Peru Country Handbook

1. This handbook provides basic reference information on Peru, 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 Peru.

2. This product is published under the auspices of the U.S. Department of Defense Intelligence Production Program (DoDIPP). This handbook has been published as a joint effort within the Department of Defense (DoD). This product reflects the coordinated U.S. Defense Intelligence Production Community position on Peru.

3. Dissemination and use of this publication is restricted to official military and government personnel from the United States of America, United Kingdom, Canada, Australia, NATO member countries, and other countries as required and designated for support of coalition operations.

TABLE OF CONTENTS

Table of Contents (Continued)

Table of Contents (Continued)

APPENDICES

LIST OF ILLUSTRATIONS

Table of Contents (Continued)


QUITO
ECUADOR
Manta
Ambato
Guayaquil
Cuenca
Tumbes
Loja
Talara
Sullana
Piura
Paita
COLOMBIA
BRAZIL
BOLIVIA
CHILE
LA PAZ
Napo
Pastaza
Caqueta
JapurÆ
Putumayo
Amazonas
Iquitos
Leticia
Benjamin Constant
Javari
Maraæ n
Ucayali
Yurimaguas
Moyobamba
Tarapoto
Chachapoyas
Chiclayo
Cajamarca
JuruÆ
Cruzeiro
Huallaga
Trujillo
Salaverry
Pucallpa
Chimbote
Huaraz
Tingo Mar a
Huanuco
Purœs
South Pacific Ocean
Goyllarisquizga
Cerro de Pasco
Huacho
Urubamba
Cobija
Madre de Dios
LIMA
Callao
Huancayo
Apur mac
Puerto Maldonado
Huancavelica
Quillabamba
Ayacucho
Machu Picchu (ruins)
Abancay
Cuzco
Pisco
Ica
Nazca
Lago Titicaca
Juliaca
Puno
Arequipa
Desaguadero
Guaqui
Matarani
Moquegua
Ilo
Tacna
Arica
0
6
12
18
78
72
Peru
National Capital
Secondary City
International Border
0 10 20 300 km
0 10 200 mi

Peru

KEY FACTS

Official Name. Republica del Peru (Republic of Peru)

Nationality. Peruvian(s)

Flag. Three equal, vertical bands of red (hoist side), white, and red with the coat of arms centered in the white band. The coat of arms features a shield bearing a vicuna (a llama-like animal), cinchona tree, and a yellow cornucopia spilling gold coins, all framed by a green wreath. (NOTE: The coat of arms does not always appear on the flag.)

Capital. Lima

Head of State. President Alejandro Toledo Manrique

Time. UTC (formerly GMT) –5 hours

Population. 27.5 million (July 2001)

Languages. Spanish and Quechua are official languages. Indian dialects are also spoken.

Currency. The Peruvian currency is the nuevo sole (Ns). The exchange rate as of January 2002 is 3.62 Ns per US$1.

National Flag

U.S. MISSION

U.S. Embassy

Location	Avenue La Encalada Corner 17 Surco, Lima 33, Peru
Mailing Address	American Embassy Lima, APO AA 34031-5000
Telephone	(51-1) 434-3000 After hours and emergencies: 434-3032
Fax	(51-1) 434-3037, RSO Fax 437-2012
E-mail	"recipient"@limawpoa.us-state.gov
Internet	http://usembassy.state.gov/lima/wwwhmain.html

Entry Requirements

A valid U.S. passport is required to enter and depart Peru. Tourists must also provide evidence of return or onward travel. U.S. citizens do not need a visa for stays of 90 days or less.

U.S. Embassy

The U.S. Embassy urges all American citizens to register with the Consular section in Lima upon arrival. For further information regarding immigration requirements, travelers should contact the Peruvian Embassy in Washington D.C. at 1700 Massachusetts Avenue NW, Washington D.C. 20036, telephone (202) 833-9860

Additional Peruvian consulates are in Chicago, Illinois; Houston, Texas; Los Angeles, California; Miami, Florida; New York, New York; Patterson, New Jersey; and San Francisco, California.

U.S. Embassy Location

Official U.S. Government Passport. Travelers wishing to use an official U.S. Passport must have the required visa, theater, and country clearances prior to entering Peru. Specific requirements for each can be obtained at Command passport and visa offices.

All U.S. Department of Defense (DoD) and military personnel and most federal government employees must travel on an official passport when visiting Peru on TDY/TAD or official DoD business.

Customs Restrictions

Though traders often sell stolen, precolonial antiques and paintings, Peruvian law prohibits the export of historical artifacts and materials from indigenous pre-Colombian civilizations. Violators of this law will have such materials seized and are subject to criminal penalties. It is also illegal to export many floral and agricultural items from Peru.

An airport tax of US$25 per person is charged for all international flights leaving Peru. The domestic tax charge for all flights within Peru is US$4. Airport taxes are normally paid at a separate station in each airport, and a sticker is applied to an individual's boarding pass to indicate that taxes have been paid. Travelers must pay the departure tax before entering the metal detector and security areas of Peruvian airports.

Travel Advisories

The U.S. State Department's Consular Information Program provides Consular information sheets, travel warnings, and public announcements on Peru.

- Consular information sheets include detailed information on entry requirements, currency regulations, health conditions, areas of instability, crime and security threats, and information on recent political disturbances.
- Travel warnings are issued when the State Department recommends Americans avoid travel to a certain country.

- Public announcements are issued as a means to disseminate information quickly about terrorist threats and other short-term conditions overseas that pose a threat to the security of American travelers.

Considering Peru's high crime and terrorist threats in country, it is advisable to read these warnings prior to entering Peru.

Several terrorist organizations, soaring crime rates, and political demonstrations in Peru have made areas of the country unstable. As a result, Peru's military and police forces typically operate on a higher than normal state of readiness, at times ruling under martial law.

Peru's internal stability has improved over the last few years, and on 1 March 2000, the government eliminated all designated emergency zones in which certain constitutional rights had been suspended. However, the U.S. Embassy continues to restrict travel of U.S. government and military employees in several departments (states).

Overland travel in or near restricted areas, particularly at night, is ill advised. These forbidden locations are under constant review so it is advisable to check with the Embassy prior to arrival or travel into Peru. More detailed information can be found from the Bureau of Consular Affairs in Washington D.C. by phone at (202) 647-5225 or via the internet at http://travel.state.gov.

GEOGRAPHY AND CLIMATE

Geography

Peru, in the southern hemisphere on the western coast of South America, is within the latitudes of 0° south and 18° south and between the longitudes of 70° west and 81° west. The country is five-sixths the size of the U.S. state of Alaska.

Peru is the third-largest South American country and has a total land area of 1,285,216 square kilometers (496,222 square miles). Included

Land Comparison

are 94 square kilometers (36 square miles) of offshore islands in the Pacific Ocean and 39 square kilometers (15 square miles) of islands in Lake Titicaca. Peru's longest stretch of land area is about 1,950 square kilometers (753 square miles) southeast to northwest.

Five countries border Peru:

- Ecuador is to the north and west along 1,528 kilometers (947 miles) of border.
- Colombia is to the north and east along a border of 1,506 kilometers (934 miles).
- Brazil is to the east along a border of 2,822 kilometers (1,750 miles).
- Bolivia is to the southeast along a border of 1,047 kilometers (649 miles).
- Chile is to the south along a border of 196 kilometers (122 miles).

South America

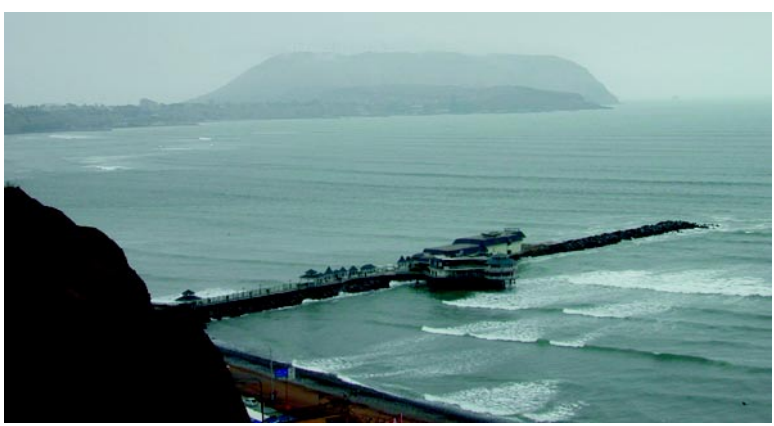
The western side of the country borders 2,414 kilometers (1,497 miles) of the Pacific Ocean.

The country's entire Pacific shoreline is desert, the greatest extent of coastal desert of any country in the world. The Andes Mountains rise steeply from the Pacific coastal zone and are characterized by soaring mountains and deep gorges. The Andes foothills slope eastward from the Andes Mountains with a complex series of deeply cut, forested ravines. The great interior plain of the Amazon basin is east of the foothills.

Topography

Peru is divided into three, distinct topographical and climatic regions: the Costa, a narrow coastal area; the Sierra, a mountainous central zone; and the Selva, the upper Amazon jungle basin

Costa. The Costa is a desert plain interspersed with fertile valleys. This area contains most of Peru's cities and its major highway, which is part of the Pan America Highway (Carretera Panamericana).



Pacific Coastal Jetty


QUITO
ECUADOR
COLOMBIA
Putumayo
Amazonas
Iquitos
Tumbes
Talara
Piura
Marañon
Ucayali
Javari
BRAZIL
Moyobamba
Tarapoto
Chiclayo
Cajamarca
Huallaga
Trujillo
Pucallpa
Maranon
Chimbote
Huaraz
Huanuco
Urubamba
Madre de Dios
Huacho
Cerro de Pasco
Callao
LIMA
Huancayo
Puerto Maldonado
South Pacific Ocean
Huancavelica
Cuzco
Ayacucho
Pisco
Ica
Nazca
Juliaca
Puno
Lago Titicaca
LA PAZ
BOLIVIA
Arequipa
Matarani
Moquegua
Ilo
Tacna
CHILE
Peru
Elevation in Meters
4000+
2000 - 4000
500 - 2000
0 - 500
0
4
8
12
16
80
76
72

Topography

Coastal Terrain

The Costa extends 48 kilometers (30 miles) inland toward the Andes Mountains and contains 11 percent of the country's total land area. It is also the center of Peru's industrial, commercial, and agricultural activity. Lima, the political and economic capital, is in the Costa and has more than seven million inhabitants.

Rain is infrequent in the Costa's central coastal areas, though Lima and its surroundings are often cloudy and blanketed by a chronic mist, or *garua*, between May and October. During these months, Peruvians in the central coastal areas rarely see the sun.

The coastal climate is hot in the north, temperate in the center, and cooler but arid in the south. The lack of rainfall makes the southern coastal areas of Peru one of the driest places on Earth.

The aridity and the terrain of the central coastal areas confine settlements almost entirely to river valleys and small sections of the coast, near the mouths of rivers. Agricultural settlements that irrigate and cultivate small areas of these valleys serve as oases in this desert environment.

Inland of Peru's southern coastal zone is a narrow, coastal mountain range. It has a rugged surface, much of which is covered by bare rocks

A Terraced Village

with deeply cut, narrow gorges. A trough-like valley parallels this range and separates it from the Andes Mountains.

Sierra. The sierra includes the Andes Mountains whose high plateaus cover more than 25 percent of Peru's total land area. The highlands in Peru consist of two parallel ranges, the Cordillera Occidental (western range), and the Cordillera Oriental (eastern range).

Depending on the altitude, the climate ranges from temperate to very cold, with rainfall and snowfall exceeding 254 centimeters (100 inches) annually in some areas.

The valleys and basins between the two ranges offer some of Peru's most fertile agricultural areas. These valleys lead to the Altiplano, or "highest plain," in southern Peru. Cities in this region are well populated and built at high elevations, including Cuzco at 3,505 meters (11,500 feet); Puno on Lake Titicaca at 3,850 meters (12,630 feet); and Cerro de Pasco at more than 4,267 meters (14,000 feet) above sea level.

Peru's active and dormant volcanoes are also in the Sierra, confined mainly to the southern part of the highlands.

Selva. The Selva is the least populated region of Peru and covers 60 percent of Peru's national territory. It includes the Amazon Basin, a region of tropical lowland. The higher elevated jungle areas begin at the base of the eastern facade of the Andean Mountains and slope downward until reaching the Ucayali and Amazon Rivers. These eastern lowlands are covered with dense tropical rainforest. Most of the towns and cities in the eastern jungle are accessible only by river or aircraft.

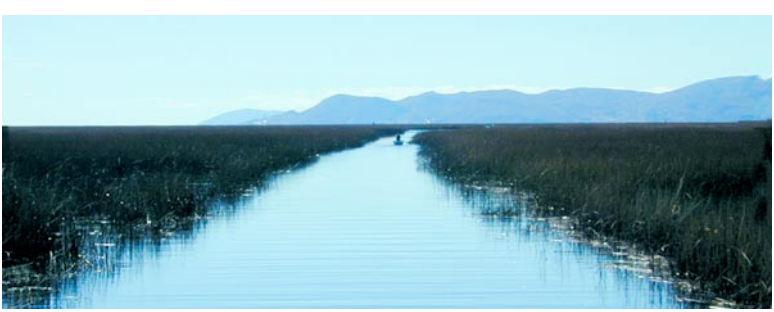
The climate is tropical and often hot, humid, and rainy. Peru's eastern Selva is the western end of the Amazon River. The flora and animal species in this region are considered among the most ecologically diverse in the world.

Bodies of Water and Drainage

Peru's principal drainage features are perennial and intermittent streams, lakes, and reservoirs. The country is divided into four drainage regions based on regional contrasts in precipitation, topography, and drainage patterns: the Pacific basin, the intermundane highlands, the Titicaca interior basin, and the Amazonian lowlands.

Pacific Basin. Dominant drainage features of the Pacific basin region are westward-flowing streams. Of the 53 major streams draining this region, only 14 are perennial. The streams are fed year-round by melting snow and ice from the high, western flanks of the Andes Mountains. They generally have short, steep runs out to the Pacific coast.

Intermundane Highlands. The intermundane highlands region has many perennial streams and lakes in the highland valleys and intermittent streams that drain down mountain slopes into the valleys. The major streams are perennial but exhibit large seasonal fluctuations in water stage and velocity. They are fed by mountain slope tributaries that flow in at right angles to form trellis drainage patterns. These streams drain high valleys before running down the eastern flanks of the Andes Mountains into the Amazonian lowlands region to the east. This region also has numerous alpine lakes.



Channel to Lake Titicaca

Taquile Harbor on Lake Titicaca's Taquile Island

Titicaca Interior Basin. The Titicaca interior basin region has short streams that drain into Lake Titicaca. The major streams begin on the mountain ridges that enclose this highland basin and descend rapidly across escarpments onto a gently graded plain before emptying into Lake Titicaca.

The largest lake in South America, Lake Titicaca is more than 9,000 square kilometers (3,475 square miles). It is navigable year-round with roughly 8,300 square kilometers (3,205 square miles) in Peruvian territory.

Amazon Lowlands. The Amazonian lowlands region has no dry season. Rain falls almost daily and produces large amounts of runoff.

The streams that drain the dense tropical woodlands or selvas of eastern Peru are typically large, long, and sinuous with high volumes of water. Oxbow lakes occupy the flood plains of this region. The gradients are gradual.

All major streams in the Amazon lowlands flow into the eastbound Amazon River. However, some of these streams join the Amazon River out-

Hotel Dock

side Peru. The principal streams in this region are transport routes that practically and physically link isolated and sparsely populated areas with each other and more accessible areas. Along most segments of the principal streams, navigability is good for vessels of various sizes.

Urban Centers

Peruvian urban centers have grown rapidly within the last 20 years due to migration from the Sierra region and the countryside. Today, three-fourths of Peru's population lives in its cities. The Lima Callao metro area has experienced particularly rapid growth; its population increased from 600,000 in 1940 to 7.5 million in 2001.

Lima. Lima, the capital of Peru, is 13 kilometers (8 miles) inland from Callao at an elevation of 145 meters (475 feet). Lima is the cultural, commercial, and political hub of Peru and is the fourth largest city in South America. This metropolitan area has more than eight million people (more than a quarter of Peru's total population) and is in the center

Juliara Street (top) and Puno Topiary (bottom)

of Peru's coastal desert area on the Rimac River. Lima and its suburbs encompass 64 square kilometers (40 square miles).

Callao. Callao is Peru's leading seaport and encompasses 37 square kilometers (14 square miles). Its population is more than 424,000. Callao occupies a low triangular point of land, the apex of which extends

southeastward and forms the La Punta peninsula. This separates the Bay of Callao on the northwest from the Pacific Ocean on the southeast. The Escuela Naval Academy, an arsenal, and the navy yard of the Peruvian Navy are located at Callao.

Arequipa. Arequipa is in Peru's southern tip and is the capital for the Arequipa Department. It is the second largest city in Peru with a population of more than 612,000.

Environment and Natural Hazards

Peru has experienced serious environmental problems in recent years, including soil erosion, degradation in existing agricultural areas, deforestation of mountain slopes in the Amazon area, a declining sanitation infrastructure and pollution control regime, and a noticeable deterioration of air quality in the Lima area.

Because of urban sprawl, heavy industrial presence, and unfavorable climatic conditions, Lima's pollution is among the worst in Latin America.

Contaminated water is the country's major pollution problem. Municipal sewage disposal systems are below standards, with most waste running into nearby rivers, beaches, and coastal waters. Some miners dump metal tailings into nearby rivers. City air is polluted with vehicular exhaust.

South America's west coast is one of the world's most active seismic zones. Earthquakes, volcanic eruptions, and landslides pose significant risks to populations and transportation infrastructures.

Climate

Peru has three distinct tropical climates: tropical wet, which generally covers the eastern two-thirds of the country; tropical arid, which covers the area along the Pacific coast; and tropical upland, which covers the Andes Mountain region at elevations above 2,000 meters (6,562 feet).

Temperatures nationwide are mild to warm year-round. Occasional exceptions occur in the higher elevations and in some southern areas. Temperatures are often colder in Peru's southernmost regions.

Tropical Wet

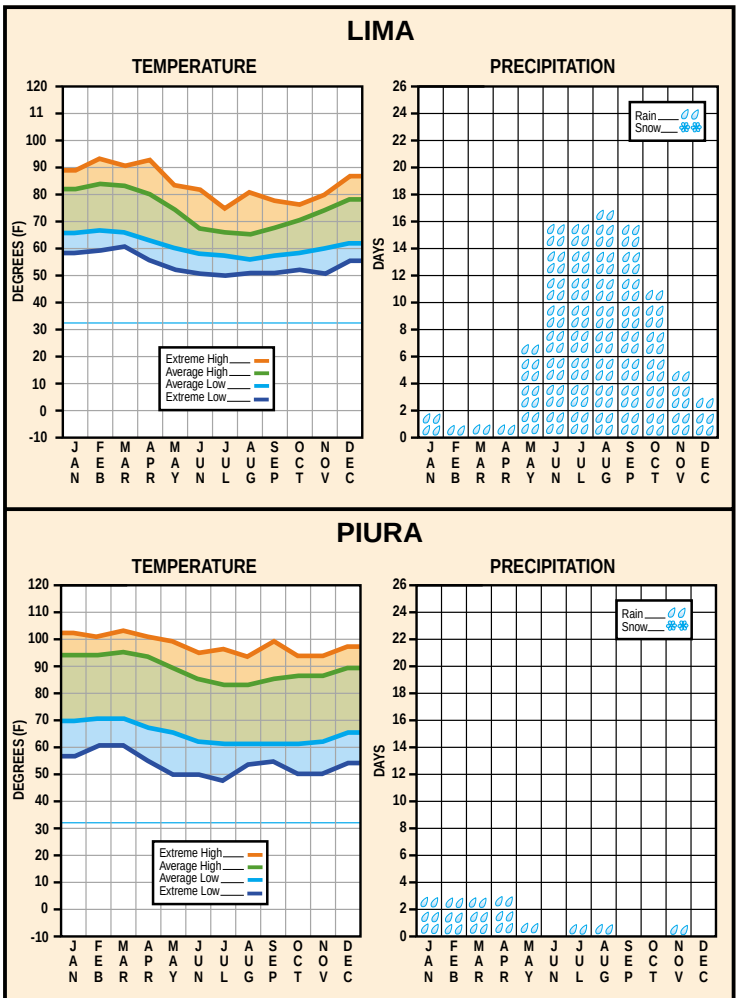
In the tropical wet region, monthly temperatures vary only slightly throughout the year, generally less than 3°C (7°F); day and night ranges are greater. Average maximum and minimum temperatures can vary as much as 11°C (20°F) in the lowlands and as much as 13°C (24°F) on the eastern slopes of the Andes Mountains. Average daily maximum temperatures for the year range between 28°C and 33°C (82°F and 90°F). Average daily minimums range from 18°C to 22°C (64°F to 72°F). Temperature extremes range from 2°C to 40°C (36°F to 104°F).

Tropical Arid

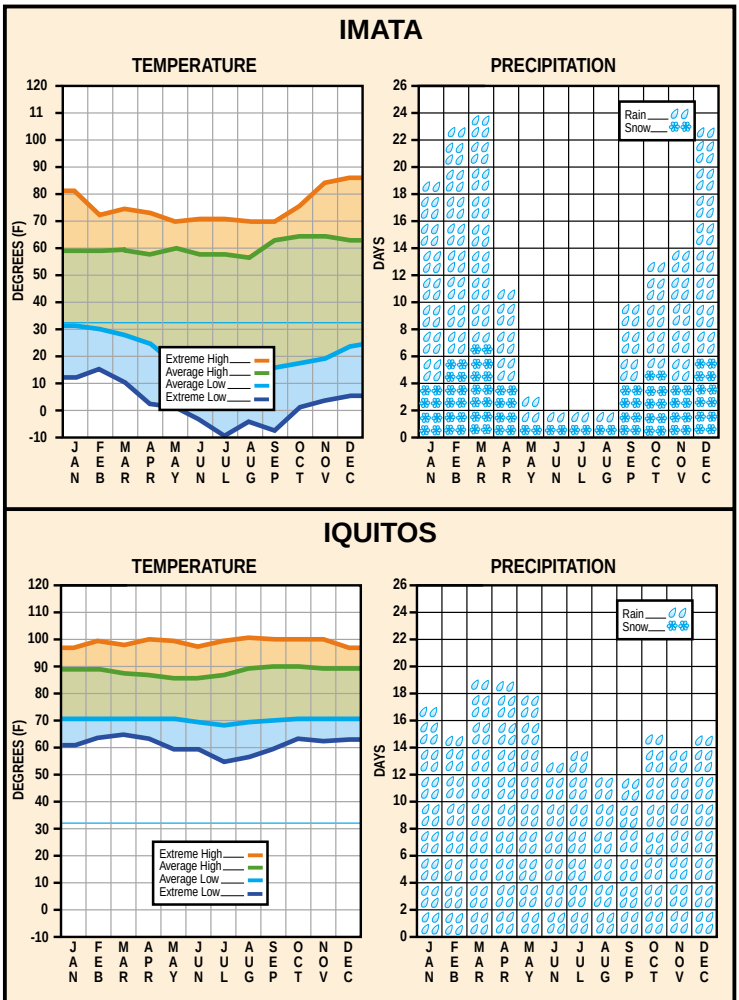
In the tropical arid region, temperature variations from month to month are minimal, rarely exceeding 7°C (14°F). Day to night variations are greater, with differences of 12°C (22°F) not uncommon. Average daily maximums range from 27°C to 31°C (81°F to 88°F) at inland locations to 21°C to 27°C (69°F to 81°F) at coastal locations. Average daily minimums show a more latitudinal distribution ranging from minimums of about 19°C (66°F) along the coast and in the north to 11°C (52°F) in the southern parts of the region. Absolute maximum temperatures vary from 30°C (86°F) along the coast to 40°C (104°F) inland. Minimums of near 0°C (32°F) sometimes occur on the western slopes of the southern Andes Mountains.

Tropical Upland

The tropical upland region has the most extreme night to day temperature variations in the country. Diurnal temperatures can vary as much as 18°C (36°F). Monthly temperatures vary only minimally, usually no more than 4°C (8°F). Altitude influences the average annual maximum and minimum temperatures in the region. Average maximums approach



Lima and Piura Climatology



Imata and Iquitos Climatology

22°C (72°F) at elevations near 2,000 meters (6,562 feet) with maximums of 12°C (54°F) at altitudes above 3,000 meters (9,842 feet). Average minimums are near 9°C (48°F) at 2,000 meters (6,562 feet) and approach 0°C (32°F) at elevations above 3,600 meters (11,811 feet).

Precipitation is varied and shows a wet and dry season distribution. The wet season is from October through April, and the dry season is from May through September. The coastal area is dry year-round; however, some rain falls during the wet season.

In Lima, the hottest month is February, with temperatures averaging between 19°C and 28°C. The coldest month is August, with temperatures between 13°C and 19°C. February and March are the driest months, each averaging 1 millimeter (0.04 inches) of rainfall. August is the wettest month, with an average of 8 millimeters (0.3 inches) of rainfall.

Special Phenomena

El Nino. El Nino is a climatic event that severely affects Peru. El Nino occurs about every 6 or 7 years, usually between December and March. It is characterized by sudden and torrential rainfall that severely erodes the landscape, saturates the soil, and causes massive flooding and landslides along the coast and in the Sierra.

Normally, the ocean current off Peru is cold. This temperature is caused in part by the easterly trade wind influences that keep warmer waters out at sea and allow colder waters to well up from deeper ocean areas.

In strong El Nino years during late December, the warmer ocean waters begin to move closer to shore due to abnormally weak trade wind influences. These warmer waters cause precipitation amounts in the coastal desert regions of Peru to increase dramatically.

Garua. The *garua* is a layer of heavy fog and mist that provides the small amount of moisture that Peru's desert coastal regions experience during June through September, when surface winds are predominately from the southwest. This air rises when it reaches the coast. At about

600 meters (1,969 feet) in elevation, the cold air encounters warmer air and a layer of condensation produces the *garua*.

Junta. The *junta* is a gale force wind that affects the eastern slopes of the Andes Mountains. Wind speeds can reach more than 100 kilometers per hour (62 miles per hour). The *junta* occasionally blows from the upland region into parts of the tropical wet region and often accompanies thunderstorms. Ridge and valley orientation can accentuate the *junta*.

TRANSPORTATION AND COMMUNICATION

Transportation

Roads

Highways are the primary means of overland transport. Peru has approximately 70,000 kilometers (43,470 miles) of roads, of which an estimated 7,500 kilometers (4,658 miles) are paved; 13,700 kilometers (8,508 miles) are gravel or improved earth; and 48,800 kilometers (30,305 miles) are unimproved earth.

Most paved roads have two lanes. The better quality roads are the Pan American Highway and the roads near significant ports and airfields throughout Peru's coastal region. The road network is important to the agricultural sector and provides feeder services to seaports and to other modes of transport.

The Pan American Highway forms the foundation of the road network that traverses the north-south length of the country. It features multiple lanes near some of the larger cities, especially around the Lima area.

Most highway tunnels in the mountainous areas allow two-way traffic. However, numerous bridges, tunnels, and lack of bypass routes create critical chokepoints throughout Peru. The sparse, poorly maintained network of roads in Peru's interior and adverse terrain and climatic factors seriously hamper overland movement.

Transportation Network

Switchback Road

More than US$2 billion has been invested in Peru's road network since 1992, when the country regained eligibility for loans from multilateral organizations. The country's two main motorways have undergone extensive repair and restructuring, as have the roads linking the departmental and provincial capitals, rural roads, and streets in Andean towns.

Rail

Peru's rail system is designed to transport materials from the mountain regions. The rail system totals 1,988 kilometers (1,233 miles), of which 1,608 kilometers (997 miles) are standard gauge track and 380 kilometers (236 miles) are narrow gauge. The trains are primarily diesel-electric powered.

The railway system is in a poor state of repair. Commercially attractive stretches have been sold as concessions, promising much needed investment for the network.

In November 2000, a concession to run the southern, central, and southeastern railways was awarded. Ferrocarriles del Peru, a consortium of eight companies, won the concession bid with an offer to pay the government 33.4 percent of its annual income. The 30-year concession includes all track, signaling, stations, workshops, ships, and rolling stock.

The 590-kilometer (366-mile) central railway runs from the port of Callao to La Oroya and Huancayo and carries minerals from mines in the Andes. The 900-kilometer (558-mile) southern railway runs from the Matarani seaport through the Andean highlands to Juliaca, where it branches toward the city of Puno on the shores of Lake Titicaca and the city of Cuzco. The railway moves bulk cargoes such as grain and petroleum products and is also a tourist circuit. The 120-kilometer (74-mile) southeastern railway covers the popular tourist circuit of Cuzco to the Machu Picchu ruins.

Perurail Train

The government operates the less commercially rewarding, 129-kilometer (80-mile) Huancayo Huancavelica railway in the highlands. This is the only viable means of transport in the area and is relied upon by peasant farmers. The Ministry of Transport and Communications views it as a social service that would not survive without subsidy.

The privately owned Ilo Toquepala Railway connects the port of Ilo with copper mines at Toquepala, with a branch line running to Cuajone.

Air

Peru's mountainous terrain makes air transport a vital mode of transportation. Deregulation has encouraged small operators to start regular services to towns in the Andes and jungle areas that are inaccessible by road. Scheduled services to major provincial cities have increased, and competition has resulted in improved adherence to schedules.

Peru has 236 usable airports, 135 of which have permanent surface runways. The best airfields are evenly situated along Peru's Pacific coast. Jorge Chavez International Airport (LIM) is 16 kilometers (10 miles) northwest of Lima and the principal international airport. Other international airports include Colonel FAP Francisco Secada Vignetta, near Iquitos; Velasco Astete, near Cuzco; and Rodriguez Ballon, near Arequipa.

Peruvian civil aviation authorities have no statutory oversight authority for military aviation safety. Military aircraft are occasionally leased for civilian use, usually in an emergency situation or for charter flights contracted by private companies for their employees and dependents. Though TANS is an airline owned and operated by the Peruvian military, it is still subject to civil aviation authority safety standards.

