

Japan Country Handbook

This handbook provides basic reference information on Japan, 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 Japan.

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

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Japan

KEY FACTS

Country Name. Japan

Official Name. Japan

Short Form. Japan

Chief of State: Emperor Akihito

Head of Government: Prime Minister Shinzo Abe.

Capital: Tokyo

National Flag: Japan's flag is white with a large red disk (representing the sun without rays) in the center.

Time Zone: UTC (Formerly GMT) +9

Telephone Country Code: 81

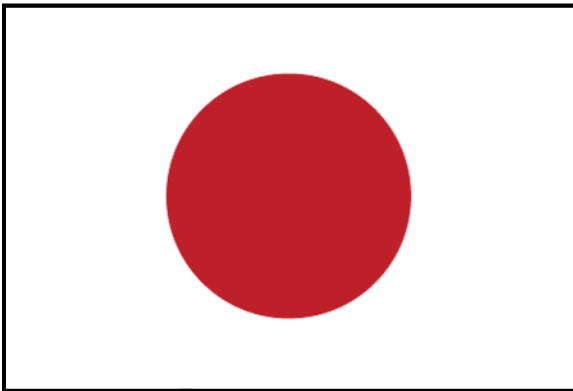
Population: 127,433,494 (2007).

Languages: Japanese

Currency: Yen. (¥)

Exchange Rate. US\$1 = ¥118.206 (November 2006).

Calendar. Japan uses the Gregorian calendar with the fiscal year starting April 1 and ending 31 March. Japan frequently applies



National Flag

a parallel numbering system for years according to the reign of current emperors. 2007 is the 19th year of the reign of emperor Heisei, the year is known as “Heisei 19.”

U.S. MISSION

U.S. Embassy

Location: 1-10-5 Akasaka, Minato-ku, Tokyo 107-8420

Telephone: 03-3224-5000 (*Fax:* 03-3505-1862)

Address: *From Japan:* 1-10-5 Akasaka, Minato-ku, Tokyo 107-8420

From the United States: U.S. Embassy Tokyo, Unit 45004, Box 258, APO AP 96337-5004

U.S. Consulates

Nagoya

Location: Nagoya International Center Bldg. 6F 1-47-1 Nagono, Nakamura-ku, Nagoya 450-0001

Telephone: 052-581-4501

Address: Nagoya International Center Bldg. 6F 1-47-1 Nagono, Nakamura-ku, Nagoya 450-0001

Osaka

Location: 2-11-5, Nishitenma, Kita-ku, Osaka 530-8543

Telephone: 06-6315-5900 (*Fax:* 06-6315-5914)

Address: 2-11-5, Nishitenma, Kita-ku, Osaka 530-8543

Sapporo

Location: Kita 1-jo Nishi 28-chome Chuo-ku, Sapporo 064-0821

Telephone: 011-641-1115 (*Fax:* 011-643-1283)

Address: Kita 1-jo Nishi 28-chome Chuo-ku, Sapporo 064-0821

Fukuoka

Location: 2-5-26 Ohori Chuo-ku, Fukuoka-shi 810-0052

Telephone: 092-751-9331 (*Fax:* 092-713-9222)

Fax:**Address:** 2-5-26 Ohori, Chuo-ku Fukuoka-shi 810-0052**Naha****Location:** No.2564 Nishihara Urasoe City, Okinawa 901-2101**Telephone:** 081-98-876-4211**Fax:** 081-98-876-4243**Address:** No.2564 Nishihara Urasoe City, Okinawa 901-2101**U.S. Military Facilities**

Base	Branch	Location	Personnel*
Kadena AB	Air Force	Koza	9,693
Misawa AB	Air Force	Misawa	4,391
Yokota AB	Air Force	Fussa (Tokyo)	4,911
Camp Zama	Army	Sagamihara	3,051
MCAS Iwakuni	Marine Corps	Iwakuni/ (Hiroshima)	4,616
MCB Camp S D Butler	Marine Corps	Okinawa	8,479
Camp Courtney	Marine Corps	Gushikawa, Okinawa	
Camp Hansen	Marine Corps	Kin Town, Okinawa	
Futenma	Marine Corps	Ginowan, Okinawa	3,000
COMFLEACT Sasebo	Navy	Sasebo	4,171
Yokosuka	Navy	Yokosuka (Tokyo)	17,092

** The "Personnel" column includes military and civilians*

Travel Advisories

The Department of State advises American citizens to be aware of potential risks when traveling in Japan. There has not been a ma-



U.S. Embassy

for terrorist incident in Japan since 1995, when Aum Shinrikyo, a religious cult, attacked a subway station with sarin gas. The threat of terrorism in Japan is considered low. However, Americans have

been victims of crimes involving theft, vandalism, and personal disputes. Violent crime is rare. Overall, the crime rate in Japan is much lower than that of the United States. Most crimes committed against Americans occur in the entertainment district known as Roppongi, located in Tokyo. Police can be reached at telephone number 110 and fire fighters at 119.

Westerners should avoid visiting Hiroshima any day near 6 August, and Nagasaki any day near 9 August. These dates are very sensitive in Japan as they mark the dates when the United States dropped atomic bombs on Hiroshima and Nagasaki in 1945.

Entry Requirements

Passport/Visa Requirements

Although U.S. military personnel are required to only have military identification and orders, it is recommended that active duty military personnel obtain both a tourist passport and an official passport before arriving in Japan.

All family members of military personnel, civilian employees, and contractors must have a valid passport and return ticket to enter Japan. The United States and Japan have “Reciprocal Visa Exemption Arrangements” for trips of 90 days or less. Some personnel may need a SOFA visa to enter Japan, depending on the purpose of visit.

Japanese law permits law enforcement officers to stop any person and demand identification. U.S. citizens should carry their passport or military identification with them at all times.

Immunization Requirements

Japan does not require vaccinations. It is a highly developed country and health risks are similar to those in the United States.

The Centers for Disease Control recommends multiple vaccines for travelers to the East Asian region including hepatitis A, hepatitis B, Japanese encephalitis, malaria, typhoid, and as needed, booster doses of tetanus-diphtheria and measles. Japan is rabies-free.

Customs Restrictions

Japan prohibits weapons possession and import. Japanese law enforcement authorities may arrest, detain, and prosecute persons in possession of a firearm or sword including target and trophy pistols, air guns, certain pocket knives, and Japanese-origin swords.

Visitors must be aware of strict regulations on drugs. Various prescription medications and over-the-counter drugs that contain stimulants such as pseudoephedrine and codeine are illegal in Japan. These often include inhalers and allergy and sinus medicines. Some medicines may not be brought into Japan even with a doctor's prescription and a customs declaration. One month's supply of permissible prescription medicine may be brought into Japan, but must be accompanied by a doctor's prescription and a statement of purpose.

Credit Cards/Banking/Currency

Most automatic teller machines in Japan do not accept U.S.-based cards and are not open 24 hours. U.S. cards are usually accepted at major airports, hotels, foreign bank branches, and post offices.

Credit cards accepted in Japan include American Express, Diner's Club, Mastercard, and Visa. Credit card use is not common in Ja-

pan especially outside major cities. Japan is a cash-based society. Most stores and restaurants, health clinics and hospitals do not accept credit or debit cards.

Many Japanese associate the use of credit cards, especially for big purchases, with poverty or criminal activity.

Banks on U.S. military installations allow debit and credit cards, and some on-base banks and ATMs allow military personnel to take out Yen or U.S. dollars.

Travelers may transport an unlimited amount of money to and from Japan. Customs declarations are required when transporting more than ¥1,000,000 (US\$8,299.44). The most common Yen denominations are in ¥1,000, 5,000 and 10,000 notes.

GEOGRAPHY AND CLIMATE

Geography

Land Statistics

Total Area:	377,835 square kilometers (145,883 square miles). Slightly smaller than California.
Water Area:	3,091 square kilometers (1,193 square miles)
Coastline:	29,751 kilometers (18,486 miles)

Boundaries

Japan is an island chain with no land boundaries. It is located between the North Pacific Ocean and the Sea of Japan, east of the Korean Peninsula.

Border Disputes

Japan disputes Russia's territorial claim to the northern islands of Etorofu, Kunashiri, and Shikotan, and the Habomai island group.



Asian Continent

The Soviet Union occupied the islands during World War II, and Russia now claims them. This territorial dispute has resulted in mutual refusal to normalize relations or sign an official peace treaty between Japan and Russia to end hostilities.

Japan and South Korea claim ownership of the Liancourt Rocks. South Korea has occupied the islands since 1954. South Korea claims that the islands have always belonged to them, while Japan states that they are an integral part of Japanese territory. Both countries claim to have historical and lawful evidence of ownership.

Japan, China, and Taiwan claim sovereignty over the Senkaku Islands in the East China Sea. The islands are located within shipping routes and fishing areas and also have oil deposits. Japan has used the islands as nautical aids since 1895. China and Taiwan recently protested and expressed interest in the islands. Japan also



Japan Coastline

disputes China's claim that it has exclusive rights to the economic zone in the East China Sea. After China began drilling for gas reserves in the East China Sea, Japan accused China of drilling past the demarcation line in Japanese waters. Japan subsequently began its own resource exploration operations around the contested Senkaku islands.

