer

Fisherman

Government employee

Guard

Housewife

Laborer

Marine (Corps)

Mechanic

Messenger

Officer

**Spanish**

Cuál es su profesion?

Yo soy...

Comandante

Dentista

Médico

Chofer

Granjero

Pescador

Empleado de gobierno

Guardia

Ama de casa

Trabajador

Infantería de Marina

Mecánico

Mensajero

Oficial

**English**

Pilot  
Policeman  
Sailor  
Salesman  
Shop keeper  
Soldier  
Student  
Teacher

**Spanish**

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  
East / West  
Forest  
Harbor (Port)  
High-water mark  
Hill  
House  
Island  
Lake  
Line of Latitude / Longitude

**Spanish**

Océano Atlántico  
Bahía  
Playa  
Frontera  
Puente  
Cañon  
Cueva  
Costa  
Ciudad / Pueblo  
Corriente  
Represa  
Carretera  
Este / Oeste  
Bosque  
Puerto  
Marea alta  
Colina  
Casa  
Isla  
Lago  
Linea de latitud / longitud

**English**

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  
 Wall  
 Water  
 Waves

**Spanish**

Camino principal  
 Mapa  
 Prado  
 Meridiano  
 Montaña  
 Norte / Sur  
 Huerto  
 Caminito  
 Parque  
 Carretera pavimentada  
 Península  
 Río  
 Camino / Calle  
 Piedra  
 Arena  
 Dunas  
 Mar  
 Resaca  
 América del Sur Sudamérica  
 Pantano  
 Árbol  
 Túnel  
 Valle  
 Aldea  
 Muro  
 Agua  
 Olas

***METOC and Weather Terminology*****English**

Weather  
 Weather forecast

**Spanish**

Tiempo  
 Pronóstico del tiempo

**English**

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

**Spanish**

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

**Spanish**

Necesito un médico.  
 Hay un médico aquí?  
 Soy médico.  
 Soy médico.  
 Soy dentista.  
 Soy enfermera.

**English**

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.

**Medical Terms****English**

Antibiotics  
 Bandage  
 Bed / Blanket / Pillow  
  
 Blood / Bleeding

**Spanish**

Necesita ayuda?  
 Voy 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.

**Spanish**

Antibióticos  
 Vendaje  
 Cama / Manta (Frazada) /  
 Almohada  
 Sangre / Sangramiento (Noun),  
 Sangrando (verb)

**English**

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**Respiración (profunda /  
superficial)

Quebrado (Partido)

Contusión (Morado)

Quemadura(s)

Atragantar

Limpio (a)

Tos / Resfriado (Catarro)

Crítico / Serio

Muerto (a)

Deshidratación

Diarrea

Desinfectante

Fiebre

Insolación

Hielo

Infección

Medicina

Náusea / Vómito

Dolor

Postración

Inyección

Dolorido / Herida

Camilla

Temperatura

Inconiente / Consiente

***Parts of the Body*****English**

Arm

Back

Bone

Ear

**Spanish**

Brazo

Espalda

Hueso

Oreja



**English**

Eyes  
Face  
Fingers  
Foot  
Hand  
Head  
Heart  
Leg  
Mouth  
Muscle  
Neck  
Nerve  
Ribs  
Spine  
Shoulder  
Stomach  
Teeth

**Spanish**

Ojos  
Cara  
Dedos  
Pie  
Mano  
Cabeza  
Corazón  
Pierna  
Boca  
Músculo  
Cuello  
Nervio  
Costillas  
Columna vertebral  
Hombro  
Estómago  
Dientes

***Military Terms*****English**

Adjutant  
Admiral  
Aircraft  
Airfield  
Air Force  
Ammunition  
Amphibious  
Antiaircraft  
Armed Forces  
Armor/armored  
Armored car  
Armored personnel carrier  
Army

**Spanish**

Ayudante  
Almirante  
avion  
aerodromo  
Fuerza Aerea  
municion  
anfibia  
anti aereo  
Fuerzas Armadas  
blindaje/blindado  
camion blindado  
blindado porta-personal  
Ejercito

**English**

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  
Corporal  
Corps  
Corvette  
Counterdrug  
Crew  
Cutter

**Spanish**

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  
Comandante General  
comunicaciones  
compania  
conscripto  
Cabo  
Cuerpo  
corbeta  
contradrogas  
dotacion; triplacion  
ancha

**English**

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  
Gas/protective mask  
Grenade  
Grenade launcher  
Grid azimuth  
Grid coordinates  
G.M. angle

**Spanish**

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  
mascara antigas  
granada  
lanzagranada  
acimut de cuadrulado  
coordenadas de cuadrulado  
anglo magnetica cuadrulado

**English**

Grid north  
Grid square  
Gunner  
Gunship  
Halt  
Heat exhaust.ion  
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  
Issue  
Joint  
Joint exercise  
Joint force  
Joint operation  
Joint training

**Spanish**

Norte de cuadrículado  
cuadrícula  
apintador de la pieza  
bote armado  
hacer alto  
aotamiento por el calor  
insolacion  
ametralladora pesada  
helicoptero  
casco  
terreno elevado  
colina  
obus  
carta hidrografica  
tarjeta de idential  
immobilizar  
fuego indirecto  
infanteria  
infiltrarse  
informacion  
instalacion  
inteligencia  
Oficial de inteligencia  
informe de inteligencia  
interdecir, bloquear  
defensa interna  
interrogar  
distribuir  
conjunto(a)  
ejercicio conjunto  
fuerza conjunta  
operacion conjunto  
adiestramiento conjunto

**English**

Junior leader  
Key terrain  
Landing craft  
Land 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  
Minefield  
Minimum  
Misfire  
Mission  
Mobile  
Mobility

**Spanish**

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  
logistica  
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  
campo minado  
minimo  
fallar el tiro  
mision  
movil  
movilidad

**English**

Mortar  
Motorized  
Motor pool  
Mountain range  
Mounted patrol  
Munitions  
Muzzle  
Night  
N.C.O.  
Objective  
Observation  
Observation post  
Obstacle  
Offensive  
Officer  
Off-limits  
On site  
Open fire  
Operational  
Operations  
Order  
Organizational  
Overwatch  
Pack (noun)  
Paramilitary  
Password  
Patrol  
Patrolling  
Perimeter  
Photograph  
Physical security  
Pistol  
Platoon

**Spanish**

mortero  
motorizado  
centro de vehiculos motorizados  
cordillera  
patrulla motorizada  
municions  
boca  
nocturno  
Clase de Tropa  
objetivo  
observacion  
puesto de observacion  
obstaculo  
ofensiva  
oficial  
zona vedada  
on posicion  
abrir fuego  
operacional  
operacions  
orden  
organico(a)  
vigilar, vigilancia  
mochila  
paramilitar  
contrasena  
patrulla  
patrullaje  
perimetro  
fotograff  
seguridad fisica  
pistola  
peloton