Scheduled air carriers or commuters with offices in Peru include Air France, British Airways, Iberia Lineas Aereas de Espana, KLM, LAN-Chile, and VARIG Brazilian Airlines. Aero Peru serves domestic destinations and has wider international routes throughout the Americas.

Chaves Airport Terminal (top) and Runway from Air (bottom)

Maritime

Peru has 8,600 navigable kilometers (5,344 miles) of Amazon tributaries and 208 navigable kilometers (129 miles) of Lake Titicaca.

Peru has 25 active ports. Seventeen deepwater ports are evenly distributed along 2,414 kilometers (1,500 miles) of Pacific coastline. These maritime ports handle export cargoes of minerals, oil, and agricultural products.

The National Port Authority, Empresa Nacional de Puerto del Peru S.A. (ENAPU), administers most of the ports. However, private petroleum or mining firms administer and operate Talara, Bayovar, San Nicolas, San Juan, and the Southern Peru Copper Company (SPCC) facilities in Ilo and Puno.

Callao is Peru's principal port and serves the capital city of Lima. Paita, Matarani, General San Martin, Chimbote, Salaverry, and Ilo are some of the remaining ENAPU ports. Iquitos is the largest of five inland waterway ports. Other riverine ports include Pucallpa, Yurimaguas, and Puerto Maldonado.

Deregulation is making Peru's ports less expensive and more efficient. The objective is to create a national port system controlled and administered by an independent authority to reduce conflicts among competing ports.

All commercial ports are expected to be privatized. Ilo, a free trade and industrial zone, may eventually handle a large proportion of trade with Bolivia. The port gains importance as mining projects improve. The port of Callao is 13 kilometers (8 miles) from the capital, amid the most populous and industrialized area of the country.

Rivers. River transport is the principal means of access to Peru's sparsely populated Amazon River Basin, which encompasses 8,600 kilometers (5,340 miles) of navigable waterways. Rivers are often used because they provide access to remote areas where no road transportation exists. Ocean-going coastal freighters and river craft of various size can navigate Peru's rivers.

Peru's principal rivers include the Putumayo (on the border between Colombia and Peru), Napo, Amazon, Maranon, Huallaga, Ucayali, and Madre de Dios Rivers. These rivers provide surface transportation in rural and undeveloped areas, particularly eastern Peru. They also provide international connections with Bolivia, Brazil, Colombia, and Ecuador.

River People of the Inland Waterways

The high water period varies with the geographic region and within the river system. Lake Titicaca has the highest altitude of any navigable lake in the world. The SPCC primary railhead and port facility at Puno handles ferry and other water traffic on Lake Titicaca.

River	Flow	Length	Depth
Amazon	Confluence of Maranon and Ucayali Rivers to Atlantic Ocean	3,761 km (2,336 miles)	1.8–4.6 m (6–15 ft)
Ucayali	Confluence of Urubamba and Tambo Rivers to confluence of Maranon River	1,175 km (730 miles)	1.7–2.9m (5.5–9.5 ft)
Maranon	159 km/99 miles northeast of Lima to confluence of Ucayali River	1,415 km (879 miles)	1–2m (3.3–65 ft)
Huallaga	West of Cerro de Pasco to Maranon River	1,299 km (807 miles)	1–2m (3.3–6.5 ft)
Napo	Southeast of Quito, Ecuador, at confluence of Ilo and Multatos Rivers to Amazon River at Francisco de Orellana	880 km (546 miles)	1–4m (4–13 ft)

Communication

Radio and Television

The dominant news medium in Peru is television, followed by radio. The country has nine national network television channels, as well as local, satellite, and cable channels. There are 13 broadcast television stations and 112 repeaters. Lima stations have nine channels and international cable television access.

Peru has 859 radio stations: 472 AM stations, 198 FM stations, and 189 short wave stations.

Telephone and Telegraph

The telephone system in Peru is adequate. There is a domestic, nationwide microwave radio relay system and satellite system with 12 earth stations. Peru also has two INTELSAT earth stations (Atlantic Ocean).

In early 1994, Peru had one of the lowest levels of telephone penetration in Latin America, with fewer than 3 lines per 100 inhabitants. In February 1994, the government auctioned a 35 percent controlling shareholder in the two national telecommunications companies: the long distance national and international monopoly, Empresa Nacional de Telecommunicaciones (Entel); and the telephone company for Lima, Compania Peruana de Telefonos (CPT). The stakes were acquired by Telefonica Internacional (TISA), a subsidiary of Spain's Telefonica, for more than US$2 billion, and the consolidated companies were named Telefonica del Peru.

Telecommunications have rapidly progressed since the acquisitions. Telefonica del Peru and the government agreed in August 1998 to end the company's monopoly on fixed line telephone services 10 months ahead of schedule, opening the industry to competition. Since then, the government has stipulated maximum rates for international, long distance services and minimum rates for local, fixed line services.

Six companies offer fixed line telephony services, and there are three cellular phone operators. A multi-carrier system was introduced in November 2001.

The cellular telecommunications market has grown rapidly since 1998. By October 2001, more than 1.7 million cellular telephones were on the market, up from 1.3 million at the start of the year. Telefonica Moviles (part of Telefonica del Peru) is the market leader, with 61.4 percent of the market, followed by BellSouth (25 percent), TIM (7.4 percent), and Nextel (6.1 percent).

Internet

Peru has more than 1.5 million internet users, with more than 800,000 connected directly to the network. In June 2001, Peru had approximately 1,000 public internet cafes.

The number of internet users is increasing by 4 percent each month. This rate is expected to rise to 15 percent, after a flat monthly rate for internet access is introduced. However, the high costs of access and hardware preclude most Peruvians from using the internet.

Newspapers and Magazines

Peru has several daily national and local newspapers, but they reach fewer people than televisions and radio stations. The leading national newspapers are *El Comercio*, *La Republica*, and *Expreso*; *Gestion* is an economics-focused national newspaper. *Caretas*, which is published weekly, contains political and economic analysis. Peru also has many tabloid newspapers and sports newspapers.

Postal Services

The Postal Services of Peru S.A. (Servicios Postales del Peru, Sociedad Anonima) operates the domestic and international postal service. Post offices throughout the country are open from 0900 to 2000 on weekdays, and they are open for half-days on Saturday and Sunday.

Postal service has improved substantially in the past few years; however, letters and packages can be expensive to send. Postal services include letter mail, TADS Express, express mail service, and packing.

The Directorate General of Posts is the postal services regulator. As the regulatory body, it proposes regulations for the postal sector, sets standards, supervises, and monitors the post's services and activities. It also proposes and implements the policy to be pursued with international organizations and supervises the provision of the universal postal service by the public operator. The supervisory body is the Ministry of Transport, Communications, Housing and Construction.

CULTURE

Population Statistics

Population	27.5 million
Average growth rate	1.7%
Ethnic Disposition	
Native Indian	50%
Mestizos	40%
White	7%
Black African	3%

Seventy percent of Peruvians lives in urban areas.

Society

Ethnic Groups

Most of Peru's large Indian community lives isolated in the mountain zone. However, many Indians and mestizos (persons of white, mainly Spanish, descent and Indian background) have migrated to the coastal areas and comprise most of the workforce for the cities there.

Peruvian society is stratified by class and ethnicity. Descendants from Spanish settlers and more recent European immigrants are at the top

Ethnic Distribution

of the socioeconomic hierarchy. There are also black, Chinese, and Japanese minorities.

Hispanic and Indian cultures contribute to the nation's cultural expression. During pre-Colombian times, Peru was renowned for artistic expression in America. Pre-Inca cultures, such as Chavin, Paracas, Nazca, Chimu, and Tiahuanaco, developed high quality pottery, textiles, and sculpture. Drawing upon earlier cultures, the Incas maintained these crafts but also made architectural achievements. The mountain town of Machu Picchu and the buildings in Cuzco are examples of Inca architectural design.

During the colonial period, *mestizo* (creole) art was popular. The Peruvian (Cuzco) school modeled Spanish baroque tradition with Italian, Flemish, and French schools. After independence, European Romanticism became popular. *Indigenismo*, introduced in the early 20th century, renewed awareness of Indian culture. Since World War II, Peruvian writers, artists, and intellectuals have drawn on U.S. and European trends.

Education

Peru's 1993 constitution makes primary education tuition-free and compulsory. The system is centralized, with the Ministry of Education appointing all public school teachers. Eighty-four percent of Peru's students attends public schools at all levels. School enrollment has risen sharply for years, due to a widening educational effort by the government and a growing school age population.

Peruvians regard education as the key to progress and personal advancement. Some Peruvians believe the presence of a village school is an indicator of progress out of poverty. The primary school provides the means to become a recognized citizen because the exercise of citizenship and access to state services require a basic ability to use written and spoken Spanish.

Public education standards in Peru are among the lowest in Latin America. President Toledo has begun to address the issue of underfunding by increasing teachers' wages. The new government's first budget statement in September 2001 raised the budget for the educa-

tion ministry by 139 percent because teachers' salaries, which were previously paid through the Ministry of the Presidency, are now handled by the education ministry.

In 1999, 8.1 percent of the population had received no education. A further 30.6 percent had received only primary level education, 41.8 percent had been educated to secondary level, and 19.5 percent had received some further education.

In 1998, 1.3 million Peruvians older than 14, equivalent to 8 percent of the population, were illiterate, and 950,000 were female. In the rural departments of Apurimac, Huancavelica, and Ayacucho, the illiteracy rate was more than 30 percent according to the 1993 census, compared with less than 5 percent in Lima and Callao.

One-third of Peru's universities is in Lima. Technical education is lacking. The Servicio Nacional de Adiestramiento en Trabajo Industrial (Senati, the National Industrial Training Service) is a private sector initiative that operates nationwide to provide full apprenticeships and short courses. The Instituto Superior Tecnologico (Tecsup, the Institute of Advanced Technology) is a privately funded technological institute with 1,000 full time students in Lima and Arequipa.

Literacy

In 2000, Peru's literacy rate for persons 15 years and older was 89.9 percent. The literacy rate for males is 94.7 percent; the literacy rate for females is 85.4 percent.

Language

Spanish and the Indian language, Quechua, are officially recognized in Peru. Another Indian language, Aymara, is also spoken widely. Many Peruvians speak Spanish and one Indian language.

Thirty percent of the people speaks no Spanish at all; instead, Quechua, Aymara, or another native language is used. Peruvians with more formal education are often taught English as a second language and speak it well.

Religion

The Roman Catholic Church was Peru's state church until 1979. Although Peru has freedom of religion and churches have equal political status, most people are Roman Catholic, and the Catholic Church is influential in their lives.

Many Indians who are Roman Catholic mix traditional, indigenous beliefs with Christian values, sometimes calling their gods by Christian names. Evangelical Protestantism is gaining popularity in Peru, especially among the urban poor.

Social Customs and Courtesies

Greetings

When being introduced or meeting for the first time, members of the opposite sex usually shake hands. Women and close friends of the opposite sex commonly greet each other with a kiss on one cheek when meeting and parting. Men usually shake hands or pat each other on the shoulder. An arm around the shoulder or a pat on the back is a polite way to greet youth.

Friends address each other by first name. Professionals are addressed by their title. Older people are addressed as *senor* (Mr.) or *senora* (Mrs.), followed by their last name. Strangers often address women and girls as *senorita*.

Typical greetings include *buenos dias* (good morning), *buenos tardes* (good afternoon), and *buenos noches* (good evening/night).

Gestures

Peruvians use many hand gestures while conversing. People stand very close to each other when they talk, often lightly touching the arm or shoulder of the person with whom they are speaking.

Holding the palm of the hand downward and waving all of the fingers beckons another person. On buses, men usually give their seat to women or elderly persons. Personal space is limited, and constant eye contact is important.

Visiting

Peruvians enjoy visiting one another. Though most visits between friends and relatives are unannounced, it is polite to make advance arrangements when visiting other people.

Visitors are expected to feel at home and be comfortable, the traditional greeting, "*Esta en su casa*," ("You are in your house") reflects this attitude.

Peruvian Hospitality

Hosts always offer their guests beverages and may offer other refreshments, but declining them is not impolite. In many areas, those visiting around 1730 are invited to stay for *lonche*, a light breakfast-style meal served around 1800.

Hosts appreciate special acknowledgment of children in the home. It is polite to show concern for the health of the host's family and relatives.

When visiting a home, gifts are not expected of guests, but small gifts such as fruit or wine are welcome. Dinner guests commonly bring such gifts.

Eating

Peruvians value proper table manners. They eat continental style, with the fork in the left hand and the knife remaining in the right. Both hands (not the elbows) are kept near the table at all times.

It is impolite to converse with only one person at the table without including the rest of the group. Guests are expected to eat all of the food that is offered; excuses for not eating something should be given tactfully.

In a restaurant, waiters are summoned by waving. If service is not included in the bill, a tip is expected; if service is included, a small tip is still given.

Food

The main staples in the diet include rice, beans, fish, and a variety of tropical fruits. Soups are also common. Corn, native to Peru, is the main staple among Indians. Most rural homes raise guinea pigs as food.

Seviche (raw fish seasoned with lemon and vinegar) is popular on the coast. *Papa a la Juancaina* is a baked potato topped with sliced eggs and a sauce such as hot chili. Highland dishes often include potatoes, onions, and garlic. Fresh vegetables are consumed in season.

People purchase most food on a daily basis in small, corner stores; cites; or large, open-air markets. Bargaining is common in the markets.

Family

Nuclear families in Peru have an average of three children. The father is the head of the family. Because the mother usually spends most of her time at home, she is in charge of the children and their day-to-day activities. The father is usually consulted only for major issues. The mother directs and performs household duties.

Women occasionally work outside the home, a trend that is more prevalent in urban areas. One-fourth of the labor force is female.

Most Peruvian families live without many of the modern conveniences common in more industrialized nations. Newly married couples often live in their parents' home until they can afford their own home.

Relationships

Dating is exclusive; people do not date more than one person at the same time. Men usually marry in their late twenties, and women generally marry in their early twenties. People in rural areas will typically marry at a younger age.

Weddings usually include a civil ceremony, a church wedding, and a party for family and friends. The party often includes dancing and a

one- or two-course meal. Common law marriages are prevalent and widely accepted, except among the upper classes.

Recreation

The most popular sport in Peru is *futbol* (soccer). Peruvians enthusiastically follow World Cup competitions, especially when the national team is participating. Basketball, volleyball, and gymnastics are also favorites.

Families go on picnics and watch movies for entertainment. Sunday is a popular day for outings.

Most Peruvians value music. Urban youth enjoy dancing at social gatherings. International music is popular, especially with the youth, but traditional music is also popular.

Two instruments often used in traditional music are the *charango*, which is a small guitar, and the *antara*, which is an assortment of vertically placed flutes tied together.

MEDICAL ASSESSMENT

Infectious Disease Risks to Deployed Personnel

Food- or Waterborne Diseases

Diarrheal diseases caused by bacteria, protozoa, and viruses are the greatest risk to deployed forces. Risk from hepatitis A is intermediate to high. Most Peruvians contract hepatitis A virus infection during childhood. Risk from typhoid and paratyphoid fevers is intermediate to high, occurring countrywide and year-round. Risk may be elevated near Lima due to extensive pollution in the Rimac and Montero rivers.

Insect-, Tick-, and Miteborne Diseases

The insectborne diseases posing the greatest risk include malaria, dengue fever, yellow fever, leishmaniasis, bartonellosis, plague, and Chagas' disease. Malaria risk is variable and may be elevated from

November through May. Dengue is a year-round risk, primarily in northern coastal and eastern lowland urban areas. Dengue 1, 2, and 4 circulate, with dengue 1 predominating. Yellow fever is reported mainly in the central departments of Ayacucho, Cuzco, Huanuco, Junin, Loreto, Madre de Dios, and San Martin. Cutaneous and mucocutaneous leishmaniasis are present, with case totals reportedly increasing since the early 1980s. Bartonellosis occurs in Andean valleys, with an elevated risk reported from January through April. Plague is present in rural areas, primarily in Ancash, Cajamarca, Lambayeque, La Libertad, and Piura. Chagas' disease is present in rural and suburban areas, primarily in the southern half and northern one-fourth of the country.

Respiratory Diseases

Acute respiratory infections are a risk, particularly in crowded living conditions. Tuberculosis levels are high. Resistance has been reported to therapeutic agents normally used to treat tuberculosis. Meningococcal meningitis is present at low levels.

Sexually Transmitted and/or Bloodborne Diseases

Sexually transmitted diseases, including gonorrhea and syphilis, are a risk. HIV/AIDS is a risk, and infections are primarily attributed to heterosexual contact, followed by male homosexual or bisexual contact. Hepatitis B/D and C, caused by exposure to infected body fluids, are also risks.

Animal-associated Diseases

Leptospirosis, brucellosis, rabies, and gastrointestinal anthrax are risks. Leptospirosis, spread primarily by rat urine, is present in the eastern and central lowlands, with elevated risk from December through April. Brucellosis levels are intermediate to high. Dogs are the primary source of human exposure to rabies, but 44 percent of human fatalities reported from 1993-1995 were attributed to rabid vampire bats. Sporadic outbreaks of gastrointestinal anthrax are reported.

Medical Capabilities

The quality of health care services in Peru is not comparable to U.S. standards, but several private hospitals in Lima provide adequate emergency medical care prior to evacuation. Although many physicians in the Lima area are U.S.-board certified, a shortage of adequately trained hospital personnel exists in the rest of the country.

The best ambulance service in the capital is Alert Medica (emergency telephone 70-5000), which is available 24-hours. A physician, nurse, and driver usually staff these strategically located ambulances. The ambulances have radio coverage.

Ninety percent of pharmaceuticals is domestically produced. Because quality control of the production and distribution systems is poor, some regularly prescribed pharmaceuticals are not safe according to U.S. standards. The blood supply is Peru is considered unsafe.

The Angloamerican Clinic and the San Borja Clinic, both in Lima, provide the best care in the country and can be used for routine treatment and procedures.

Key Medical Facilities

Angloamerican Clinic

Coordinates	12-06-21S 077-02-13W
Location	Alfredo Salazar Street, Third Block (no number), San Isidro
City	Lima
Telephone	213-656
Type	Private
Beds	120
Capabilities	Medical — most internal medicine sub-specialties, dentistry, pediatrics; surgical — general, orthopedic, thoracic, plastic; ancillary services — laboratory, x-ray.

Angloamerican Clinic

Comments Facility most frequently used by U.S. Embassy personnel for non-traumatic emergency care. Not recommended for elective surgery. Well staffed and capable of handling most acute illnesses. Nurse training facility.

San Borja Clinic

Coordinates 12-05-28S 077-00-40W

Location 333 Guardia Civil Avenue, San Borja

City Lima

Telephone 753-141, 754-997

Type Private

Beds 160

Capabilities Internal medicine, cardiology, surgery, orthopedics, pediatrics; ancillary services — emergency room (24 hour), operating rooms, defibrillator, oxygen, blood bank, x-ray, laboratory (bone/liver scan and blood gases).

Comments One of the hospitals recommended by the U.S. Embassy Health Unit, and most frequently used by the U.S. community for trauma cases. Facility and services do not meet U.S. standards.

HISTORY

First Settlers and Pre-Inca Cultures

Peru is known as the heart of the Inca Empire, but it was home to many diverse, indigenous cultures long before the Incas arrived.

The first inhabitants of Peru were nomadic hunter-gatherers who lived in caves in Peru's coastal regions. The oldest site, Pikimachay Cave, dates from 12,000 BC.

The Inca Empire

Various cultures flourished in ancient Peru, and eventually disappeared or were vanquished by the Incas, whose appearance is recorded at about

Inca Bridge

1000 AD. The Urubamba Valley, also called the Sacred Valley or Valley of Cuzco, became the Inca's center of government. The 14 Inca sovereigns ruled for almost 500 years.

Spanish Discovery and Conquest

In 1532, Pizarro landed in Peru with a force of about 180 men. Conditions were favorable for conquest.

With their arrival, the Spaniards introduced diseases to the indigenous population, which declined rapidly because the Inca had no immunity. Members of the Inca dynasty took refuge in the mountains and resisted the Spaniards for 4 decades. In 1572, the Spaniards executed the last Inca ruler, Tupac Amaru, along with his advisers and family.

The Spanish employed a system of land tenure consisting of European landlords and indigenous workers. This system established a privileged

and wealthy aristocracy early in the colonial period. However, little was done to educate the population. As a result, colonial Peru was a divided society, consisting of a small class that owned the land and controlled education, political, military, and religious power, and of a large, mostly indigenous class (90 percent of the population) that remained landless, illiterate, and exploited.

Vice-Royalty

In 1542, Spain created the Vice-Royalty of Peru, which was composed of all Spanish South America and Panama (except for what is now Venezuela, which belonged to Nueva Espana Viceroyship).

The first Spanish viceroy arrived in Peru in 1544 and attempted to enforce the Spanish laws. However, the conquistadors rebelled and killed the viceroy in 1546. The Spanish government defeated the rebellion in 1548.

Independence

In September 1820, Argentine soldier and patriot Jose de San Martin, who defeated the Spanish forces in Chile, landed an invasion army at the seaport of Pisco, Peru. On 12 July 1821, San Martin's forces entered Lima, which Spanish troops had abandoned.

Peru's Declaration of Independence, drafted by Manuel Perez de Tudela, was read aloud in an open section of Lima's town council on 15 July 1821. General Jose de San Martin proclaimed independence on 28 July 1821.

Venezuelan revolutionary figure Simon Bolivar continued the struggle against the Spanish. Bolivar and his armies entered Peru in 1822 and joined forces with rebel leaders Antonio Jose de Sucre and San Martin. They were victorious at the battles of Junin on 6 August 1824 and Ayacucho on 9 December 1824, securing Peru's independence from Spain and assuring the liberation of South America.

Patriotic Message on Mountainside

Republic of Peru

In 1879, Bolivia repealed a contract with a Chilean company to mine nitrates in its territory. In response, Chile seized the Bolivian port of Antofagasta. During the next 4 years, Peru and Bolivia fought a war against Chile over possession of the nitrate-rich, northern portion of the Atacama Desert.

Chile won the war and occupied Lima. The 1884 Treaty of Ancon gave Chile control over Peru's nitrate province of Tarapaca as well as Bolivia's only coastal territory, Antofagasta. In 1929, Peru regained its territory.

Modern Peru

In the 1990 presidential election, Alberto Fujimori, an agricultural economist of Japanese descent and leader of the Cambio 90 party, defeated Mario Vargas Llosa with left wing support in the June runoff. Fujimori's government was known for its fight against terrorism, the country's reinsertion to the International Monetary Fund, improved standard of living, and increased production and export.

In April 1992, Fujimori alleged that congress and the judiciary had blocked his efforts to fight the drug trade and the Sendero Luminoso (SL, or Shining Path) guerrilla organization. In response, he suspended the constitution, dissolved the legislature, imposed censorship, and had opposition politicians arrested. That same year, the Sendero Luminoso was significantly weakened after its leader, Abimael Guzman, was arrested and later sentenced to live in prison.

Fujimori was re-elected in April 1995, beating former UN Secretary General Javier Perez de Cuellar. Peru signed a treaty with Ecuador in 1998 that peacefully resolved a contentious 57-year border dispute and paved the way for increased foreign investment in both countries. In November 1999, Peru and Chile settled their last long-standing territorial dispute over Arica.

In December 1996, the Tupac Amaru Revolutionary Movement (MRTA) guerrilla group captured the Japanese Embassy in Lima and kept hostages for many months in an attempt to regain influence and free MRTA staff members from prison. Four months after the Japanese Embassy was seized, police and military personnel stormed the compound, killing the terrorists and securing the Embassy.

In the April 2000 presidential elections, Alejandro Toledo, an Andean Indian from a poor family who became a World Bank economist, ran against President Fujimori. One week before the run-off election, Toledo filed a formal letter with the National Election Board to call attention to election corruption, a move that prompted the Organization of American States (OAS) to announce that the National Election Office needed more time to correct deficiencies in the voting process. Toledo instructed his supporters to write “No To Fraud” across their ballots and withdrew from the runoff. Fujimori won the election.

In November 2000, the Peruvian congress removed President Fujimori from office on grounds that he was morally unfit to govern the country. Peru’s interim president, Valentin Paniagua, and the new vice president, Javier Perez de Cuellar (a former United Nations Secretary General),

worked toward free and fair elections in April 2001. Alejandro Toledo won the 2001 elections.

Chronology

Date	Event
1532-1533	Spanish conquistadors, led by Francisco Pizarro, defeat the Incas, whose empire subsequently becomes part of the Vice-royalty of Peru with its capital in Lima.
1780	Tupac Amaru leads failed revolt against Spanish. Amaru claims to be descendent of last Inca chieftain.
1821	General Jose de San Martin captures Lima from Spanish and proclaims Peru independent.
1824	Peru gains independence from Spain.
1836-1839	Peru and Bolivia join in short-lived confederation.
1866	Peruvian Spanish War.
1879-1893	Chile defeats Peru and Bolivia during the Pacific War.
1941	Peru wins Amazonian territory following brief war with Ecuador.
1945	Civilian government, led by center left APRA, comes to power after free elections.
1948	Military government, led by General Manuel Odria, is installed following coup.
1963	Peru returns to civilian rule, with centrist Fernando Belaunde Terry as president.
1968	Civilian government ousted in coup led by General Juan Velasco Alvarado, who introduces populist land reform program and carries out large-scale nationalization.
1975	General Morales Bermudez ousts Velasco in coup.
1980	Peru returns to civilian rule with reelection of Fernando Belaunde as president. SL guerrillas begin armed struggle.
1981	Peru fights border war with Ecuador over Cordillera del Condor, which a 1942 protocol had given to Peru.

Date	Event
1982	Deaths and disappearances begin to escalate following army crackdown on guerrillas and drug traffickers.
1985	APRA candidate Alan Garcia Perez wins presidential election and begins campaign to remove military and police guard.
1987	New Libertad movement led by writer Mario Vargas Llosa blocks plans to nationalize bankruptcy.
1988	Peru seeks help from International Monetary Fund; Shinning Path guerrilla campaign intensifies.
1990	More than 3,000 political murders are reported. Independent, center-right Alberto Fujimori is elected president on anticorruption platform. Severe austerity and privatization programs are launched as inflation reaches 400 percent.
1992	Fujimori suspends constitution with army backing. SL leader is arrested and sentenced to life imprisonment. New chamber legislature is elected.
1993	New constitution is adopted, enabling Fujimori to seek reelection.
1994	Six thousand SL guerrillas surrender to the authorities.
1995	Fujimori is reelected to second term. People convicted of human rights abuses are pardoned.
1996	Tupac Amaru Revolutionary Movement (MRTA) guerrillas seize hostages at Japanese Embassy.
1997	Peruvian special forces free hostages held at Japanese Embassy.
1998	Peru reaches a border agreement with Ecuador.
2000	President Fujimori resigns following political and financial scandals. Head of Congress Valentin Paniagua is sworn in as interim president.
2001	Presidential elections are held. A center-left economist, Alejandro Toledo, defeats the former president, Alan Garcia.

GOVERNMENT AND POLITICS

Government

Peru is a presidential republic with a 120-member, unicameral legislature and a strong executive branch. Alejandro Toledo, the Peru Posible party's candidate, was elected president for a 5-year term in a two-round election in April and June 2001.

National Level

Executive Branch. The president, who is head of state, has executive authority. The president is directly elected to a 5-year term and assisted by a council of 15 ministers, whom he appoints.

The prime minister is the president of the Council of Ministers. The Minister of Economy is traditionally the most important figure, controlling the budgets of all other ministries.

The Presidential Palace

The president has power to dissolve the Congress. Under the new Constitution, presidents hold office for 5 years and may run for reelection; they may serve a maximum of two terms.

President Alejandro Toledo

The president is commander in chief of the military. He is advised by a national defense council, which reviews national defense plans and policies. Under Peru's constitution, the president can administer assignments and promotions in the armed forces without regard to Congress or military personnel regulations.

Service commanders, the president of the Joint Command, and the minister of defense all serve at the president's behest. This is the first time in Peru's history that a civilian has had such authority over the military.

Legislative Branch. Peru's legislature is a unicameral, democratic, constituent congress with 120 seats. Members are elected by popular vote to serve 5-year terms and have the following responsibilities:

- Initiate and pass legislation.
- Interpret, amend, and repeal existing legislation.
- Draft sanctions for violation of legislation.
- Approve treaties.
- Approve the budget and general accounts.
- Authorize borrowing.
- Exercise the right of amnesty.
- Delegate the legislative function to the president.

A vote of two-thirds is required to pass or amend legislation.

Judicial System. The Supreme Court of Justice heads Peru's judicial branch. Judges are appointed by the National Council of the Judiciary. The Supreme Court of Justice is the highest judicial authority in the nation. The 12 Supreme Court justices, who serve for life, are nominated by the president, and are approved by the Senate.

Peru's legal system is based on a civil law system and has not accepted compulsory International Court of Justice (ICJ) jurisdiction.

Constitution

Peru's constitution became effective on 29 December 1993. It replaced the 28 July 1980 constitution, which had been suspended since 5 April 1992.

The 1993 constitution incorporates free market economic principles and reduces the role of the state. It eliminates many congressional checks on

Justice Palace

the president, thereby enhancing the president's already substantial powers. It also strengthens the judiciary's independence.

Suffrage

Voting is compulsory for all citizens between the ages of 18 and 70; it is optional for those older than 70.

Key Government Officials

President	Alejandro Toledo Manrique
Prime Minister	Roberto Danino
Minister of Foreign Affairs	David Garcia Sayan
Minister of Interior	Ferando Rospigliosi
Minister of Defense	Aurelio Loret De Mola
Minister of Finance	Pedro Pablo Kuczynski

Local Government

Peru remains divided into 24 departments (states) and the constitutional province of Callao. The departments are further divided into 155 provinces, and the provinces are subdivided into 1,586 districts. In 1993, this system was slated to reorganize into 12 regions, Lima, and the constitutional province, but reorganization has not been completed.