Bodies of Water

Japan is located between the North Pacific Ocean and the Sea of Japan. The Korean Strait, measuring 200 kilometers (124 miles) wide, separates Japan from South Korea. Narrow straits separate Japan's four main islands.

Japanese lakes cover 2,380 square kilometers (919 square miles), and most are located in the central and northern regions. Lake Biwa, located in central Honshu Island west of Tokyo, is the largest freshwater lake in Japan. Lake Biwa has a surface area of 670 square kilometers (259 square miles) and receives water from 120 rivers. Japan began building artificial lakes after World War II to



Shinano River

protect downstream cities and villages against flooding, as well as to provide additional fresh water.

Japan has many steep and fast moving rivers that are difficult to navigate. Most rivers are less than 300 kilometers (186 miles) long and are used to generate hydroelectric power. Shinano River is the longest river in Japan, measuring 367 kilometers (228 miles). The Shinano River is located in the Japanese Alps of Honshu Island.

Topography

Japanese islands are peaks of uplifted mountain ridges located on the edge of the continental shelf. Japan is made of four major islands and many smaller islands.

Main Japanese Islands

Honshu:	231,000 square kilometers (89,190 square miles)
Hokkaido:	83,000 square kilometers (32,046 square miles)
Shikoku:	19,000 square kilometers (7,336 square miles)
Kyushu:	42,000 square kilometers (16,216 square miles)

Japan also has groups of smaller islands, such as the Ryukyu Islands containing Okinawa to the southwest. The Izu Islands are located off the south eastern coast of Honshu Island, near Tokyo. The Bonin Islands are located in Central Pacific Ocean 805 kilometers (500 miles) southeast of Japan. The Volcano Islands, including Iwo Jima, are located in the Western Pacific Ocean between the Bonin Islands and Japan. Japan is surrounded by 29,751 kilometers (18,486 miles) of rocky coastline.

Many of the world's active volcanoes are located in Japan. Mount Fuji is a dormant volcano located on Honshu Island and is the highest mountain in Japan at 3,776 meters (12,388 feet).



Topography

Seventy-three percent of Japan's land area is mountainous. A chain of mountains divides the country into a front side facing the Pacific Ocean, where most major cities are located, and a back side facing the Sea of Japan. The Hida, Kiso, and Akaishi mountain chains meet in central Japan to form the Japanese Alps, which



Mt Fuji

contain steep mountains on the Pacific side ranging higher than 3,000 meters (9,843 feet). The highest peak in the Japanese Alps is Kitadake at 3,192 meters (10,472 feet).

On the Sea of Japan side there are small, low mountain areas and plateaus with altitudes ranging from 500 meters (1,640 feet) to 1,500 meters (4,921 feet).

Japan has some small mountain basins and plains areas. The Kanto Plain is the largest lowland area. It is located in central Honshu Island and measures 193 kilometers (120 miles) at its longest point. Other plains include the Nobi Plain containing Nagoya City, the Kinki Plain containing Osaka City, the Sendai Plain in northeastern Honshu Island, and the Ishikari Plain on Hokkaido Island.

Cross-country Movement

Japan is a narrowly shaped chain of islands with the main islands separated by narrow straits. No point in Japan is more than 150 kilometers (93 miles) from the sea and nearly all major cities are

located on the coast. Seventy-three percent of the land area in Japan is mountainous. Cross country movement can be difficult due to the highly mountainous terrain. The mountainous areas of the north are especially difficult to cross during the winter. Most vehicles require chains on their tires. Roads are often closed during the winter due to heavy snow. Many of Japan's roads are more narrow than U.S. roads.

Japan has rugged geological features and no sizeable plains. The Kanto Plain is the largest plains area, but is only 193 kilometers (120 miles) at its longest point. The Japanese coastline is not level, but has elevated and depressed features, and many bay areas. Extreme weather can impede travel. During summer and autumn, typhoons cause mudslides and heavy flooding.

Environment

Despite its relatively small geographic size, Japan is the fourth largest consumer of electricity in the world. High energy consumption combined with rapid industrial growth has led to a steady increase of acidic pollutant emissions. Japan is concerned about power plant emissions that pollute the air and cause acid rain.

Acid rain in Japan has often been measured at pH level 4 (pH level 5 being neutral), containing enough acid to be deadly for fish. Water quality in many lakes, streams, and reservoirs is compromised. Aquatic life is also negatively affected, causing large-scale ecosystem problems. Heavy industrial pollution and rampant overfishing throughout Japanese waters has led to depletion of fish, as well as high toxicity levels in remaining fish populations.

Japan has experienced many environmental disasters, and has taken preventive measures against future crises. Irresponsible industrial waste disposal caused cadmium poisoning and *Itai-itai* disease.



Winter Conditions in Mountainous Areas

Japanese citizens also contracted Minamata disease from mercury-poisoned seafood. Arsenic and polychlorobiphenyl poisoning have also affected Japan.

Japan's Ministry of the Environment is responsible for environmental protection. Japan has enacted some of the world's strictest environmental protection regulations, and currently leads the world in research, development and implementation of pollution control technologies. It has also significantly improved its ability to conserve energy.

Climate

Precipitation

Japan receives more than 1,016 millimeters (40 inches) of precipitation annually. Most precipitation is in the form of rain and occurs

between late spring and mid-autumn. During this period, south and southeast seasonal winds from the Pacific bring humidity and significant rainfall. This period is called *baiu* (plum rain) because of the heavy rain that falls as plum harvest season begins. Hokkaido has less rain than the other islands.

The smallest average amount of precipitation falls in the dry winter months. The mountainous Japanese terrain splits the northeastern winter cold front and drops heavy snow on the northwestern side of Japan. This region, which faces the Sea of Japan, receives the most precipitation. Between November and April, snow covers northern and interior Honshu, the northwest coast, and the northern island Hokkaido. Heavy rains accompany typhoon season from August to September.

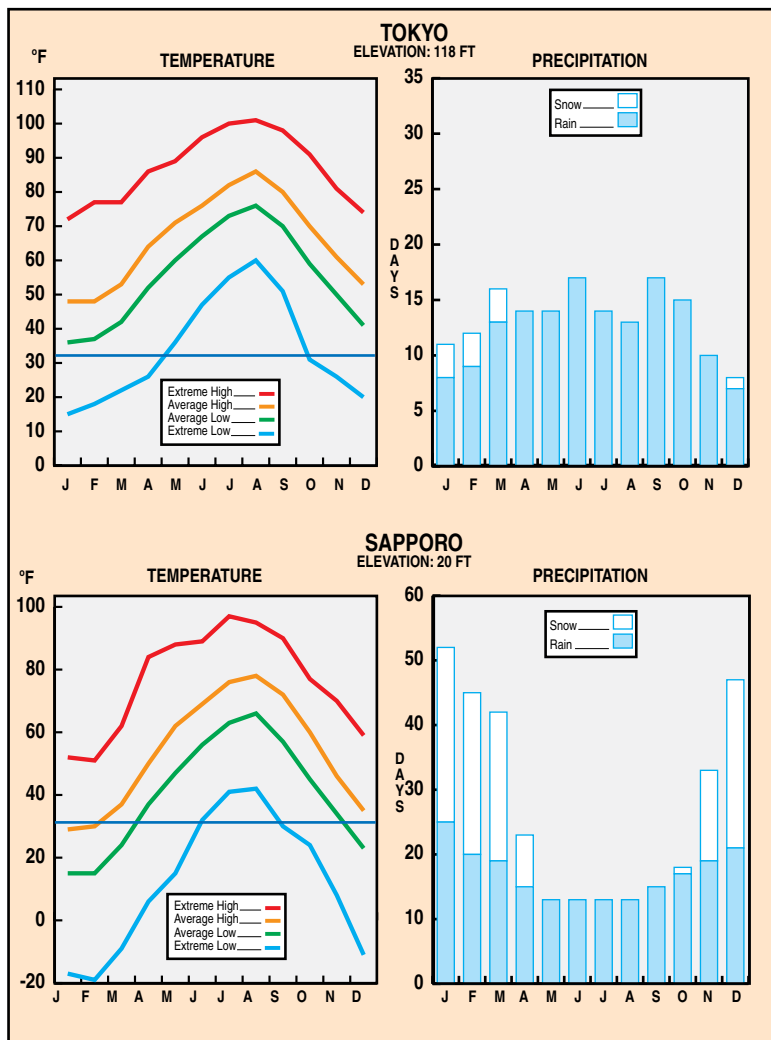
The southwestern island of Okinawa is located in a subtropical climate zone and receives more than 2,000 millimeters (79 inches) of precipitation annually.