**English**

Police  
Pontoon  
Port (direction)  
Port (installation)  
Preplanned  
Prisoner  
Private  
Private First Class  
Public affairs  
Pursuit  
Quadrant  
Quartermaster  
Rear sight  
Recoil  
Reconnaissance  
Recruit  
Reference  
Refugee  
Regulations  
Reinforce  
Relief  
Replacement  
Rescue  
Reserve  
Restricted  
Resupply  
Retrograde  
Rifle  
Rifleman  
Riot control  
Roadblock  
Rocket  
Rocky

**Spanish**

policia  
pontones  
babor  
puerto  
planeado de antemano  
prisionero  
soldado raso  
Soldado de Primera Clase  
asuntos publicos  
persecucion  
cuadrante  
intendencia  
alza  
retroceso  
reconcimeinto  
recluta  
referencia  
refugiado  
reglamentos  
reforzar  
relieve  
reemplazo  
rescatar  
reserva  
restringida  
reabastecimiento  
retrogrado  
fusil  
fusillero  
suprecion de motines  
barricada  
cohete  
rocoso (pedregoso)

**English**

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  
Supply  
Support  
Supporting  
Surveillance  
Tactical  
Tank

**Spanish**

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  
abastecimientos  
apoyo  
de apoyo  
vigilancia  
tactica(o)  
tanque



**English**

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  
Zone

**Spanish**

blanco  
tarea  
gas lacrimogeno  
telecomunicaciones  
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  
repligue  
zona

***Military Vocabulary and Service Specific Terms*****English**

Ammunition  
Antenna  
Armed Forces  
Armed personnel  
Barb wire

**Spanish**

Municiones  
Antena  
Fuerzas armadas  
Personal armado  
Alambre de púas

**English**

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  
Instructor  
Intelligence  
Intelligence Officer  
Knife / bayonet  
Leader  
Machine gun

**Spanish**

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  
Inteligencia  
Agente de inteligencia  
Cuchillo / Bayoneta  
Líder  
Ametralladora

**English**

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

**Spanish**

Peine  
Mapa  
Policía militar  
Misión  
Oficial  
Abre fuego!  
Patrulla  
Posición  
Prisioneros  
Area Restringida/Prohibida  
entrada  
Radio  
Antena de radar  
Reconocimiento  
Retirada  
Rifle  
Soga  
Pistola semi-automática  
Fuerzas Especiales  
Blanco  
Tren  
Camión  
Uniforme  
Guerra

***Army-Specific Terms*****English**

Antitank rocket launcher  
Armored personnel carrier  
Army  
Artillery  
Grenade launcher

**Spanish**

Lanzacohetes antitanque  
Vehículo blindado  
Ejército  
Artillería  
Lanzador de granada

**English**

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)  
Landing craft  
Life raft  
Marine (Corps)

**Spanish**

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)  
Lancha de desembarco  
Balsa salvavidas  
Infantería de Marina

**English**

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 tower  
Ejection seat  
Fighter-Bomber  
Flaps  
Jet  
Jet engines  
Missile(s)  
Pilot  
Runway

**Spanish**

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  
Misil  
Piloto  
Pista de aterrizaje

**English**

Tarmac (apron)  
 Taxiway  
 Terminal building  
 Transport aircraft  
 Wing

**Spanish**

Pista  
 Pista de taxi  
 Terminal de pasajeros  
 Avión de transporte  
 Alas

***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!  
 Line up!  
 Move back!  
 You are a prisoner.

**Spanish**

Pare!  
 Pare ya!  
 Quédese donde está!  
 Pare o tiro!  
 Manos arriba!  
 No se mueva!  
 Obedesca!  
 Alguien 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!  
 Ande!  
 Échese al suelo!  
 Póngase en fila!  
 Para atrás!  
 Usted es prisionero.

## ***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?

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?

Were you in the armed forces?

What is your rank / title?

What group / unit do you belong to?

Where do you serve?

Where is your unit?

Who is in charge?

### **Spanish**

Venga acá!

No tenga miedo!

Queremos ayudárle.

Habla español?

Habla inglés?

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 aquí.

Tiene algun(os) documento(s) de 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 /unidad pertenece?

Dónde sirve?

Dónde está su unidad?

Quién es el encargado?

**English**

Who is your leader?  
 Answer the question!  
 Be quiet!

**Spanish**

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!  
 You are next.

**Spanish**

No tenga miedo.  
 Somos americanos.  
 Necesita ayuda?  
 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 agua?  
 Necesita ...?  
 Comida  
 Agua  
 Medicina  
 Protección  
 Refugio  
 Ropa  
 Zapatos  
 Tenemos comida / agua.  
 Formen una línea!  
 Vengan uno a uno!  
 usted es el próximo.



**English**

Don't push. We have plenty of food.

Go home!

**Spanish**

No empuje. Tenemos suficiente comida.

¡ Vayase a su casa!

***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**

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 ...días.

Dónde está la letrina?

La letrina está a la derecha/ a la izquierda / en frente.



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## APPENDIX f: International Road Signs

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Crossroads



Maximum speed



No through road



Road narrows



Fallen/falling rock



No entry for  
vehicular traffic



Motorway



Stop and give way



Low flying aircraft or  
sudden aircraft noise



No left turn



One way street



Tourist  
information point



Traffic signals



No u-turn



Cable height  
16' - 6"

Overhead cables,  
Maximum height



Failure of  
traffic light signals



Sharp deviation



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## **APPENDIX H:**

### **Deployed Personnel's Guide to Health Maintenance**

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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 spray-can 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; and
- 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

Heat Cat	WBGT Index (°F)	EASY WORK		MODERATE WORK		HARD WORK	
		Work/Rest (min.)	Water Intake (Qt/Hr)	Work/Rest (min.)	Water Intake (Qt/Hr)	Work/Rest (min.)	Water Intake (Qt/Hr)
1	78 – 81.9	NL	1/2	NL	3/4	40/20	3/4
2	82 – 84.9	NL	1/2	50/10	3/4	30/30	1
3	85 – 87.9	NL	3/4	40/20	3/4	30/30	1
4	88 – 89.9	NL	3/4	30/30	3/4	20/40	1
5	> 90	50/10	1	20/40	1	10/50	1

The work-rest times and fluid replacement volumes in the specific heat category sustain performance and hydration for at least 4 hours. Individual water needs will vary  $\pm 1/4$  quart per hour.

NL = no limit to work time per hour. Rest means minimal physical activity (sitting or standing) and should be accomplished in shade.