The independent municipal government process was initiated with the first nationwide municipal elections in December 1963. This process was halted by 12 years of military rule after 1968, but was reinstated with the November 1980 municipal elections.

Each municipality is run autonomously by a municipal council, a provincial council, and a district council, all of whose members are directly elected. Municipalities have jurisdiction over their internal organization and administer their assets and income, taxes, transportation, local public services, urban development, and education systems.

Administrative Departments

Politics

A wide range of broad-based political movements emerged when the Fujimori administration collapsed in 2000. Thirteen of these movements were represented in the congressional election in 2001.

President Toledo's Peru Posible Party has the largest congressional representation with 45 of 120 seats. The Partido Aprista Peruano (Apra) is the second largest party, and one of the few traditional parties to survive the Fujimori decade. Unidad Nacional, a loosely formed movement, is the third largest party.

To register for elections, political parties must obtain signatures from 1 percent of the total electorate, or 120,000 voters.

Corruption

Although Peru has experienced political corruption, other forms of corruption extend beyond national politics and into Peruvian society. The drug trade is strong, particularly the cash crops of cocaine and heroin.

Foreign Relations

Peru has worked to consolidate trade links with neighboring countries. The Andean Community and Brazil signed an accord in 1999 that includes preferential tariffs for 3,000 products.

However, the failure of the Fujimori administration to acknowledge the Inter-American Court of Human Rights, as well as the corruption and election tampering was revealed in 2000, greatly damaged Peru's international reputation. The interim government led by Mr. Paniagua did much to restore Peru's image, and President Toledo has continued this work.

Peru won international praise for the way it handled the 2001 elections and for dealing with the corruption of the Fujimori administration. President Toledo has laid the foundation for positive relations with the United States and several European countries.

Bolivia. Relations between Peru and Bolivia are generally good because of their common experience with and concern about Chile. Bolivia has long sought Peruvian support in recovering its coastal access, which it lost to Chile in 1884 in the War of the Pacific. Relations with Bolivia further improved with the 1992 Ilo Agreement, which granted Bolivia access to the Pacific Ocean. In return, Peru was granted access to the Atlantic Ocean via Bolivia's river port, Puerto Suarez.

Brazil. Peru has a guarded relationship with Brazil. The Andes Mountains separate the countries from each other, making overland communication difficult. Although trade between the two countries has increased, Brazil is suspicious of U.S. influence in Peru and asserts its own regional alliances.

Chile. Relations between Peru and Chile have been characterized as hostile, due in part to a steady flow of illegal immigrants from Peru. Relations improved after three ratified accords were signed in November 1999, resolving disagreements on the implementation of the 1929 Treaty between Peru and Chile. Peru formally relinquished claims to Arica, yet maintained control of the infrastructure in the port. Chile's purchase of 10 F-16s provoked public criticism from Peru's President Toledo.

Colombia. President Toledo supports Plan Colombia. However, relations between the two countries have been tense since 2000, when the Peruvian military, linked to former Chief of Intelligence Montesino, was implicated in an illegal arms deal involving a weapons purchase from Jordan to be sold to the Revolutionary Armed Forces of Columbia (FARC).

Ecuador. Peru has had a tense relationship with Ecuador, particularly since the 1941 conflict that resulted in Ecuador's loss of most of its Amazonian claims, amounting to half of its national territory.

In 1998, Ecuador and Peru negotiated a settlement to their long-running border dispute. Ecuador and Peru have fought three border wars over an uninhabited, non-demarcated, 77-kilometer (47.8-mile) section of their

1,600-kilometer (994-mile) border. The most recent border war erupted in January 1995, when a skirmish between border patrols escalated into hostilities in which an estimated 80 soldiers died.

In October 1998, Peru and Ecuador signed an accord ratifying the boundaries established by the Rio Protocol, a peace treaty signed by Peru and Ecuador in 1942. Ecuador received navigation rights on the Amazon River and was granted permission to use two sites in Peru to operate port services. Ecological parks have been created in the zone, which must remain demilitarized. Peru retained a majority of the region in question, except for a 247-acre portion known as Tiwintza, an area successfully defended by Ecuadorian troops in the 1995 skirmishes.

Since the border demarcation was completed in May 1999, Peru and Ecuador have worked to strengthen the 1998 agreement by developing stronger trade links. The peace accord includes projects for investment and trade liberalization, which gathered pace in 1999 with the liberalization of tariffs on 586 items and an agreement that each government would make an initial contribution of US$5 million to a binational fund to finance development projects.

Further planned integration projects include the following:

- Interconnection of the oil pipelines between Peru and Ecuador.
- Improvement of facilities for the cross border transit of tourists from Lambayeque department in Peru to Azuay province in Ecuador.
- Improved air transport links between the Ecuadorian south and the Peruvian north to facilitate cross-border transit.

Japan. Because Peru's former President Fujimori was of Japanese descent, Peru had a close relationship with Japan during the 1990s. Peru was one of the largest recipients of Japanese aid under Fujimori and one of the few countries to receive loans from Japan every year. About 100,000 Peruvians are of Japanese origin.

Fujimori's flight from Peru and exile in Japan since November 2000 has strained Peru's relationship with Japan considerably. Fujimori's efforts

to secure release of the hostages at the Japanese Embassy endeared him to the Japanese.

President Toledo has promised to press Japan to extradite Fujimori, but no extradition treaty exists between the two countries. Further, because former President Fujimori is a Japanese national, the Japanese government is not obliged to hand him over.

Venezuela. Relations with Venezuela have been strained since the 24 June 2001 arrest in Venezuela of Peru's former intelligence chief, Vladomiro Montesino, who had been a fugitive since 29 October 2000. Both sides protested aspects of the arrest; Peru accused Venezuelan officials of harboring Montesino, and Venezuela complained that Peruvian authorities violated its sovereignty by searching for him on Venezuelan soil.

United States. The United States has strong and cooperative relations with Peru. Though relations were strained following the tainted reelection of former President Fujimori in June 2000, they improved when Peru's interim government enforced free and fair presidential and congressional elections in April 2001. The United States promotes the strengthening of democratic institutions and human rights safeguards in Peru.

The United States and Peru cooperate on efforts to interdict the flow of narcotics, particularly cocaine, in the United States. The Peruvian Air Force has successfully interdicted narcotics trafficking to surrounding countries. Bilateral programs are in place to reduce the flow of drugs on Peru's river system and to perform ground interdiction with successful law enforcement operations. The United States and Peru cooperate to promote alternative development in coca-growing regions.

International Organizations

Peru is a signatory to the Inter-American (Rio) Reciprocal Defense Treaty of 1947 and a member of the Organization of American States (OAS). It belongs to the Rio Group and is bound by the Rio Protocol of 1942, which theoretically resolves its border dispute with Ecuador.

Peru is a signatory of the 1992 Santiago Declaration committing the Americas to democratic government. After Fujimori's removal from office, Peru led the drafting of the Democratic Charter of the OAS. The charter constitutes a departure in international politics and is underpinned by new understandings of sovereignty and security.

Peru participates in the following international organizations:

- Andean Community (CAN)
- Asia Pacific Economic Co-operation (APEC)
- Group of 11 (G-11)
- Group of 19 (G-19)
- Group of 24 (G-24)
- Group of 77 (G-77)
- International Monetary Fund (IMF)
- Organization of American States (OAS)
- Rio Group (RG)
- United Nations (UN)
- World Health Organization (WHO)

ECONOMY

Peru has had a depressed domestic economy since 1998, resulting in increased unemployment rates. Job creation was one of the central themes in the 2001 presidential election. Income is unequally distributed, with the poorest 20 percent receiving less than 5 percent of national income.

Peru's economic base is divided between a modern sector on the coastal plains and a subsistence sector in the mountainous interior, which is isolated by poor transportation and communication services. The manufacturing industry is moderately diverse, with food, fishmeal, metals, steel, textiles, and petroleum refining the largest sectors.

The services sector employs 50 percent of the economically active population (EAP) in Lima; however, most sell low-value objects in the informal economy. Reductions in state bureaucracy and the rationalization of former state-owned companies after privatization led to the loss of hundreds of thousands of jobs.

The primary goal of the Toledo government has been to fight against poverty. In September 2001, President Toledo announced the implementation of a social emergency program, A Trabajar (To Work). The program, which aims to create 400,000 jobs in its first 2 years, is financed mainly through foreign aid.

Statistics

Gross Domestic Product (GDP)†	US$54.2 billion
Services	65%
Industry, including mining‡	26%
Agriculture	9%
GDP Growth Rate	3.5%
Inflation Rate	2%
Unemployment Rate	7.5%
Balance of Trade	
Imports	US$7,369.9 million
Exports	US$7,252.1 million
Major Exports	Minerals, Oil, Fishmeal, Cotton, Coffee and Sugar (2001 est.)

†The government consumes 11 percent of GDP.

‡Mining provided 46 percent of Peru's export earnings in 2000, a proportion that is expected to rise.

Natural Resources

Peru has large deposits of valuable minerals, including copper, lead, zinc, and silver. Many other important minerals have been discovered

on Peruvian territory, including uranium, iron ore, phosphate, potash, and gold. Most of Peru's mineral deposits are in the Sierra uplands.

The country's Pacific coastal waters are some of the world's richest fishing grounds, and Peru's fast-flowing rivers provide potential for hydroelectric power.

Peru has extensive, untapped gas and petroleum energy potential. Ninety percent of output comes from four companies: Occidental Petroleum of the United States, Peru's Petrotech, Pluspetrol, and Pecom. Because of falling output and rising demand, Peru is no longer self sufficient in oil, but it still exports heavy crude oil.

In 1987, the United Kingdom discovered the Camisea natural gas fields in the southeastern jungle of the Cuzco department. The Camisea fields contain gas and condensates equivalent to 2.4 billion barrels of oil, almost seven times the size of existing proven oil reserves.

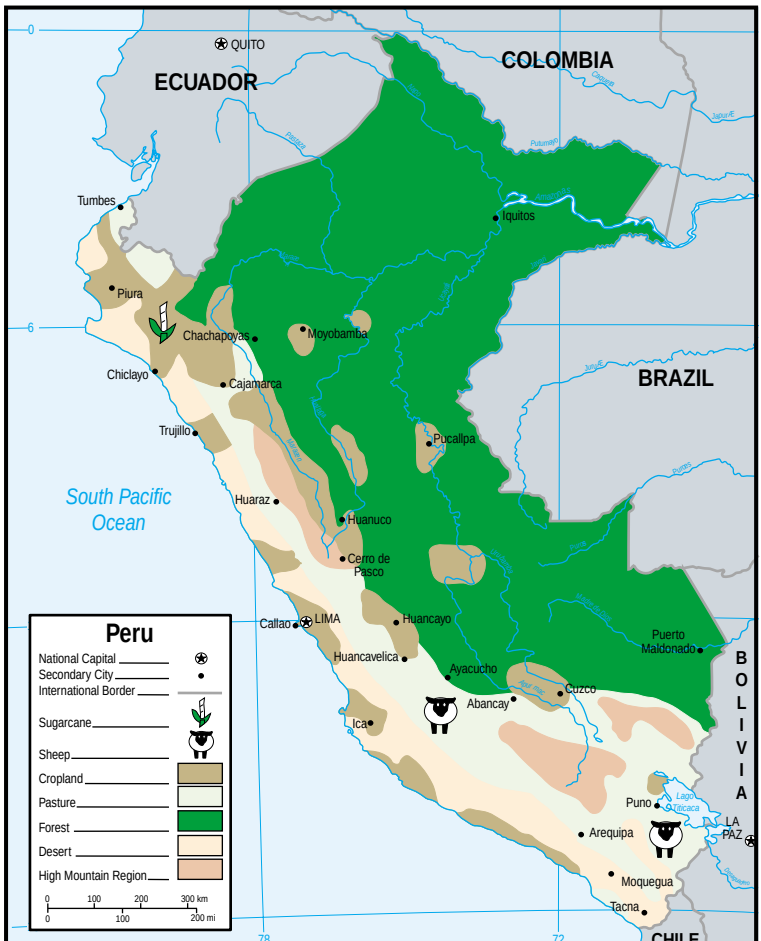
Agriculture

Peru experiences a wide range of climatic conditions that allows many varieties of crops to be cultivated. An estimated 1.3 million hectares of the country is under cultivation. As part of efforts to encourage investment and to modernize agriculture, Alberto Fujimori passed a series of land laws to encourage competition.

The coastal plain offers good potential for export crops. Agriculture in the Andes is largely subsistence farming. The eastern slopes of the Andes and the high jungle produce quality tea and coffee crops. Cocoa is also grown, but the country's poor transport infrastructure and low prices have encouraged many farmers to turn to coca, from which cocaine is produced.

Peru is the second largest producer of coca and cocaine in the world, despite efforts to reduce output in the 1990s. In 2001, Peru had approximately 40,000 hectares of coca, down from 98,000 hectares in 1996.

Peru is reducing the number of plantations by promoting nontraditional agro-exports such as asparagus and specialty coffees.



Land Use

Labor

Services

Outside some of the more affluent areas of Lima and other large cities the retail sector is underdeveloped. There is a large, informal network of small shops, stalls and street sellers that often acquires its merchandise on the black market from sweatshops or organized smuggler. This informal network provides stiff competition for formal outlets and hindered the development of a modern retail sector until the opening of the economy and rapid growth of the 1990s.

Though Peru's inadequate hotel infrastructure is a constraint on tourism, investment in the sector is increasing. The 33 hotels of the state chain, Enturperu, have been transferred to private ownership, while several international hotel chains have built hotels in Lima, Arequipa, and Cuzco, and more are under construction. To stimulate interest, the government has introduced tax exemptions on tourist packages sold abroad.

Fifty percent of Peru's electricity generating capacity is operated entirely or partially by state owned companies, 30 percent by mining and industrial self generators, and 20 percent by private electricity generating companies. Due to the country's diverse geographical characteristics and scattered population centers, the nation is composed of two interconnected systems and several smaller, isolated systems.

In 1998, 77 percent of Peru's power production was hydroelectric, with thermal plants fired by diesel fuel, oil, and coal supplying the remainder. A flood in 1998 destroyed a state-owned generating station at Machu Picchu, rendering useless a US$200 million power generating plant for the southern region.


QUITO
COLOMBIA
ECUADOR
Arica
Iquitos
Talara
Sechura
Piura
Paita
Yurimaguas
Tarapoto
Trujillo
BRAZIL
Pucallpa
Chimbote
South Pacific Ocean
Huánuco
Cerro de Pasco
LIMA
Huancayo
Huancavelica
Quillabamba
Puerto Maldonado
Cuzco
Pisco
Ica
Nazca
Juliaca
Puno
LA PAZ
Arequipa
Matarani
Moquegua
Ilo
Tacna
CHILE
BOLIVIA
PERU
National Capital
Secondary City
International Border
Primary Road
Oil
Oil Refining
Textiles
Mining
Fish Processing
Food Processing
Vehicle Assembly

Industry

Mining

Peru has one of the world's leading mining sectors. The country is the world's seventh largest producer of gold and copper, and the second largest producer of silver. It also ranks highly in zinc and lead output. Minerals have been the most important source of export revenue, representing up to one half of total earnings. The mining sector is set to grow strongly as a result of fresh investment and the discovery of new mineral resources.

Andean Valley

Peru has 15 percent of the world's copper reserves. Copper production in the country has increased since the middle 1990s, following heavy investment in the sector. Growth in export earnings slowed after 1997 as plunging minerals prices depressed revenue, but output remains high and investment in the sector is still firm.

Manufacturing

Since 1998, the manufacturing sector has struggled more than other sectors as a result of low demand for manufactured goods in Peru and regional markets.

Peru is well placed to develop a high quality textiles industry. Locally grown Pima cotton is highly regarded in international markets, as is

Tanguis, a domestic fiber used primarily for sportswear. In recent years, manufacturers have started to produce garments for export from ecolog-

Minerals

ical cotton, which is colored without dyes and needs no bleach. Other fibers with export potential are alpaca and vicuna; both species are native to the high Peruvian Andes and produce high quality wool. The manufacture and export of fiber either as tops or as finished garments have been slow to develop due to the poor transportation infrastructure.

Fishing

The rich fishing grounds off the Pacific coast support the fishmeal processing and canning industry, which is a significant foreign exchange earner. Up to 10 million tons of anchovy and sardine, the species used for fishmeal, are caught close to the shoreline each year. Catches declined sharply in 1998 because of El Nino, but subsequently recovered.

Trade

Mining and fisheries are Peru's two major traditional export categories. Mining's share of exports has risen in recent years as a result of high volume growth, especially for gold, and a reduction in agricultural and fisheries exports.

Exports

Traditional products such as minerals, oil, fish meal, cotton, coffee, and sugar represented 68.5 percent of merchandise export earnings in 2000. Mining exports dominate, and their share of the total 46 percent in 2000 will remain high as new projects come on stream. Earnings from nontraditional exports, the most significant of which are textiles, fruit and vegetables, canned and frozen fish, and steel and metal products, doubled between 1993 and 2000 to just more than US$2 billion. Fisheries exports contributed to export growth in 2001.

In the second half of 2001, the Antamina mine started copper and zinc production; in August, copper export volumes increased by 57 percent as a result of the Anamina production.

The United States is Peru's most significant trading partner; it receives 30 percent of Peru's exports. Apart from the United States, trade is fairly evenly distributed, with no single trading partner holding a share of more than 10 percent.

China and Japan have become more important partners in recent years, and trade with Asia is set to grow further following Peru's 1997 agreement with the Asia Pacific Economic Cooperation forum (APEC).

Imports

Having been constrained by protectionism and recession in the late 1980s, imports recovered strongly after 1990. Increased imports in 1994 and 1995 threatened external financing problems until an austere budget package in 1996 curtailed demand for imported consumer goods and slowed import growth to 1.8 percent. Since mid-1998, depressed domestic demand manifested in low levels of investment, and private consumption has stifled import growth.

Regional Trade Associations

In November 1990, the five Andean Pact countries signed the La Paz declaration, in which they agreed to eliminate tariffs on intra-regional imports by 1 January 1992 and committed themselves to setting a common external tariff (CET). Disagreements on the CET and over exceptions to the free trade regime delayed implementation. Peru suspended its membership in 1990 as a result of disagreements about the expected level of protection.

The CET became effective at the beginning of February 1995, but only for Ecuador, Colombia, and Venezuela. It established duties of 5 percent for raw materials imports from outside the Andean Pact free trade zone, 10 to 15 percent for semi-finished products, 20 percent for finished products, and 35 percent for most vehicles. Peru rejoined as a full member in 1997. In 1999, the Andean Community signed an accord with Brazil, introducing preferential tariffs for about 3,000 products.

Foreign Investment

Economic policy in the early 1990s focused on growth led by Foreign Direct Investment (FDI). The government passed a series of laws encouraging private investment and imposing specific codes for various productive sectors. Consequently, Peru has some of the most liberal foreign investment laws in Latin America, with foreign nationals free to invest as Peruvian nationals.

The principal stimulus to foreign investment in the 1990s was the privatization program, which was designed to transfer all state companies to the private sector by 1995. Almost all sales in telecoms, banking, tourism, and industry were completed by 1998, but the privatization program stalled, particularly in the energy, water, and transport sectors. President Toledo plans to complete this program by 2005.

THREAT

Crime

In downtown Lima and suburban areas frequented by tourists, the risk of street crime is high. Street crime is also prevalent in tourist cities in Peru's interior, including Cuzco, Arequipa, Puno, and Juliaca, where pickpockets frequent the market areas. In Cuzco, "choke and grab" muggings are common, particularly on streets leading off the main square and in the area around the train station.

Violent crime, including carjacking, assault, and armed robbery, is common in Lima. Short-term, armed kidnappings, in which criminals seek to obtain funds from the victims' bank accounts via automatic teller machines, occur frequently. Passengers who hail taxis on the street are often assaulted. It is safer to use taxis that have been dispatched by telephone than to wait for one.

Terrorism and Insurgency

President Fujimori nearly eradicated the SL and MRTA guerrilla groups in the 1990s, relegating terrorism to a criminal problem rather than social and political problem. However, some remote areas of the country, including the jungles of Ayacucho and the Huallaga valley, are still under emergency control, and there are signs that terrorist activity may increase.

The new government's policy on internal security matters has resulted in isolated attacks launched by up to 300 SL armed rebels still at large, ranging from a prison uprising to a clash with police that left 19 dead.

SL terrorists have survived through links with Huallaga's drug trafficking mafias and will also be strengthened by a growing demand for Peruvian coca as Plan Colombia weakens their Colombian competitors. If SL continues to grow due to a lack of security forces resolve, narco-terrorism could reemerge as a problem for Peru.

Sendero Luminoso (SL, or Shining Path)

The larger of Peru's two insurgencies, SL, is among the world's most ruthless guerrilla organizations. SL has engaged in violent terrorist activity, including the indiscriminate use of bombs. SL has bombed diplomatic missions of several countries in Peru, including the U.S. Embassy. SL also conducts bombing campaigns and selective assassinations, attacks U.S. businesses, and is involved in cocaine trade. It has approximately 1,500 to 2,500 armed militants, supported mostly in rural areas. SL is rural-based, with few violent attacks in the capital.

Inception. In 1970, Abimael Guzman, a professor and member of the Communist Party of Peru, established a new pro-Chinese faction called the Revolutionary Student Front for the Shining Path of Mariategui. Its ideology drew from Mao Zedong's revolutionary program and the ideas of the Peruvian communist leader of the 1920s, Jose Carlos Mariategui.

Guzman and his followers were committed to social revolution through an armed struggle. SL's stated goal is to destroy existing Peruvian insti-

tutions and replace them with a peasant revolutionary regime, in addition to ridding Peru of foreign influences.

Apart from foreign ideological influence, several objective factors led to the growth and popularity of SL, such as rural neglect, racism, the lack of social mobility, the worsening of economic conditions during the 1980s, and widespread corruption. Also, as in Colombia, drug trafficking fueled resources to the guerrilla organization via taxation of coca leaf cultivation and processing.

Organization and Tactics. From 1970 until 1980, SL established a shadow government dedicated to propaganda and political indoctrination of indigenous villages in Ayacucho. Guerrilla action was inaugurated in May 1980, when SL attacked polling stations during Peru's first presidential elections after 12 years of military rule had given way to democratic reform. Over the next 2 years, SL launched several attacks on government offices and power grids.

In early 1982, the insurgents escalated the intensity of attacks, extended violence across the Peruvian territory creating zones of liberation, and clashed with Peruvian military forces. They launched an assault against an Ayacucho prison to liberate 50 guerrilla activists and caused blackouts in Lima. People's trials were held to condemn landowners and corrupt officials.

In the latter part of the 1980s, SL strengthened its forces creating support bases in more than 50 percent of Peru's departments. In the early 1990s, they attempted to choke off the cities by cutting vital supply routes, hoping to force the collapse of the central government based in Lima. The movement gained renown for its brutality. SL attacked women's groups, church workers, journalists, human rights activists, and community leaders. Entire villages were massacred because they collectively resisted SL.

More than 30,000 soldiers, guerrillas, and civilians died in Peru's guerrilla wars. With time, SL's violent tactics bred deep resentment among those who might have supported it.

When Fujimori became president in 1990, he backed a war against SL and captured Guzman in September 1992. Guzman was subsequently sentenced to life in prison, along with more than 100 of his fellow combatants. With Guzman in jail and Fujimori's heavy-handed security measures to control the population, SL soon lost much of its power.

Fujimori refused to carry out certain unpopular counterdrug policies, such as the massive eradication of coca plantations, so that counterinsurgency operations would not be hindered. Although widely criticized for its human rights violations and other excesses of the security forces, the Fujimori administration successfully ended the most insidious wave of terrorism in Peru. In all, the Fujimori administration captured more than 2,500 SL operatives.

Although considerably debilitated, SL did not disappear. On 16 May 2001, a bomb hidden in a backpack exploded outside the offices of Peru's national election body. That same month, two U.S. technicians under contract for the U.S. Agency for International Development, were briefly kidnapped in the Upper Huallaga Valley.

International Supply Lines. Unlike many other Latin American subversive groups, SL never relied on Cuba or other foreign sponsors for its survival. Rather, it relied on domestic support. Funding for the group comes primarily from robberies and associated crimes, although drug trafficking is a significant revenue source. As in Colombia and other parts of the world, insurgents provide armed protection in exchange for guns and money.

SL Activities

Date	Event
1980	SL begins guerilla activity by attacking polling stations during elections.
1982	300 prisoners are released from Ayacucho prison.
1986	Bomb on a tourist train to Machu Picchu kills seven.
1992	Abimael Guzman is arrested.
1999	Oscar Ramirez Durand, Guzman's successor, is arrested.

Tupac Amaru Revolutionary Movement (MRTA)

The MRTA is a traditional, Marxist-Leninist revolutionary movement formed in 1983 that aims to rid Peru of imperialism and establish a Marxist regime.

MRTA activities include bombings, kidnappings, ambushes, and assassinations. It was responsible for a large number of anti-U.S. attacks, but recent activity has declined. MRTA has experienced defections, infighting, and loss of leftist support. Government counterterrorism activities have achieved some success. Most members have been jailed.

In December 1996, 14 MRTA members took over the Japanese Embassy in Lima during a diplomatic reception and held 72 hostages for more than 4 months. Government forces stormed the residence in April 1997, rescuing all but one of the remaining hostages. MRTA has not conducted a significant terrorist operation since then and is believed to have fewer than 100 remaining members.

Drug Trafficking

Peru is the world's second largest coca and cocaine producer after Colombia, although efforts in the 1990s to reduce the harvested area have been successful. The fall in the international price of coffee, which is usually a suitable alternative to coca as a cash crop in the Peruvian highlands, has fallen in recent years, countering efforts to reduce the amount of coca cultivated.

The entire Peru-Colombia border area is considered dangerous due to narcotics trafficking and the presence of armed guerrilla forces from Colombia crossing the border in remote areas.

Peruvian and U.S. authorities are concerned about increased poppy cultivation and opium production. Poppies have been found from the northern department of Amazonas down to the central highland department of Abancay. Poppies are easier to cultivate and conceal than coca.

There is evidence that traffickers are processing cocaine hydrochloride (HCl) within Peru's borders, setting up laboratories near the borders

with Brazil, Colombia, and Bolivia, so that they can leave the country quickly without risk of interception.

Peru is not a major money laundering center. However, the current Peruvian banking law does not provide a reliable or adequate mechanism to estimate the narcotics funds passing through Peru.

Money laundering is criminal only when it is related to narcotics trafficking or narco-terrorism. Only certain financial institutions are regulated under the money laundering law; no control is exercised over casinos or money transfer services. The U.S. government recently provided Peru with technical assistance to help lay the groundwork for new, comprehensive money laundering legislation.

Asset seizure is another problem. In 2 years, the Peruvian National Police Directorate of Counter Narcotics (DINANDRO) financial investigative unit, which investigates financial transactions associated with drug trafficking, seized at least 200 properties, but none was turned over to DINANDRO to support counternarcotics efforts.

ARMED FORCES

Defense Organization

The Peruvian Armed Forces, which is composed of 132,500 personnel, is primarily responsible for protecting the country from external aggression. The armed forces may also be responsible for maintaining internal order, taking precedence over the police. Additionally, the military performs many civic action duties, such as developmental projects in the underdeveloped eastern provinces and the Amazon lowlands.

Conscripts serve for 2 years and provide most Army manpower. All males between the ages of 20 and 25 can be drafted. After the 2 years of service, conscripts are obligated to the Reserve National Guard for 10 years. However, all males between the ages of 17 and 55 are subject to peacetime military conscription, as are females between the ages of 17 and 50. Unlike most other countries, conscripts in Peru are not paid.

National Military Strategy

The armed forces mission is to defend the nation's sovereignty, independence, and territorial integrity, and to comply with the constitution and other laws.

Key Military Personnel

Commander-in-Chief	President Alejandro Toledo
President, Armed Forces Joint Command	General of the Air Miguel Medina Ramos
Commander of the Army	Gen Roberto Enrique Chiabra Leon
Commanding General, Air Force	Gen Aurelio Crovetto Yanez
Commander of the Navy	Admiral Alfredo Palacios Dongo
Commandant of the Marine Corps	Rear Admiral Jorge Campana Binasco
Director General, Police Force	Eduardo Perez Rocha

Military Statistics

Total Manpower	132,500
Paramilitary Forces/Police	77,000
Manpower Availability	
Males age 15-49 available	6,913,471
Males age 15-49 fit for military service	4,657,649
Service Period	24 months
Military manpower reaching military age annually	268,624 males

Defense Treaties

Peru is signatory to the Inter-American (Rio) Reciprocal Defense Treaty of 1947 and a member of the OAS. It also belongs to the Andean Community and is bound by the Rio Protocol of 1942.

Army

Chain of Command

The army commander-in-chief, the chief-of-staff, and the inspector general each report to the minister of defense. The military regions and deployed operational units, the Personnel and Logistics commands, the military institutes and training establishments, and military industries are all directly subordinate to the commander-in-chief.

Organization

The Army's mission is to defend the nation's sovereignty, independence, territorial integrity, and to comply with Peru's Constitution and other laws.

The Peruvian Army has approximately 85,000 personnel and an unknown number of reserve soldiers. It is organized into 6 military regions, 13 maneuver divisions, and 4 additional division-equivalent elements. The size of each division ranges from that of a U.S. brigade to a U.S. brigade plus (4-9 battalions).

The army's six military regions are as follows:

- 1st Military Region (HQ Piura) covers the provinces of Tumbes, Piura, Lambayeque, Cajamarca, and Amazonas.
- 2d Military Region (HQ Lima) covers the national capital and the provinces of La Libertad, Ancash, Lima, Huancavelica, Ica, and Callao.
- 3d Military Region (HQ Arequipa) covers the provinces of Arequipa, Moquegua, and Tacna.
- 4th Military Region (HQ Cuzco) covers the provinces of Puno, Cuzco, Apurimac, Junin, Pasco, Huanuco, San Martin, Ayacucho, and Madre de Dios.
- 5th Military Region (HQ Iquitos) covers the vast jungle provinces of Loreto and Ucayali.
- 6th Military Region (HQ Bagua) covers the province of Amazonas.