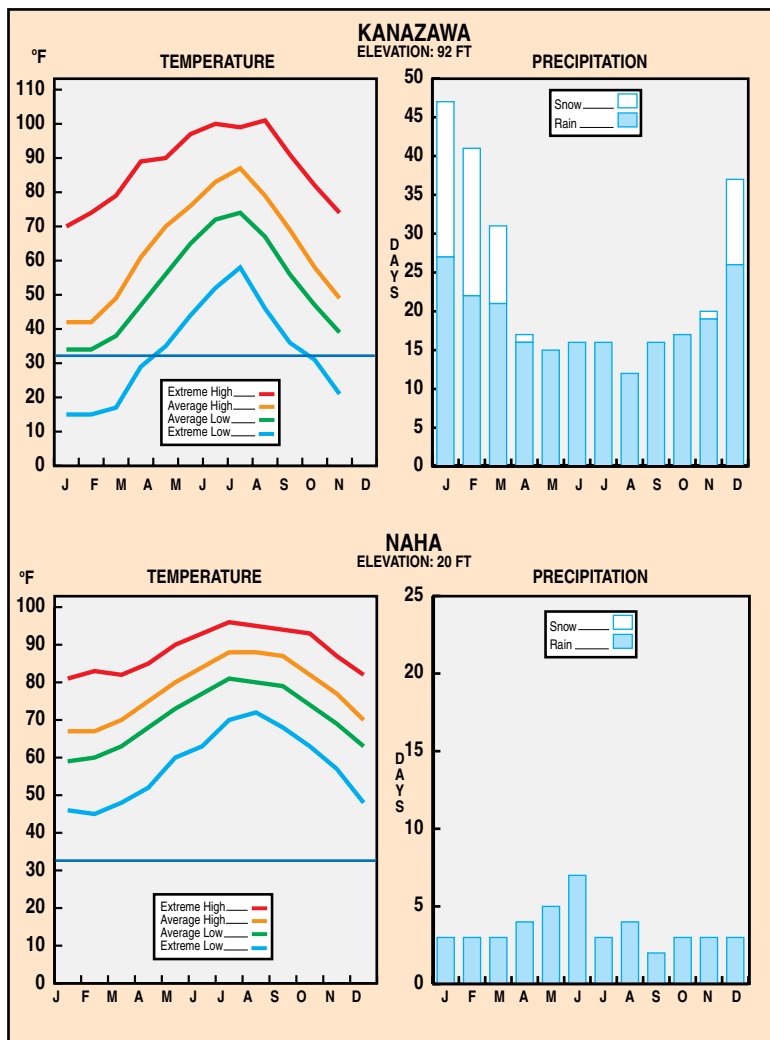
Climatic Patterns

Japan has a diverse range of climates. In northern Honshu and Hokkaido, the climate is similar to that of the northeastern United States, while subtropical climates exist in the southern islands and in Okinawa.

Between June and September, seasonal summer winds blow from the southeast and create a hot and humid climate.

Winter in Japan is generally cold and dry, but varies depending on location. The northern City of Sapporo experiences longer and harsher winters than most of Japan. Northwestern winter winds create a sub-arctic climate and snowstorms. The mountain range along the length of Japan splits winter winds that bring heavy





Kanazawa and Naha Weather

snow to the Sea of Japan side with less precipitation and a relatively dry climate to the Pacific side.

Spring and autumn have the most pleasant climates in Japan with mild days, sunshine, and varying winds.

Japan's long rainy seasons occur in late spring and early summer from southeastern winds, and also during autumn when winds die down. Japan usually experiences five or six typhoons each year, mostly in the southwest. Typhoons occur from early August to September and often cause storm and flood damage.

Temperatures in Japan are affected by strong ocean currents, continental winds, and mountainous terrain that extends along 25 degrees of latitude. The result is temperatures that vary by season and location, with warmest weather during the summer in the southern islands, and the coldest weather in the northern mountains during winter. The overall average annual temperature for Japan is between 10°C and 20°C (50°F and 68°F). Winter winds from Siberia bring cold, clear weather to Japan. The northern Hokkaido Island has an average annual temperature of 8°C (46.4°F). Tokyo is located in a temperate zone with an average annual temperature of 14.5°C (58.1°F). The subtropical island of Okinawa has an average annual temperature of 22°C (71.6°F).

Phenomena

Japan is located in the Pacific Basin along the “Ring of Fire,” a zone of frequent volcanic activity and earthquakes. Japan is home to 10 percent of active volcanoes in the world and has documented 60 active volcanoes in its history. Japan's largest mountain, Mount Fuji, has not erupted since 1707. Major eruptions since 1980 include Mount O in the Izu Islands, Mount Mihara in the

Izu Islands, and Mount Unzen in Kyushu. Other active volcanoes include Miyake-jima and Unzen-Fugendake.

Japan records between 1,000 and 1,500 tremors and earthquakes each year. It is not uncommon for Japan to experience powerful earthquakes measuring 4 to 6 on the Richter scale. Tremors powerful enough to shake buildings occur almost daily throughout the many islands of Japan. A 1923 earthquake killed 130,000 people. In 1995, the Great Hanshin earthquake killed more than 6,300 people. These types of destructive earthquakes occur several times a century.

Earthquakes in and around Japan also cause *tsunami* (tidal waves), when large tremors disrupt the ocean floor. Japan leads the world in earthquake research and devotes many resources to developing advanced technology for earthquake prediction. Architecture throughout Japan is designed to resist the effects of constant minor tremors as well as large earthquakes.

TRANSPORTATION AND COMMUNICATION

Transportation

Roads

Japan's road system comprises 1,183,000 kilometers (735,082 miles) of roads, of which 925,000 kilometers (574,768 miles) are paved and 258,000 kilometers (160,314 miles) are unpaved. Of Japan's paved roadways, 6,946 kilometers (4,316 miles) are expressways. Major Pacific coastal cities are connected by the Keiyo Highway, Meishin Expressway, Tohoku Expressway, and the Tomei Expressway.

Driving in Japan is expensive due to highway tolls (averaging US\$1 per mile) and mandatory automobile insurance. Driving is also complicated and difficult due to heavy traffic, foreign language signs, different rules of the road, and frequently closed roads in mountainous areas during the winter season.



Transportation Network

Driving conditions in Japan differ starkly from those in the United States. Cars are driven on the left side of the road. Expressways are named and major roads are numbered. Streets in cities and towns are sectioned into blocks or sub-areas and are typically not numbered or marked. Road quality is good, although roads are narrow in Japan, particularly on city side streets.

Parking is limited, spaces are small, and fees are expensive. Roadways in urban areas are often overcrowded with cars, trucks, buses, motorbikes, and bicycles. Turning at a red light is against the law except on U.S. bases where a sign says otherwise. Motorcycle operators often pass cars at stop lights and amass at the front of the waiting traffic.

Roads can be very narrow in mountainous areas. Convex mirrors are often placed at turns in the road to allow drivers to see around the curve. The roads are so narrow that drivers must stop, look in the mirror, and often pull to the side for an oncoming car or proceed. Guardrails on mountainous two-lane roads are not common. During wintertime, roads near mountains may be closed, and cars should be outfitted with chains when driving in mountainous areas.

Japanese compulsory insurance (JCI) is expensive and is required for all car owners and drivers, including visiting Americans. Dangers on Japanese roads include drivers running red lights, blocked traffic, and cyclists traveling on the wrong side of the road.

Speed limits are 80 to 100 kilometers (50 to 62 miles) per hour on expressways, 40 kilometers (25 miles) per hour in urban areas, 30 kilometers (19 miles) per hour on side streets, and 50 to 60 kilometers (31 to 37 miles) per hour in other areas. Driving more than 10 kilometers (6 miles) per hour above the speed limit is rare. Speed limit signs are always posted in kilometers per hour, rather than miles per hour.



Toll Road in Japan

U.S. citizens intending to drive in Japan must obtain an International Driving Permit. Military personnel will obtain their licenses through the base at which they are stationed. Drivers without a recognized license may be arrested, fined, and deported.

All drivers involved in an accident are held liable under Japanese law. Penalties for driving offenses are harsh. Drivers stopped for driving while under the influence of alcohol will have their license taken away. Driving after drinking any amount of alcohol is illegal. Those found guilty of driving while intoxicated, speeding, or other irresponsible driving resulting in injury may be sentenced to as much as 15 years in prison.

Taxis are secure, clean, and readily available in cities. Taxi riders should bring the name and address of their destination written in Japanese and the name of a nearby landmark because most drivers



Taxi in Japan

do not speak English. Taxi drivers open and close doors to taxis with a remote control. Always enter and exit the cab on the curbside rather than on the roadside, and wait for the door to open automatically to avoid injury. Taxis are equipped with meters. Fares are expensive. A minimum is applied to the first 2 kilometers (1.2 miles). Slow moving traffic and late night service will result in additional charges. Taxi rush hours are from 0730 to 0900 and 1700 to 1800. Do not tip taxi drivers.

Public transportation is modern and efficient in Japan. The system includes trains, subway systems, and buses. Outside urban areas, most people drive cars due to the lower availability of public transportation. The bus system is the main local public transportation service available to cities and towns in Japan. Public transportation can become very overcrowded during rush hours. Often, buses are so crowded that people stand on the steps of the bus. Subway and railway stations in major cities usually have signs and directions in English and Japanese.

Rail

There are 23,556 kilometers (14,637 miles) of railways in Japan. Standard gauge track is 1.435-m and covers 3,204 kilometers (1,991 miles) in length, all of which is electric. Narrow gauge track is 1.372-m and covers 77 kilometers (48 miles), all of which is electric; 1.067-m gauge covers 20,264 kilometers (12,591 miles), of which 13,280 kilometers (8,252 miles) is electric; and 11 kilometers (7 miles) of 0.762-m gauge is electric.