**Caution:** Hourly fluid intake should not exceed  $1\frac{1}{2}$  quarts. Daily fluid intake should not exceed 12 quarts.

**Note:** MOPP gear adds  $10^\circ$  to WBGT Index.

## Food

High risk food items such as fresh eggs, unpasteurized dairy products, lettuce and 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;

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 Above 40 MPH Have Little Additional Effect		LITTLE DANGER					INCREASING DANGER Flesh may freeze within 1 minute					GREAT DANGER Flesh may freeze within 30 seconds										

- 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
- Seek immediate medical attention for loss of sensitivity in any part of the body.

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## **APPENDIX H:**

### **Individual Protective Measures**

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#### **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, or Koran, or other religious material for your 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, terrorist, or 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 hijackings suggest some simple precautions:

- You should not travel in uniform outside the continental U.S. on commercial aircraft.
- Before traveling by commercial aircraft, you should screen your wallet and other personal items, removing any documents that could reveal military affiliation (e.g., credit cards and club membership cards). Note that USMC policy requires service members to wear two I.D. tags with metal necklaces while on official business. In addition, service members must carry a current I.D. card at all times. These requirements are valid even while traveling to or through terrorist areas. In view of these requirements, service members must be prepared to remove and conceal these and any other items that could identify them as military personnel in the event of a hijacking.
- 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 this 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 your profile, the less likely you are of becoming a victim or bargaining chip for the terrorists, and the better your chances of survival.

## **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 and alertness, and introducing order into each day of captivity can 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; therefore, take measures to protect yourself during such an action. Drop to the floor immediately, remain still and avoid 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.

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## APPENDIX I:

### Dangerous Plants and Animals

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#### Snakes

##### *Coral Snakes*

###### **Description:**

Coral snakes are common throughout Mexico. Species types include (but are not limited to): Sonoran, Oaxacan, Central American, Harlequin, Blotched,

Bogert's coral, Brown's, Variable, West Mexican, Elegant, Balsan, Broad-ringed, Tuxtian, Nayarlt, and Stuart's.

Most corals have a body pattern that includes red and yellow rings on a black body, though some can have white stripes, or can be solid black with blotches of color, or few or no stripes. Common stripe patterns are red yellow black yellow red (rybyr), or ybwbwby, or rbwbwbr. Corals are usually slender snakes, with a head that is often indistinct from the neck. Adult length varies from 0.4 to 1 meter.

###### **Habitat:**

Coral snakes can be found from sea level up to elevations of more than 2,500 meters.

Species can be found in the desert, dry forest, mesquite grasslands, lowland rain-forest, pine-oak forests, thorn forests, and tropical deciduous forests.

Mainly terrestrial, and is



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**Oaxacan Coral Snake**

sometimes aquatic; some corals can remain under water for an extended period of time.

**Activity and Behavioral Patterns:**

Coral snakes can be aggressive. They will defend themselves vigorously, and some have mouths large enough to bite through thick clothing. Most bites occur during attempts to capture the snake.

**Venom's effects:**

Primarily neurotoxic, sometimes with myonecrotic toxins and postsynaptic effect. Venom is highly toxic, and fatalities have been reported.

***Cantil***

**Description:**

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



separated by thin white lines; all have two distinct lines of pale scales on each side of 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; 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 occurred.

***Copperhead***

**Description:**

Adult length usually 0.4 to 0.8 meter; a stout-bodied snake. Body pattern consists of alternating broad bands of light (pale gray-yellow to tan) and dark (sandy to chestnut or chocolate brown) color; a very thin pale line extends from the eye to the corner of the mouth.



**Habitat:**

Most common in wooded regions containing rocky canyons, springs, or streams; may be found far from permanent water in desert scrub areas.

**Activity and behavioral patterns:**

Mainly nocturnal; has a tendency to follow prey close to civilized areas.

**Venom's effects:**

Primarily hemotoxic and relatively mild; large amounts of venom seldom are injected. Bites produce severe local pain but fatalities are rare.

***Jumping Pit Viper***

**Description:**

Adult length usually 0.4 to 0.9 meter; an extremely stout-bodied snake. Background color usually varying shades of gray or brown, often with pink, red, or purple undertones; dorsum usually has

a series of darker, roughly diamond-shaped markings. Older specimens become almost entirely dark.

**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 effectively up to half its body length. Terrestrial, usually found coiled on the forest floor, but may climb a short distance up trees.

**Venom's effects:**

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

***Olmecan Pit Viper***

**Description:**

Adult length usually 0.5 to 0.8 meter; an extremely stout-bodied snake. Background color usually reddish, reddish-gray, or orangish-tan dorsally, shading to pink or gray laterally; the back usually has a series of rhomboid to diamond-shaped dark brown blotches that may be separate or fused.





**Habitat:**

Commonly found in wetter forested areas at elevations of 500 to 1,500 meters.

**Activity and behavioral patterns:**

Tends to lower and hide the head upon initial contact.

**Venom's effects:**

Primarily hemotoxic.

***Yellow-blotched  
Pit Viper*****Description:**

Adult length usually 0.5 to 1 meter; a moderately slender snake with a prehensile tail. Background color yellow-green, usually with black-bordered yellow blotches on the back. The top of the head usually has black markings which can fuse to form strips. Most specimens have a broad dark strip extending from the eye almost horizontally to the back of the head.

**Habitat:**

Most common 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 on low vegetation. Usually not aggressive and remain quietly coiled in vegetation, but will strike if brushed against or touched.

**Venom's effects:**

Specific data are lacking, but bites have resulted in human deaths. Bothriechis venoms primarily are hemotoxic, but also may con-

tain neurotoxic components. Specific antivenoms to *Bothriechis* are not produced.

### ***Rowley's Palm Pit Viper***

#### **Description:**

Adult length usually 0.5 to 1 meter; a moderately slender snake with a prehensile tail. Background color usually emerald green scales with bluish

skin; frequently with blue or yellow and black blotches. The head lacks a dark stripe behind the eye.



#### **Habitat:**

Most common in palm thickets on moist, shaded slopes bordering ravines at elevations of 1,500 to 1,850 meters.

#### **Activity and behavioral patterns:**

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

#### **Venom's effects:**

Specific data are lacking, but reportedly considered a dangerous snake by local inhabitants. *Bothriechis* venoms primarily are hemotoxic, but also may contain neurotoxic components.

### ***Tzotzil Montane Pit Viper***

**No photograph available.**

#### **Description:**

Adult length usually does not exceed 0.5 meter; a relatively stout snake. Background color variable, including dark gray, dark grayish brown, or rust. Body has a series of many dark brown oval to

rhomboid blotches dorsally, which often fuse to form a zig-zag stripe. There is a series of smaller dark brown blotches on each side directly underneath the dorsal blotches. The sides of the head are paler than the top, with a prominent dark stripe extending from the snout through the eye to the corner of the mouth.