Army	Navy	Air Force
Suboffficer 1st Class (Ordnance) 	Sea Officer 1st Class (Yeoman) 	Suboffficer 1st Class 
Suboffficer 2nd Class (Medical) 	Sea Officer 2nd Class (Machinist) 	Suboffficer 2nd Class 
Suboffficer 3rd Class (Signal) 	Sea Officer 3rd Class (Signalman) 	Suboffficer 3rd Class 
Sergeant 1st Class (Infantry) 		Sergeant 1st Class 
Sergeant 2nd Class (Infantry) 	Corporal 1st Class (Torpedoman) 	Sergeant 2nd Class 
Corporal (Infantry) 	Corporal 2nd Class (Torpedoman) 	Corporal 
		Airman 

Rank Structure

The basic tactical formation of the Army is the light division, which consists of four infantry battalions and an artillery group that may also include a cavalry regiment and/or an engineer battalion. Each division averages three active units of infantry or cavalry and includes the following:

- 29 x infantry battalions (including 1 armored, 12 motorized, 2 jungle, 3 commando, 1 paratroop).
- 2 x independent infantry companies.
- 1 x special forces group.
- 9 x cavalry regiments (including 1 ceremonial, 4 armored).
- 4 x tank battalions.
- 14 x artillery groups (including 1 airborne, 1 jungle, 2 armored).
- 1 x antitank company.
- 5 x antiaircraft groups.
- 9 x engineers companies (including 4 combat, 3 armored, 2 construction battalions).
- 1 x signals battalion, and 9 x companies.
- 9 x service battalions.
- 2 x quartermaster battalions, and 9 x companies.
- 2 x transport battalions, and 9 x companies.
- 5 x supply and maintenance battalions.
- 1 x ordnance battalion.
- 1 x medical battalion, and 9 x companies.
- 1 x service battalion (including 1 engineer company, 1 signals company, 1 supply company, and 1medical company).

The Special Forces Division is composed of the following:

- 3 x parachute infantry battalions.
- 1 x armored cavalry regiment.
- 1 x airborne commando battalion.

- 1 x airborne reconnaissance element.
- 1 x airborne school (responsible to provide a 100 man pathfinder company during wartime).
- 1 x field artillery battalion.
- 1 x services battalion.
- 1 x rigger company.

[NOTE: The Special Forces Division may also include an antitank company.]

Prior to the 1995 Peru-Ecuador border confrontation, counterinsurgency and counterdrug efforts had relocated 50 percent of the Peruvian ground forces to Lima and central Peru in the second military region. These forces were pulled from border positions in the north and south.

Operational and Tactical Doctrine

The militaries of France, Germany, and the United States have influenced the Peruvian Army. Peru's current organization is German in origin, its uniforms and rank insignia display strong French influence, and its tactical and operational doctrines largely reflect U.S. influence.

Training

Peruvian military schools provide infantry, armored, parachute, commando, mountain warfare, cavalry, artillery, engineering, communications, services, and medical training. Officers and enlisted personnel have separate training facilities. Officers are trained at the Military Academy at Chorrillos and NCOs attend school in Chorrillos. Most training is held in the Lima area, although Iquitos has a jungle warfare school.

Army Bases

Peru's major military bases are at Lima, Callao, Ayacucho, Huancayo, Piura, Tumbes, Lambayeque, Lobitos, Sullana, Trujillo, Arequipa, Moquegua, Locumba, Tacna, Cuzco, Puno, Santa Rosa, and Iquitos. In addition, there are garrisons at Huaraz, Pampas, Tingo Maria, Chorril-

los, Ancon, Talara, Zarumilla, Zorritos, Bagua, Cajamarca, Chiclayo, Huancane, Ilo, Llave, Gueppi, Pucallpa, and Puerto Arturo.

Major Army Bases

Deployment

1st Military Region (HQ Piura)

Unit	Base
1st Infantry Division (HQ Tumbes)	
5th Zarumilla Infantry Battalion	Zarumilla
13th Pichincha Infantry Battalion	Zorritos
51st Ayacucho Infantry Battalion	Tumbes
1st Artillery Group	Tumbes
2d Antiaircraft Artillery Group	Tumbes
51st Engineer Battalion	Tumbes
1st Service Battalion	Tumbes
7th Infantry Division (HQ Lambayeque)	
3d Infantry Battalion	Lambayeque
20th Infantry Battalion	Chiclayo
7th Zepita Infantry Battalion	Cajamarca
17th Infantry Battalion	Cajamarca
9th Artillery Group	Lambayeque
7th Service Battalion	Lambayeque
32d Infantry Division (HQ Trujillo)	
322d Infantry Battalions	Trujillo
323d Infantry Battalions	Trujillo
32d Artillery Group	Trujillo
32d Engineer Battalion	Trujillo
32d Service Battalion	Trujillo
9th Armored Division (HQ Tumbes)	
5th Mechanized Regiments	Tumbes
6th Mechanized Regiments	Tumbes
7th Mechanized Regiments	Tumbes
51st Enrique del Horme Artillery Group	Tumbes
502d Adolfo King Armored Artillery Group	Tumbes
9th Service Battalion	Tumbes

Unit	Base
1st Cavalry Division (Sullana)	
13th Gregorio Albarracin Armored Cavalry Regiment	Sullana
121st Campain Artillery Group	Sullana
Units directly subordinate to Region HQ	
111th (Medium) Artillery Group	Tumbes
111st Combat Engineer Battalion	Zarumilla
111st Services Detachment	Piura

2d Military Region (HQ Lima)

Unit	Base
2d Infantry Division (HQ Ayacucho)	
55th Motorized Infantry Battalion	Pampas
51st Los Cabitos Counterinsurgent Battalion	Huanta
33d Counterinsurgent Battalion	Apurimac
42th Moquegua Counterinsurgent Battalion	Ayacucho
34th La Oroya Counterinsurgent Battalion	Ayacucho
2d Service Battalion	Ayacucho
31st Infantry Division (HQ Huancayo)	
31st Motorized Infantry battalion	Huancayo
321st Infantry Battalion	Huancayo
313th Counterinsurgent Battalion	Tingo Maria
32d Buenaventura Aguirre Counterinsurgent Battalion	Huancayo
43d Buenaventura Aguirre Counterinsurgent Battalion	Huancayo
314th Buenaventura Aguirre Counterinsurgent Battalion	Huancayo
79th Alto Comaina Counterinsurgent Battalion	Cerro de Pasco
31st Artillery Group	Huancayo
31st Service Battalion	Huancayo
8th Infantry Division (HQ Barranca)	
59th Belisario Barriga Motorized Infantry Battalion	Barranca
8th Engineer Battalion	Barranca

Unit	Base
18th Armored Training Division (HQ Lima)	
Mariscal Nieto Mechanized Cavalry Regiment	Chorrillos
1st Husares De Junin Presidential Escort Regiment	Lima
77th Counterinsurgent Battalion	Lima
1st Legion Peruana Motorized Infantry Battalion	Lima
Tank School Group	Ancon
Artillery School Group	Lima
115th Vehicles Battalion	Lima
18th Service Battalion	Lima
1st Special Forces Division (HQ Lima)	
39th Juan Valer Commando Battalion	Chorrillos
19th Comandante Espinar Commando Battalion	Chorrillos
61th Narciso de la Colina Paratroop Battalion	Chorrillos
Comandos and Paratroopers Schools	Chorrillos
Units in the Region under direct command of Army HQ	
10th Airborne Artillery Group and support units	Lima
501st Signals Battalion	Lima
511th Quartermaster Battalion	Lima
511th Transport Battalion	Lima
512th Ordnance Battalion	Lima

3d Military Region (HQ Arequipa)

Unit	Base
3d Armored Division (HQ Moquegua)	
6th Tank Battalion	Ilo
41st San Pablo Tank Battalion	Moquegua
35th General Salaverry Motorized Infantry Battalion	Tarata
45th Armored Infantry Battalion	Ilo
57th Armored Infantry Battalion	Moquegua
3d Armored Artillery Group	Moquegua
7th ‘7th of July’ Armored Engineer Battalion	Moquegua
3d Service Battalion	Moquegua

Unit	Base
6th Armored Division (HQ Locumba)	
211th Tank battalion	Locumba
311th Tank battalion	Locumba
211th Jose Galvez Armored Artillery Group	Locumba
6th Antitank Company	Locumba
211th Armored Engineer Battalion	Locumba
211th Service Battalion	Locumba
3d Armored Cavalry Division (HQ Tacna)	
113th Armored Cavalry Regiment	Tacna
211th Armored Cavalry Regiment	Tacna
6th Artillery Group	Tacna
6th TTE CNEL la Rosa Armored Engineer Battalion	Tacna
6th Service Battalion	Tacna
Units directly subordinate to Region HQ	
Puma Special Forces Group	Arequipa
113th Bolognesi (Medium) Artillery Group	Arequipa
3d Lince Antiaircraft Artillery Group	Locumba
3d Dos De Mayo Combat Engineer Battalion	Arequipa
113th Services and Communications Detachments	Arequipa
La Brena Construction Engineer Battalion	Moquegua

4th Military Region (HQ Cuzco)

Unit	Base
4th Mechanized Infantry Division (HQ Puno)	
21st Junin Motorized Infantry Battalion	Puno
59th Motorized Infantry battalions	Cuzco
9th Counterinsurgent Battalion	Llave
522d Tupac Yupanqui Antitank Company	Cuzco
9th Service Battalion	Cuzco
Santa Rosa Detachment (HQ Santa Rosa)	
27th Motorized Infantry Battalion	Huancane
9th Armored Cavalry Regiment	Pomata

Unit	Base
Units directly subordinate to Region HQ	
63th Motorized Infantry Battalion	Cuzco
114th Medium Artillery Group	Cuzco
241th Combat Engineer Battalion	Cuzco
4th Supply and Maintenance Battalion	Cuzco

5th Military Region (HQ Iquitos)

Unit	Base
5th Jungle Infantry Division (HQ Iquitos)	
27th Jungle Infantry Battalion	Iquitos
28th Jungle Infantry Battalion	Iquitos
29th Jungle Infantry Battalion	Iquitos
30th Jungle Infantry Battalion	Iquitos
83d Jungle Infantry Battalion	Güeppi
17th Jungle Infantry Battalion	Caballococha
49th Jungle Infantry Battalion	Caballococha
3th Jungle Infantry Battalion	El Estrecho
47th Jungle Infantry Battalion	Sargento Puno
53th Jungle Infantry Battalion	Sargento Puno
115th Antiaircraft Artillery Group	Iquitos
125th Antiaircraft Artillery Group	Iquitos
115th Special Commando Company	Iquitos
125th Special Commando Company	Iquitos
26th Counterinsurgent Battalion	Tocache
5th Jungle Artillery Group	Iquitos
5th Combat Engineer Battalion	Iquitos
115th Service and Communications Detachments	Iquitos
3d Special Forces Division (HQ Tarapoto)	
15th Motorized Infantry Battalion ‘Puno’	Tarapoto
112th Combat Engineer Battalion ‘Huascaran’	Tarapoto

6th Military Region (HQ Bagua)

Unit	Base
111th Jungle Infantry Battalion 'San Ignacio'	Bagua
69th Jungle Infantry Battalion 'Chavez Valdivia'	Ciro Alegria
25th Jungle Infantry Battalion 'Pinglo'	Bagua
85th Jungle Infantry Battalion 'Ampama'	Bagua
116th Jungle Engineer Battalion	Bagua
115th Antiaircraft Artillery Battery	Ciro Alegria

Equipment

Armor/Armored Personnel Carriers

Type	*Role*	*Quantity*
AMX-13	Main Battle Tank	105
T-54/55	Main Battle Tank	280
M4	Medium Tank	60
BRDM-2	Reconnaissance Vehicle	30
M3A1	Reconnaissance Vehicle	10
EE-3 Jararaca	Reconnaissance Vehicle	unk
EE-9 Cascavel	Armored Car/Reconnaissance Vehicle	unk
Fiat 6616	Armored Car/Reconnaissance Vehicle	20
M8/M20	Armored Car/Reconnaissance Vehicle	40/20
M9A1	Armored Car/Reconnaissance Vehicle	50
Spz 123	Armored Car/Reconnaissance Vehicle	20
V-100 Commando	Armored Car/Reconnaissance Vehicle	unk
V-200 Commando	Armored Personnel Carrier	unk
Casspir	Armored Personnel Carrier	20
Fiat 6614	Armored Personnel Carrier	unk
M113	Armored Personnel Carrier	300
Repontec	Armored Personnel Carrier	4
UR-416	Armored Personnel Carrier	225
BTR-60	Armored Personnel Carrier	12
MOWAG Roland	Armored Personnel Carrier	unk
EE-11 Urutu	Amphibious Armored Personnel Carrier	unk
M325	Transport Vehicle	300

Artillery

Type	*Role*	*Quantity*
155-mm M114 A1	Towed Howitzer	36
155-mm “Sofman”	Towed Howitzer	12
155-mm AMX Mk F3	Self-Propelled Howitzer	12
155-mm M-109 A2	Self-Propelled Howitzer	12
130-mm M-54	Towed Howitzer	30
122-mm BM-21	Multiple Rocket Launcher	26
122-mm 2S1	Self-Propelled Howitzer	unk
122-mm M-46	Towed Howitzer	30
122-mm D-30	Towed Howitzer	38
122-mm “Reactive Howitzer”	Towed Howitzer	unk
122-mm D-74	Towed Howitzer	unk
105-mm M101	Towed Howitzer	130
105-mm M-2 A1	Towed Howitzer	50
105-mm Model 56	Pack Howitzer	20
105-mm M-2 A1	Towed Howitzer	50
105-mm M-2 A2	Towed Howitzer	20
75-mm M116	Pack Howitzer	18
120-mm ECIA/Brandt	Mortar	300
4.2 in M-30	Mortar	unk

Antiarmor Weapons

Type	*Role*	*Quantity*
SS-11	Antitank Guided Weapon	400
Cobra	Antitank Guided Weapon	unk
AT-2 ‘Swatter’	Antitank Missile	unk
AT-3 ‘Sagger’	Antitank Missile	unk
105-mm ‘Czekalski’	Self-Propelled Antitank Gun	unk
105-mm M-27	Self-Propelled Antitank Gun	unk
106-mm M40 A1	Recoilless Gun	unk

Air Defense Weapons

Type	*Role*	*Quantity*
Javelin	Man-portable SAM	200+
2S6M 9M311 (SA-19 'Grison')	Self-Propelled SAM	10
Igla-1 (SA-16 'Gimlet')	Man-portable SAM	216
SA-15 'Tor'	Self-Propelled Antiaircraft System	unk
SA-14 'Gremlin'		120
Strela-2 (SA-7 'Grail')	Man-portable SAM	400
S-125 Neva (SA-3 'Goa')	Low-Medium Altitude SAM	12
40-mm Bofors L/70	Antiaircraft Gun	40
40-mm Bofors L/60	Antiaircraft Gun	40
40-mm M1	Antiaircraft Gun	45
23-mm ZSU-23-4 Quad	Self-Propelled Antiaircraft Gun	35
23-mm ZSU-23-2 Twin	Light Antiaircraft gun	50
23-mm ZU-23 Single	Towed Antiaircraft Gun	unk
23-mm ZU-23-2 Twin	Towed Antiaircraft Gun	80

Infantry Weapons

Type	*Role*
9-mm FN 35	Pistol
9-mm Star 30M	Pistol
7.62-mm FN-FAL	Rifle
7.62-mm Steyr SSG69	Rifle
7.62-mm AKM	Assault Rifle
7.62-mm AK-47	Assault Rifle
7.62-mm G3	Assault Rifle
5.56 m M16A1	Assault Rifle
9-mm Uzi	Submachinegun
9-mm SIMA 79	Submachinegun

Type	*Role*
9-mm Star Z-45	Submachinegun
9-mm Star Z-62	Submachinegun
9-mm FMK	Submachinegun
7.92-mm ZB 30	Light Machinegun
7.62-mm FN MAG	General-Purpose Machinegun
7.62-mm M60	General-Purpose Machinegun
.30 in Browning M1917	Heavy Machinegun
.50 in Browning M2HB	Heavy Machinegun
12.7-mm DShK 38/46	Heavy Machinegun

Army Aviation

Type	*Role*	*Quantity*
Agusta A 109K2	Combat Helicopter	12
Mil Mi-8	Transport Helicopter	15
Mil Mi-17 ‘Hip H’	Transport/Assault Helicopter	35
Mil Mi-26	Transport Helicopter	3
An-32	Transport	4
Beech ‘Queen Air’	Communications	1
Cessna 150	Communications	1
Cessna 172	Communications	2
Cessna U206G Stationair	Communications	8
Cessna T 303 Crusader	Communications	2
Cessna U17	Communications	5
H-250 ‘Courier’	Communications	3
Piper PA-34 Seneca	Communications	1
Bell 412	Utility Helicopter	2
SA 315B Lama	Utility Helicopter	5
SA 316 ‘Alouette II’	Utility Helicopter	5
SA 318 ‘Alouette III’	Utility Helicopter	3
Enstrom F28F Falcon	Utility Helicopter	10
Iliushin IL-103	Training/medical evacuation	6

Air Force

Chain of Command

The commander-in-chief of the air force reports directly to the minister of defense. Flying units are subordinate to the commander of operations. The commander of air defense controls two missile battalions and a radar group.

Organization

The Air Force's primary mission is to defend the country's borders from air attack. The Air Force consists of about 330 aircraft distributed throughout the 6 territorial air regions. During the Peru-Ecuador border dispute, helicopter and Su-22 fighter operational readiness was greater than 75 percent; since then, it has fallen to less than 50 percent because of budgetary considerations. However, readiness has improved and Peru has acquired more capable aircraft.

The Air Force's training system, though considered superior to that of most Latin air forces, has experienced insufficient numbers of suitable students and qualified instructors, as well as shortages of equipment and funds.

Peruvian Air Force (FAP) officers are trained in a 5-year program at the Air Academy in Las Palmas near Lima. NCOs are trained at the NCO School at Las Palmas. There are several follow-on schools for officer advancement.

The FAP is the third largest air force in South America. To upgrade FAP effectiveness, the Fujimori government purchased a squadron of MiG-29 high-performance fighters from Belarus in 1996. Two years later, it purchased 18 Su-25 close support aircraft.

Concerns over the state of FAP aircraft have emerged following a series of accidents, including the loss of a Mig-29 in March 2001 and the Toledo administration's September 2001 decision to withdraw a number of obsolete planes from service.

The air force is in the process of downsizing. It currently has 20,000 personnel, including 1,500 officers; 500 cadets; 7,000 enlisted (including NCOs and enlisted); 4,000 conscripts; and 7,000 civilians.

The Air Force divides the country into six air regions that correspond to the Army's six military regions:

Major Air Force Bases and Ground Troops

- 1st Air Region (HQ Piura) covers the provinces of Tumbes, Piura, Lambayeque, Cajamarca, and Amazonas.
- 2d Air Region (HQ Lima) covers the national capital and the provinces of La Libertad, Ancash, Lima, Huancavelica, Ica, and Callao.
- 3d Air Region (HQ Arequipa) covers the provinces of Arequipa, Moquegua, and Tacna.
- 4th Air Region (HQ Cuzco) covers the provinces of Puno, Cuzco, Apurimac, Junin, Pasco, Huanuco, San Martin, Ayacucho, and Madre de Dios.
- 5th Air Region (HQ Iquitos) covers the vast jungle provinces of Loreto and Ucayali.
- 6th Air Region (HQ Bagua) covers the province of Amazonas.

A wing contains a variable number of groups that consists of a variable number of squadrons; one wing is based in each air region.

Operational and Tactical Doctrine

Despite the large amount of Soviet equipment and the associated training assistance that its acquisition involved, the tactical and operational doctrines of the Peruvian Air Force are primarily based on U.S. models.

Training

Training is concentrated under the Aeronautical Instruction Center Command, which includes the Air Force Academy, the Air University, and the Air Technical Training School at Las Palmas.

Officers must complete a 4- to 5-year course at the Air Force Academy (duration depends on academic qualifications) before receiving a commission as a second lieutenant. Continuing education at The Air University is required for advancement to successive ranks. Officers also pursue post-graduate courses abroad.

Peru also trains air force officers from some of the smaller Latin American countries. Enlisted persons undertake courses at the Air Technical Training School. Most training is carried out at Las Palmas with operational conversion at Piura.

Air Force Bases

Piura, Chiclayo, Talara, Lima-Callao, La Joya, Pisco, Iquitos, and Las Palmas are major air force bases. There are minor bases at Arequipa, Pucallpa, Cuzco, and Vitor. The major concentrations of air force ground troops are at La Joya, Ilo, Tacna, and Locumba.

Equipment

Fixed-Wing Aircraft

Type	*Role*	*Quantity*
BAC Canberra	Light Bomber	11
Dassault Mirage 5P	Air Defense/Attack	12
Dassault Mirage 2000P	Air Defense/Attack	10
Mikoyan MiG-29	Air Defense/Attack	19
Sukhoi Su-20	Attack	20
Sukhoi Su-22M2	Attack	12
Sukhoi Su-18	Close Support/ Counterinsurgency	18
Cessna A-37B Dragonfly	Close Support/ Counterinsurgency	24
Antonov An-32	Transport	20
Antonov An-74	Transport	3
Douglas DC-6	Transport	1
Lockheed C-130A/D	Transport	5
Lockheed L-100-20	Transport	5
Boeing 707-323C/351C	Tanker-Transport	1/2
Lockheed Martin C-130A Hercules	Tanker-Transport	2
Beech Queen Air 80	Communications	1
Beech King Air C90	Communications	3
Boeing 737-528	Communications	1
Cessna 401	Communications	1
Douglas DC-8 Srs 62CF	Communications	2
Fokker F28 Fellowship1000	Communications	1

Type	*Role*	*Quantity*
Fairchild C-26A Metro III	Communications	4
DHC DHC-6 Twin Otter 300	Utility	9
Harbin Y-12 (II)	Utility	6
Pilatus PC-6/B2-H2 Turbo-Porter	Utility	9
Learject Inc Learjet 36A	Calibration	2
Cessna 185	Liaison	3
Beechcraft B99 Airliner	Liaison	2
King Air 90	Liaison	3
Queen Air 80	Liaison	15
PA-31T	Liaison	1
UH-1D	Liaison	9
Dassault Mirage 5DP4	Trainer	2
Dassault Mirage 2000DP	Trainer	2
BAC Canberra T. Mk 4/54	Trainer	1/2
Bell 47G	Trainer	12
Bell 206	Trainer	8
Cessna T-41D Mescalero	Trainer	12
Cessna 150	Trainer	2
Embraer EMB-312 Tucano	Trainer	17
Aermacchi MB-339AP	Trainer	13
Mikoyan MiG-29UB	Trainer	2
Morava Zlin Z-242L	Trainer	18
Sukhoi Su-22U	Trainer	1
Sukhoi Su-22UM3	Trainer	4
Learjet Inc Learjet 25B	Survey	2
Dassault Falcon 20F	Survey	1

Rotary-Wing Aircraft

Type	*Role*	*Quantity*
Mil M-6 ‘Hook’	Transport	5
Mil M-8 ‘Hip’	Transport	unk
Mil M-17 ‘Hip’	Combat/Transport Helicopter	35

Type	*Role*	*Quantity*
Mil Mi-24 'Hind'	Combat Helicopter	24
Bell 412HP	Communications Helicopter	2
Eurocopter BO 105CBS/LS	Communications Helicopter	10
Bell UH-1H Iroquois	Utility Helicopter	6
Bell 212	Utility Helicopter	11
Bell 412ST	Utility Helicopter	2
SA-316 'Alouette III'	Utility Helicopter	10
Bell 206	Training Helicopter	8
Eurocopter AS 305B Ecureuil	Training Helicopter	3

Air-to-Air Weapons

Type	*Role*
AA-2 'Atoll'	Air-to-Air Missile
R550 'Magic'	Air-to-Air Missile
AA-8 'Aphid'	Air-to-Air Missile
AA-10 'Alamo'	Air-to-Air Missile
AA-11 'Archer'	Air-to-Air Missile
AA-12 'Adder	Air-to-Air Missile
Matra Super 530D	Air-to-Air Missile
AT-2 'Swatter'	Air-to-Surface Missile
AT-3 'Sagger'	Air-to-Surface Missile
AT-6 'Spiral'	Air-to-Surface Missile
AM 39 'Exocet'	Air-to-Surface Missile
AS 30L	Air-to-Surface Missile

Air Defense Systems

Type	*Role*	*Quantity*
SA-2 'Guideline'	Low-High Altitude SAM	18
SA-3 'Goa'	Low-Medium Altitude SAM	12
SA-16 'Gimlet'	Low Altitude SAM	190
SA-19 'Tunguska'	Self-propelled Air Defense System	unk

Navy

Chain of Command

The commander of the navy answers to the president through the minister of defense. He controls naval forces afloat through the commander of naval operations, to whom the commanders of the fleet, the Amazon River Force, the Lake Titicaca Patrol Force, the marines, and naval air service report. The director of the coast guard reports to the naval commander in chief.

The Peruvian Navy is structured to counter the navy of the country's major historic enemy, Chile. Ecuador, Peru's another historic adversary, does not have the resources to approach parity with the Peruvian Navy.

Organization

The Navy's primary missions are coastal defense, counterinsurgency, and counterdrug missions. At an effective strength of 25,000 the Navy is Peru's second largest military force and includes 120 pilots and 4,000 Marines.

The Peruvian Navy is organized into two major operational entities: the Pacific Naval Force and the Amazon River Force. There are also three subsidiary elements: the Lake Titicaca Patrol Force, the Marine Infantry Force, and the Naval Air Service. A Coast Guard was also created in 1975 using a number of light forces transferred from the navy.

Peru's Servicio Aeronaval consists of a maritime reconnaissance/antisubmarine warfare squadron, a transport squadron, a helicopter squadron, and a training unit.

The Coast Guard is responsible for coastal surveillance, fishery protection, harbor security, and search and rescue. With 7 large patrol craft and 10 port patrol craft, it is inadequately equipped for its multiple functions.

Operational and Tactical Doctrine

France and the United States have heavily influenced the Peruvian Navy. Originally modeled on the British Royal Navy, the U.S. tactical and operational doctrines have been adopted.

Training

The Naval Academy at La Punta, Callao offers courses to future officers. Courses at the Naval War College must be completed for promotion to senior staff appointments. There is a submarine school at San Lorenzo, an amphibious warfare school at Ancon, and a naval flying school at San Juan de Marcona. Most training occurs in the Callao area.

Naval Bases

Naval headquarters is at Lima. Callao Naval Base complex is the primary naval facility; it has one dry dock, three floating docks, a floating workshop, and a floating crane. The submarine force is based nearby at San Lorenzo, and there are minor naval bases at Chimbote and Talara. The Amazon River force main base is at Iquitos; it has repair facilities and a floating dock. There is an additional river base at Puerto Maldonado on the Madre de Dios river. The Lake Titicaca Patrol Force is based at Puno.

Deployment

Peru's navy is divided into five naval regions located at the major ports of Callao, San Lorenzo Island, Talara, Iquitos, and Puerto Maldonado. The fleet commands have been reorganized into the following: Squadron, Submarines, Naval Aviation, Marine Infantry and Special Operations.

The largest concentrations of inland assets are at Iquitos and Pucallpa, where they are assigned to counterdrug and civic action missions. Inventory includes 44 surface units.

The navy's five naval zones follow:

- 1st Naval Zone (HQ Piura) covers the provinces of Tumbes, Piura, Lambayeque, Cajamarca, and Amazonas.
- 2nd Naval Zone (HQ Lima) covers the national capital and the provinces of La Libertad, Ancash, Lima, Huancavelica, Ica, and Callao.
- 3rd Naval Zone (HQ Arequipa) covers the provinces of Arequipa, Moquegua, and Tacna.

- 4th Naval Zone (HQ Puerto Maldonado) covers the provinces of Puno, Cuzco, Apurimac, Junin, Pasco, Huanuco, San Martin, Ayacucho, and Madre de Dios.
- 5th Naval Zone (HQ Iquitos) covers the vast jungle provinces of Loreto and Ucayali.

Callao, in the 2nd Naval Zone, is the headquarters of the Pacific Fleet, the naval air service, and the coast guard. The Amazon River Force is based at Iquitos, and the Lake Titicaca Patrol Force is based at Puno. The Marines have their headquarters and schools at Ancon. Other significant Navy bases include Chimbote, San Lorenzo Island (submarine base), Paita, Talara and Madre de Dios, which is a river base.

Equipment

The largest unit of the Pacific fleet is one Dutch-built 9,500-ton cruiser, which has been partially reconstructed as a helicopter-carrier.

The fleet's most modern major units are four modified LUPO-Class missile frigates, two that were built in Peru. These form the missile frigate division. Six large missile attack craft, rated as corvettes, complete a surface fleet that has reduced considerably during the past years.

Peru has the largest submarine force in South America, with six Type 209/1200-Class boats. The transport force has also experienced considerable reduction and now consists of one personnel transport and a freighter. Four ex-U.S. landing ship tanks (LSTs) provide adequate sealift and amphibious assault capacity for the brigade of marines.

One replenishment tanker and two support tankers provide logistic support, which extends the range of the Peruvian Navy's combat units. There are also two surveying vessels, five inshore surveying craft, a salvage tug, two harbor oilers, two water carriers, a torpedo recovery vessel, and six harbor tugs, in addition to a number of small service craft.

The Amazon River Force patrols more than 2,000 miles of inland waterways. Its older units have been retired; it now consists of four river gun-

boats, a river surveying vessel, a river hospital craft, two river water carriers, and four river tugs.

Major Navy Bases and Coast Guard Stations

Lake Titicaca has five small launches and a hospital craft.