Japan Railways is a group of six railway companies that operate a nationwide network of trains. There are five types of trains in Japan: local (*Futsu*), rapid (*Kaisoku*), express (*Kyuko*), limited express (*Tokkyu*), and super express (*Shinkansen*), also known as a bullet train. Local trains stop at all stations and connect commuters to urban areas and smaller towns in rural areas. Rapid trains make fewer stops than local trains. Express trains make fewer



Overcrowded Train During Rush Hour

stops than rapid trains and provide fast long-distance service to cities. Limited express trains stop only at major stations. Super express service is provided by bullet trains, which travel at high speeds and connect to major cities.

Air

Japan's main international airports are Narita Airport in Tokyo, Kansai Airport in Osaka, Central Japan International Airport in Nagoya, and Fukuoka Airport in Fukuoka. Japan Airlines (JAL) and All Nippon Airways (ANA) are the primary Japanese airlines offering international and domestic flights. Other providers of domestic flights include Skymark Airlines, Air Do, Skynet Asia Airways, IBEX Airlines, and Starflyer. Japan's main domestic airports are Haneda Airport in Tokyo and Itami Airport in Osaka.

Airport Name Coordinates	Runway Dimensions	Runway Surface	Elevation
Aomori Airport 4044N 14041E	3,001 x 61 m (9,846 x 200 ft)	Asphalt	202 m (664 ft)
Central Japan International Airport (Centrair) 3451N 13648E	3,500 x 60 m (11,483 x 197 ft)	Concrete, Asphalt, or Bitumen- Bound Macadam	5 m (15 ft)
Fukuoka Airport 3335N 13027E	2,800 x 60 m (9186 x 197 ft)	Asphalt	10 m (32 ft)
Iwakuni MCAS 3408N 13214E	2,438 x 46 m (8,000 x 150 ft)	Concrete	2 m (7 ft)
	366 x 46 m (1,200 x 150 ft)	Concrete	
Osaka Kansai International Airport 3425N 13514E	3,500 x 61 m (11,483 x 200 ft)	Asphalt	8 m (26 ft)



Osaka International Airport

Airport Name Coordinates	Runway Dimensions	Runway Surface	Elevation
Misawa AB 4042N 14122E	3,048 x 46 m (10,000 x 150 ft)	Asphalt	36 m (119 ft)
Tokyo Narita International Airport 3545N 14023E	4,000 x 60 m (13,123 x 196 ft)	Asphalt	43 m (141 ft)
	2,180 x 60 m (7,152 x 196 ft)	Asphalt	

Maritime

Japan runs one of the largest and most advanced shipping industries in the world; its ports are modern and equipped with state-of-the-art maritime equipment. Because Japan is a well-developed country surrounded by water, it has numerous high-volume ports.

Port Names Coordinates	Berthing	Anchor Depth	Pier Depth
Port of Aomori 4050N 14045E	Vessels more than 152 m (500 ft) long	11 to 12.2 m (36 to 40 ft)	6.4 to 7.6 m (21 to 25 ft)
Port of Iwakuni 3411N 13215E	Vessels more than 152 m (500 ft) long	9.4 to 10.7 m (31 to 35 ft)	6.4 to 7.6 m (21 to 25 ft)
Port of Nagoya 3504N 13652E	Vessels more than 152 m (500 ft) long	9.4 to 10.7 m (31 to 35 ft)	3.4 to 4.6 m (11 to 15 ft)
Port of Yokosuka 3517N 13940E	Vessels more than 152 m (500 ft) long	11 to 12.2 m (36 to 40 ft)	4.9 to 6.1 m (16 to 20 ft)

Communication

Radio

Public radio is provided by NHK, which operates a news/talk radio station, cultural and educational station, classical music station, and the station Radio Japan. Commercial stations include Inter FM, J-Wave, and Tokyo FM. Tokyo Broadcasting System operates TBS Radio. Not all stations are in Japanese: some are in English, and sometimes non-Japanese broadcast in English on radio stations near major cities.

Major Stations

NHK Radio One

NHK Radio Two

NKH Radio Japan, International

Inter FM 76.1 FM

J-Wave 81.3 FM

Tokyo FM 80.0 FM

TBS Radio 954 AM

Military Radio 648 AM/89.1 FM

Programming

news/talk

classical music, education

news

music

urban contemporary music

alternative music

news/talk

U.S. military

Television

National television is provided by five television companies in Japan, all located in Tokyo. NHK, Japan's public television broadcaster, operates General TV, Educational TV, satellite channels BS-1 and BS-2, HDTV network Digital Hi-Vision, NHK World TV, and NHK World Premium. Private national commercial networks include TV Asahi, Fuji TV, Nippon TV, and Tokyo Broadcasting System. Satellite and cable television is watched by millions of people. Digital terrestrial television, digital television through the use of a conventional antenna, will be introduced soon. The most popular types of television programs are news, drama, variety shows, and sports. Although Western influence is apparent in some less popular television programs, foreign television is not a main part of the major television networks. Some American TV shows and movies are shown on Japanese television. Korean dramas are also becoming very popular with youth in Japan.

Primary Television Stations

NHK General TV	NHK World TV
NHK Educational TV	NHK World Premium
NHK BS-1	TV Asahi
NHK BS-2	Fuji TV
NHK HDTV Digital Hi-Vision	Nippon TV (NTV)
Tokyo Broadcasting System (TBS)	

Telecommunication

Nippon Telegraph and Telephone handles the purchase of land lines. Land line phones may be rented or bought new or used. Phone lines are analog or ISDN digital.

Public phones are readily available and are color coded green, gray, and orange. Green phones are the most common, accept coins and pre-paid phone cards, and some allow international calls. Gray phones are common, accept coins and pre-paid phone cards, and most allow international calls. Orange phones are the newest type of phone, accept coins and IC cards, and allow international calls. Older, pink phones found in some areas only accept JPY10 coins. Phone cards may be purchased at kiosks and vending machines. Some public phones accept payment by credit card. It is recommended that U.S. military personnel buy phone cards on base because they are less expensive and provide more minutes for international calls.

Japan's mobile phone network uses PDC technology, which is incompatible with networks from other countries. Cell phones (called *Ketais*) can be rented through several companies at airports and other locations. Monthly or yearly mobile phone contracts are available to legal Japanese residents; to purchase such a contract, a foreigner must provide his or her alien registration card.

Japan Telecommunication Statistics 2005

Total telephone subscribers	153,525,000
Telephone subscribers per 100 inhabitants	119.9
Main telephone lines	58,700,000
Main telephone lines per 100 inhabitants	45.9
Mobile users	94,745,000

Newspapers and Magazines

National daily newspapers have the highest circulation per person in the world. *Yomiuri Shimbun*, *Asahi Shimbun*, and *Mainichi Shimbun* are the leading newspapers in Japan.

Publications	Language	Frequency	Web Address
<i>Asahi Shimbun</i>	Japanese English,	Daily	www.asahi.com/ english/english.html
<i>Chugoku Shimbun</i>	Japanese	Daily	www.chugoku- np.co.jp/
<i>Chunichi Shimbun</i>	Japanese	Daily	www.chunichi. co.jp/
<i>The Japan Times</i>	English	Daily	www.japantimes. co.jp/
<i>Mainichi Shimbun</i>	Japanese English,	Daily	www.mainichi. co.jp/
<i>Mainichi Daily News</i>	Japanese English	Daily	mdn.mainichi-msn. co.jp/
<i>Nikkei Net</i>	Japanese English	Daily	www.nni.nikkei. co.jp/
<i>Nihon Keizai Shimbun</i>	Japanese, English	Daily, Weekly (English)	www.nni.nikkei. co.jp/
<i>Osaka Shimbun</i>	Japanese	Daily	www.sankei-kansai. com/
<i>Sankei Shimbun</i>	Japanese	Daily	www.sankei.co.jp/
<i>Tokyo Shimbun</i>	Japanese	Daily	www.tokyo-np.co. jp/
<i>The Weekly Post</i>	Japanese English	Weekly	www.weeklypost. com/061110jp/ index.html
<i>Yomiuri Shimbun</i>	Japanese	Daily	www.yomiuri. co.jp/dy/

Postal Service

Post offices, easily identified by a large orange “T” on the front of the building, ship post cards, regular and irregular sized mail, and parcels. Mail is collected from mail boxes, which are red in color, and have one slot for standard mail and another for large mail, express mail, and international mail. An alternative to the post office

is the *takuhaibin* (known as “Black Cat”), private door-to-door delivery services similar to UPS or FedEx in the United States. Parcels, luggage, and other goods can be delivered to domestic and international addresses by the *takuhaibin*. Each U.S. military installation has its own post office.

Domestic mail costs US\$0.43 for a post card, US\$0.69 for a letter up to 25 grams (0.9 ounces), and US\$0.77 for a letter up to 50 grams (1.8 ounces). To send larger mail domestically, check rates.