**Habitat:**

Most common in humid pine-oak forests at elevations of 2,000 to 2,500 meters.

**Activity and behavioral patterns:**

Secretive; encountered most frequently under logs and rocks.

**Venom's effects:**

Specific data are lacking.

***Guatemalan Palm  
Pit Viper***

**Description:**

Adult length usually 0.6 to 0.7 meter; a moderately slender snake with a prehensile tail. Background usually green to blue-green, usually with no distinctive patterning. The side of the head lacks a dark stripe behind the eye.



**Habitat:**

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

**Activity and behavioral patterns:**

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

**Venom's effects:**

There is no specific data available. Venoms of this genus primarily are hemotoxic, but also may contain neurotoxic components. Specific antivenins are not produced.

***Eyelash Palm Pit Viper*****Description:**

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



The majority of specimens

have a background color of green, olive green, or gray-green, finely suffused with black; a pure yellow phase occurs from Honduras through Panama. All specimens have erect scales above their eyes that resemble eyelashes; these are less conspicuous in snakes from Ecuador and Colombia.

**Habitat:**

Most often found in tropical moist forest, wet subtropical forest (cloud forest), and mountain area wet forest. Usually found in shrubs, trees, and vine tangles close to rivers and streams. 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:**

There is no specific data available. Pit viper venom is primarily hemotoxic, but also may contain neurotoxic components. Specific antivenins are not produced.

***Terciopelo*****Description:**

Adult length usually 1.2 to 1.8 meters; maximum of 2.5 meters; 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. 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, stays mainly near rivers and other water sources.

**Activity and behavioral patterns:**

Terrestrial, but occasionally found in bushes and low trees. Nocturnal; often will 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:**

Has a potent venom that primarily is hemotoxic and cytotoxic; bite can result in systemic internal bleeding and tissue destruction.

## ***Barbour's Montane Pit Viper***

### **Description:**

Adult length usually 0.3 to 0.4 meter; a relatively stout snake. Background color usually red-brown, with a darker wavy mid-dorsal stripe.



### **Habitat:**

Most common in pine-oak and cloud forest at elevations of 2,400 to 3,300 meters.

### **Activity and behavioral patterns:**

Diurnal, often found along forest edges or in clearings; usually quick to retreat when disturbed.

### **Venom's effects:**

Specific data are lacking.

## ***Godman's Montane Pit Viper***

### **Description:**

Adult length usually 0.4 to 0.6 meter; a moderately stout snake. Background highly variable, but usually a fairly dark snake overall.



### **Habitat:**

Most often found in lower montane wet forest and cloud forest, lower montane dry forest-mainly among pine-oaks, and high montane forest and meadows at elevations of 1,600-3,200 meters.

**Activity and behavioral patterns:**

Diurnal/nocturnal; often encountered crawling or coiled along forest paths. Somewhat aggressive; can vigorously defend itself.

**Venom’s effects:**

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

**Rattlesnakes**

Rattlesnakes are common throughout Mexico. Species types include (but are not limited to): Western diamondback (in northern Mexico, responsible for more human deaths than any other snake), Mexican west coast, Santa Catalina Island, Sidewinder, Neotropical, Baja California, Cedros Island diamond, Mexican small-headed, Autlan, Rock, Speckled, Black-tailed, Mexican lancehead, Twin-spotted, Tancitaran dusky, Red diamond, Mojave, Long-tailed, Tiger, Tortuga Island, Cross-banded mountain, Mexican dusky, Western, Ridged-nosed, Mexican pygmy, and Massasauga.



**Western Diamondback**

**Description:**

Adult lengths range from 0.4 meter for the Mexican pygmy to 2.1 meters for the Western diamondback.



**Mexican Lancehead Rattlesnake**

Background color and body patterns are highly variable even within the same species.

**Habitat:**

Found at elevations to 3,000 meters. Found in temperate boreal forests with open areas of pine trees and high grass, pine-oak forests, volcanic rock or limestone outcroppings, cool coastal areas, tropical deciduous forest, desert, sand dunes, rocky hillsides, heavy brush, cactus covered foothills, semiarid regions, transitional zones, mesquite scrub areas, meadows, plateaus, alluvial fans, basins, floodplains, and permanent streams or marshes.

**Activity and behavioral patterns:**

Active day and night. If threatened with no escape route, rattlesnakes usually will coil with the head and neck thrown back in a horizontal S-shaped loop, hiss, rattle, and if further provoked strike.

**Venom's effects:**

Rattlesnake venoms predominantly are hemotoxic; most also have potent necrotic (tissue-destroying) factors. Rattlesnake bites usually are very painful at the bite site with rapid progression of local and systemic symptoms if envenomation has occurred.

***Mexican Horned Pit Viper***

**Description:**

Adult length usually 0.5 to 0.7 meter; a moderately stout pit viper. Usually with prominent erect scales above the eyes. Background color variable, including pale to dark gray and yellow to brown-green; a series of darker blotches dorsally often are fused to form a zig-zag middorsal stripe. Most have a suffusion of yellow, orange, pink,





or green pigment; some specimens from cloud forests in Veracruz State are nearly completely green.

**Habitat:**

Pine-oak and cloud forest at elevations of 1,800 to 2,800 meters; frequently found under logs or rocks.

**Activity and behavioral patterns:**

Semi-arboreal—found up to 4 meters above ground level. Active during the daytime.

**Venom's effects:**

Primarily hemotoxic.

***Dunn's Hog-nosed  
Pit Viper***

**Description:**

Adult length usually 0.3 to 0.5 meter; a moderately stout pit viper. Background color variable, including gray, tan, and



pale orange-brown, but usually with a thin, pale, mid-dorsal stripe separating dorsolateral series of dark brown blotches. Body also with a series of darker blotches laterally, the amount of darker pigment highly variable.

**Habitat:**

Tropical deciduous forest, including semiarid areas of the Pacific coast. Occurs at elevations up to 500 meters.

**Activity and behavioral patterns:**

No data.

**Venom's effects:**

Specific data lacking; Porthidium venoms predominantly are hemotoxic with necrotic (tissue-destroying) factors. Most species

have a relatively low venom yield, and envenomation usually has mild to moderately severe effects.

### ***Western Hog-nosed Pit Viper***

#### **Description:**

Adult length usually about 0.6 meter; a moderately stout pit viper. Background color grayish-buff, with a narrow golden brown middorsal stripe bisecting a dorsolateral series of green-brown blotches. The head is uniform gray-pink on top. Specimens have been mistaken for small boa constrictors.



is uniform gray-pink on top. Specimens have been mistaken for small boa constrictors.