Naval Order of Battle

Submarine	*Class*	*Quantity*
SS	Type 209-1200	6
Surface Ship Type		
CL	DE ZEVEN PROVINCIEN	1
DD	DARING	1
FF	LUPO	4
PGG	PR-72/400	6
PB	P-33	3
	DAUNLESS	6
	UCAYALI	2
	LORETO	2
LST	TERREBONNE PARISH	3
AGOR	STIGLICH	1
	HUMBOLT	1
	VAN STRAELEN	2
	DOKKUM	1
	SOTOYOMO	1
AGS	MACHA	1
AK	ILO	1
AO	TALARA	1
	SUPE	1
	SECHURA	1
ATA	CHEROKEE	1

Naval Aircraft

Fixed Wing	*Type*	*Quantity*
MARITIME PATROL	BEECHCRAFT SUPER KA 200T	3
TRANSPORT	FOKKER F-27-200	1
	FOKKER F-27-500	1

Fixed Wing	*Type*	*Quantity*
TRANSPORT	FOKKER F-27-600	1
	ANTONOV AN-32B	2
	DHC-6-100	1
TRAINER	BEECH T-34C	3
	CESSNA 206	1
Rotary Wing	*Type*	*Quantity*
	BELL 206B	4
	AUGUSTA AB 212	5
	BELL 412 EP SAR	2
	BELL 205 A	1
	ASH-3D SEA KING	3
	MI-8T	3

Coast Guard

The CG totals 1,000 active personnel. The Coast Guard is divided into five operational areas:

- 1st area includes the ports of Zorritos, Talara, Paita, Pimentel, and Salaverry.
- 2nd area includes Chimbote, Supe, Callao Pisco, and San Juan.
- 3rd area includes Mollendo, Ilo, Puno, and Puerto Maldonado.
- 4th area includes Pucallpa.
- 5th area includes Iquitos and Yurimaguas.

Coast Guard Order of Battle

Type	*Class*	*Quantity*
WPC	RIO CANETE	5
	PIURA	1
	PGM-71	1
WPB	PILLAN	4
	PORT PB	10
	RIO RIVER WPB	16

Coast Guard Patrol Boats

Marine Force

The primary mission of the 4,000-strong Marine Corps is to conduct counter-insurgency operations against guerrilla groups operating in Peru. It also conducts counternarcotics operations and provides security for naval installations.

The Marine Infantry Brigade based at Ancon consists of the 1st Guarnicion De Marina and 2d Guardia Chalaca Marine Infantry battalions, an Amphibious Commando Group, a reconnaissance company, and a transport company. Each major naval shore establishment has a Marine Security Unit.

Paramilitary and Police Forces

The National Police (PNP) is under the jurisdiction of the minister of the interior. Its senior ranking officer is an inspector general, who is assisted by a General Staff. Subordinate to this body are the directorates of policing, special operations, and security.

The PNP has the following responsibilities:

- Preventing and detecting crime.
- Maintaining order.

- Controlling road traffic.
- Providing surveillance of borders and customs control.
- Providing security for public buildings and strategically important points such as dams, power stations and oil pipelines.

It also has an organizational and supervisory function with regard to civil defense and reserve mobilization for the armed forces.

The PNP is composed of three major divisions consisting of 102,000 personnel. There are approximately 50,000 personnel in the general police; 26,000 border and prison security police; and 24,000 plainclothes investigative technical police.

Other PNP forces include Peru's counternarcotics forces, DINANDRO, which consists of approximately 2,000 drug enforcement agents and 300,000 loosely organized, rural, self-defense forces known as "Rondas

National Police Officers

Campesinas." The Army began supplying the forces with light arms in 1991 so they could help fight against terrorism.

Organization

The two paramilitary police forces, the Republican Guard and the Civil Guard, and a plain-clothes detective force, the Policia de Investigaciones del Peru, were united into a single national police force in 1989.

The PNP divides the country into 12 regions:

- 1st Police Region (HQ Piura) covers the provinces of Tumbes and Piura.
- 2d Police Region (HQ Chiclayo) covers the province of Lambayeque.
- 3d Police Region (HQ Trujillo) covers the provinces of La Libertad, Cajamarca, Amazonas, and San Martin.
- 4th Police Region (HQ Huaraz) covers the provinces of Ancash and Huanuco.
- 5th Police Region (HQ Iquitos) covers Loreto province.
- 6th Police Region (HQ Pucallpa) covers Ucayali province.
- 7th Police Region (HQ Lima) covers Lima and Callao provinces.
- 8th Police Region (HQ Huancayo) covers the provinces of Junin and Pasco.
- 9th Police Region (HQ Ica) covers the provinces of Ica, Huancavelica, Ayacucho, and Apurimac.
- 10th Police Region (HQ Cuzco) covers the provinces of Cuzco and Madre de Dios.
- 11th Police Region (HQ Arequipa) covers the provinces of Arequipa, Moquegua, and Tacna.
- 12th Police Region (HQ Puno) covers the province of Puno.

The general police maintain a presence in all inhabited areas of the country. Elements of the security police are mainly situated in major population centers, at ports, airports, and frontier crossing points. The technical police are mainly confined to Lima and the provincial capitals,

with elements deployed elsewhere as necessary. The air police have their main base at Jorge Chavez International Airport, Lima, with a subsidiary base at Pucallpa.

Training

Most training appears to be held in the greater Lima area, with subsidiary training establishments at Chiclayo, Arequipa, Cuzco, Chimbote, and Pucallpa.

The escalation of the drug war has prompted the United States to increase training assistance within Peru. The three existing national police forces were combined into a single entity to eradicate widespread corruption and improve efficiency. However, at this time it is premature to assess the degree to which these goals have been met.

Equipment

Type	Role	Quantity
MOWAG Roland	Armored Personnel Carrier	112
Convair VC-131H	Paramilitary Tasks	1
Britten-Norman BN-2A Islander	Paramilitary Tasks	2
Rockwell Commander 695A	Paramilitary Tasks	2
Cessna 172	Paramilitary Tasks	2
Cessna U206G Stationair	Paramilitary Tasks	2
Cessna TU206G Turbo Stationair	Paramilitary Tasks	1
Piper PA-34-200T Seneca	Paramilitary Tasks	2
Piper PA-31 Navajo	Paramilitary Tasks	1
Harbin Y-12 (II)	Paramilitary Tasks	2
Bell UH-1H Iroqouis	Paramilitary Tasks	15
Boeing MD 500D	Paramilitary Tasks	1
Eurocopter BO 105LSA-3	Paramilitary Tasks	4
Douglas DC-6	Paramilitary Tasks	1
Beech King Air E90	Paramilitary Tasks	1

Type	Role	Quantity
Antonov An-32	Paramilitary Tasks	4
Sikorsky S-76	Paramilitary Tasks	1
Mil Mi-17	Paramilitary Tasks	10
Eurocopter/Kawasaki BK 117B-1	Paramilitary Tasks	2

Intelligence Service

Peru's security service is known as the National Intelligence Service (SIN). The agency gained unprecedented power under the direction Vladimiro Montesinos, who ran a network of bribery and blackmail aimed at suppressing domestic political opposition to former President Alberto Fujimori. Since then, SIN has undergone radical reform to dismantle the Montesinos network. Several military officers formerly attached to SIN are being investigated under corruption and human rights violation charges.

APPENDIX A:
Equipment Recognition Guide

INFANTRY WEAPONS

5.56-mm Galil SAR

Type	Short assault rifle
Maximum Effective Range	600 m
Caliber	5.56-mm
System of Operation	Gas, selective fire
Feed Device	35- or 50-rd detachable box magazine
Weight (Loaded)	3.95 kg

7.62-mm FN FAL

Maximum Effective Range	800 m
Caliber	7.62-mm
System of Operation	Gas
Overall Length	1,020 mm
Magazine Capacity	20-rd detachable box magazine
Weight (Loaded)	5.17 kg

7.62-mm AK-47/AKM/Type 56

Maximum Effective Range	400 m
Caliber	7.62 x 39 mm (type 56)
System of Operation	Gas, selective-fire
Overall Length	874 mm
Magazine Capacity	30-rd, staggered row, detachable box magazine
Weight	3.8 kg

9-mm Uzi SMG

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

9-mm H&K MP5

Maximum Effective Range	200 m
Caliber	9 x 19 mm Parabellum
System of Operation	Delayed Blowback, selective fire
Overall Length	680 mm
Feed Device	30-rd straight or curved box magazine
Weight	2.55 kg

5.56-mm M16A1

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

5.56-mm Ultimax 100

Maximum Effective Range	1,300 m
Caliber	5.56-mm x 45
System of Operation	Gas, automatic
Overall Length	1.024 m
Magazine Capacity	100-rd drum, 20- or 30-rd detachable box magazines
Weight (Loaded)	6.8 kg

7.62-mm M60

Maximum Effective Range	3,750 m
Caliber	7.62 x 51-mm NATO
System of Operation	Gas, automatic
Overall Length	1.26 m
Feed Device	Link belt
Weight (Loaded)	11.1 kg

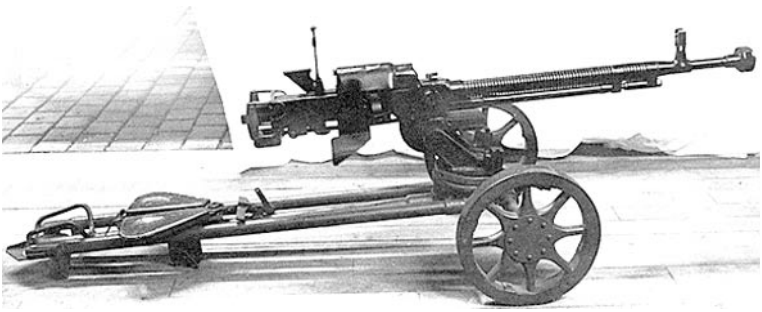
7.62-mm FN MAG

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

50 cal. Browning M2 HB

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

12.7-mm DShK Model 38/46



Maximum Effective Range	1,500 m
Caliber	12.7 x 108-mm
System of Operation	Gas, automatic
Overall Length	1.588 m
Magazine Capacity	50-rd metallic link belt
Weight (empty)	35.7 kg

USING THE DSHK: (1) Push forward feed latch located at top rear of feed cover and lift cover. (2) Place belt on revolving block so first round can be put in the upper recess of feed block. (3) Hold free end of belt w/right hand and press feed belt against revolving block. (3) Rapidly rotate block w/belt as far to the right as possible. (4) Close cover, Pull operating handle to rear until slide is engaged. WEAPON IS READY TO FIRE. (5) Hold both spade grips and depress trigger.

ARMOR

BRDM-2

Crew/Passengers	4
Type	4 x 4
Armament	1 x 14.5-mm KPVT w/500 rds 1 x 7.62-mm PKVT w/2,000 rds
Maximum Speed	100 km/h
Maximum Range	750 km
Fuel Capacity	290 liters
Combat Weight	7,000 kg
Length	5.75 m
Width	2.35 m
Height	2.31 m
Night Vision	Yes
NBC	Yes
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.4 m

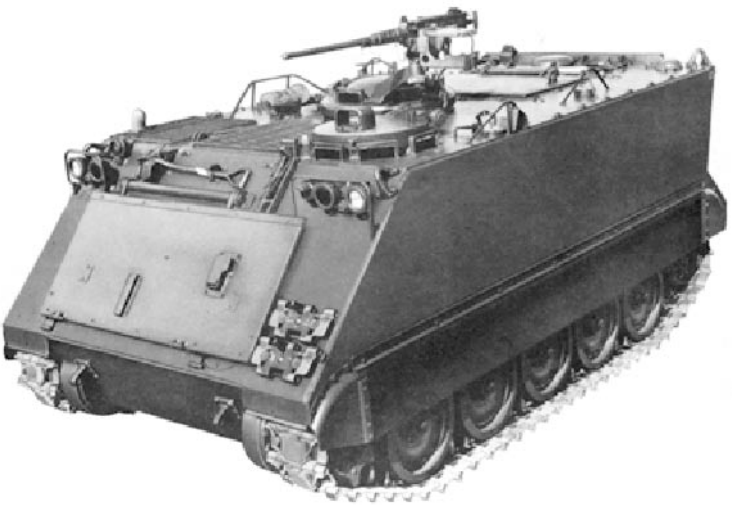
AMX-13 Light Tank

Crew	3
Configuration	4 x 4
Armament	
Main	1 x 90-mm gun w/32 rds
Coaxial	1 x 7.62-mm MG w/2,000 rds
Night Vision	Optional
NBC Capable	Optional
Maximum Road Range	400 km
Maximum Road Speed	60 km/h
Fuel Capacity	156 liters
Fording	0.6 m
Gradient	60%
Vertical Obstacle	0.65 m
Trench	1.6 m
Combat Weight	15,000 kg
Height	2.3 m
Length	6.36 m (gun forward)
Width	2.51 m

T-54/55

Crew	4
Armament	1 x 100-mm D10T2S gun w/43-rds; 1 x 7.62-mm SMGT coaxial w/3,500-rds; 1 x 12.-7-mm DShK antiaircraft w/500-rds
Maximum Speed	50 km/h
Maximum Range	460 km (650 km w/long range tanks)
Fuel Capacity	960 l
Combat Weight	36,000 kg
Length	9 m
Width	3.76 m
Height	3.03 m
Night Vision	Yes
NBC	Yes
Fording	1.4 -m
Gradient	60%
Vertical Obstacle	0.8 m
Trench	2.7 m

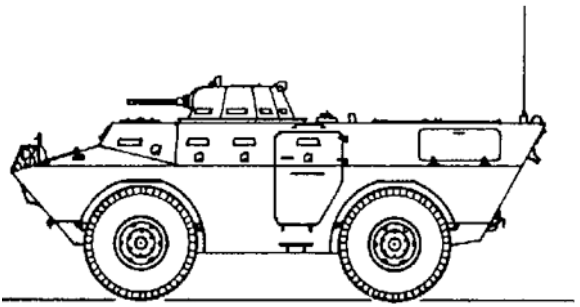
M113A1

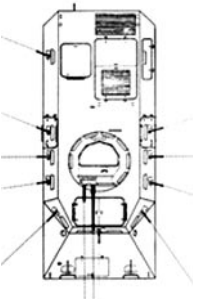


Crew/Passengers	2 + 11
Type	Tracked
Armament	1 x 12.7-mm AA MG
Maximum Speed	58 km/h
Maximum Range	480 km
Fuel Capacity	360 liters
Combat Weight	12,094 kg
Length	4.92 m
Width	3.11 m
Height	2.52 m
Night Vision	Yes
NBC	Yes
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.61 m

RECOGNITION: Five road wheels, no track-return rollers; front glacis inclined to rear; box-like appearance .

Chaimite

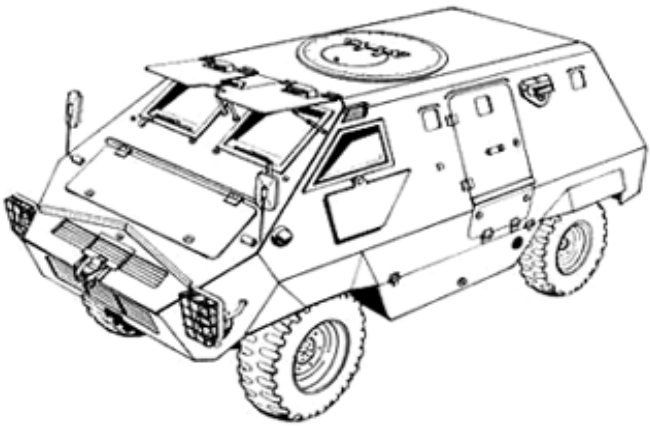




Firing Ports

Crew	11
Configuration	4 x 4
Armament	2 x 7.62-mm MG
Night Vision	No
NBC Capable	No
Maximum Range	1,050 km
Maximum Speed	110 km/h
Fuel Capacity	300 liters
Combat Weight	7,300 kg
Height	2.26 m (turret top)
Length	5.606 m
Width	2.26 m
Fording	Amphibious
Gradient	65%
Vertical Obstacle	0.9 m

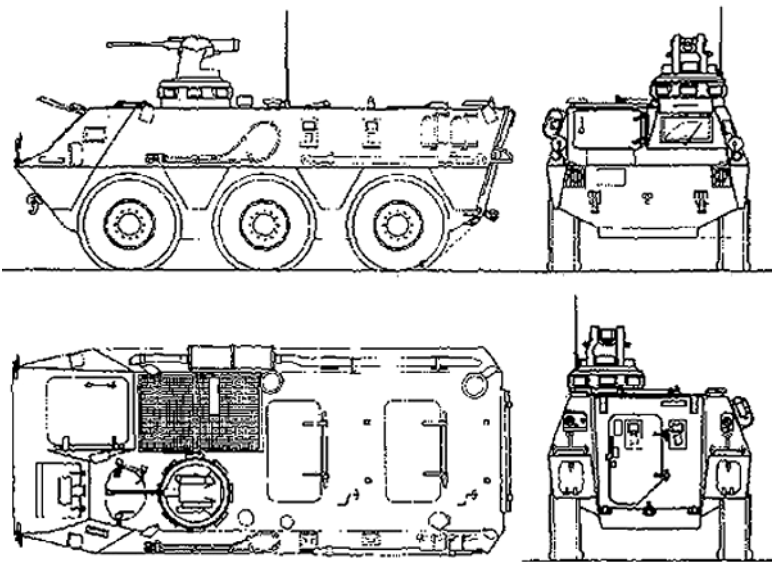
UR-416



Crew	2 + 8
Configuration	4 x 4
Armament	1 x 7.62-mm machine gun
Night Vision	Optional
NBC Capable	No
Maximum Road Range	600 to 700 km
Maximum Road Speed	81 km/h
Fuel Capacity	150 liters
Fording	1.3 m
Gradient	70%
Vertical Obstacle	0.55 m
Combat Weight	7,600 kg
Height	2.25 m
Length	5.1 m
Width	2.25 m

COMMENTS: The hull of the UR-416 is of all-welded steel construction. The driver is seated behind the engine on the left. The vehicle commander is on the right. The troop compartment is in the rear. Troops enter and leave through three doors, one on each side and one in the rear. There are six firing ports: two in the rear door, one in each of the side doors, and two ports in the hull sides. Each sidewall has an observation block fitted with a spherical ball mount underneath.

BMR-600



Crew/Passengers	2 + 10
Type	6 x 6
Armament	1 x 12.7-mm MG w/2,500 rds
Maximum Speed	103 km/h
Maximum Range	1,000 km
Fuel Capacity	400 liters
Combat Weight	14,000 kg
Length	6.15 m
Width	2.5 m
Height	2.36 m (including MG)
Night Vision	Optional
NBC	Optional
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.6 m
Trench	1.5 m

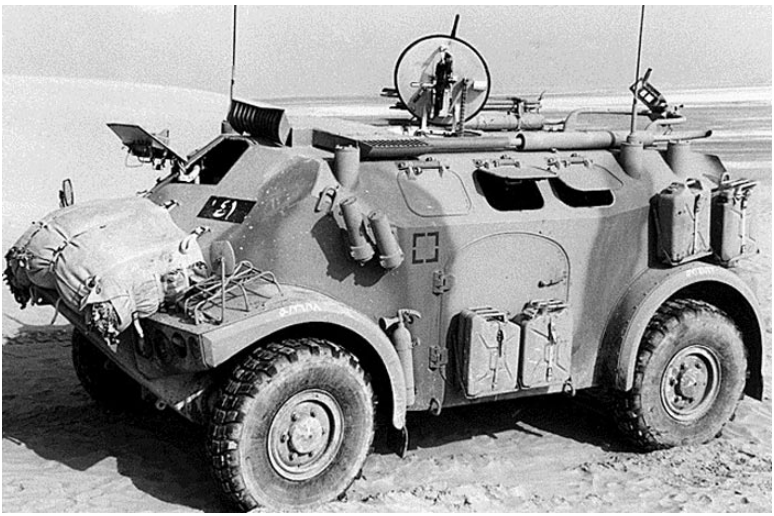
Fiat 6614

Crew	1+10
Configuration	4 x 4
Armament	1 x 12.7-mm M2 MG
Night Vision	Optional
NBC Capable	No
Maximum Speed	Road 100 km/h; water 4.5 km/h
Fuel Capacity	156 liters
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.4 m
Combat Weight	8,500 kg
Height	2.18 m
Length	5.86 m (gun forward)
Width	2.5 m

Fiat 6616

Crew	3
Configuration	4 x 4
Armament	Main 1x 20-mm MK 20 Rh 202 cannon Coaxial 1x 7.62-mm MG 42/59
Night Vision	Optional
NBC Capable	Optional
Maximum Speed	Road 100 km/h; water 5 km/h
Fuel Capacity	150 liters
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.45 m
Combat Weight	8,000 kg
Height	2.035 m
Length	5.37 m
Width	2.5 m

Panhard M3



Crew/Passengers	2 + 10
Configuration	4 x 4
Armament	12.7-mm MG; 7.62-mm MG
Armor	8- to 12-mm
Night Vision	Optional
NBC Capable	No
Maximum Road Range	600 km
Maximum Speed	90 km/h
Fuel Capacity	165 liters
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.3 m
Trench	0.8 m
Combat Weight	6,100 kg
Height	2 m (hull top)
Length	4.45 m
Width	2.4 m

M8 Light Armored Car

Crew	4
Type	6 x 6
Armament	1 x 37-mm gun w/80 rds 1 x 7.62-mm coaxial MG w/1,500 rds 1 x 12.7-mm AA MG w/400 rds
Maximum Speed	90 km/h
Maximum Range	560 km
Fuel Capacity	212 liters
Combat Weight	7,892 kg
Length	5.003 m
Width	2.54 m
Height	2.247 m
Night Vision	No
NBC	No
Fording	0.609 m
Gradient	60%
Vertical Obstacle	0.304 m

M20 Armored Utility Car

Crew/Passengers	2+4
Type	6 x 6
Armament	1 x 12.7-mm AA MG w/1,000 rds
Maximum Speed	90 km/h
Maximum Range	560 km
Fuel Capacity	212 liters
Combat Weight	6,567 kg
Length	5.003 m
Width	2.54 m
Height	2.247 m
Night Vision	No
NBC	No
Fording	0.609 m
Gradient	60%
Vertical Obstacle	0.304 m

ARTILLERY

M114

Crew	11
Maximum Range	14,600 m
Rate of Fire	40 rds/h
Combat Weight	5,760 kg
Length	7.315 m
Width	2.438 m
Height	1.803 m
Prime Mover	6 x 6

155-mm M109A1 SPH

Crew	6
Armament	1 x 155-mm M185 howitzer 1 x 12.7-mm AA MG
Maximum Speed	56.3 km/h
Maximum Range	349 km
Combat Weight	24,948 kg
Fording	1.07 m
Gradient	60%

155-mm F3 SPH

Crew	2 (on weapon), 8 (on follow-on vehicle)
Configuration	Tracked
Armament	1 x 155-mm howitzer
Maximum Range	20,047 m
Rate of Fire	3 rds/min
Night Vision	Yes
NBC Capable	No
Maximum Road Range	300 km (gas); 450 km/h (diesel)
Maximum Road Speed	60 km/h (gas); 64 km/h (diesel)
Fuel Capacity	450 liters
Gradient	40%
Vertical Obstacle	0.6 m (forward); 0.4 m (reverse)
Combat Weight	17,400 kg
Height	2.085 m (traveling)
Length	6.22 m (gun forward)
Width	2.7 m

COMMENTS: The hull of the F3 is of all-welded steel with the driver's compartment at the front on the left, the engine compartment to his right, and the armament to the rear. The F3 is recognizable by its five rubber-type road wheels, three return rollers, manually operated recoil spades on either side of the hull rear, and the exposed crew positions. The other eight members of the crew follow the F3 in a separate vehicle. For short distances, four crew members can ride on the self-propelled howitzer.

122-mm BM-21 MRL

Crew	5
Armament	40 122-mm rockets
Rate of fire	36-rds/20 sec
Max range	20,380 m
Reload time	7 min
Maximum Speed	80 km/h
Maximum Range	525 km
Fuel Capacity	340 liters
Combat Weight	10,500 kg
Length	6.9 m
Width	2.5 m
Height	2.48 m

RO-107 MRL

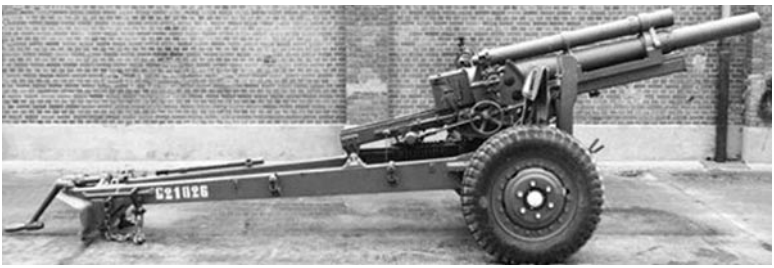
Caliber	107-mm
Maximum velocity	370 m/sec
Rate of fire	12 rds/9 secs
Maximum range	8,500 m
Combat weight	19 kg
Elevation	0-60°
Length	2.6 m
Width	1.7 m
Height	1.2 m

130-mm M46 Field Gun

Crew	8
Maximum Range	27,150 m
Rate of Fire	6 rds/min
Combat Weight	7,700 kg
Length	11.73 m
Width	2.45 m
Height	2.55 m
Prime Mover	6 x 6 truck

RECOGNITION: Long barrel; pepperpot muzzle brake; large spades rest on trails; large limber used in travel; sweptback shield; towed out-of-battery.

105-mm M101 Howitzer

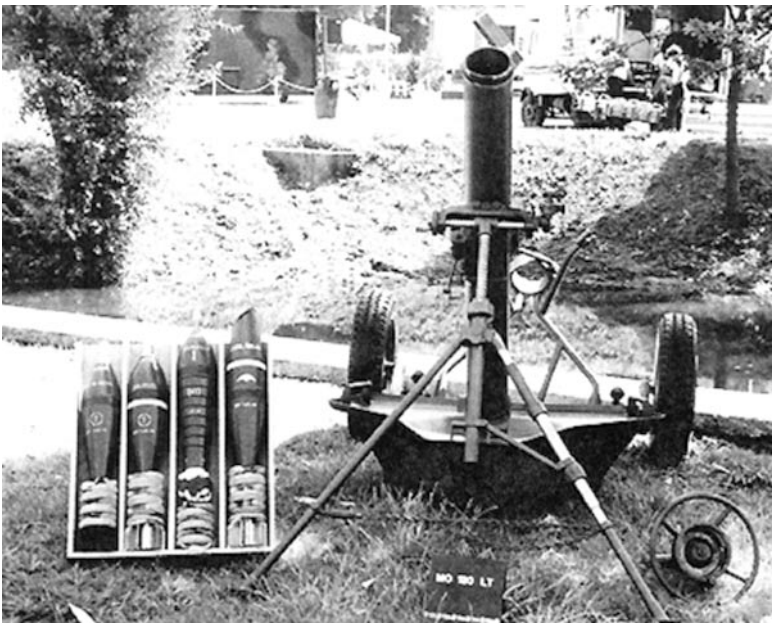


Crew	8
Caliber	105 mm
Maximum Range	11,270 m
Rate of Fire	10 rds/min (maximum) 3 rds/min (sustained)
Prime Mover	6 x 6 truck
Length	5.991 m (travelling)
Weight	2,258 kg (firing)

105-mm M-56 Pack Howitzer

Crew	7
Maximum Range	10,575 m
Rate of Fire	3 rds/min
Combat Weight	1,290 kg
Length	4.8 m
Width	2.9 m
Height	1.93 m
Prime Mover	4 x 4

120-mm BRANDT



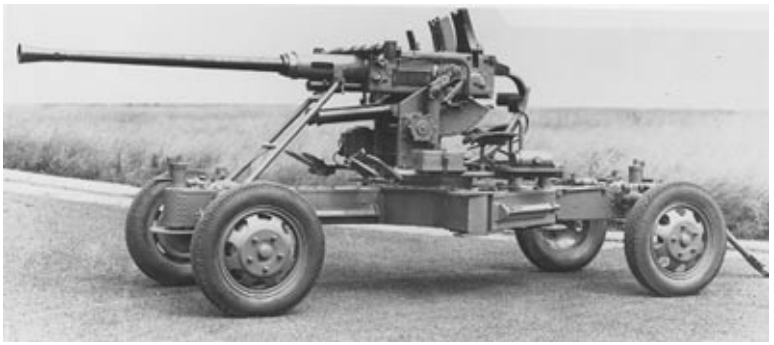
Minimum Range	500 m
Maximum Range	9,000 m
Traverse Limits	17°
Ammunition Types	HE, HE-RA, smoke, illumination, practice, marker
Weight	402 kg (travelling)
Length of Barrel	1.746 m with breech cap
Elevation	+45 to +80°
Rate of Fire	12 rds/min

ARTILLARY

106-mm M40-A1 Recoilless Rifle

Crew	3 - 6
Maximum Range	6,700 m (vertical) 9,900 m (horizontal)
Rate of Fire (Per Barrel)	120 rds/min
Emplacement Time	3 min
Combat Weight	2,676 kg
Travel speed	Towed up to 60 km/h
Caliber	106-mm
Max Range	6.9 km
Max Rate of Fire	5 rds/min
Elevation	+22 to –17°
Traverse	360°
Weight	113.9 kg (combat order)

Bofors L/60



Crew	3 - 6
Maximum Range	6,700 m (vertical) 9,900 m (horizontal)
Rate of Fire (Per Barrel)	120 rds/min
Emplacement Time	3 min
Combat Weight	2,676 kg
Travel speed	Towed up to 60 km/h

Bofors 40-mm L/70

Crew	5
Maximum Range	7,800 m (vertical) 12,600 m (horizontal)
Rate of Fire	240-300 rds/min
Emplacement Time	3 min
Combat Weight	5,150 kg
Travel speed	Towed up to 60 km/h

23-mm ZSU-23 Quad

Crew	4
Number of Barrels	4
Maximum Range	7,000 m (horizontal) 5,000 m (vertical)
Rate of Fire (Per Barrel)	850-1,000 rds/min
Emplacement Time	None; fires on the move
Combat Weight	20,500 kg
Maximum Travel Speed	50 km/h

23-mm ZU-23

Crew	5
Maximum Range	7,000 m (horizontal) 5,100 m (vertical)
Rate of Fire (Per Barrel)	200 - 800-rds/min
Combat Weight	950 kg
Length	4.37 m
Width	1.83 m
Height	1.87 m

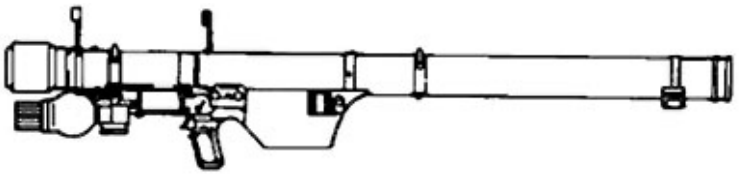
SA-7 GRAIL (STRELA-2M/A)

Function	Manportable SAM
Range	3.7 km
Guidance	IR
Warhead	HE

NOTE: SA-7b; STRELA-2M/A electronic block in seeker is miniaturized.