International mail can be sent by air, surface mail, SAL (Surface Air Limited), Intelpost (International Electronic Post), and EMS (Express Mail Service). Post cards are the only item sent internationally by air with a flat rate of US\$0.60 to all locations. Rates vary for other items sent internationally depending on the destination country. EMS is the quickest and most reliable way to send mail internationally. Air mail is quick but more expensive than surface mail. Service and rates that fall between surface and air mail are available through SAL. Airmail reaches the United States in 1 to 2 days on the west coast and 3 days on the east coast. EMS documents reach the United States in 1 to 2 days on the west coast and 1 day on the east coast.

Post offices also have banking functions. A lot of Japanese have savings accounts at the post office. International money orders can be purchased and sent from Japanese post offices. Post office hours are Monday through Friday from 0900 to 1700, although larger post offices are open weekdays until 1900. A limited number of post offices are open on weekends.

Internet

Internet cafes are available in Tokyo and other major cities. Some public telephones and phones in hotels have an input that allows

computers to access the internet. Many restaurants and hotels have wireless internet, including some branches of McDonald's.

Japan Internet Statistics 2005

Total Internet hosts	16,445,223
Hosts per 10,000 inhabitants	1,286.8
Users	64,160,000
Users per 100 inhabitants	50.2
Total number of Personal Computers	69,200,000
PCs per 100 inhabitants	64.2
Internet broadband per 100 inhabitants	N/A (2003)

Satellites

Japan has seven satellite earth stations (five Intelsat, one Intersputnik, and one Inmarsat). Submarine cables connect Japan's communication network to China, the Philippines, Russia, and the United States.

CULTURE

Statistics

Total Population	127.4 million (2007 estimates)
Population Growth Rate	.08 percent
Birth Rate	8.1 births/1,000 population
Death Rate	8.98 deaths/1,000 population
Net Migration Rate	None
Life Expectancy at Birth	<i>Overall:</i> 82.02 years <i>Male:</i> 78 years <i>Female:</i> 86 years
Average Lifespan	<i>Men:</i> 79 years <i>Women:</i> 86 years

Population Age Structure

<i>0-14 years</i>	13.8 percent
<i>15-64 years</i>	65.2 percent
<i>65 years and older</i>	21 percent

Population Patterns

Japan is one of the most densely-populated nations in the world. It is a highly urbanized society, with 44.2 percent of the population living within 50 kilometers (31 miles) of one of three major cities (Tokyo, Osaka, and Nagoya). The metropolitan areas of the three cities make up 5.9 percent of Japan's landmass and contain nearly half the population. Urbanization has been rising since the 1950s.

Tokyo is Japan's most populous metropolitan area. The population density in Tokyo is the highest of all the cities at 5,748 per square kilometer (14,887 per square mile). Nagoya and Osaka are the only other urban areas in Japan with a population density higher than 1,000 per square kilometer (2,600 per square mile).

Major Metropolitan Areas in Japan

There are 12 cities in Japan with a population of more than a million in the city itself (rather than the metropolitan area). The combined total population of these cities is 27 million, roughly 22 percent of the total population of Japan.

Cities	Population (2005)
Tokyo	8.5 million
Yokohama	3.6 million
Osaka	2.6 million
Nagoya	2.2 million



Osaka, Japan

Sapporo	1.9 million
Kobe	1.5 million
Kyoto	1.5 million
Fukuoka	1.4 million
Kawasaki	1.3 million
Saitama	1.1 million
Hiroshima	1.2 million
Sendai	1 million

Ethnic Density

Ninety-nine percent of the population is ethnic Japanese. The remaining 1 percent is Korean (511,250), Chinese (244,250), Brazilian (182,200), Filipino (89,850) and others (237, 900).

Society

Emphasis is placed on being part of a group that works together to achieve great things, and individual assertion is frowned upon. Reliance on others is considered a virtue as it strengthens the solidarity of the group and society. Japan's culture is very subtle and complex: social rules are not often verbalized, but intuitively understood. Children are taught respect from early childhood using a multi-faceted approach involving language, body movements, and proper protocol. The predominance of respect as a cultural value stems from the influence of Confucianism on Japanese society.

As an island nation, Japan has often felt threatened by outside powers. Japanese respond to this by building faith in their culture and abilities as a nation. As a result, Japanese have immense pride in their unique culture.

Ethnic Groups

The minority populations are primarily laborers in the manufacturing and services industries. Due to a graying and decreasing population and a shrinking workforce, Japan is reevaluating its once strict immigration policy. Japan is expected to become more ethnically diverse as it seeks to fill unemployment gaps.

Japan has two small indigenous ethnic groups, the Ainus and the Ryukyans. The Ainus are native to Hokkaido, Sakhalin, the Kurile Islands, and northern Honshu. During the rise of the modern Japanese state in the mid-19th century, Japan annexed these territories and imposed strict cultural assimilation policies on the Ainus, forbidding the Ainu language and characterizing Ainus as barbarians. After a century of contentious relations, Japan recognized the Ainus as an indigenous ethnic people and passed the Culture

Promotion Law to protect Ainu culture and its distinct traditions, music, language, and rituals.

The Ryukyuan are native to the Ryukyuan island chain south of the main Japanese islands. The largest population of Ryukyuan is on Okinawa. For more details, please see the Okinawa Appendix at the end of this book.

Family

The marriage rate has declined drastically in Japan since the 1970s, to about 5.7 per 1,000 people in the year 2005. Of households in Japan, 58.9 percent are nuclear-family households. The average number of people in a Japanese household has continued to decline since its peak in the 1950s; currently, it is 2.6. Most of this is a result of the increase in the number of working women. Because it is widely believed that women with children must stay at home, most working women do not want children because they would have to quit their jobs.

Japanese believe firmly in close-knit families, both with extended family and immediate family. Influenced heavily by Confucianism, they regard the family as a stabilizing and strengthening influence on the individual and as a fundamental unit of society.

Once a couple has a child, the Japanese believe that their roles as parents become more important than their roles as spouses. It is common for them to begin addressing each other as *Otoosan* (Father) or *Okaasan* (Mother). They spend a tremendous amount of time, money, and affection on the child in its formative years to demonstrate love, loyalty, and a desire to personally develop the child. This concept is called *amaeru*.

Japanese children are taught that membership in a group is more important than individuality. Their behavior reflects on the entire family, and they are required to learn the complex ethical framework in which Japanese operate. They are taught that honor, loyalty, and *kao* (saving face) are their guiding principles.

Roles of Men and Women

The Japanese have conservative views on gender roles, but also believe in the equality of men and women. Article 14 of the Japanese constitution declares that men and women are equal under the law.

Approximately 40 percent of Japanese women work, but they occupy only 9 percent of managerial positions. Additionally, women's wages are 65 percent of men's wages on average. In some corporations, long-standing perceptions leave little tolerance for traditional women's issues like child care. The government has been taking steps to increase tolerance toward women in the workforce, such as extended, paid maternity leave. Most Japanese, women included, believe that a woman's life after marriage should focus on her husband and children rather than her occupation. Women's suffrage was introduced in 1946. Japanese women vote at higher rates than men, and there are a significant number of women in the House of Representatives as well as in local government.

Customs and Courtesies

Since Japan has a unique, complex, and subtle culture, it is expected that foreigners may have some difficulty adapting. While Japanese are generally understanding of social mistakes, it is critical that foreigners make every attempt to learn and perform according to Japanese social codes of conduct.

Introduction and Social Interaction

The bow is an important gesture in Japanese culture. The depth of the bow should depend on the status of the individual to whom one is bowing: the higher their status, the lower and longer one should bow. If bowing to someone of a higher status, it is proper to place the left hand over the right hand when bowing. When bowing to a subordinate, it is proper to keep one's hands at one's sides. A subordinate does not come up from the bow before the superior. Japanese generally offer to shake hands with Westerners.

In business and even some social settings, business cards are presented shortly after the introduction. The card should be presented and received with two hands. Business cards should be read and treated with care rather than immediately placed in a pocket. Analyzing all the information on the card shows respect.



Bowing

In Japan, there is a strong emphasis on social hierarchy and appropriate behavior. When meeting someone for the first time, Japanese make a subtle evaluation of the other person's social status. A number of factors are considered in this calculation: age, gender, education level, profession, appearance, and title. Once the determination has been made of the other person's social status, behavior and speech are adjusted accordingly. This evaluation can change over time.

The Japanese concept of privacy is different. Upon first introductions, it is fairly common to ask questions about income, family, age, and personal relationships. These types of questions are not considered rude, but a part of the socialization process.

Japanese men and women tend to behave in very different ways. Generally, women are expected to adopt a gentler and more subtle tone of voice and movement. Women may speak at a higher than normal pitch and use more polite language. This behavior indicates respect for the listener; it is not a determination of their social status. Men may adopt a harsher tone with those judged to be of a lesser social status. In formal settings, women usually sit on their knees while men are permitted to sit cross-legged. Women may also use two hands when drinking tea or coffee, whereas men will use one hand.