#### **Habitat:**

Most common in low (trees less than 10 meters high) tropical deciduous forest in a region having a long, harsh dry season (November-May) at elevations up to at least 300 meters.

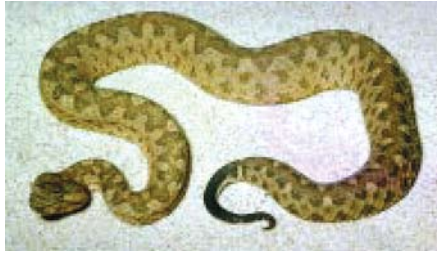
#### **Activity and behavioral patterns:**

Likely nocturnal; more active after rains.

#### **Venom's effects:**

The only recorded bite resulted in severe pain and local swelling. Porthidium venoms predominantly are hemotoxic with necrotic (tissue-destroying) factors. Most species have relatively low venom yield, and envenomation usually has mild to moderately severe effects.

## ***Black-tailed Montane Pit Viper***



### **Description:**

Adult length usually 0.4 to 0.5 meter. a moderately stout pit viper, with an upturned snout and erect, horn-like scales above the

eyes. Background color varies from pale ash-gray to orange-brown, most specimens have a variable pattern of darker blotches that result in a wavy middorsal stripe. Usually, the tail is nearly all black.

### **Habitat:**

High arid tropical scrub and tropical deciduous forest in the northern part of its range, and pine-oak forest in the south; primarily found in overgrazed, eroded areas. Occurs at elevations of 1,600 to 2,400 meters.

### **Activity and behavioral patterns:**

Nocturnal; often encountered beneath clumps of vegetation or under pine logs.

### **Venom's effects:**

There is little specific data available. Porthidium venoms are predominantly hemotoxic with necrotic (tissue-destroying) factors. Most species have relatively low venom yield, and bite usually has mild to moderately severe effects.

## ***Rain Forest Hog-nosed Pit Viper***

**No photograph available.**

### **Description:**

Adult length usually 0.3 to 0.6 meter. a moderately stout pit viper, with an upturned snout. Background colors include tan, brown,

red-brown, and gray. Most specimens have a very narrow reddish line down the middle of the back, and a dorsal pattern of rectangular patches of alternating colors-some Ecuadoran specimens are nearly entirely gray, with a row of small black rectangular patches on either side of the middorsal stripe.

**Habitat:**

Primarily lowland rainforest and lower montane wet forest at elevations of less than 900 meters; has been found up to 1,900 meters.

**Activity and behavioral patterns:**

Active day and night. Mostly terrestrial, but can be found climbing in shrubs or small trees. Frequently found coiled in patch sunlight in leaf litter (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. Porthidium venoms predominantly are hemotoxic with necrotic (tissue-destroying) factors. Most species have relatively low venom yield, and bite usually has mild to moderately severe effects.

***Slender Hog-nosed  
Pit Viper***

**Description:**

Adult length usually 0.4 to 0.5 meter, maximum of 0.8 meter. A relatively slender pit viper with an upturned snout. Background colors



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

**Habitat:**

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

**Activity and behavioral patterns:**

Most frequently encountered at night; most active during local rainy seasons. Alert and quick to strike, fatalities have not been recorded.

**Venom's effects:**

Specific data are lacking; Venom predominantly is hemotoxic with necrotic (tissue-destroying) factors. Most species have relatively low venom yield, and bite has mild to moderately severe effects.

***Yucatan Hog-nosed  
Pit Viper*****Description:**

Adult length usually 0.3 to 0.6 meter. A moderately stout pit viper, with an up-turned snout. Background colors include red-brown,

tan, gray, or gray-brown, with a pale yellow to orange stripe along the center of the back extending to the tail, which bisects a series of roughly rectangular, dark brown dorsal blotches.

**Habitat:**

Tropical deciduous forest and thorn forest in an area characterized by porous limestone overlain by scrubby xerophytic vegetation. Occurs at elevations up to 250 meters.

**Activity and behavioral patterns:**

Locally abundant; primarily nocturnal, especially active after a rain.

**Venom's effect:**

Specific data are lacking; Venom predominantly is hemotoxic with necrotic (tissue-destroying) factors. Most species have relatively low venom yield, and bite usually has mild to moderately severe effects.

**Arthropods*****Scorpions***

There are numerous species of scorpion capable of a life-threatening sting, as well as several species capable of inflicting a painful sting.

***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 widow spiders are life-threatening.

***Millipedes***

Millipedes do not bite and in general are harmless to humans. However, when handled, some larger millipedes (may be more than 50 millimeters long) secrete a very noxious fluid that can cause severe blistering upon contact; some millipedes can squirt this fluid at least 2 feet.

## ***Centipedes***

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



## ***Insects***

There is little specific information of medical importance regarding insects. However, nearly all countries have at least one species of moth having 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 completely covering 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.

## ***Plants***

### ***Cohosh/Baneberry***

#### **Other names:**

White, black, and red cohosh/baneberry, doll's eyes, grapewort, snakeberry, necklace weed.



#### **Mechanisms of toxicity:**

All parts contain an innocuous glycoside that is metabolized to form the aglycone protoanemonin, a volatile, irritant oil. As few as six berries have caused severe symptoms (gastroenteritis, hematuria, and occasional circulatory collapse) for many hours. Handling can cause irritant

dermatitis with blistering, severe eye irritation; ingestion can result in death.

**Comments:**

Perennial herbs having a berry-like fruit found in fields, deciduous forests, and roadsides.

***Blistering Ammania***

**No photograph available**

**Mechanisms of toxicity:**

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

**Comments:**

Often confused with loosestrife plants in the primrose family.

***Agave***

**Other Names:**

Century plant, agave, maguey.

**Mechanisms of toxicity:**

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



**Comments:**

Many species (family has 650 species of tropical and subtropical regions-widely cultivated, thick-stemmed plants with confusing, controversial taxonomy.) Leaves are long and narrow with spiny edges. Uses include cultured ornamentals, medicinals, food sources (cooked in tortillas; heart (bud) is edible, source of pulque (a fermented beverage) or mexal (a type of brandy), used as fiber source (paper-making).



## ***Indian Laurel***

### **Other names:**

Mastwood, domba oil, pinnay oil.

### **Mechanisms of toxicity:**

Cream-colored, resinous sap irritating to the skin and eyes; globose fruit contains one large, poisonous seed. Sap is toxic. Leaves contain cyanide and a saponin.



### **Comments:**

Erect, dense, low-branched tree having leathery smooth leaves (to 15 centimeters) and white flowers with 4 petals. Native to tropical Asia -originally from India (a common shade tree in Malaysia) and the Pacific islands. Seeds are dispersed by bats and the sea.