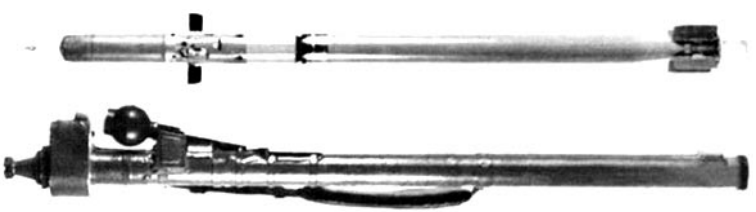
RECOGNITION: Manportable shoulder launched system; smoke signature at launch

SA-14 GREMLIN



Length	1.4 m
Diameter	7.5 cm
Range	4 km
Warhead	2 kg, HE
Guidance	IR homing
Fuzing	Contact
Velocity	Mach 1.5

SA-16 GIMLET



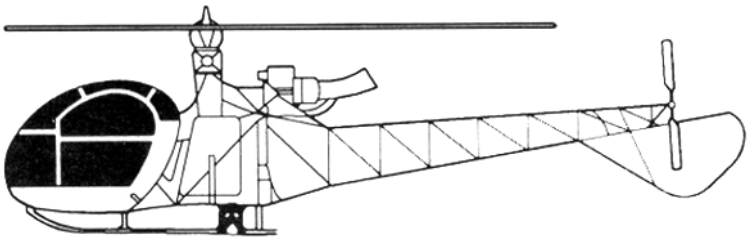
Length	1.6 m
Diameter	7 cm
Range	7 km
Warhead	2 kg, HE, FRAG
Guidanc	IR homing
Fuzing	Contact
Velocity	Mach 2

ROTARY WING

Mi-8

Crew	4
Armament	Assorted rockets, missiles, and gun pods
Maximum Speed	135-kts
Maximum Range	307 nm
Rotar Diameter	21.29 mm
Length	25.33 m
Height	5.54 m

SA-318 Alouette II

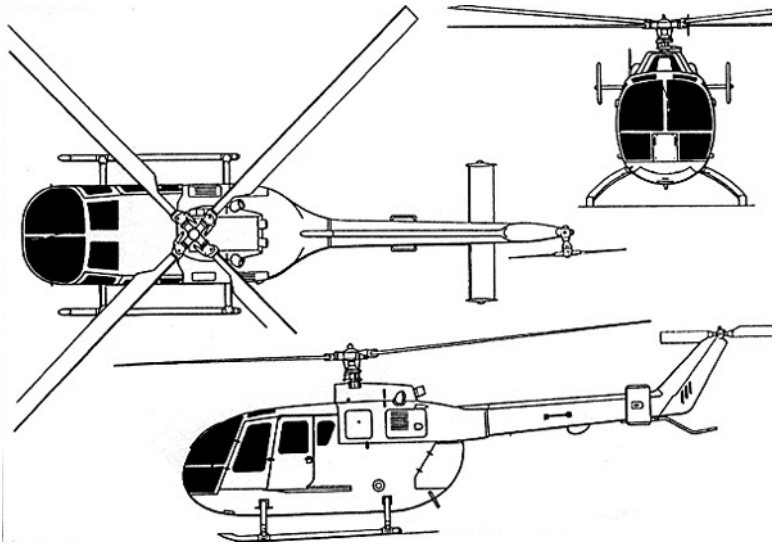


Crew/Passengers	1+3
Armament	Assorted missiles or rockets
Maximum Cruising Speed	100 kts
Maximum Range	305 nm
Rotar Diameter	10.20 m
Length	9.70 m (rotors turning)
Height	2.75 m

Mi-17 Hip

Type	Five-bladed, twin-turbo shaft engine
Role	Multi-mission assault helicopter
Armament	Rocket, 7.62mm gun pods
Payload	6,600 lbs/maximum troops - 24
Maximum Range	57 nautical miles
Cruising speed	110 knots

BO 105



Crew	2
Armament	Assorted rocket, missile and MG configuration
Maximum Cruising Speed	131 kts
Maximum Range	310 nm

Mi-26A Halo Helicopter

Type	Twin-turbine
Role	Multipurpose, heavy-lift
Armament	None
Payload	80 fully-equipped troops)
Maximum Range	318 nautical miles (590 kilometers/366 miles)

Mirage 2000P

Role	Multi-role/interceptor
Crew	2
Armament: Primary	Matra Super 530D, 530F missiles, Matra 550 Magic or Magic 2 missiles air-air missiles
Secondary	Retarded bombs, anti-runway bombs, penetration bombs, 1,000 kg laser-guided bombs, cluster bombs, modular bombs, 30-mm guns
Maximum Speed	Mach 2.2
Maximum Range	1,800 nautical miles (3,335 kilometers)

Mirage 2000-5P

Type	Single engine, Single seater attack aircraft
Role	Ground attack
Armament	AIM-9, Matra R-530, AAM Matra R-550 Magic, AM-39 Exocet ASM
Maximum Speed	Mach 1.2

Mig-29 U Fulcrum

Role	Counter-air fighter, with attack capability
Armament: Primary	30-mm cannon; AA-10, 11, 8, and 9 air-air missiles
Secondary	GP bombs and 57, 80, 240-mm rockets in attack role
Maximum Speed	Mach 1.06

Sukhoi Su-22M (Fitter J)

Role	Ground attack
Armament	Internal 30-mm gun, various missiles, rockets, and bombs
Maximum Speed	440 knots (816 kph/507 mph)
Maximum Range	740 kilometers/460 miles

A-37 Dragonfly

Type	Two-seater light strike aircraft
Role	Counter-insurgency operations from short unimproved airstrips
Armament	GAU-2B/A 7.62 mm Minigun installed in forward fuselage; assorted bombs and missiles
Maximum Speed	440 knots (816 kph/507 mph)
Maximum Range	740 kilometers/460 miles

C-130 Hercules

Role	Transport
Maximum Speed	325 knots (602 kilometers per hour)
Maximum Range	4,250 nautical miles (7,876 kilometers) with max fuel, external tanks

Antonov An-32

Role	Short/medium range transport
Maximum Speed	286 knots (530 kilometers per hour)
Maximum Range	1,080 nautical miles (2,000 kilometers)

Canberra MK4

Role	Long-range multipurpose aircraft
Armament	Assorted bombs and missiles
Maximum Speed	446 knots (827 kph/517 mph)
Maximum Range	699 nautical miles (1,295 kilometers/805 miles)

NAVY

ALMIRANTE GRAU (ex-DE Ruyter Class-CG/CLM)

Complement	953 (49 officers)
Armament	Missiles SSM: 8 x OTO Melara/Matra Otomat Mk 2; 8 x Bofors 152-mm/53 (4 twin); 4 x Bofors 40-mm/70
Maximum Speed	32 knots
Range	7,000 miles at 12 knots
Displacement	12,165 tons, full
LOA/Beam/Draft m(ft)	190.3 x 17.3 x 6.7 (624.5 x 56.7 x 22)

Ferre (DARING Class-DD)

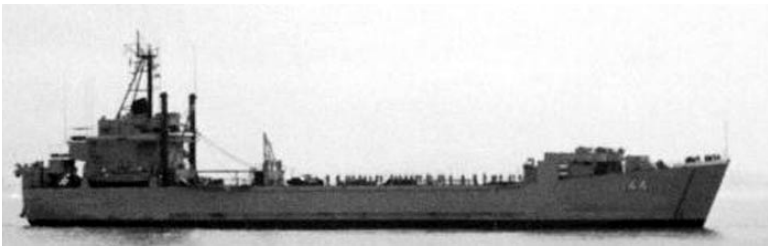
Complement	297
Armament	8 x Exocet MM 38 medium-range anti-ship missile; 6 x (3 twin) Vickers 114-mm Mk 6 guns; 4 x Breda 40-mm/70 (2 twin) guns
Aircraft	Helicopter platform only
Maximum Speed	32 knots
Range	3,000 nmiles at 20 knots
Displacement	3,600 tons, full
LOA/Beam/Draft m(ft)	118.9 x 13.1 x 5.5 (390 x 43 x 18)

LUPO Class FFG

Complement	185 (20 officers)
Armament	Missiles SSM: 8 x OTO Melara/Matra Otomat Mk 2; 1 x 127-mm gun; SAMs; torpedoes
Aircraft	AB-212 ASW, ASH 3D
Maximum Speed	35 knots
Displacement	2,500 tons, full
LOA/Beam/Draft m(ft)	113.2x11.3x3.7 (371.3 x 39.4 ft. x 18.7)

NOTE: Peruvian Navy Lupo Class ships include the *Meliton Carvajal, Manuel Villavicencio, Montero*, and the *Mariategu*i

PAITA Class (Terrebonne Parish) LST



Complement	116
Armament	6 x Bofors 40-mm guns(2 twin; 1 single)
Maximum Speed	15 knots
Range	15,000 at 9 knots
Displacement	5,800 tons, full
LOA/Beam/Draft m(ft)	117.1x16.8x5.2 (384 x 55 ft. x 17)

NOTE: Peruvian Navy has four PAITA class LSTs in service.

Loreto Class (River Gunboat-CF/PGR)

Complement	35 (5 officers)
Armament	2 76-mm Bofors 40 mm/60; 1 Oerlikon 20-mm
Maximum Speed	15 knots
Range	4,000 nmiles at 10 knots
Displacement	370.8 tons, full
LOA/Beam/Draft m(ft)	44.2 x 6.7 x 1.2 (145 x 22 x 4)

UCAYALI Class PB

Complement	40 (4 officers)
Armament	76-mm Bofors 40 mm/60; 20 x Oerlikon 20-mm
Maximum Speed	12 knots
Range	6,000 miles at 10 knots
Displacement	365 tons, full
LOA/Beam/Draft m(ft)	154 x32 x 4 (47.2 x 9.7 x 1.2)

VELARDE Class PGG

Complement	36
Armament	4 x Exocet SSM; 1 x SA-N-10 SAM launcher; 1 x Oto Melara 76-mm gun; 2 x Breda 40-/70-mm twin
Maximum Speed	37 knots
Range	2,500 miles at 16 knots
Displacement	560 tons, full
LOA/Beam/Draft m(ft)	210 x 27.4 x 5.2 (64 x 8.4 x 2.6)

P-33 Patrol Boat

Complement	3
Armament	One 12.7-mm gun
Maximum Speed	27 knots
Range	450 nmiles at 27 knots
Displacement	5 tons
LOA/Beam/Draft m(ft)	10 x 3.4 x 8 (32.8 x 11.2 x 2.6)

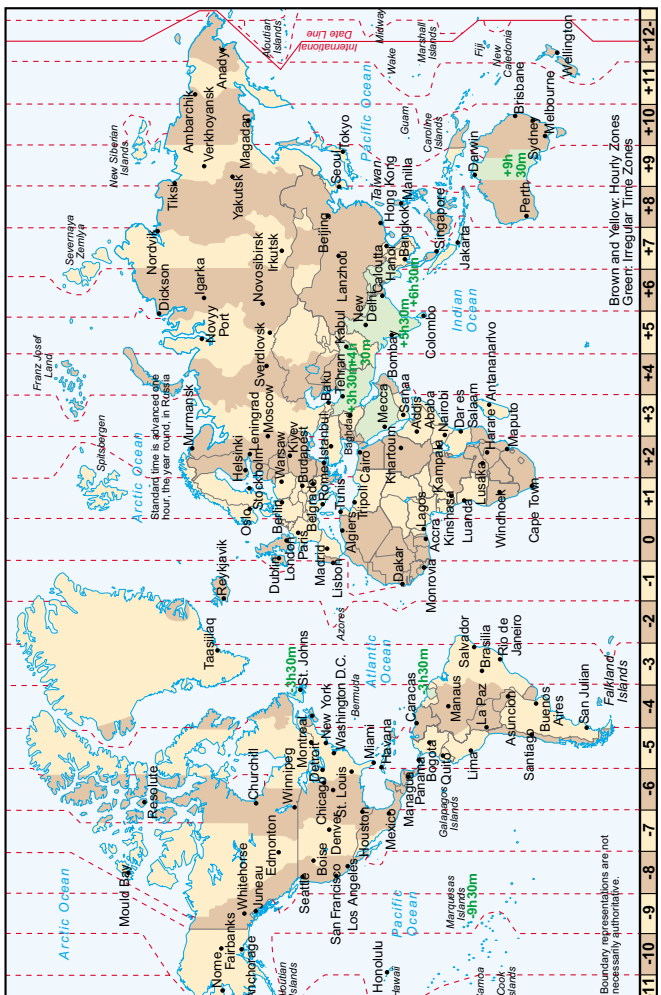
SUBMARINES

Type 209/1200 SSK

Complement	34
Armament	8 torpedo tubes
Maximum Speed	10 knots surfaced; 22 knots submerged
Range	6,000 nmiles at 8 knots surfaced; 230 nmiles at 8 knots submergged
Displacement	1,248 tons, surfaced; 1,440 tons submerged
LOA/Beam/Draft m(ft)	55.9 x 6.3 x 5.5 (183.4 x 20.5 x 18)

NOTE: Peruvian inventory includes 6 Type 209 submarines.

APPENDIX B:
International Time Zones



Greenwich Mean Time (GMT)

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 GMT is also known as Coordinated Universal Time (UTC).

Country	GMT	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
Antartica	-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
Austrailia North	+9.5 H	+14.5 H	+15.5 H	+16.5 H	+17.5 H
Austrailia South	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Austrailia West	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Austrailia East	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Austria	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Azerbaijan	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Bahamas	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Bahrain	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Bangladesh	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Barbados	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Belarus	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Belgium	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Belize	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
Benin	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Bermuda	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Bhutan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Bolivia	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Bosnia Herzegovina	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Botswana	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

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

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

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

Country	GMT	Eastern	Central	Mountain	Pacific
Monaco	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Mongolia	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Morocco	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Mozambique	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Myanmar (Burma)	+6.5 H	+11.5 H	+12.5 H	+13.5 H	+14.5 H
Namibia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Nauru	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Nepal	+5.5 H	+10.5 H	+11.5 H	+12.5 H	+13.5 H
Netherlands	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Netherlands Antilles	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
New Caledonia	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
New Zealand	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Newfoundland	-3.5 H	+1.5 H	+2.5 H	+3.5 H	+4.5 H
Nicaragau	-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
Papau New Guinea	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Paraguay	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Peru	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Philippines	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Poland	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Portugal	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Puerto Rico	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Qatar	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Reunion Island	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Romania	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia West	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia Central 1	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Russia Central 2	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Russia East	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H

Country	GMT	Eastern	Central	Mountain	Pacific
Rwanda	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 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
Papau New Guinea	+10.0 H	+15.0 H	+16.0 H	+17.0 H	+18.0 H
Paraguay	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Peru	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Philippines	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Poland	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Portugal	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Puerto Rico	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Qatar	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Reunion Island	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Romania	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia West	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia Central 1	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Russia Central 2	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Russia East	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
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

Country	GMT	Eastern	Central	Mountain	Pacific
South Africa	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Spain	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Sri Lanka	+5.5 H	+10.5 H	+11.5 H	+12.5 H	+13.5 H
St. Lucia	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Maarteen	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Pierre & Miquelon	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
St. Thomas	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Vincent	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Sudan	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Suriname	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Swaziland	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Sweden	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Switzerland	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Syria	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Taiwan	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Tajikistan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Tanzania	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Thailand	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
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

Country	GMT	Eastern	Central	Mountain	Pacific
USA Hawaii	-10.0 H	-5.0 H	-4.0 H	-3.0 H	-2.0 H
Uzbekistan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Vanuatu	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
Vatican City	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Venezuela	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Vietnam	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Wallis & Futuna Islands	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Yemen	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Yugoslavia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Zaire	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Zambia	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Zimbabwe	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

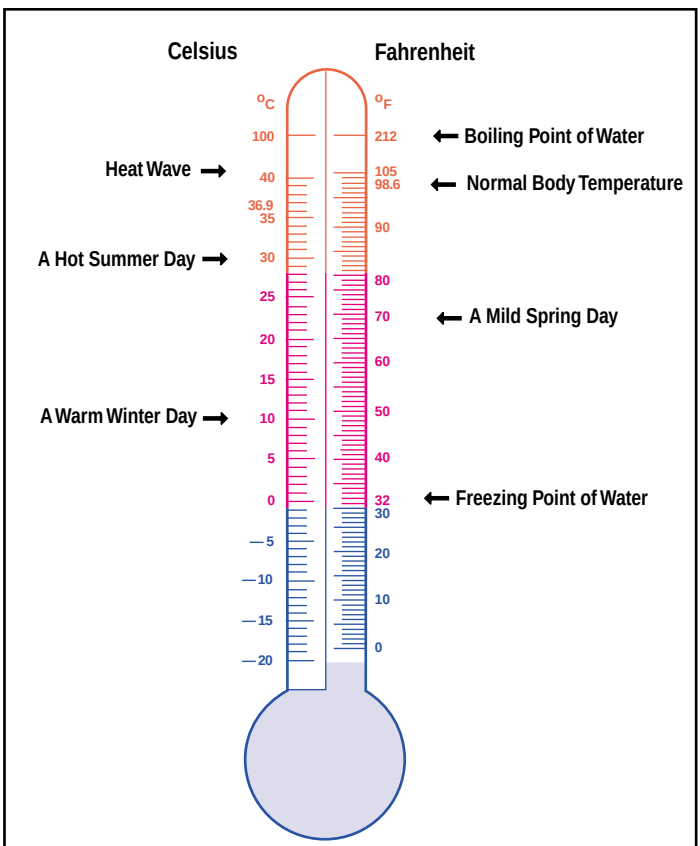
APPENDIX C:
Conversion Charts

When You Know Units of Length	Multiply by	To find
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
Units of Area		
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
Units of Mass and Weight		
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

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

Temperature

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



Temperature Chart

APPENDIX D:
Holidays

The following list is based on the 2003 calendar. List is not all-inclusive; local points of contact may provide other holidays, religious observances, and feasts.

1 January	New Year's Day
17 April (03) 8 April (04)	Holy Thursday
18 April (03) 9 April (04)	Holy Friday
1 May	Labor Day
24 June	Indian/Countryman's Day
29 June	Saints Peter and Paul
28-29 July	Peruvian Independence Day
30 August	Saint Rosa of Lima
8 October	Battle of Angamos
1 November	All Saints' Day
8 December	Immaculate Conception
25 December	Christmas

APPENDIX E:
Language

Key Words and Phrases

English	Spanish
Please	Por favor
Stop	Alto
Danger	Peligro
Help	Socorro
Bring help	Traiga ayuda
Come here	Venga aca/aqui
Right away	Pronto
I am an American	Soy Norte Americano
Which way is north?	Donde esta el norte?
Which is the road to . . . ?	Cual es el camino para . . . ?
Draw me a map	Dibujeme un plano
Take me there	Lleveme alla
Take me to a doctor	Lleveme a un medico
How far is it?	A que distancia esta?
Good morning	Buenos dias
Good afternoon	Buenos tardes
Good evening	Buenos noches
Goodbye	Adios
I don't understand	No comprendo
How are you?	Como esta usted?
Where is the U.S. Embassy?	Donde esta la embajada Norte Americana?
Where is the police station?	Donde esta la estacion de policia?
I am hungry	Tengo hambre
I am thirsty	Tengo sed
I want . . .	Quiero . . .

English	Spanish
Bread	pan
Fruit	fruta
Bananas	bananas
Eggs	huevos
Meat	carne
Pork	puerco
Stew	guisado
Soup	sopa
Rice	arroz
Beans	frijoles
Fish	pescado
Beer	cerveza
cup of coffee	una taza de cafe
How much does this cost?	Cuanto cuesta esto?
What is the time?	Que hora es?
What time (does) it start?	A que hora empieza?
the train	el tren
the bus	el autobus
the car	el carro
the aircraft	el avion
Sunday	Domingo
Monday	Lunes
Tuesday	Martes
Wednesday	Miercoles
Thursday	Jueves
Friday	Viernes
Saturday	Sabado

Military Terms

English	Spanish
Adjutant	Ayudante
Admiral	Almirante
aircraft	avion

English	Spanish
airfield	aerodromo
Air Force	Fuerza Aerea
ammunition	municion
amphibious	anfibio
antiaircraft	anti aereo
Armed Forces	Fuerzas Armadas
armor/armored	blindaje/blindado
armored car	camion blindado
armored personnel carrier	blindado porta-personal
Army	Ejercito
artillery	artilleria
assault	asalto
aviation	aviacion
barracks	cuartel
base	base, cama
battalion	batallón
battery	batería
battle	batalla
boat	navío
bomber	bombardero
brigade	brigada
Brigadier General	General de Brigada
cadet	cadete; (a Oficial)
cannon	cañon
Captain (army)	Capitan
Captain (naval)	Capitan de Navio
Coast Guard	Servicio de GuardaCostas
Colonel	Coronel
combat	combate
command	comando, mando
Commander	Comandante
Commander (naval)	Capitan de Fragata
Commander-in-Chief	Commandante General

English	Spanish
communications	comunicaciones
company	compañía
conscript	conscripto
Corporal	Cabo
Corps	Cuerpo
corvette	corbeta
counterdrug	contradrogas
crew	dotacion; triplacion
cutter	ancha
defense	defensa
destroyer	destructor de flota
division	division
drugs	drogas
engineer	ingeniero
enlisted man	enlistado, soldado raso
Ensign (naval rank)	Alferez de Fragata (Navio); Subteniente
entrench	atrincherar
equipment	equipo
escort	escolta
field artillery	artilleria de campaña
fighter (aircraft)	(avion de) caza
fighter bomber	caza bombardero
fire control	direccion de tiro
fleet	flota; escuadra
flight	vuelo
footbridge	puente para peatones
ford	vado; vadear
formation	formacion
fortification	fortificacion
fortify	fortificar
forward observer	observador avanzado
foxhole	hoya de tirador
front	frente

English	Spanish
front line	linea del frente
fuze	espoleta
garrison	guarnicion, cuartel
gas/protective mask	mascara antigas
grenade	granada
grenade launcher	lanzagranada
grid azimuth	acimut de cuadriculado
grid coordinates	coordenadas de cuadriculado
G.M. angle	anglo magnetica de cuadriculado
grid north	Norte de cuadriculado
grid square	cuadricula
gunner	apintador de la pieza
gunship	bote armado
halt	detengase, pare
heat exhaustion	aqotamiento por el salor
heatstroke	insolacion
heavy machinegun	ametralladora pesada
helicopter	helicoptero
helmet	casco
high ground	terreno elevado
hill	colina, loma
howitzer	obus
hydrographic chart	carta hidrografica
I.D. card	tarjeta de identificacion
immobilize	immovilizar
indirect fire	fuego indirecto
infantry	infanteria
infiltrate	infiltrarse
information	informacion
installation	instalacion
intelligence	inteligencia
Intelligence Officer	Oficial de inteligencia
intelligence report	informe de inteligencia

English	Spanish
interdiction	interdecir, bloquear
internal defense	defensa interna
interrogate	interrogar
issue	distribuir
joint	conjunto(a)
joint exercise	ejercico conjunto
joint force	fuerza conjunta
joint operation	operacion conjunto
joint training	adiestramiento conjunto
junior leader	jefe subordinado
key terrain	terreno clave
landing craft	embarcacionde desembario
land mine	mina terrestre
leadership	encargado de mando
liaison	enlace
Liaison Officer	Oficial de enlace
Lieutenant	Teniente
light data	datos sobre la claridad
line of sight	linea de mira
listening post	puesto de eschucha
live ammo	municion activa
logistics	logisticia
long range	largo alcance
machinegun	ametralladora
Major	Mayor
Marines	Infanteria de Marina
Master Sergeant	Sargento Maestro
max effective range	alcance eficaz maximo
max rate of fire	cadencia maxima de tiro
max speed	velocidad maxima
mechanized	mecanizado
Medical Officer	Oficial de sanidad
messenger	mensajero

English	Spanish
mess hall	comedor
meteorological	meteorologicos
Military Attache	agregado militar
minefield	campo minado
minimum	minimo
misfire	fallar el tiro
mission	mision
mobile	movil
mobility	movilidad
mortar	mortero
motorized	motorizado
motor pool	centro de vehiculos motorizados
mountain range	cordillera
mounted patrol	patrulla motorizada
munitions	municions
muzzle	boca
night	nocturno
NCO	Clase de Tropa
objective	objectivo
observation	observacion
observation post	puesto de observacion
obstacle	obstaculo
offensive	ofensiva
officer	oficial
off-limits	zona vedada
on site	on posicion
open fire	abrir fuego
operational	operacional
operations	operacions
order	orden
organizational	organico(a)
overwatch	vigilar, vigilancia
pack (noun)	mochila

English	Spanish
paramilitary	paramilitar
password	contrasena
patrol	patrulla
patrolling	patrullaje
perimeter	perimetro
photograph	fotografia
physical security	seguridad fisica
pistol	pistola
platoon	peloton
police	policia
pontoon	pontones
port (direction)	babor
port (installation)	puerto
preplanned	planeado de antemano
prisoner	prisonero
private	soldado raso
Private First Class	Soldado de Primera Clase
public affairs	asuntos publicos
pursuit	persecucion
quadrant	cuadrante
quartermaster	intendencia
rear sight	alza
recoil	retroceso
reconnaissance	reconcimeinto
recruit	recluta
reference	referencia
refugee	refugiado
regulations	reglamentos
reinforce	reforzar
replacement	remplazo
rescue	rescatar
reserve	reserva
restricted	restringida

English	Spanish
resupply	reabastecimiento
retrograde	retrogado
rifle	fusil
rifleman	fusillero
riot control	suprecion de motines
roadblock	barricada
rocket	cohete
rocky	rocoso (pedregoso)
rough	escabroso
round (ammo)	tiro
safety (weapon)	seguro
sailor	marinero
secondary	secundarios
secret	secreto
sector	sector
security	seguridad
self-propelled	autopropulsado
semiautomatic	semiautomatico(a)
sensor	sensor
sentry	centinela
Sergeant	Sargento
serviceability	utilidad
ship	bote, buque
shore line	litoral
shotgun	escopeta
signal	seòales
situation	situacion
sketch	croquis
small	pequeòo
smoke	fumigena
soldier	soldado
special	especial
squad	escuadra

English	Spanish
Staff Sergeant	Sargento de Segunda Clase
starboard	estribor
supply	abastecimientos
support	apoyo
supporting	de apoyo
surveillance	vigilancia
tactical	tactica(o)
tank	tanque
target	blanco
task	tarea
tear gas	gas lagrimogeno
telecommunications	telecomunicaciones
temporary duty	oficio temporario
tent	tienda de campaòa
terrain	terreno
topographic	topografico
tracer	trazadora
trafficability	transitabilidad
training	instruccion, adiestramiento
transportation	transporte
trench	trinchera
trigger	disparador; gatillo
troops	tropas
true	verdad
turret	torreta
upstream	corriente arriba
visibility	visibilidad
Warrant Officer	Suboficial
water supply	abastecimiento de agua
windage	correccion-viento
withdrawal	repligue
zone	zona

APPENDIX F:
International Road Signs

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

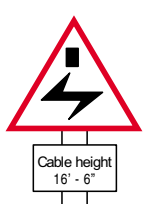
No left turn

One way street

Tourist information point

Traffic signals

No u-turn



Overhead cables, Maximum height

Failure of traffic light signals

Sharp deviation

APPENDIX G:
Deployed Personnel's Guide to Health Maintenance

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

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

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

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

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

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

Contact with animals is not recommended. Animals should not be kept as mascots. Cats, dogs, and other animals can transmit disease. Food should not be kept in living areas as it attracts rodents and insects, and trash should be disposed of properly.

Hazardous snakes, plants, spiders, and other insects and arthropods such as scorpions, centipedes, ants, bees, wasps, and flies should be avoided. Those bitten or stung should contact U.S. medical personnel.

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

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

Additional Information

Water

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

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

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

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

Rodents

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

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

Insects

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

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

Uniforms correctly treated with permethrin, using either the aerosol 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;
- 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

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

The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specific heat category. Individual water needs will vary +/- (plus/minus) 1/4 qt/hr. NL = no limit to work time per hour. Rest means minimal physical activity (sitting or standing) and should be done in shade if possible. **Caution:** Hourly fluid intake should not exceed 1 ½ quarts. Daily intake should not exceed 12 quarts. Note: MOPP gear adds 10^{o} to WBGT Index.

Food

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

Human Waste

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

Cold Weather

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

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

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

First Aid

Basic Lifesaving

Those caring for injured persons should immediately:

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

Injuries and Care

Shock

- Symptoms:
  - Confusion
  - Cold, clammy skin
  - Sweating
  - Shallow, labored, and rapid breathing
  - Rapid pulse
- Treatment:
  - An open airway should be maintained.
  - Unconscious victims should be placed on their side.
  - Victims should be kept calm, warm, and comfortable.
  - Lower extremities should be elevated.
  - Medical attention should be sought as soon as possible.