In business and social relationships, giving gifts is very important. The gift should be thoughtful and not cheap. It is usually concealed until given to avoid being ostentatious. The packaging and presenting the gift is almost as important as the gift. Gifts unique to the visitor's culture, particularly food or drink, are particularly appreciated. Inappropriate gifts include: clocks, gifts in the quantity of four, white flowers, and anything Japanese. The same gift should not be given to Japanese of different ranks. When present-

ed with a gift, the recipient should accept it with both hands. It is important to not open the gift in front of the giver. Place the gift in a prominent place and wait until the presenter has left to open it.

Socializing outside work with colleagues is very important in Japan. Relationships are more readily built and solidified in this setting. Drinking alcohol is accepted. It is improper to fill one's own glass; instead, each person is expected to fill the glass of his or her companion, which is not only polite, but indicates that the individual pouring would like his or her glass filled. The most senior member of the party must drink first.

On formal occasions, there is usually a brief speech before toasting and starting the meal. The Japanese toast is *Kanpai* (kahn-pie). For larger groups, seating is assigned. The Japanese host will



Japanese Meal

usually point out a visitor's seat at the table. The highest ranking person sits at the head of the table, with descending rank to his right. Japanese intuitively understand their placement at the table, but will usually guide foreigners to the correct seat. If possible, it is preferable that guests use chopsticks. Most Japanese do not expect foreigners to be able to use chopsticks, so they will be pleasantly surprised if a guest knows how. The host will usually provide flatware, so as not to embarrass the guest. Since Japanese take pride in their unique cuisine, it is important to at least try every dish. Finishing all of one's rice is important, as it indicates respect for the rice farmer, a venerated figure in Japanese culture. When dining out, remember that there is no tipping in Japan and Japanese prefer to equally divide the check since they often share their meals. In fact, most restaurants do not allow customers to split the check.

Gestures

The Japanese indicate "come here" by waving the open hand with the palm facing downward, much like Americans wave goodbye. Failing to realize this causes frequent confusion among Americans. It is impolite to make this motion toward a superior. It is considered polite to receive and give things with two hands.

Pointing is considered offensive. Spitting, sniffing, or blowing your nose are also considered impolite. Laughter is frequently construed as evidence of embarrassment or nervousness rather than amusement. The shrug, used in the United States to imply indifference, means nothing to Japanese. Neither does winking.

The American sign for "OK," forming a circle with thumb and forefinger, means "money" in Japan. The Japanese sign for "no" is to wave the open hand in front of the face, as Westerners do to clear an odor from in front of their faces. Shaking a clenched

fist in the air does not imply anger, but rather a stingy individual. When referring to themselves, Japanese will often point to their noses, much like Americans point to their hearts.

In Japan, direct eye contact can be perceived as rude, particularly from a subordinate to a superior. When formally addressed by someone of a higher status, it is polite to avert the eyes. During Japanese ceremonies, it is common for Japanese to direct their eyes straight ahead, instead of on the speaker. This avoidance of direct eye contact indicates respect for the speaker. Japanese generally do not expect foreigners to understand and adhere to this social practice.

Education and Literacy

Japanese literacy rates are high at 99 percent, and children often go to school on Saturdays. Education is deemed extremely important and teachers respected highly both by children and adults.

The current school system was built during the U.S. occupation of Japan after World War II, and is structured much like the U.S. system: 6 years of elementary school, 3 years of junior high school, 3 years of high school, and 2 or 4 years of undergraduate education. At this time, elementary school and junior high are compulsory, but it is expected that soon high school will become compulsory as well. Kindergartens and day care centers, both public and private, provide pre-school education to many Japanese children.

Japan has many junior colleges, 5-year technical colleges, undergraduate institutions, and graduate schools.

Virtually all Japanese elementary schools are public. Subjects taught include Japanese language, social studies, arithmetic, science, life environmental studies, music, arts, physical education, and homemaking.



Japanese Schoolgirls

Roughly 90 percent of junior high schools are public. Subjects taught include language, social studies, math, science, foreign language (usually English), music, fine arts, health and physical education, and either industrial arts or homemaking.

While high school is not legally compulsory, it is socially vital. Japanese students must compete for entrance into high schools. Entrance is highly competitive and based on exams. Subjects taught include language, geography, history, civics, math, science, health and physical education, art, foreign language, home economics, and information. Extracurricular activities are required.

Many junior high and high school students attend intense preparatory schools known as *jukus* to help them prepare for college entrance exams, which are much more comprehensive and difficult than the S.A.T. that U.S. students take.

Nearly half of Japanese high school graduates go to college, which is just behind the U.S. average. Often, the college that students attend determines what jobs they will be offered after college; this is his or her one time for relaxing and socializing because the grades they receive are not as important as attending the school itself. Prior to college, students study hard to get in to a good college, and after college, employees are expected to work long hours and weekends.

Religion

Japanese society is predominantly secular, although most Japanese nominally affiliate themselves with the religion of their families. Japanese are very spiritual, and most practice a combination of belief systems based on Buddhism, Shinto, and Confucianism. The most popular religions are Shinto and Buddhism, and most



Itsukushima Torii (Temple Gate) at Miyajima Island

Japanese adhere to both at the same time as the two are considered complementary. Approximately 84 percent of the population adhere to Shinto/Buddhism; 0.7 percent are Christians; and 15.3 percent do not adhere to any religion. These figures are based on claimed religious affiliation and not actual practice; most Japanese do not participate in religious worship.

Shinto

Shinto is one of the most influential belief systems in Japan. Translated as “the way of the gods,” Shinto regards the universe as being occupied by *kami*, gods with personalities and varying degrees of control over humans and each other. According to Shinto, when a person dies, his spirit inhabits elements of nature, such as a tree or the wind. Shinto, in part, shapes the Japanese respect for nature and the environment. Shinto is observed by worshipping the gods at shrines or in the home.

In Shinto, there are nature-based *kami* and human *kami*: *kami* for natural phenomenon such as thunder and wind are worshipped as *kami*, and dead ancestors are worshipped as *kami* as well. There are clan-based *kami* for instructing Japanese clans, *ta no kami*, the god of rice paddies, and *ikigami*, human gods and goddesses. The *ta no kami* is worshipped at agricultural festivals. Shinto’s central shrine, the Ise Shrine, is for the worship of the goddess Amaterasu Omikami, the leader of all the *kami*.

Emperor Jimmu, the founder of Japan in traditional Japanese history, is a direct descendent of Amaterasu Omikami. Shinto was compiled out of ancient Japanese traditions and rituals after the arrival of Buddhism in Japan during the 6th century.

Shinto is practiced by attending festivals, or *matsuri*, during which worshippers observe Shinto rites. Observed at Shinto shrines,

matsuri can be classified as grand festivals, medium festivals, or small scale festivals. New Year's Day is celebrated as a medium scale festival. Shinto rites focus on purifying the worshipper from polluting substances. Purification is often conducted with water and salt, which are symbolic purification agents.

Shinto is considered complementary to Buddhism and has been influenced by Buddhism over the centuries.

In the imperial period between the Meiji Restoration of the late 19th century and the defeat of Japan in World War II, authorities made Shinto a state religion, emphasizing the belief that the Emperor is descended from the gods and is divine. After the war, Japan abandoned state Shinto for a secular constitution and left the religion to private practice.

Buddhism

Established in India in the 5th century B.C., Buddhism reached Japan from China and Korea in the 6th century A.D. Zen Buddhism is the form of Buddhism that is practiced in Japan. Zen Buddhism holds that sitting meditation (*zazen*) and riddles (*koan*) help observers reach total enlightenment (*satori*). Emphasis is placed on asceticism, or refraining from worldly pleasure or gain. Japanese observe Buddhism by going to temples, rather than to shrines as in Shinto.

Zen Buddhism consists of two sets of beliefs involving the Four Noble Truths and the Eightfold Path. The Four Noble Truths deal with human suffering, the problem that Siddhartha Gautama, the first Buddha, attempted to solve. The first truth deals with the reality of human suffering, the second with its cause, the third with human ability to end it, and the fourth with how to end it. This



Buddhist Temple in Kyoto

fourth truth, on how to end human suffering, is an instruction to follow the Eightfold Path.

The Eightfold Path is a code of thought and behavior dictating the correct attitudes and actions to achieve freedom from suffering. The code includes:

- Right Understanding
- Right Thoughts
- Right Speech
- Right Action
- Right Effort
- Right Mindfulness
- Right Concentration
- Right Livelihood

Confucianism

One of the most influential belief systems in Japanese culture, Confucianism is more a set of philosophies than a religion. It is

built on the mystic writings of Confucius, a Chinese philosopher of the 5th century B.C., who emphasized ethical codes surrounding family and social relationships. Confucianism emphasizes hierarchical relationships in the family, society, and government, in which each individual acts according to his place in the hierarchy, resulting in social harmony. Central tenets of Confucianism include loyalty to the state, humanity, and filial piety, or reverence toward ancestors. These virtues are strongly evident and universal in Japanese culture.

Christianity

Christianity was banned from Japan for centuries following Portuguese, Dutch, and Spanish missionary activities in the 1500s. Today, only a few Japanese consider themselves Christians. Almost all Japanese respect Christianity for its contributions to education, social progress, and the humanities. Japanese also have a social appreciation for some Christian customs: they frequently hold Christian-style weddings and celebrate Christmas. However, these are considered social and not religious events.