## ***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:**

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

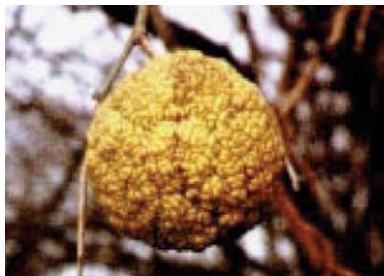
## ***African Teak***

### **Other names:**

Osage Orange, fustic, bow wood.

### **Mechanisms of toxicity:**

Benzophenones, xanthenes, stilbenes, flavonoids, and tannins known to the genus. Has a milky, bitter sap; yields orange dye that causes dermatitis.



### **Comments:**

Includes 12 species found in tropical America, South Africa, and Madagascar.

## ***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. Dalechampia

### **Mechanisms of toxicity:**

Some species with stinging glands cause irritant dermatitis.

### **Comments:**

A member of the Euphorbeacea family. Common in Mexico.

## ***Crownflower***

### **Other Name:**

Milkweed

### **Mechanisms of toxicity:**

Sap has extremely irritant effect on the eyes; also causes an allergic type contact blistering skin reaction. The active principles include calcium oxalate, a proteolytic enzyme, digitalis-like glycosides, and an unidentified allergen.

### **Comments:**

Flowers are candied by Chinese in Java. Poisonings have resulted in death. In Africa, the plant has been used to make arrow poison, and the roots have been 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. Wide variation in concentration from plant to plant. GI irritant; painful stinging and burning of the lips and mouth recedes slowly; accompanied 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.

## ***Guao***

### **Mechanisms of toxicity:**

Several species cause contact dermatitis. A member of the Anacardiaceae family with potential allergic reactions similar to its relatives, marking nut tree, poison ivy, and cashew.



### **Comments:**

About 20 tropical American species of shrubs or small trees with long-leaf stems and few or no branches. Often the leaves are spiny and clustered at the ends of the branches; flowers are small and green.

## ***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:**

Croton is a woolly-haired annual herb, or evergreen bush, or small tree with smooth ash-colored bark, yellowish-green leaves, small

flowers, fruit, and a three-seeded capsule. Ciega-vista is a 3-foot high bush found in the underbrush of arid areas. Small light green flowers, leaves, and stems are covered with nearly-white hairs.

## ***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, containing complex terpenes; irritate the eyes, mouth, and gastrointestinal tract, and many cause dermatitis by direct contact. In some cases rain water dripping from the plant will contain enough toxic principle to produce dermatitis and keratoconjunctivitis; can blind. Some contain 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 known for having medicinal properties in the first century and has killed children. Red spurge causes skin inflammation. The pencil cactus has an abundant, white, acrid sap extremely irritating to the skin; has caused temporary blindness when accidentally splashed in the eyes, and has killed as a result of severe gastroenteritis after ingestion.

### **Comments:**

Genus contains 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.

### ***Spurge Laurel***

**Other names:**

February daphne, merezon, mezereon.

**Mechanisms of toxicity:**

Bark, leaves, and fruit contain toxic agents called diterpene alcohols and coumarin glycosides. Has a yellow dye (umbelliferone), mallic acid, oil wax, gum, and mezerein resin. Entire plant is toxic. Resin is acrid; has been used in the past as pepper substitute, with fatal



consequences. Vesicular dermatitis when skin contact is made (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.).

### ***Beach Apple***

**Other names:**

Manchineel, manzanillo

**Mechanisms of toxicity:**

Fruits have been confused with crabapples, resulting in serious poisoning, even death. Symptoms occur 1



to 2 hours after ingesting the fruit or leaves. Oral irritation with subsequent gastroenteritis, bloody diarrhea. Also causes severe skin inflammation.

**Comments:**

A coastal tree cultured as a windbreak.

***Sandbox Tree***

**Other names:**

Huru, bombardier

**Mechanisms of toxicity:**

The toxins include hurin and huratoxin. Hurin is a plant lecithin and inhibits protein synthesis in the intestinal wall (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. 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, hence the common name, bombardier tree.

***Physic Nut***

**Other names:**

Purging nut, pinon, tempate, Barbados nut.

**Mechanisms of toxicity:**

Quickly fatal potential. Fruit has two or three black, oily, pleasant tasting, poisonous seeds (also toxic roots and leaves) containing



a plant lecithin (a toxalbumin called curcin) which, in contrast to many of the toxic lecithins, causes toxicity rapidly (has caused death - severe toxicity can follow ingestion of a single seed); also has intensely cathartic oils (some have used the oil for lamps, etc.); has caused fatal intoxication. Bark has been used as a fish poison. Also a skin irritant (hairs), as are all euphorbs.



**Comments:**

There are 170 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 Poisonwood***

**Other names:**

Burnwood, guao do costa, chechem.

**Mechanisms of toxicity:**

The sap and smoke from burning the wood of the black poisonwood tree cause blisters and prolonged inflammation (allergic type-symptoms appear a few hours to several days after contact).



**Comments:**

Known in the West Indies, southern Mexico, Guatemala and Belize.



## ***Cowitch Cherry***

### **Mechanism of toxicity:**

Genus is found in tropical America, especially in the Caribbean. Can be a tree or shrub, and sometimes has stinging hairs.



### **Comments:**

With careful handling, many parts are cooked and eaten.

## ***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.

## ***Ackee***

### **Mechanisms of toxicity:**

Fruit wall, seeds and immature or spoiled white aril contain hypoglucin A (a water-soluble liver toxin). Inhibits gluconeogene-

sis. Death has resulted from severe hypoglycemia. Used as a fish poison.

**Comments:**

Has a tree which grows to 40 feet. Fruit consists of three black seeds imbedded in a white, waxy aril in a reddish pod.



Sometimes grown for the mature edible fruit. Red fruit splits at maturity. Ripe fruits used for traditional cooking in Jamaica. Must be properly selected and prepared.

**Poison Ivy**

**Other names:**

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



**Mechanisms of toxicity:**

All contain allergenic non-volatile oils known as urushiols in the resin canals; these oils are highly sensitizing (delayed, type IV sensitivity) for some individuals, especially those with hereditary allergies. There is a cross-reaction between the poison ivy species and the cashew, India marking nut, mango, and Japanese lacquer tree saps.

**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 smooth above and hairy beneath. Poison oak is never a climbing shrub, alternately three-leaved, smooth above and hairy

beneath. Found in disturbed areas and along trails in North America and is a common source 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. Japanese lacquer tree is a large shrub or tree native to India, and cultivated in China and Japan for varnish production. The lacquer is allergenic. It also bears nuts, from which black ink is made, and which is used to mark laundry in India and Malaysia. Can cause dermatitis. Some individuals suffer intense, debilitating reactions from contact with the sensitizing chemicals.