Abdominal Wound

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

Bleeding

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

Eye Injury

Treatment:

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

Chest Wound

Symptoms:

- Sucking noise from chest
- Frothy red blood from wound

Treatment:

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

Fractures

Symptoms:

- Deformity, bruising
- Tenderness
- Swelling and discoloration

Treatment:

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

Spinal, Neck, Head Injury

Symptoms:

- Lack of feeling and/or control below neck

Treatment:

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

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

Heat Injuries

Heat Cramps

Symptoms:

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

Heat Exhaustion

Symptoms:

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

Heat Stroke

Symptoms:

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

Treatment:

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

Burns

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

Thermal/First Degree

Symptoms:

- Skin reddens
- Painful

Treatment:

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

Thermal/Second Degree

Symptoms:

- Skin reddens and blisters
- Very painful

Treatment:

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

Thermal/Third Degree

Symptoms:

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

Treatment:

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

Electrical Burns

Treatment:

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

Chemical Burns

Treatment:

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

Cold Injuries

Hypothermia

Symptoms:

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

Treatment:

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

Frostbite

Symptoms:

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

Treatment:

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

Emergency Life-Saving Equipment

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

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

APPENDIX H:
Individual Protective Measures

Security Threats

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

Foreign Intelligence and Security Services

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

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

In your personal contacts, follow these guidelines:

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

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

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

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

Detention

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

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

Foreign Terrorist Threat

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

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

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

To realistically evaluate your individual security program, you must understand how terrorists select and identify their victims. Terrorists generally classify targets in terms of accessibility, vulnerability, and political worth (symbolic nature). These perceptions may not be based on the person's actual position, but rather the image of wealth or importance they represent to the public. For each potential target, a risk versus gain assessment is conducted to determine if a terrorist can victimize a target without ramifications to the terrorist organization. It is during this

phase that the terrorist determines if a target is "hard or soft." A hard target is someone who is aware of the threat of terrorism and adjusts his personal habits accordingly. Soft targets are oblivious to the threat and their surroundings, making an easy target.

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

Travel Security

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

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

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

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

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

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

Hostage Situation

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

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

During interaction with captors, maintaining self respect and dignity can be keys to retaining status as a human being in the captor's eyes. Complying with instructions, avoiding provocative conversations (political,

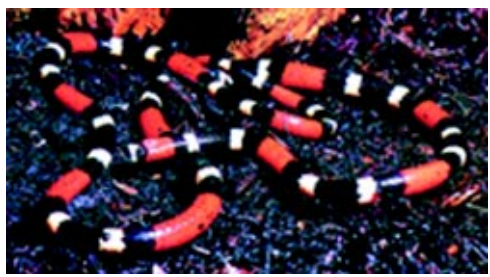
religious, etc.), and establishing a positive relationship will increase survivability. Being polite and freely discussing insignificant and nonessential matters can reinforce this relationship. Under no circumstance should classified information be divulged. If forced to present terrorist demands to the media, make it clear that the demands are those of the captor and that the plea is not made on your behalf. You must remember that you are an American service member; conduct yourself with dignity and honor while maintaining your bearing.

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

APPENDIX I:
Dangerous Animals and Plants

Snakes

Slender Coral



Description:
Adult length usually 0.5 to 0.6 meter, maximum of 1 meter; very slender. Head black, with a white ring just in front of the eyes; rear of head and neck red. Body pattern consists of broad red rings separated by a series of three black and two white rings (rbwbwbr), the middle black ring wider than the outer two.

Habitat:
Found in wet forests, usually near water, at elevations up to 400 meters.

Activity and behavioral patterns:
Common around human habitation. Aggressive. If threatened, it will flatten, raise and curl its tail, then strike and bite violently, thrashing from side to side with such force it can raise itself off the ground.

Venom's effects:
No specific data; coral snake venom primarily is neurotoxic.

Bolivian Coral

No photograph available

Description:
Maximum adult length of at least 1 meter. Front half of head black, with a broken white band (or spots) near nostrils; back of head and neck red.

Body pattern consists of moderately broad red rings separated by a series of three black and two white (or yellow) rings (rbwbwbr), the white rings somewhat narrower than the black rings, often speckled with black.

Habitat:
Likely inhabits lower montane wet forest or dry forest at elevations up to 2,150 meters.

Activity and behavioral patterns:
No specific data available. Coral snakes are usually nonaggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data available; coral venom is primarily neurotoxic.

Andean Black-backed Coral

Description:
Adult length usually 0.3 to 0.6 meter, maximum of 1.1 meters. Entirely black dorsally, except for a pale, yellowish ring around the neck; some also have 2-8 pale rings near the tail. Ventrally, black with numerous yellow blotches; tail mostly bright orange-red, with one or two narrow black bands.

Habitat:
Common in wetter forest areas at elevations of 100 to 1,500 meters.

Activity and behavioral patterns:
May raise and curl tail when disturbed. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data; coral snake venom is primarily neurotoxic.

Regal Coral

Description:
Adult length usually 0.6 to 0.8 meter, maximum of 1.5 meters. Most of head is red; the body has a series of broad, red rings separated by series of three black and two white rings (rbwbwbr).

Habitat:
Found in wetter forested areas, usually at elevations of less than 1,500 meters; have been found up to 2,300 meters in Colombia.

Activity and behavioral patterns:
No specific data. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data; coral snake venom primarily is neurotoxic.

Ecuadoran Coral

No photograph available

Description:
Adult length estimated at 0.3 to 0.7 meter. Dorsum of head nearly entirely black; background reddish with a series of narrow/broad/narrow black rings separated by narrow yellow rings (rbybybr).

Habitat:
Found in coastal dry forest, thorn forests and lower montane dry forests at elevations of up to 1,500 meters.

Activity and behavioral patterns:
No specific data. Most bites occur in attempts to capture the snake.

Venom's effects:
No specific data; coral snake venom is primarily neurotoxic.

Annellated Coral

Description:
Adult length usually 0.2 to 0.5 meter, maximum of 0.7 meter. Usually appearing bicolored, overall dark blue to blackish, with narrow rings of white or yellow or pale blue or dull red. Tricolored (black, red, and yellow/white rings—the latter very narrow dorsally) individuals also are found.

Habitat:
Can be found in wet montane forest and cloud forest at elevations up to 2,000 meters.

Activity and behavioral patterns:
Coral snakes usually are not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data; coral snake venom primarily is neurotoxic

South American Coral

No photograph available

Description:
Adult length usually 0.6 to 0.9 meter; maximum of 1.5 meters. Front of head black, with a narrow white ring in front of the eyes; remainder of head is red. Body pattern consists of moderately broad red rings separated by a series of three black and two white (or yellow) rings (rbwbwbr); the width of the black rings is variable.

Habitat:
Most commonly found in savannas, forested areas, rocky regions, and lowland flood plains, including cleared areas and near human habitations. Also found at elevations up to 1,000 meters.

Activity and behavioral patterns:
Will bite if disturbed. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
Venom has strong neurotoxic activity with postsynaptic effect. Bites have caused human fatalities in Brazil and Colombia.

Hemprich's Coral

Description:
Adult length usually 0.5 to 0.6 meter; maximum of 0.9 meter. Front of head black, with a broad orange ring; neck black. Body pattern unique for the genus, consisting of narrow orange or yellow rings separated by a series of three broad black rings and two narrow white rings (obwbwbo).

Habitat:
Found in forests along or near rivers, including rain forest and lower cloud forest; usually among leaves on the forest floor. Most common in lowlands; has been found at elevations up to 1,000 meters.

Activity and behavioral patterns:
No spcific data available. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data available; coral venom is primarily neurotoxic.

Merten's Coral

No photograph available

Description:
Adult length usually 0.8 to 1 meter. Top of head nearly all black; sides of head yellow behind the eyes. Body pattern consists of red rings (usu-

ally strongly black-speckled) alternating with black rings narrowly bordered with yellow (rybyr).

Habitat:
Tropical deciduous forest, tropical dry forest, and thorn scrub at elevations up to 1,600 meters; most commonly found near streams.

Activity and behavioral patterns:
No specific data; coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data; coral snake venom usually neurotoxic.

Langsdorff's Coral

Description:
Adult length usually 0.4 to 0.6 meter; maximum of 0.8 meter. Variable body pattern usually consists of broad red rings alternating with narrow rings of yellow, brown or black, each ring separated from the next by a very narrow white ring (often reduced to a series of dots). The red rings often are so suffused with black dorsally that they appear black.

Habitat:
Found in wet forest areas at elevations up to at least 1,500 meters.

Activity and behavioral patterns:
Likely nocturnal. Will vigorously defend itself, and reportedly is a major source of coral snakebite in its region. Corals are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data available; coral venom is primarily neurotoxic.

Speckled Coral

Description:
Maximum adult length is usually less than 0.8 meter. Its head is mostly black, with a few small white markings. The overall color is black dorsally, interrupted by numerous paired narrow transverse rows of white dots.

Habitat:
No specific data available. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data. Coral snake venom usually neurotoxic.

Red-tailed Coral

Description:
Adult length usually 0.6 to 0.8 meter; maximum of 1.2 meters. Slender snake; snout is usually black; remainder of the head bright orange/red. Body pattern consists of alternating pale (white, pink, cream or red) and black rings. Pale rings often speckled with black; tail has alternating black and red/orange rings.

Habitat:
Found in lower montane wet forest; cloud forest and secondary areas; including coffee groves, at elevations up to 2,400 meters.

Activity and behavioral patterns:
Active during the day and often found around human habitation. A major cause of coral snakebite in its range; will vigorously defend itself, and has caused human deaths.

Venom's effects:
Venom is primarily neurotoxic with postsynaptic effect.

Carib Coral

Description:
Adult length varies from 0.3 to 0.9 meter. Variable appearance; may be entirely black dorsally, bicolored (black, with a series of very narrow to narrow whitish or yellowish rings), or tricolored (broad red rings, alternating with narrower, white/yellow-bordered black rings. Pattern usually rybyr.

Habitat:
Common in lower mountain wet forest and lowland rainforest; at elevations up to 1,700 meters.

Activity and behavioral patterns:
Active during daytime on forest floor. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data available; coral venom is primarily neurotoxic.

Peruvian Coral

No photograph available

Description:
Maximum adult length likely less than 0.6 meter. Top of head entirely black. Body pattern consists of relatively broad reddish rings alternating

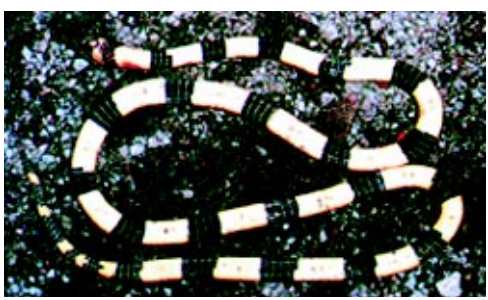
with somewhat narrower black rings that are edged with yellow or white (rybyr or rwbwr). The reddish rings often are dull, sometimes indistinguishable dorsally from the black rings, and the yellow/white rings are heavily speckled with black.

Habitat:
Found in lower montane dry forest at elevations of 500-1,500 meters.

Activity and behavioral patterns:
No specific data available; coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data available. Coral venom primarily neurotoxic.

Steindachner's Coral



Description:
Maximum adult length about 0.9 meter. Top of head entirely black. Dorsal body pattern tricolored but subdued; alternating relatively broad red and black rings are separated by much narrower yellowish rings (rybyr), the red and yellow rings heavily suffused with black. Ventrally, the pattern is of alternating broad pale yellow and narrower black rings.

Habitat:
Found in wet forest areas at elevations up to at least 1,800 meters.

Activity and behavioral patterns:
Raises tail when disturbed. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
No specific data available; coral venom is primarily neurotoxic.

Amazonian Coral

Description:
Adult length usually 0.8 to 1.1 meters; maximum of 1.6 meters. Head with area in front of eyes usually whitish with scattered black pigment, followed by a red ring (sometimes incomplete dorsally) and a black ring. Dorsal body pattern usually consists of broad red rings separated by a series of three black rings and two whitish (often with considerable black pigment) rings (rbwbwbr). The black rings are usually somewhat narrower than the red rings. The whitish rings often appear bright yellow on the underside.

Habitat:
Primarily found on forest floors in tropical rainforest, but also found around human habitations and in savanna/gallery forest areas in the llanos in eastern Colombia; most common in humid areas close to water and at elevations up to 1,200 meters.

Activity and behavioral patterns:
Reportedly can be highly irritable; its mouth is large enough to bite even through moderately thick clothing.

Venom's effects:
The venom is a potent neurotoxin; this species is one of the most dangerous coral snakes in South America.

Desert Coral

No photograph available

Description:

Adult length usually 0.2 to 0.3 meter; maximum of 0.9 meter. Top of head with at least the front one-half black, the remainder red. Body pattern consists of red, black and yellow (occasionally white) rings, the black rings usually slightly broader and the yellow ones slightly narrower than the red ones; some of the red rings occasionally are reduced to dorsal patches. The pattern usually is rbybybr or rbybybybybr.

Habitat:

Tropical deciduous forest, dry tropical forest and thorn scrub; primarily along watercourses. Found at elevations up to 1,450 meters.

Activity and behavioral patterns:

Primarily diurnal; will climb trees. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects

No specific data; coral snake venom is primarily neurotoxic.

Aquatic Coral

Description:

Adult length usually 0.8 to 1 meter; maximum of 1.3 meters; a relatively heavy-bodied snake. The snout is compressed, the head is swollen posteriorly, and the eyes and nostrils are situated more dorsally than those of other coral snakes. Head mostly red, scales outlined with black pigment; a narrow black ring at the rear of the head ends in a narrow yellow neck ring. The body

pattern consists of broad red rings (usually speckled with black), alternating with a series of three black and two yellow rings (rbybybr), the outer black rings of each triad are much narrower than the middle one, and about equal to the yellow rings.

Habitat:
Lowland wetter forested areas at elevations up to 600 meters; primarily along streams, rivers, and other bodies of water.

Activity and behavioral patterns:
An active swimmer; can remain submerged for extended periods of time. Primarily nocturnal, but may be active during the day. Flattens body, curls and raises tail when disturbed. Coral snakes are usually not aggressive; most bites occur during attempts to capture the snake.

Venom's effects:
A potent neurotoxin; venom has myonecrotic toxins, and a neurotoxin that appears to primarily affect cranial nerve centers.

Two-striped Forest Pit Viper

Description:
Adult length usually less than 1 meter; relatively slender snake with a prehensile tail. Overall pale green to pale bluish-green, head speckled with black, body sometimes with variable (usually paired) blotches, but always with a longitudinal thin yellow line separating the lateral scales from the ventral.

Habitat:
Lowland rainforest, especially near waterways, at elevations up to 2,650 meters.

Activity and behavioral patterns:
Arboreal, slow-moving.

Venom's effects:
Primarily hemotoxic. Bite has resulted in human deaths.

Inca Forest Pit Viper

Description:

Adult length is usually 0.5 to 1 meter; moderately stocky, with a prehensile tail. Background usually greenish, very heavily blotched and speckled with black; many black blotches, often with paler borders that form crossbands. Snount blunt and rounded.

Habitat:
Found on eastern Andes slopes at elevations of 1,000-2,000 meters.

Venom's effects:
No specific data available. Bothriopsis venom primarily hemotoxic.

Peruvian Forest Pit Viper

No photograph available

Description:
Adult length up to 1 meter; a moderately slender snake with a prehensile tail. Background color varies from green to gray; body usually has a series of irregular dard band edged with pale scales, giving the appearance of paired narrow pale bands. Head usually has a black stripe extending from the eye to the corner of the mouth and two large, black spots near the juncture of the neck.

Habitat:
Aboreal. Found in wet montane forest at intermediate elevations.

Venom's effects:
No specific data available; bothriopsis venom primarily hemotoxic.

Speckled Forest Pit Viper

Description:

Adult length usually from 1 to 1.5 meters; a relatively slender snake with a prehensile tail. Background color usually varies from lavender gray to yellow green. The body pattern is variable, but nearly all specimens have prominent white blotches at the juncture of the lateral scales and ventral scutes. Head usually with a spear-point-shaped dark marking extending from the eye to the corner of the mouth.

Habitat:
Most commonly found in lowland and foothill forests at elevations up to 1,900 meters.

Activity and behavioral patterns:
Arboreal; usually encountered in primary forest or forest edge situations, in vines and low vegetation. Difficult to see because of cryptic coloration.

Venom's effects:
No specific data; however, its size and the length of its fangs make it potentially dangerous. Venom is primarily hemotoxic.

Lancehead

Description:

Adult length usually 0.8 to 1; maximum of 2 meters; a moderately heavy-bodied snake. Overall color and body patterns are extremely variable, but most specimens have a dorsal body pattern consisting of a

series of distinct light-edged, dark crossbands or triangles that make a rectangular to trapezoidal pattern on each side of the body. The head lacks any distinct markings on the upper surface.

Habitat:

Lowlands at elevations up to 1,300 meters drained by the Amazon River. Prefers damp locales in association with creeks, lakes, or rivers; also has been found in cultivated areas and around human habitations, including weedy urban lots.

Activity and behavioral patterns:

Primarily terrestrial, but can climb at least 4 meters above the ground in vegetation. Nocturnal. Usually found near human habitation.

Venom's effects:

Potent venom that primarily is hemotoxic and cytotoxic; bite can result in systemic internal bleeding and local tissue destruction.

Dusky Lancehead

No photo available

Description:

Adult length estimated at 0.5 to 0.8 meter; a moderately stout snake. Background usually dark, the dorsum uniformly brown. A somewhat obscure pattern of bands occurs on the body of most specimens.

Habitat:

Most common in tropical moist and wet forest, usually near rivers, at elevations up to at least 2,500 meters.

Activity and behavioral patterns:

No specific data available.

Venom's effects:

No specific data available; there are no reports of bites by this species. Venom is primarily hemotoxic and cytotoxic; bite can result in systemic internal bleeding and local tissue destruction.

Andean Lancehead

Description:
Adult length usually 0.4 to 0.7 meter. Background usually olive gray to brown. The body usually has a series of dark, pale-edged rounded triangles along the sides. The sides of the head usually have a very wide, dark, longitudinal stripe, prominently bordered on the lower side by a thin, pale line.

Habitat:
Most commonly found in wetter forested areas at elevations from 1,8000 to about 3,000 meters.

Activity and behavioral patterns.
No specific data available.

Venom's effects:
Bothrops venom is primarily hemotoxic and cytotoxic; bite can cause systemic internal bleeding and local tissue destruction.

Small-eyed Lancehead

Description:
Adult length usually from 0.4 to 0.7 meter, maximum of 1.4 meters; a slightly stocky snake. Background color usually brown to straw to gray, with alternating light and dark, roughly triangular to trapezoidal, lateral blotches that often meet dorsally to form irregular bands. The top of the head lacks nay distinct markings. Overall, a relatively dull-colored snake.

Habitat:
Most common in lower mountain area wet forest and cloud forest at elevations up to 1,300 meters.

Activity and behavioral patterns:
No specific data available.

Venom's effects:
No specific data. Lancehead venom is hemotoxic and cytotoxic; bite can cause systemic internal bleeding and local tissue destruction.

Terciopelo

Description:

Adult length usually from 1.2 to 1.8 meters; maximum of 2.5 meters; moderately slender. Color and patterns are highly variable, but many have what appears to be a series of X markings down the back. Snout is markedly pointed.

Habitat:
Found from sea level to 1,300 meters in northern areas, and to 2,700 meters in southern areas. Most often found in tropical rainforest and tropical evergreen forest. Stays mainly near 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. Easily provoked; moves rapidly, reverses direction abruptly, and defends itself vigorously. Dangerous and often fatal.

Venom's effects:
Its large supply of potent venom is primarily hemotoxic and cytotoxic; bite can cause systemic internal bleeding and local tissue destruction.

Barnett's Lancehead

Description:

Adult length usually 0.5 to 0.8 meter. Stout snake. Background usually varies from medium brown or pale gray to straw; body usually has paired dorsolateral dark brown pale-bordered triangular or trapexoidal blotches that alternate or meet dorsally, forming an hourglass or bow tie pattern. The head usually has a wavy V-shaped brown marking.

Habitat:

Found in arid desert scrub near sea level; likely near streams.

Activity and behavioral patterns:

No specific data available.

Venom's effects:

No specific data. Bothrops venom hemotoxic and cytotoxic; bite can cause systemic internal bleeding and local tissue destruction.

Brazil's Lancehead

Description:

Adult length usually 0.7 to 0.9 meter; can exceed 1.4 meters; a moderately stout. Its background varies from copper-brown to pale gray; body usually paired dorsolateral pale-bordered, darker blotches that may meet dorsally forming irregular bands. The upper surface of

the head usually is a uniform pinkish-tan to pinkish-gray; the dark stripe extending from the eyes to the corners of the mouth, typical of most Latin American vipers, usually is indistinct or absent. Reportedly greatly feared by Amerindians in southern Colombia.

Habitat:
Most commonly found in Amazonian primary forests at elevations up to 500 meters; also seems to prefer humid, leaf-litter habitat.

Activity and behavioral patterns:
Nocturnal; can be aggressive and will strike if distrubed.

Venom's effects:
There is little specfic data; venom is hemotoxic and cytotoxic; bite can cause systemic internal bleeding and local tissue destruction.

Neuwied's Lancehead

Description:
Adult length usually 0.6 to 0.7 meter, maximum of 1.2 meters; a moderately slender snake. Background color and pattern variable, not only among the 12 recognized subspecies, but within individual populations. No general description could characterize this species.

Habitat:
Most commonly found in dry or semiarid, rocky regions at elevations up to 600 meters; some inhabit humid or marshy regions.

Activity and behavioral patterns:
Terrestrial. Can be aggressive and will defend itself.

Venom's effects:
Hemotoxic and cytotoxic; venom produces extensive tissue destruction. Necrosis expected in 10 to 15 percent and abscesses in 15-20 percent of

all cases. Incoagulable blood and bleeding occur in majority of cases. A major cause of snakebite in southern South America.

Neotropical Rattlesnake

Description:
Adult length usually 1 to 1.8 meters; a relatively stout rattlesnake with a prominent spinal ridge along the body, most evident on the front part of the body. Both the background color and body pattern are extremely variable; however, in nearly all specimens, the frontmost dorsolateral dark (darker than the background color) blotches on the body are extended rearward into prominent stripes.

Habitat:
Primarily found in semiarid regions and drier openings in more humid environments. Not found in rainforest. Most often found at elevations of less than 700 meters, but has been found at elevations up to 1,000 meters in Costa Rica, 2,000 meters in Mexico and Colombia, 2,300 meters in Peru and 2,800 meters in Venezuela.

Activity and behavioral patterns:
Most active during twilight and early morning hours. Will move away from humans if allowed to do so, but it will assume a defensive coil and strike if cornered or startled. In the defensive position, it will raise its head and front third of its body high off the ground, neck and head bent, and face its antagonist.

Venom's effects:
Reportedly the most dangerous snake in the region. Has both hemotoxic and neurotoxic components, varying among the subspecies. Primarily hemotoxic in Mexican and Central American races, the venom of South American species has myotoxic and neurotoxic components;

bites have a relatively high fatality rate. Local tissue damage and swelling is minimal, but the myotoxic component causes extensive skeletal muscle necrosis.

Bushmaster

Description:

Adult length usually from 2 to 3.6 meters; longest venomous snake in the Americas. Prominent ridge along the backbone, quite noticeable on the front half of the body. Background usually red-brown, yellowish-tan, or pinkish-tan. Dorsal body pattern usually a series of dark brown to black diamond-shaped blotches; the lateral corners of those blotches usually containing a small patch of pale scales. Head broadly rounded, usually tan, brown, or black on top.

Habitat:

Primarily in forested ares that receive at least 2,000 millimeters (and usually more than 4,000 millimeters) of rainfall annually; may occur along rivers in drier regions. Often near large, buttressed trees or fallen logs at elevations up to 1,800 meters in South America.

Activity and behavioral patterns:

Active from dusk to dawn, when they are most likely to respond quickly to disturbance (often inflating neck and vibrating tail rapidly). The southeastern Costa Rican population reportedly is highly aggressive whenever disturbed.

Venom's effects:
Envenomation results in intense pain, swelling, and necrosis (tissue death, often extensive) around the bite site, sometimes followed by gangrene. Even when antivenin is used bites can be fatal.

Amazon Hog-nosed Pit Viper

Description:
Adult length usually 0.4 to 0.5 meter; maximum of 0.8 meter. A moderately stout pit viper with an upturned snout. A darker ground color alternates with patches of paler scales, often resulting in a banded appearance, the bands becoming more contrasting toward the tail.

Habitat:
Rainforest or very humid tropical forest, usually near water, in leaf litter of elevated ground. Occurs at elevations up to 1,000 meters.

Activity and behavioral patterns:
When disturbed, adults move vigorously, but seem reluctant to strike.

Venom's effects:
No specific data available. 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. There are no specific antivenins manufactured.

Arthropods

Scorpions

Although scorpions in the region are capable of inflicting a painful sting, there are at least three species that are known to be life-threatening.

Spiders

Although several spiders in the region can inflict a painful bite, including some large, physically imposing tarantulas, only the widow, recluse and bola spiders are known to be life-threatening.

Insects

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. Contact with these caterpillars can be very painful. Some are brightly colored. Fatalities have allegedly occured from contact with the giant silkworm moth.

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

Centipedes

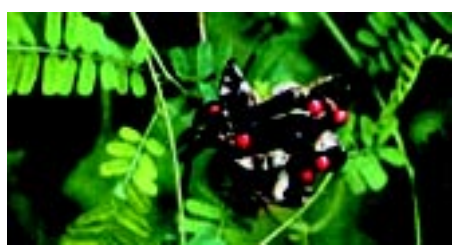
Although area centipedes are capable of inflicting a painful bite, none are known to be life-threatening.

Millipedes

Millipedes do not bite and in general are harmless to humans. 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 can squirt this fluid at least 2 feet.

Plants

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 1-3 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:
The 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, coma. Used in South America and Africa in folk medicine.

Crownflower

Other Name:
Milkweed

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

Comments:
Flowers are candied by Chinese in Java. Poisonings have resulted in death. Has been used as arrow poison and as chew-sticks in Africa.

Cashew

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

Comments:

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

Guao

Mechanisms of toxicity:
Several of species cause contact dermatitis. A member of the Anacardiaceae family; has potential allergic manifestations similar to relatives, marking nut tree, poison ivy and cashew.

Comments:

Approximately 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 greenish.

Agave

Common Names:
Century plant, maguey.

Mechanisms of toxicity:
American species unedible; some have saponins, oxalic acid, and others have calcium oxalate crystals called raphides. Sap is extremely irritating.

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

African Teak

Other names:
Osage Orange, fustic, bow wood.

Mechanisms of toxicity:
Benzophenones, xanthones, stilbenes, flavonoids, and tannins known to the genus. Has a milky, bitter sap; yields orange dye that causes dermatitis.

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

Poison Hemlock

Other names:
Spotted hemlock, fool's parsley

Mechanisms of toxicity:
Quickly fatal potential. The leaves and unripe fruits have the piperide alkaloids coniine and coniceine with highest concentrations in the seeds and roots. Drying of the plant results in decreased toxicity. One mouthful of the root has caused death within 30 minutes after a period of nervousness, nausea and vomiting, diarrhea, and respiratory failure.

Comments:
A biennial herb that resembles a carrot; smooth, spotted stems; foul odor. Naturalized in waste and marshy areas; native in temperate Eurasia. C. chaerophyllum appears to be an unspotted version of the former; noted in South Africa.

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. Causes liver and kidney degeneration.

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

Shanshi

Mechanisms of toxicity:
Hallucinogenic effects.
Has caused death.

Comments:
This is a group of deciduous shrubs or small trees with red, yellow or purple/black berry-like fruit. Has five one-seeded nutlets. Bark used for tanning, crushed fruit as a fly poison. Used in folk remedies.

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 types are covered with hundreds of sticky hairs that cling on contact. Contact with the eyes can be serious.

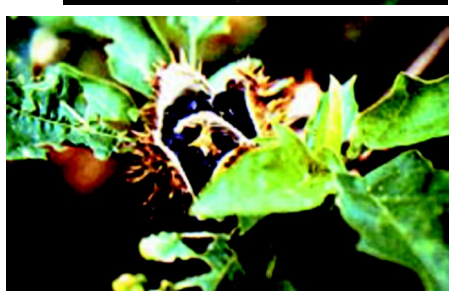
Comments:
A wooly-haired, annual herb, evergreen bush, or small tree with smooth, ash-colored bark, yellow-green leaves, small flowers, and fruit.

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.

Jimsonweed



Other names:
Thorn-apple, stinkweed, Devil's trumpet.

Mechanisms of toxicity:
The entire plant is toxic with tropane alkaloids. Flowers' fragrance can cause respiratory irritation, and the sap can cause contact dermatitis. People have been poisoned by eating crushed seeds accidentally ground in flour; also through attempting to experience the hallucinogenic "high." Jimsonweed has a quickly fatal potential.

Comments:
Originally called Jamestown weed after the mass poisoning of soldiers sent to quell Bacon's Rebellion in 1666 who ate the seeds during a severe food shortage. Often confused with Angel's Trumpet.

Beach Apple

Other names:
Manchineel, manzanillo

Mechanisms of toxicity:
Fruits have been confused with crabapples, resulting in serious poisoning, even death. Symptoms (oral irritation, gastroenteritis, bloody diarrhea, severe dermatitis) occur 1 to 2 hours after ingesting the fruit or leaves.

Comments:
A coastal tree cultured as a windbreak.

Mango

Other name:
Indica

Mechanisms of toxicity:
The leaves, stem and fruit's skin on this tree contain urushiol and other similar long-chain phenois. Other allergens are also present. Dermatitis can occur from eating the fruit with the skin intact. Blisters may be confined to the lips and face or generalized. Climbing the tree can result in severe dermatitis. There is also immediate hypersensitivity in some individuals. Ensuring the fruit is peeled prior to eating it can prevent the reaction.