Religion and Government

Japan is a strictly secular state; its constitution requires separation of church and state and guarantees free religious practice. However, many high profile politicians, including several prime ministers, make regular public visits to Shinto shrines. Visits by prime ministers to the Yasukuni Shrine honoring Japanese war dead have generated controversy in recent decades, because some of the dead honored at the shrine were convicted of war crimes committed during WWII against Koreans and Chinese.

Recreation

The Japanese believe regular participation in sports benefits physical health, team spirit, sportsmanship, and discipline. As a result, many Japanese routinely participate in sporting and fitness activities, the most popular being long-distance running, calisthenics, aerobics, table tennis, badminton, baseball and softball, and cycling. Japanese play Western sports such as volleyball and basketball, but they also participate in a number of indigenous sports including *judo* and *kendo*, popular martial arts. The Japanese approach to competition is different from the Western approach: it tends to focus on building group solidarity rather than winning.

Spectator sports are popular as well. There is a stadium in almost every major Japanese city. Baseball is by far the most popular sport, and many Japanese are interested in the U.S. Major Leagues (mostly those teams showcasing Japanese players) as well as domestic games.



Baseball Game

Sumo is Japan's national sport. It involves two large wrestlers on an elevated mat called a *dohyo*. The goal is to make the opponent touch the mat with something other than the soles of his feet, or to force him to exit the ring. The wrestlers push and throw each other to achieve this objective.

Gambling is very popular, particularly on horse races and *pachinko*. *Pachinko* is a widely popular indigenous game that resembles pinball. *Karaoke*, a Japanese-invented pastime involving singing to the accompaniment of popular songs, is also extremely popular. It is practiced in a different way than American style karaoke. It is often held in karaoke boxes, small rooms that seat about 5-6 people and have karaoke systems of their own.

Cultural Considerations

Typically, Japanese converse before and after meals but are silent while eating.



Sumo Wrestling

Japanese are not as outwardly emotional as Americans. This is, in part, to preserve social harmony. Critical to this aspect are the twin concepts of *honne* and *tatemae*. *Honne* is the true internal feeling while *tatemae* (“façade”) is the outward feeling or sentiment that is not always a true reflection of the person’s sentiment. At times, it can be difficult for foreigners to decipher what is *honne* or what is *tatemae*.

Two key concepts that seem strange to Westerners prevail in Japanese culture: the concept of *wa*, or group harmony, and the concept of *kao*, saving face. Collective harmony is considered far more important than the individual, in corporate, social, and political spheres. It is considered rude to directly confront others on their deficiencies or mistakes; instead, they should be allowed to save face. Disagreements are settled in a very subtle manner and very rarely directly so as to avoid embarrassing a member of the group.

Rank is very important to Japanese. Almost immediately upon introduction, Japanese conduct an intuitive evaluation of the other person’s social position by observing age, profession, gender, title, education, and wealth. Behavior and speech will be adjusted



Pachinko Player

to reflect the social ranking of the group. When in the presence of a higher-ranking individual – whether in the social, business, military, or political hierarchy – it is important to defer.

Higher ranking individuals are expected to initiate conversation, and if they do not then it is best to remain silent. The highest ranking person sits at the head of the table, with the next highest ranking person to his right. Also, it is considered rude to ask too many questions. In a formal setting, it is considered polite to avert the eyes and look straight ahead or down at the ground. World War II is a subject that should be avoided unless it is brought up first by a Japanese associate.

Japanese society is very communal; there is an emphasis on taking care of each other. Reliance on others is encouraged. Independence is not a virtue in Japan. Gracefully receiving assistance from others is just as important as offering help in Japan. This is a way to solidify social solidarity. For example, bureaucracy is seen as a way to take care of one another, not as a necessary evil.

Decision-making in Japan is different from Western style decision-making processes. In a meeting, it is common for the highest ranking person to speak first. Meetings in Japan can seem like monologues. Japanese meetings generally do not involve an exchange of opinions and information. Meetings are not to make decisions, but to communicate the decision that has already been made. Along these same lines, Japanese like to consult with one another before the official meeting.

In Japan, there is a sharp divide between behavior in an organizational setting and crowd behavior. Pushing, shoving, and jockeying for space on the subway are not considered rude, but speaking before one's superior in a meeting is very rude.

Punctuality is vital; it is considered rude to be late. Normal business hours run from 0900 to 1700 or 1730, but long hours are common. Punctuality is expected at both business and social meetings.

There are many social taboos in Japan that Americans often violate. Some of these include eating on public transportation or while walking; blowing one's nose in public; shouting across a room, restaurant, store, bus, subway, etc.; and entering a house wearing shoes.

MEDICAL ASSESSMENT

Japan is one of the most medically advanced nations in the world. With a high standard of care equivalent to that in the United States, the country is also planning for the future, promoting healthy diets and lifestyles. Japan does not depend on foreign aid to provide health care to its population; rather, it aids many other countries.

Infectious Disease Risks to Deployed Personnel

AFMIC assesses Japan as Low Risk for infectious diseases, with sanitation and living standards comparable to those in the United States. However, in some rural areas, vector-borne diseases and leptospirosis may affect a small percentage of personnel. These diseases warrant appropriate force health protection measures. Disease risk varies greatly depending on location, individual exposures, and other factors.

Food- and Water-borne Diseases

Sanitation varies with location, but is typically comparable to U.S. standards. Food and water sources (including ice) in some rural areas may be contaminated with pathogenic bacteria, parasites, and viruses to which most U.S. service members have little or no natural immunity. Bacterial diarrhea, such as that caused by *Escherichia coli* and *Salmonella*, can potentially cause a small number

of cases among personnel if food and water are consumed from rural areas. Other food- and waterborne diseases pose a negligible risk and result in extremely rare cases of disease.

Vector-borne Diseases

Vector-borne disease transmission occurs year-round, with certain seasonal peaks. Ecological conditions support populations of arthropod vectors—mosquitoes, mites, and ticks—with variable rates of disease transmission. fewer than one percent of personnel may be affected by Lyme disease, especially April through November, in the absence of personal protective measures. Scrub typhus, spread by mites, also may affect fewer than one percent. Scrub typhus cases have occurred among U.S. forces training in the Mount Fuji area. Rare cases of Japanese encephalitis may occur, primarily in rural areas of Okinawa Prefecture. Tick-borne encephalitis risk is restricted to focal areas, particularly on southern Hokkaido Island. Though rarely reported, both can be severe, requiring prolonged hospitalization.

Water-contact Diseases

Tactical operations or recreational activities that involve extensive contact with surface water, such as lakes, streams, rivers, or flooded fields, may result in significant exposure to leptospirosis. Risk is elevated during warmer months primarily in rural areas; Okinawa has a subtropical climate creates an extended risk period. Rare cases may occur. In focal areas of particularly high risk (including the Northern Training Area), clusters of cases or outbreaks may occur. Cases typically require 1 to 7 days of inpatient care.

Sexually Transmitted and/or Blood-borne Diseases

The prevalences of HIV and hepatitis B virus carriers are both low, but rates typically are higher among prostitutes and intrave-

nous drug users. Up to 50 percent of personnel having unprotected sexual contact, particularly with prostitutes, may contract gonorrhea or chlamydia. Rare cases of HIV/AIDS and hepatitis B can occur in individuals who engage in similar, unsafe sexual practices. Although the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term health impact on individuals is substantial. Additionally, other diseases often common in prostitutes include chancroid, herpes, lymphogranuloma venereum, syphilis, and venereal warts.

Respiratory Diseases

Although not specifically assessed in this document, deployed U.S. forces may be exposed to common respiratory infections in the local population including influenza, pertussis, viral upper respiratory infections, and viral and bacterial pneumonia, among others. U.S. military personnel living in close-quarter conditions are at risk for substantial spread of respiratory pathogens. Influenza is of particular concern because of its ability to debilitate large numbers of unvaccinated personnel for several days.

The rate of new cases of tuberculosis in Japan (30 per 100,000 population) is approximately six times higher than that in the United States (5 per 100,000 population). Tuberculin skin test conversion rates may be elevated over baseline for personnel with prolonged close exposure to local populations.

The risk of meningococcal meningitis to personnel is comparable to that in the United States. Asymptomatic colonization and carriage of meningococcal bacteria are common worldwide, including within U.S. military populations, though rare symptomatic cases may occur periodically in military populations, regardless of geographic location. Conditions in some regions support increased transmission and outbreaks, often with a seasonal distribution.

Outbreaks of highly pathogenic H5N1 avian influenza have been reported among poultry in the Pacific region, including Japan. The most recent outbreak in Japan occurred in March 2004. Avian influenza presents minimal risk to U.S. forces in the region.

Animal-associated Diseases

Rare cases of Q fever could occur among personnel exposed to aerosols from infected animals, with clusters of cases possible in some situations. Significant outbreaks (affecting up to 50 percent of personnel) can occur in those with heavy exposure to barnyards or other areas where animals are kept. Unpasteurized milk also may transmit infection. Japan is officially rabies free, and the risk of contracting rabies as a result of an animal bite is negligible.