### ***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 allergenic activity have resulted in serious poisoning. Factors making this a high-risk plant threat are its attractive nuts with a hazelnut-like taste; the highly toxic ricin is present in high concentration (2-6 seeds can be fatal); and stability of ricin in the presence of gastric enzymes. The seeds are used to make necklaces, requiring boring a hole through the seed, and breaking the otherwise impermeable coat, allowing the possibility of toxin to reach the skin and enter the body through minor abrasions. Poisoning becomes evident after several hours-nausea, vomiting, diarrhea.



**Comments:**

The seeds of this ancient plant have been found in Egyptian graves dating as far back as 4000 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. Volatile resin on skin or in eyes as a result of simply cutting branches has caused severe dermatitis, facial swelling, and keratoconjunctivitis. Used for medicinal purposes 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 from eating the fruits.

***Yellow Oleander*****Other names:**

Peruviana, lucky nut, be-still tree.

**Mechanisms of toxicity:**

Contains cardiac glycosides in all parts; seeds have particularly high con-



centrations. Signs and symptoms of toxicity begin with numbness and burning in the mouth, dry throat, dilated pupils, abdominal pain, nausea, vomiting, diarrhea, slow irregular heartbeat, hypertension, seizures, coma, and death. The sap can cause skin and eye irritation.

**Comments:**

A shrub, usually 1 meter tall, or sometimes a small tree up to 10 meters. Native to tropical America but has been imported as an ornamental to tropical and sub-tropical regions. Its leaves and flowers resemble those of nerium oleander, except peruviana flowers are yellow with a pink tinge, as opposed to nerium, which are white, pink and cream. Seeds have been used in India to murder.

***Angel's Trumpet***

**Mechanisms of toxicity:**

Can kill. Tropane alkaloids are the toxic principle. People have been poisoned through consumption of crushed seeds accidentally included in flour.

**Comments:**

Used by Indians to worm hunting dogs, and as a plant to prevent insects from destroying other cultivated plants. Added to beer in west Africa to make the drink more potent. The plant is native to South America.



## ***Nettle Tree***

### **Other names:**

Ortiga brava, pringamoza.

### **Mechanisms of toxicity:**

Trees and shrubs with powerful stinging hairs.

The intensity of sting delivered by these plants is

species-variable. The bushy, tree-like varieties tend to be more irritating. Any contact between leaves or branches and skin can result in profound burning pain that can last for more than 24 hours. There is no permanent damage.



### **Comments:**

As many as 35 native species in tropical and southern Africa, and tropical America. Often used as hedges or local medicinals.

## ***White Snake Root***

### **Other names:**

Fall poison, richwood

### **Mechanisms of toxicity:**

Entire plant is extremely toxic

with tremetol (a highly toxic complex alcohol) and several

glycosides. "Milk sickness" results from drinking milk from

a cow with the weed in its diet. Slow onset of symptoms (less

than 24 hours); nausea, vomiting, tremors, jaundice, anuria, prostration. Has killed; was a major

cause of deaths in the early 1800s. Has been shown to cause liver and kidney degeneration.





**Comments:**

A perennial herb of roadsides, fields, open woods, and pastures. There are many similar, white-flowered species and it requires expertise to identify them. Modern milk-processing eliminates danger from consuming milk.

**Shanshi****Mechanisms of toxicity:**

Contains a number of alkaloids. Causes hallucinogenic effects due to glycosides that have not yet been identified. 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.

**Bulb Yam****Other Name:**

Air potato, wild yam.

**Mechanisms of Toxicity:**

Bulb yam, air potato, and wild yam have tubers that contain diosgenin, a steroidal saponin, the alkaloid dioscorine, and a norditerpene lactone (diosbulbine). They and some other yams are poisonous when eaten raw. Causes gastroenteritis



(nausea, bloody diarrhea). Some individuals eat them after special preparation. Has been used to commit murder. Found mainly 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.

***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 pathologic effects (Budd-Chiari syndrome) take weeks to months, and death comes slowly over years. Chronic copper poisoning has occurred associated with this plant.



**Comments:**

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



## ***Buck Thorn***

### **Other names:**

Calderonii, tuilldora, coyotillo.

### **Mechanisms of toxicity:**

Poisonous; associated with weakness, muscle paralysis. Slow onset; toxins are anthraquinone glycosides in the fruit, which has caused paralysis. Leaves are also poisonous. The fruit is eaten, despite its toxicity.

### **Comments:**

Grows in dry regions only and never close to the Atlantic coast. Used as timber.



## ***Tapioca***

### **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 (requires special preparation).



### **Comments:**

Genus includes almost 100 species (trees, shrubs, and herbs) of tropical and warm Americas; some varieties are very important as a food source. Same subfamily as Croton. Shrubby tree 3-5 feet high. Widely cultivated. Large tuberous roots rich in starch.

## ***Chinaberry***

### **Other names:**

White cedar, African lilac, bead tree

### **Mechanisms of toxicity:**

Yellow globose berry with three to five smooth, black, ellipsoidal seeds; has a resin; all parts have a saponin,

triterpene neurotoxins, and a gastrointestinal irritant of uncertain chemical nature. Widely varying genetic variable toxicity. Has killed adults.



## ***Oleander***

### **Other name:**

Rosebay.

### **Mechanism of toxicity:**

All parts are extremely toxic (two cardiac glycosides have been identified). Quickly fatal potential; a single leaf can kill. Toxicity has occurred by cooking fish or meat on oleander branches or from eating honey made from oleander nectar. Symptoms include severe gastroenteritis beginning several hours after ingestion; petechiae occur in various organs. Eventually coma and digitalis-like toxic signs precede death.



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### **Comments:**

Ornamental, evergreen shrub native to Europe or Asia. Leaves are stiff or leathery and the funnel-shaped flowers are pink or white in clusters. Fruit are in pods about 15 centimeters long.

## ***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 intra-ocular pressure.

### **Comments:**

None.

## ***Pokeweed***

### **Other names:**

Pokeberry, poke salet.

### **Mechanisms of toxicity:**

Mature stems, roots, and berries are poison (saponins mostly in foliage and roots). Death possible when not prepared properly.



### **Comments:**

Young shoot tips, less than 6 inches, are eaten in many cultures, including Canada; requires proper preparation (boiled with water changes; water contains toxic substances - kills snails that carry bilharzia). Dye from berries used to color ink, wine, and sweets.