Comments:
Genus includes 35 species, usually large trees, primarily in Indo-malaysia. Frequently found near human dwellings. Trees grow 40-

100 feet, and have lance-shaped leaves. Cultivated varieties have excellent fruit (in some wild plants the fruit is unpleasant) edible raw or cooked. Ground seed used as a flour; its fruit used in chutney, pickles, squashes, etc.

Pigeonberry

Other name:
Golden dewdrop

Mechanisms of toxicity:
Underground parts contain dioscorine (an alkaloid), diosgenin (a steroidal saponin), diosbulbine (a diterpene lactone). Berries and leaves have a saponin that causes sleepiness, fever, and seizures; child deaths recorded. Dermatitis can result through handling.

Comments:

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

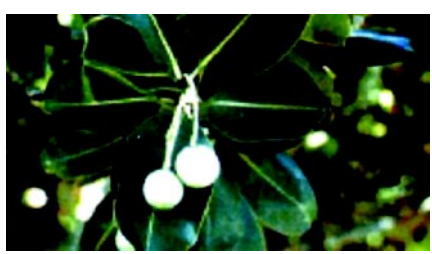
Mole Plant

Other names:
Caper spurge, Mexican fire plant, milkweed, red spurge, poison spurge, 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 dermatitis. 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 eating.

Comments:
Approximately 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.

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. Its seeds are dispersed by bats and the sea.

Popcorn Tree

Other names:
Chinese tallow; hinchahuevos

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, rattle-bush, false poinciana

Mechanisms of toxicity:
All parts are poisonous; most poisonings due to use in herbal teas. Causes Budd-Chiari syndrome. Seeds contain saponins. Up to 24 hours after ingestion, nausea and vomiting occur, with abdominal pain, abnormal accumulation of serous fluid in the abdominal cavity, 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.

Peppertree

Other names:
Peruvian mastic tree, Brazilian or broadleafed peppertree, Christmas berry, Florida holly.

Mechanisms of toxicity:
All parts contain urushiol triterpene. Volatile resin on skin or in eyes from cutting branches can cause severe dermatitis, facial swelling, and keratoconjunctivitis. Used for medicinal purposes and as an additive in pepper. Strong gastrointestinal irritant.

Comments:
Used in many medicinal decoctions and as treatment for skin disorders (e.g. warts). Children have been poisoned from eating the fruits.

Blistering Ammania

Photo not 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.

Spurge Laurel

Other names:
February daphne, mezereon.

Mechanisms of toxicity:
Bark, leaves, and fruit contain toxic agents. Entire plant is toxic. Resin is acrid; was once used as a pepper substitute, with fatal consequences. Contact with skin can cause vesicular dermatitis (extract used by beggars to induce skin lesions to arouse pity).

Comments:
A dangerous ornamental. Used as a folk remedy (for "dropsy," neuralgia, snakebite, etc.).

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 for eating.

Comments:
Young shoot tips, less than 6", eaten in many cultures, including Canada; requires proper preparation (boiled with water changes; water con-

tains toxic substances — kills snails that carry bilharzia). Dye from berries used to color ink, wine, sweets.

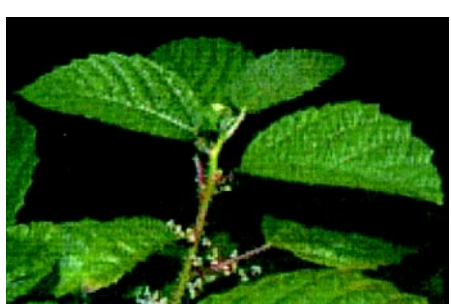
Rattlepod

Other names:
Rattlebox, rattleweed, chillagoe, horse poison.

Mechanisms of toxicity:
Contains pyrrolizidine alkaloids (monocrotaline, heliotrine, retrosine); can kill. Low-level ingestions can cause lung damage; high levels will damage the liver. Some species have caused toxicity through the contamination of flour or when incorporated in teas.

Comments:
The fruits are inflated dehiscent legumes (pods) with parchment-like walls; the ripe seeds come loose within the pods and rattle when shaken. The flowers are pea-like. Found in open woods, on roadsides, margins, sandy soils, and fields.

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. Contact between leaves or branches and skin can result in profound burning pain that can last longer than 24 hours. There is usually no permanent damage.

Comments:

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

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:
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.

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). Many are poisonous if eaten raw. Causes gastroenteritis (nausea, bloody diarrhea). Can be eaten with 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.

Cowitch Cherry

Mechanism of toxicity:
Genus in tropical America, especially in the Caribbean. Can be tree or shrub; sometimes has stinging hairs.

Comments:
With careful handling, many parts can be cooked and eaten.

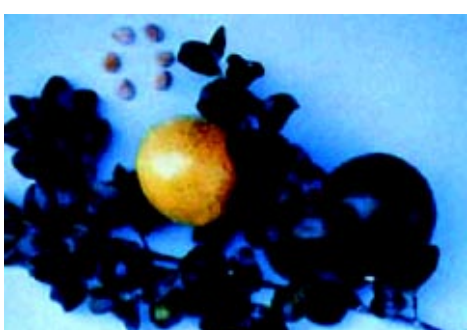
Heliotrope

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).

Strychnine



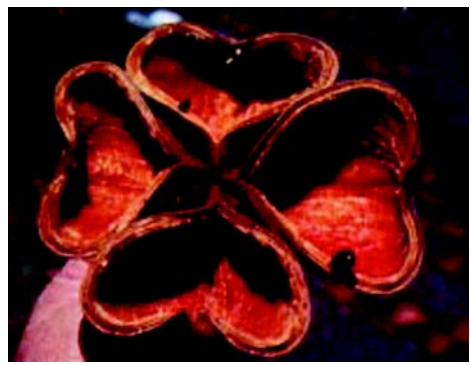
Other names:
Nuxvomica tree,
Snakewood tree

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. It is a source of curare obtained by stripping and macerating its bark. Curare, now used as a muscle relaxant, was formerly used as an arrow poison by South American Indians.

Panama Tree



Other names:
Castano, tartargum.

Mechanisms of toxicity:
Seeds edible, but pods have internal stiff bristles that easily penetrate skin, causing intense irritation.

Comments:
200 tropical species.

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; petechaie occur in various organs. Eventually coma and digitalis-like toxic signs precede death.

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.

Castor Oil Plant

Other Name:
Castorbean

Mechanisms of toxicity:
Used to make a feed supplement; a lecithin, which is a highly toxic chemical, and some low-molecular weight glycoproteins with allerenic activity have 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 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.

Comments:
The seeds of this ancient plant have been found in Egyptian graves from 4,000 B.C. Cultivated worldwide for 6,000 years for castor oil.

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.

Yellow Oleander

Other names:
Peruviana, lucky nut, bestill tree.

Mechanisms of toxicity:
Contains cardiac glycosides in all parts; seeds have particularly high concentrations. 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.

English Yew

Other names:
American yew, Ground hemlock, 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, followed by reddening of the lips, dilatation of the pupils, shallow breathing, tachycardia, and coma. The pulse slows, blood pressure drops, and death occurs through respiratory paralysis. No proven treatment exists. Emptying the stomach may be helpful as leaves may not pass quickly through the GI tract. 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/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. Once known as the “tree of death.”

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. Has been used as a fish poison.

Dalechampia

No Photograph Available

Mechanisms of toxicity:
Some species with stinging glands cause irritant dermatitis.

Comments:
A member of the Euphorbeacea family. Common in Mexico.

Black Nightshade

Other names:
Horse nettle, bittersweet, nipple fruit, Jerusalem cherry, apple of Sodom, quena, wild tomato, 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 gastroeritis, 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.

APPENDIX J:
International Telephone Codes

International Telephone Codes

Algeria	213	Malta	356
Australia	61	Mexico	52
Austria	43	Morocco	212
Bahrain	973	Netherlands	31
Belgium	32	Nigeria	234
Brazil	55	New Zealand	64
Canada	1	Norway	47
China	86	Oman	968
Cyprus	357	Philippines	63
Denmark	45	Portugal	351
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

APPENDIX K:
Airfields

Peru has many strategic airlift (strat-lift) capable airfields that provide adequate support for civilian and military requirements (for example., humanitarian relief, noncombatant evacuation (NEO), counter drug, and peacekeeping operations.) The best airfields are evenly situated along Peru's Pacific coast.

Three airfields are suitable for C-5 operations, and at least 17 airfields are suitable for C-141 operations. Additionally, 41 airfields are suitable for C-17/C-130 aircraft. The Andes Mountain region features secondary airfields, and the eastern lowlands jungle has many simple airstrips located along rivers.

Runway and Taxiway Requirements			
Aircraft Minimum	**Runway Length Minimum**	**Runway Width Minimum**	**Taxiway Width**
C-5	6,000 ft (1,829 m)	148 ft (45 m)	75 ft (22 m)
C-141	6,000 ft (1,829 m)	98 ft (29 m)	50 ft (15 m)
C-17	3,000 ft (915 m)*	90 ft (27 m)	50 ft (15 m)
C-130	3,000 ft (915 m)*	80 ft (24 m)	30 ft (9 m)
KC-10	7,000 ft (2,134 m)	148 ft (45 m)	75 ft (22 m)
KC-135	7,000 ft (2,134 m)	148 ft (45 m)	75 ft (22 m)

*C-17 and C-130 suitability for grass and graded earth runways determined on a case-by-case basis.

Runway lengths based on dry runway, limited weight. Greater length required if runway is wet.

Airports

Andahuaylas
Rinway 8,202 x 98 ft (2,501 x 30 m)

Andahuaylas

Surface	Asphalt / Fair – No overrun
Elevation (MSL)	11,300 ft (3,445 m)
Geocoordinates	134231S 0732104W
Additional Information	Not rated by HQ AMC/DOAS. Daylight operations only. Landing on runway 03, takeoff on runway 21. Capable of medium-heavy transport operations. Marginal weather makes flying into this airfield dangerous due to surrounding mountainous terrain. Security fence 4 ft (1.2 m) high. Air/ground and NDB NavAids.

Andoas (Alferez F Vladimir S Bauer)

Runway	6,810 x 131 ft (2,076 x 40 m)
Surface	Asphalt
Elevation	754 ft (230 m)
Geocoordinates	024743S 0762758W
Additional Information	Suitable for C-130 only. Capable of medium transport operations. No taxiways. Daylight operations only. NavAids – none. VFR only. PAPI for runway 12. Electrical power locally generated, estimated at 220 volt service. Water purification plant available. Limited sewage disposal facilities.

Capt Carlos Martinez De Pinillos (Trujillo)

Runway	7,890 x 150 ft (2,405 x 46 m)
Surface	Asphalt
Elevation	75 ft (23 m)
Geocoordinates	080516S 0790629W

Capt Carlos Martinez De Pinillos (Trujillo)

Additional Information	Suitable for C-141, C-130, C-17, and KC-135. Runway narrow – C-5, KC-10, and KC-135 need approval by HQ AMC/DOAS. Daylight operations, VFR only. No DoD published approach (other than NDB). Jeppesen available, approval required. At the south end of airport is a 40 ft (13 m) cliff. Perimeter fence and concrete wall, two gates and five guard towers.

Capt J A Quinones Gonzales (Chiclayo)

Runway	8,267 x 147 ft (2,520 x 45 m)
Surface	Asphalt
Elevation	95 ft (29 m)
Geocoordinates	064718S 0794945W
Additional Information	Suitable for C-141, C-130, C-17, and KC-135. Nine taxiways. Four parking areas. NavAids – Air/ground radio, approach control, DME, NDB, tower, VOR. Lighting – approach, obstruction, portable, rotating beacon, runway strip, taxiway, VASI. Daylight operations only due to obstructions. Airfield has limited surge capability. 10 ft (3 m) wall and a perimeter fence.

Capt Concha (Piura AB)

Runway	8,202 x 148 ft (2,501 x 45 m)
Surface	Asphalt
Elevation	174 ft (53 m)
Geocoordinates	051221S 0803659W

Capt Concha (Piura AB)

Additional Information	Suitable for C-141, C-130, C-17, and KC-135. Does not support C-5 operations. Twenty taxiways. Four parking areas. NavAids – Air/ground radio, approach control, NDB, tower, and VOR. Lighting – approach, lighted wind indicator, obstruction, rotating beacon, runway, taxiway, threshold, and PAPI. Daylight operations, VFR only. Partial fence around the airfield proper, mostly on the west side of runway.

Capt Montes (Talara)

Runway	8,038 x 148 ft (2,451 x 45 m)
Surface	Asphalt
Elevation	282 ft (86 m)
Geocoordinates	043436S 0811515W
Additional Information	Suitable for C-141, C-130, and C-17. Daylight operations only. Twelve taxiways. Five parking areas. NavAids – Air/ground radio, approach control, ASR, DME, NDB, control tower, and VOR. Lighting – approach, obstruction, portable, rotating beacon, runway end identification, runway, taxiway, and threshold. CAUTION: Oil derricks more than 400 ft (121 m) high in vicinity. Two unlighted poles 66 ft (20 m) above ground level on either side of runway 16, 3,400 ft (1,036 m) from threshold supporting a 246 ft (75 m) antenna. First 1,000 ft (328m) of runway 16 is concrete. Aircraft must touch down within first 1,000 ft (328 m) when landing on runway 16.

Col Alfredo Mendivil Duarte

Runway	9,186 x 148 ft (2,801 x 45 m)
Surface	Asphalt / Poor
Elevation	8,917 ft (2,719 m)
Geocoordinates	130917S 0741216W

Col Alfredo Mendivil Duarte

Additional Information	Suitable for C-130 only. Two taxiways. One parking area. NavAids – Air/ground radio, tower, and NDB. Lighting – Estimated flares, portable and taxiway, PAPI on runway 20. Daylight operations, VFR only. Takeoff on runway 2 and land on runway 20. Airfield perimeter is surrounded by barbed wire on concrete poles. Wire is broken in numerous locations.

Col FAP Carlos C Santa Rosa (Tacna)

Runway	8,202 x 148 ft (2,501 x 48 m)
Surface	Asphalt
Elevation	1,537 ft (469 m)
Geocoordinates	180315S 0701633W
Additional Information	Suitable for C-141, C-130, KC-10, and KC-135. Six taxiways. NavAids – Air/ground, approach control, DME, NDB, tower, VOR. Lighting – approach lights to runway 02, apron, obstruction, rotating beacon, runway, taxiway, threshold, PAPI on runway 02. Daylight operations only. No DoD published approach (other than NDB). Jeppesen available; approval required. Airport can support four C-130s or C-141s at one time. Airfield is designated as full-time general aviation international airport. Perimeter security fence around airfield and masonry wall around parking lot and fuel storage area.

Col FAP Fran Secada Vignetta (Iquitos International)

Runway	8,202 x 148 ft (2,501 x 45 m)
Surface	Concrete
Elevation	406 ft (124 m)
Geocoordinates	034704S 0731837W

Col FAP Fran Secada Vignetta (Iquitos International)

Additional Information	Suitable for C-141, C-130, C-17, and KC-135. One taxiway. NavAids – Air/ground, approach control, DME, ILS/NDB, tower, NDB, and VOR. Lighting – approach, obstruction, portable, rotating beacon, runway, taxiway, threshold, and VASI, PAPI. Runway narrow C-5, KC-10, and KC-135 require approval from HQ AMC/DOAS. Daylight operations, VFR only. Perimeter security fence exists around the runway.

Ilo

Runway	8,202 x 148 ft (2,501 x 45 m)
Surface	Asphalt
Elevation	30 ft (9 m)
Geocoordinates	174142S 0712038W
Additional Information	Airfield has not been surveyed or evaluated by HQ AMC/DOAS. Five taxiways. NavAids – Air/ground, NDB, tower. Lighting – portable No security fences. Airfield for emergency use only.

Jorge Chavez Intl (Lima Intl / Callao AB)

Runway	11,506 x 148 ft (3,508 x 45 m)
Surface	Concrete
Elevation	113 ft (34 m)
Geocoordinates	120119S 0770651W

Jorge Chavez Intl (Lima Intl / Callao AB)

Additional Information	Suitable for C-141, C-5, C-130, C-17, KC-10, KC-135. Twenty-six taxiways. Sixteen parking areas. NavAids – Air/ground, approach control, ASR, DME, ILS, NDB, PAR, tower, VOR (Unreliable radar; frequent system failures). Lighting – approach, apron flood, boundary, lighted wind indicator, obstruction, portable, rotating beacon, runway centerline, runway identification, runway strip, sequence strobe, taxiway, threshold, variable intensity runway, PAPI (runway 33), VASI (runway 15). Daylight operations only. Drainage is poor if heavy rain occurs. Airport manager has imposed weight limits on C-141 (320,000 lbs) and C-5 (646,000 lbs). KC-10, C-17, and C-141 will not use Navy or civilian ramp due to obstructions. C-17 and C-141 require a wing walker to taxi past a concrete fence surrounding parking ramp. A security fence surrounds the airfield.

Juliaca

Runway	13,780 x 148 ft (4,201 x 45 m)
Surface	Asphalt – No overrun
Elevation	12,546 ft (3,825 m)
Geocoordinates	152802S 0700919W
Additional Information	Suitable for C-141, C-130, C-17, KC-135. One taxiway. NavAids – Air/ground and VOR. Lighting – Taxiway and PAPI. Daylight operations, VFR only. Takeoff on runway 11 only, high terrain northwest. Aircraft must remain on runway for loading and offloading cargo. WBC is low.

Las Palmas

Runway	8,049 x 150 ft (2,454 x 46 m)
Surface	Asphalt
Elevation	(information not available)

Las Palmas

Geocoordinates	120939S 0785956W
Additional Information	Suitable for C-141, C-130, C-17, KC-135. Nine parking areas. NavAids – Air/ground, approach control, NDB, tower. Lighting – approach, portable, rotating beacon, runway, and taxiway. Daylight operations, VFR only. WBC is low. Operations at higher gross weight requires waiver from Airport Manager.

Mariano Melgar (La Joya)

Runway	13,064 x 160 ft (3,983 x 49 m)
Surface	Asphalt
Elevation	4,100 ft (1,250 m)
Geocoordinates	164729S 0715311W
Additional Information	Suitable for C-141, C-130, C-17, KC-135. Eighteen taxiways. Ten parking areas. NavAids – approach control, directional finders, tower, VOR, and VORTAC. Lighting – approach, runway, and taxiways. Runway and overrun have been dug out leaving an embankment on each side, use caution on approaches and departures. Concrete runway 17 has cracks and may cause foreign object damage. Minor surface cracks on parallel taxiway. C-141, C-17, C-5, KC-10, and KC-135 operations limited to runway only. Daylight operations, VFR only. WBC is low. Operations at higher gross weight require waiver from airport manager.

Moises Benzaquen Rengifo (Yurimaguas)

Runway	5,905 x 98 ft (1,800 x 30 m)
Surface	Asphalt
Elevation	587 ft (179 m)
Geocoordinates	055339S 0760706W

Moises Benzaquen Rengifo (Yurimaguas)

Additional Information	Suitable for C-130. NavAids – Air/ground, NDB, and VOR. Lighting – approach, obstruction, rotating beacon, runway identification, runway strip, taxiway, threshold lights, and VASI runway 19. No telephone, telegraph or teletype available. Take off runway 27, land on runway 09. Daylight operations, VFR only. WBC is low. Operations at higher gross weight requires waiver from airport manager. Perimeter fence surrounds airfield except on southeast (apron) side. CAUTION: drainage ditch at runway's edge.

Padre Aldamiz (Puerto Maldonado)

Runway	11,496 x 150 ft (3,505 x 46 m)
Surface	Concrete
Elevation	659 ft (201 m)
Geocoordinates	123650S 0691345W
Additional Information	Suitable for C-141, C-130, C-17, KC-135. Two taxiways. Two parking areas. NavAids – Air/ground, DME, NDB, tower, VOR. Lighting – portable. No DoD published approach (other than NDB). Jeppesen available, approval required.

Pisco

Runway	9,908 x 148 ft (3,021 x 45 m)
Surface	Asphalt
Elevation	39 ft (12 m)
Geocoordinates	134445S 0761313W

Pisco

Additional Information	Suitable for C-141, C-5, C-130, C-17, KC-135. Twenty-five taxiways. Three parking areas. NavAids – Air/ground, approach control, DME, tower, and VOR. Lighting – approach, lighted wind indicator, obstruction, portable, runway identification, runway strip, taxiway, and PAPI on runway 21. Uncontrolled runway crossings and runway has sand and pebbles due to large aircraft prop/jet blast. Aircraft should exercise caution for foreign object damage on all apron and parking areas. South half of apron is in worst condition. Daylight operations only Airfield has obstacles, operations require approval/advisement from HQ AMC/DOAS. Base perimeter is secured by 10 ft (3 m) cyclone fence and partially by brick wall with guard posts every 500 ft (152 m). Thirty-bed inpatient facility on base.

Pucallpa

Runway	9,186 x 148 ft (2,801 x 45 m)
Surface	Asphalt
Elevation	515 ft (157 m)
Geocoordinates	082241S 0743427W
Additional Information	Suitable for C-141, C-130, C-17, KC-135. Five taxiways. Five parking areas. NavAids – Air/ground, approach control, VOR-DME, NDB, and control tower. Lighting – flares, obstruction, rotating beacon, runway strip, taxiway, threshold, variable intensity runway, and VASI. Airfield has obstacles. Operation requires approval/advisement from HQ AMC/DOAS. Daylight operations only. Airport has poor drainage after heavy rains. Highest obstructions are trees adjacent to runway and control tower.

Rodriguez Ballon (Arequipa)

Runway	10,040 x 148 ft (3,161 x 45 m)
Surface	Asphalt
Elevation	8,405 ft (2,563 m)
Geocoordinates	162026S 0713441W
Additional Information	Suitable for C-141, C-130. Eight taxiways. Seven parking areas. NavAids – Air/ground, DME, NDB, tower, and VOR. Lighting – Obstruction, runway identification, runway strip, taxiway, threshold, VASI, and flood on operational aprons 1 and 2. Major limitations include fuel capacity and ramp space. C-141 cannot taxi to old terminal area due to lack of ground clearance. Extreme caution must be used on apron in front of new terminal because terrain rises 10 to 20 ft high on south side of apron. High terrain on north side of parallel taxiway and east side of ramp may restrict C-141 operations. Blasting conducted at quarry 10 mi (16.2 km) south, Monday through Saturday from 1700-1730Z. Daylight operations only, VFR only. No DoD published approach (other than NDB). Jeppesen available, approval required. All taxiways have 25 ft (8 m) oiled earth shoulders. Airfield surrounded by three strands of barbed wire fence, approximately 6 ft (1.8 m) high with concrete posts.

Tarapoto

Runway	8,485 x 140 ft (2,857 x 43 m)
Surface	Asphalt
Elevation	900 ft (274 m)
Geocoordinates	063033S 0762224W

Tarapoto

Additional Information	Suitable for C-141, C-130, C-17. Five taxiways. Two parking areas. NavAids – Air/ground, NDB, tower, and VOR. Lighting – none listed. Daylight operations, VFR only. No DoD published approach (other than NDB). Jeppesen available, approval required. Ramp separated from parking area by an 8 ft (2.4 m) fence. Partial perimeter wall/fence on east side of runway. Remainder of airfield has no security fence and can be accessed by numerous roads. CAUTION: military aircraft operate in the area without air/ground communications.

Ten FAP JA Mont Morales

Runway	5,905 x 100 ft (1,800 x 30 m)
Surface	Asphalt / Fair
Elevation	70 ft (21 m)
Geocoordinates	090900S 0783125W
Additional Information	Suitable for C-141, C-130, C-17. Four parking areas. NavAids – Air/ground, NDB, tower, and VOR. Lighting – none. Airfield is greatly affected by gale force sea breezes that build up sand on runways and taxiways. Only two link taxiways and one parallel taxiway is usable, others are typically covered with sand. Surface of runway is very rough. Approval required for C-5/C-141 operations. Daylight operations, VFR only. WBC is low. Operations at higher gross weight requires waiver from airport manager. Perimeter fence exists and access to runway is unrestricted.

Tingo Maria

Runway	6,922 x145 ft (2,110 x 44 m)
Surface	Gravel / Fair
Elevation	2,010 ft (613 m)
Geocoordinates	091722S 0760019W

Tingo Maria

Additional Information	Suitable for C-130. Loop taxiways (gravel, poor condition). Two parking areas. NavAids – Air/ground, NDB, and tower. Lighting – none. Taxiway connects south portion of airfield to terminal, north of this point operators must use runway for taxi. Landing on runway 18 and takeoff on runway 36 only. Approach to runway 18 clear, approach to runway 36 restricted by hills. Call 10 minutes prior to ETA, due to heavy local traffic. Aircraft without radios are prohibited. Possible limited usage of runway during and after rainfall. Daylight operations, VFR only. CAUTION: Area directly behind Peruvian Air Force facilities and between the roads is posted as mined.

Velazco Astete (Cuzco)

Runway	10,984 x 148 ft (3,349 x 45 m)
Surface	Asphalt
Elevation	10,656 ft (3,249 m)
Geocoordinates	133218S 0715609W
Additional Information	Suitable for C-141, C-130, C-17, KC-135. Three taxiways. One parking area. NavAids – Air/ground, NDB, and tower. Lighting – none. Takeoff runway 09, land runway 27, proceed to end of runway for turnaround. Taxiway narrow (C-5, KC-10, KC-135) requires approval by HQ AMC/DOAS. Daylight operations, VFR only. Recommend survey or resurvey prior to operations. Airport is fenced, but breaks in eight-foot wall allow numerous personnel to cross the runway while flight operations are in progress.

APPENDIX L:
Ports

Callao Port Facilities (120230S 0770900W). The port of Callao is located just 13 kilometers (8 miles) from the capital, amid the most populous and industrialized area of the country. This is the largest seaport on South America's pacific coast. Located 10 meters (32.8 feet) inland, it is the principal harbor for Peru and the port of entry for Lima, Peru's capital. The port is formed and sheltered by a northern and southern breakwater. Isla San Lorenzo, 6 kilometers (3.7 miles). Southwest of the harbor entrance, also helps reduce swells in the harbor. Approaches from the northwest through the Bahía del Callao are generally unrestricted. Ships approaching from the west and SW must navigate around Isla San Lorenzo. The entrance channel is 167 meters (548 feet)wide and 10.6 meters (34.7 feet) deep. All major combatants and the main naval base of the Peruvian Navy are located here. The access channel to the naval base has a 10 meters (32.8 feet) dredged depth. The national port authority, Empresa Nacional de Puertos (ENAPU), controls the port. Operationally, the port is divided into a bulk loading area in the SW, general cargo and container operations in the central section, and the naval base, shipyard, and a POL tanker pier in the north.

Callo's capabilities include break bulk, dry bulk, and container. The supporting facilities include one mobile crane with an unknown capacity, three floating cranes (15 ton, 80 ton, and 20 ton), two tugs (175 horsepower (hp), 500 hp, and 800 hp), there are 30 other cranes with unknown capacity, and 43 break bulk lighters with a total capacity of 3,790 ton. Operationally, the port is divided into a bulk loading area in the southwest, general cargo and container operations in the central section, the naval base and shipyard, and a POL tanker pier in the north.

Chimbote (090439S 0783720W). This is a natural coastal port located in the northern region of Peru, 450 miles (279 miles) from Lima. The

port is situated 2 kilometers (1.2 miles) inland from the Pacific Ocean in the Bahía de Chimbote. There are three entry channels. Although primarily utilized for dry bulk operations, break bulk cargo can be discharged from the two large wharves.

Ilo (173843S 0712049W). This is a small open roadstead port located on the south coast of Peru, approximately 185 kilometers (113 miles) from the Peru-Chile border. Approach is from the west with range lights providing bearings to the two main piers. The port comprises the main commercial facility in the northern end operated by the national port authority Empresa Nacional de Puerto de Peru, S.A. (ENAPU) and the privately owned and operated Southern Peru Copper Corporation (SPCC) facility in the southern end. Ilo serves the commercial activities of the local region, including the mining industry.

Matarani (165947S 0720618W). This is a small coastal breakwater port located near the Peru/Chilean border, approximately 9 kilometers (5.5 miles) north of the town of Mollendo. The approach to the harbor is direct from the Pacific Ocean through the Bahía de Matarani. Primary channel is about 140 meters (459 feet) wide at the harbor entrance with depth of about 13.1 meters (43 feet). The port is the second largest in Peru, in terms of cargo tonnage handled. It is primarily a break bulk and dry bulk facility, but is capable of handling small amounts of containerized cargo, with ships cranes. A ramp exists for RO/RO operations. Matarani has replaced the Port of Mollendo for cargo handling.

Paita (050507S 0810625W). This is a small, open roadstead port, well sheltered from prevailing southeast winds by high ground. Located in northern Peru 106 kilometers (66 miles) south of Peru-Ecuador border. Approach has no sand bars. Channel depth reported at 10 meters (32.8 feet). National Port Authority (ENAPU) manages eastern part of complex while Peruvian Navy and a state-owned firm manages and operate western portion of complex. Port features general cargo operations with naval functions focused on fishing industry.

Puerto General San Martin (134830S 0761820W). This is a deep-water natural coastal port located on the NE side of the Paracas Peninsula, on the Bay of Paracas, approximately 275 kilometers (171 miles) south of Lima. Approach is between Punta Pejerrey, the NE extremity of the Paracas peninsula and the coastline ESE.

Salaverry (081348S 0785924W). This is a small, coastal breakwater port located on the Pacific Ocean approximately 550 kilometers (342 miles) north of Lima and about 14 kilometers (8.6 miles) south of the city of Trujillo. Approach is from the west via a channel dredged to a depth of 10m (32.8 feet). The main breakwater is WSW of the piers and three small breakwaters extend from the shore, just north of the piers. The port handles general cargo with an emphasis on bulk operations, serving the surrounding sugar producing and mining area.

Talara (043435S 0811732W). Peru's most northern port, Talara, is a natural coastal port located at the south end of Bahía de Talara, which is approximately 1,000 kilometers (621 miles) north of Lima. It is almost exclusively a petroleum port, servicing Peru's second largest refinery and the oil fields of northern Peru. The small amount of general cargo discharged is done by small coastal ships or by lighters at the pier.

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