## ***May Apple***

### **Other name:**

American mandrake

### **Mechanisms of toxicity:**

A dangerous plant used in many folk-remedies. The podophyllin resin is in all parts; the rootstock, leaves, and unripe fruit contain the

toxin podophylloresin (purgative), the glycoside podophyllotoxin (a lignan), and the antimetabolic peltatin. All parts are poisonous except the ripe fruit, which is edible. Ingestion results in vomiting and severe diarrhea; fatalities have resulted from repeated ingestion or topical application of an extract of the rootstock. Was used by Amerindians for suicide.

### **Comments:**

Found in east Asia, the Himalayas, and North America. Historically used by many cultures as a medicinal.



## ***Coffeeberry***

### **Other names:**

Alder buckthorn, common buckthorn, cascara.

### **Mechanisms of toxicity:**

The fresh bark is recognized as a particularly strong laxative. There are reports of deaths in children after ingesting buckthorn berries.



**Comments:**

Cascara bark is source of American cascara. Of low relative toxicity, requires chronic use to result in chronic diarrhea and/or melanin pigmentation of the mucous membranes of the colon. Freshly prepared cascara products contain anthrones and can lead to severe vomiting and intestinal cramping. The bark should be stored for at least a year before use or detoxified by heating (in air) to reduce the presence of anthrones.

**Popcorn Tree****Other names:**

Hinchahuevos, Chinese tallow tree

**Mechanisms of toxicity:**

The latex is poison and has been used as arrow poison in Central America; causes contact dermatitis. Unripe berries can cause nausea and vomiting.

**Comments:**

Native to China and Japan but cultivated widely in warm areas. The fruit is a 3-lobed capsule that falls away, leaving white seeds.

**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 cav-

ity, 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.



***Trumpet Plant***

**Other name:**

Chalice vine.

**Mechanisms of toxicity:**

The entire plant is toxic with 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. Source of sacred hallucinogens in Mexico.



***Black Nightshade***

**Other names:**

Deadly nightshade, 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; the fully ripe berries are eaten; unripe berries contain solanine alkaloids, which can cause gastroenteritis, weakness, circulatory depression. Can kill.

**Comments:**

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

***Strychnine*****Other names:**

Snakewood tree, Nuxvomica tree,

**Mechanisms of toxicity:**

The entire plant, including the seeds, contains the powerfully acting indole alkaloid strychnine, which can kill.

**Comments:**

Genus of 190 different species of trees, shrubs, and vines with berry-like fruits, found in most tropical regions. Some have the reputation of having edible fruit despite dangerous seeds. Source of curare obtained by stripping and soaking its bark. Curare, now used as a muscle relaxant, was once used as an arrow poison by South American Indians.



## ***English Yew***

### **Other names:**

Ground hemlock, American yew, Japanese yew.

### **Mechanisms of toxicity:**

Taxine A and B, classed as steroid alkaloids, are present in all plant parts except



the aril. A single chewed seed is deadly. An hour after ingestion, nausea, dizziness, and abdominal pain begin. This is followed by reddening of the lips, dilatation of the pupils, shallow breathing, tachycardia, and coma. Then the pulse slows, blood pressure drops, and death occurs through respiratory paralysis. No proven treatment exists. Emptying the stomach hours after ingestion may be helpful as leaves may not pass through the GI tract expeditiously. Various clinical measures (circulatory stimulants, artificial respiration, cardiac pacemaker) have not prevented death in suicide cases.

### **Comments:**

An evergreen shrub or small tree bearing a characteristic fleshy, red, sweet-tasting aril with a single green to black, partly exposed, hard-shelled seed within. In North America, the Japanese yew, the toxicity of which may exceed that of the English yew, has repeatedly caused fatal animal poisonings. Was once known as the tree of death.

## ***Rosary Pea***

### **Other names:**

Precatory bean, coral pea, crab's eyes, lucky beans, Paternoster beans.

### **Mechanisms of toxicity:**

Contains several indole alkaloids such as abrine and abrin (a toxalbumin), which can kill. The unchewed seeds are impervious and



will pass through the GI tract without harm. Seeds are attractive and frequently used to make rosaries, necklaces, etc. Poison can be absorbed through breaks in the skin if integrity of the hull is compromised; for example, while stringing beads for a necklace.



Onset of toxicity usually in 1 to 3 days. Rosary pea is documented to have a quickly fatal potential (neurotoxin and hemocoagulant), having killed a child who thoroughly chewed one seed. Dermatitis may also occur from wearing a necklace of stringed beads.

**Comments:**

Genus includes 17 species of slender, twining vines with a woody base supported by other plants or a fence. Fruit is a dehiscent pod; inside the pod are three to five glossy, red and black seeds (used by many as ornaments). Note: Rosary pea seeds are black at the site of attachment (hilum) and are easily confused with the much less toxic Mexican Rhynchosia (piule). The colors are reversed in piule seeds. Symptoms of toxicity include nausea and vomiting with abdominal pains, bloody diarrhea, fever, shock, and coma. Used in South America and Africa in folk medicine.

***Hellebore***

**Other names:**

White/false hellebore, skunk cabbage, corn lily, black hellebore, American hellebore, false hellebore, Indian poke, pepper-root.

**Mechanism of toxicity:**

All plant parts are toxic, containing steroidal alkaloids. Severe systemic effects are caused by the protoverine alkaloids, teratogenic

effects by jervine alkaloids. On taking a toxic dose, a burning pain is felt in the mouth followed by roughness and dryness, nausea and severe vomiting, and a feeling of cold as body temperature drops. Severe cases cause respiratory difficulties, arrhythmias, lowered blood pressure, and collapse. Victim remains fully conscious until death, which may occur in as little as three hours.

**Comments:**

Includes 45 species found in wet areas in northern temperate zones, usually growing as a tall, perennial, rhizomatous herb. It is frequently grown as an ornamental, with white, green, brown, or purple flowers.



***Balsam Apple***

**Other names:**

Leprosy gourd, bitter gourd, cucumber gourd

**Mechanisms of toxicity:**

Seeds and outer rind of ripe fruit contain a toxalbumin called momordin; the ripe fruit also has an hypoglycemic agent. Small amounts



cause headache, flushing, salivation, dilated pupils, emesis, diarrhea, abdominal pain. Can kill.

## ***Pringamosa***

### **Other names:**

Noseburn plant, T. popox volubilis.

### **Mechanisms of toxicity:**

Have silicated hairs with calcium oxalate tips that sting, causing sharp burning pain and an inflammatory response.

### **Comments:**

Perennial twining, climbing herbs with 125 tropical and warm-temperate species. Several species in Africa are used as medicinals.





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## APPENDIX J: International Telephone Codes

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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
Djibouti	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  
or 0030-911

On Base

550-HOME  
or 550-2USA



