Civilian Health Care

Japan's high standard of care is attributable to forward thinking and careful planning. As its demographics change due to the increasing elderly population, Japan is reforming its health care system to sustain viability. Among the changes are measures to decrease medical errors, increasing the patient's role in deciding treatment, increasing the number of physicians in remote areas, improving nursing home quality, and improving the process for getting emergency care to children.

All citizens must have either national or employee health insurance. Both provide funding for the National Health Program for the Elderly, i.e., those older than 70. Private insurance is seldom used. Care is readily accessible with almost no waiting time. Patients can choose their access points without interference from insurance providers. This tends to blur the lines between levels of care.

Primary health care is available to all citizens and consists of curative care and programs to promote a healthier lifestyle. Primary care practitioners are provided by the public sector and work at health care clinics or treat outpatients at hospitals. Secondary health care is provided at hospitals that tend to be physician-owned. Hospitals are at the center of health care in Japan because of the high level of technology used in patient care..

Patients requiring the highest level of care and monitoring go to a tertiary medical center/hospital. Japan is divided into 47 tertiary medical care areas. Japanese hospitals are equipped with modern technology and are well maintained and sanitary. Larger hospitals have longer wait times because they are perceived as better.

The number of physicians per population is lower than average in industrialized nations, whereas the nurse-to-population ratio is slightly higher. This is due in part to government regulation of the number of students entering medical school. Generally, medical training in Japan is considered of high quality. With few physicians, facilities tend to be crowded. Doctors must see more patients in less time. This leads some Japanese citizens to feel as if their physicians are not spending enough time on their issues.

Japan has a well-developed medical supply infrastructure. It can handle the daily needs of an aging population. Japan produces high-quality medical equipment and is the world's eighth largest exporter of such equipment. In 2005, it imported US\$6.8 billion worth of medical equipment from the United States.

Japan also has a robust pharmaceutical industry. It produces most of its pharmaceuticals, importing about 10 percent of its needs from the United States. Japan exports about 28 percent of its pharmaceutical production. The Japanese Red Cross operates 77 blood centers, and the blood supply generally meets Western standards.

Military Health Care

The Japanese Self Defense Force (SDF) operate the SDF Central Hospital, 14 regional hospitals, and 165 clinics. Military health care is equivalent in quality to the civilian sector and covers only those illnesses and injuries suffered in the course of duty. The SDF is currently trying to address problems with physician retention.

Disaster and Emergency Response Capabilities

Japan is prone to natural disasters, such as typhoons and earthquakes, that require a large emergency/disaster response capability. The Japanese conduct regular preparedness drills and are well equipped and organized to respond to emergency situations.

Key Medical Treatment Facilities

Tokyo

Central Hospital of Japan Self-Defense Forces	
<i>Coordinates:</i>	35-38-41N 139-41-02E
<i>Location:</i>	In central Tokyo, 13 km northwest of Tokyo Haneda International Airport, and 5.8 km west-southwest of the U.S. Embassy
<i>Address:</i>	1-2-24 Ikejiri, Setagaya-Ku
<i>Telephone:</i>	03-411-0151
<i>Type:</i>	Military; 500 beds
<i>Services:</i>	Internal medicine, surgery, pediatrics, psychology, orthopedics, neurosurgery, OB/GYN, ophthalmology, ENT, dermatology, urology, dental, anesthesia
<i>Comments:</i>	Premier hospital of the Japan Self-Defense Force. Facility receives adequate resources to maintain the best equipment, supplies, and staffing of all military facilities

St. Luke's International Hospital	
<i>Coordinates:</i>	35-40-02N 139-46-35E
<i>Location:</i>	Central Tokyo, 3 km east of the U.S. Embassy
<i>Address:</i>	9-1, Akashi-cho, Chuo-ku, Tokyo 104
<i>Telephone:</i>	3541-5151
<i>Type:</i>	Government; 520 beds
<i>Personnel:</i>	250 physicians, 615 nurses.
<i>Services:</i>	Medical -- internal medicine, cardiology, endocrinology, neurology; surgery -- general surgery, neurosurgery, orthopedic surgery, thoracic surgery, plastic surgery, ENT, ophthalmology; anesthesiology; emergency medicine; OB/GYN; pediatrics; radiology
<i>Comments:</i>	About a 3-minute walk from Tsukui Station on the Hibiya subway line

Japanese Red Cross Medical Center	
<i>Coordinates:</i>	35-39-18N 139-43-08E
<i>Location:</i>	Central Tokyo, 2.5 km southwest of the U.S. Embassy
<i>Address:</i>	4-1-22 Hiroo, Shibuya-ku, Tokyo 150-0012
<i>Telephone:</i>	3400-1311
<i>Type:</i>	Public; 800 beds
<i>Personnel:</i>	178 physicians, 661 nurses
<i>Services:</i>	Medical -- anesthesiology, dermatology, hematology, internal medicine, neonatology, pediatrics, respiratory diseases; surgical -- general surgery, gastroenterological surgery, pediatric surgery, thoracic surgery, urology
<i>Comments:</i>	Ambulances on premises; 24-hour emergency service; hospital is scheduled to undergo significant renovation

Fukuoka

Fukuoka University Hospital	
<i>Coordinates:</i>	33-32-50N 130-21-33E
<i>Location:</i>	In southwest Fukuoka, 4.6 km south-southwest of the U.S. Consulate in the western portion of Fukuoka University Campus.
<i>Address:</i>	7-45-1 Nanakuma, Jonan-ku, Fukuoka, Japan
<i>Telephone:</i>	092-801-1011
<i>Type:</i>	Government; 915 beds
<i>Personnel:</i>	430 physicians, 610 nurses
<i>Services:</i>	General medical, emergency and surgical, numerous surgical subspecialties, orthopedics, ophthalmology, cardiology, oncology, nephrology, gastroenterology, dental, X-ray, OB/GYN, ICU, critical care unit, surgical ICU
<i>Comments:</i>	Helipad on the hospital grounds.

Hiroshima

Hiroshima Red Cross Hospital	
<i>Coordinates:</i>	34-22-49N 132-27-12E
<i>Location:</i>	In central Hiroshima, 1.2 km south-southeast of Hiroshima Peace Memorial Park
<i>Address:</i>	1-9-6 Senda-machi, Naka-ku, Hiroshima 730-8619
<i>Telephone:</i>	082-241-3111
<i>Type:</i>	Government/civilian; 650 beds
<i>Services:</i>	Internal medicine, surgery, ophthalmology, OB/GYN, otorhinolaryngology (ENT), dermatology, urology, dental, pediatrics, cardiovascular, neurology, anesthesia
<i>Comments:</i>	Operating room facilities and probably emergency room capabilities

Osaka

Osaka University Hospital	
<i>Coordinates:</i>	34-49-09N 135-31-41E
<i>Location:</i>	Northern Osaka, 9 km northeast of Osaka Itami International Airport on the Suita Campus of Osaka University
<i>Address:</i>	2-15 Yamada-Oka, Suita, Osaka
<i>Telephone:</i>	06-6879-5111 ext. 5291, 5292
<i>Type:</i>	Government; 1,075 beds
<i>Personnel:</i>	1,300 total staff, including 300 physicians; probably some English-speaking staff
<i>Services:</i>	General medicine, cardiology, emergency medicine, ENT, neurology, general surgery, neurosurgery, orthopedic surgery, plastic surgery, urology, ophthalmology, anesthesiology, dermatology, neuropsychiatry, OB/GYN, pathology, pediatrics, radiology
<i>Comments:</i>	Multistory building with helipad located on top of the front portion of the building

Sapporo

Japan Self-Defense Force Sapporo Hospital	
<i>Coordinates:</i>	43-01-43N 141-21-49E
<i>Location:</i>	Southern Sapporo, 5 km southeast of the U.S. Consulate
<i>Address:</i>	12-1-32, Ichijo, Hiraiwa, Toyohira-k
<i>Telephone:</i>	011-831-0161
<i>Type:</i>	Military; 300 beds
<i>Personnel:</i>	10 physicians, 103 nurses
<i>Services:</i>	Internal medicine, surgery, urology, orthopedics, ophthalmology, ENT, dermatology, pediatrics, radiology, OB/GYN, dental, anesthesia
<i>Comments:</i>	Regional hospital for the defense force's Northern Army

Hokkaido University Hospital	
<i>Coordinates:</i>	43-04-38N 141-20-38E
<i>Address:</i>	Kita 14, Nishi 5, Kita-ku, Sapporo
<i>Telephone:</i>	716-1161
<i>Type:</i>	Government; 925 beds
<i>Services:</i>	General medicine -- cardiology, emergency medicine, ENT, neurology; general surgery -- neurosurgery, orthopedic surgery, plastic surgery, urology, ophthalmology; anesthesiology; dermatology; neuropsychiatry; OB/GYN; pathology; pediatrics; radiology
<i>Comments</i>	Functions as a medical research and clinical instruction center, provides inpatient treatment and rehabilitation

Nagasaki

Nagasaki Municipal General Hospital	
<i>Coordinates:</i>	32-44-23N 129-52-23E
<i>Location:</i>	Central Nagasaki, 1.7 km northeast of the main Mitsubishi Shipyard
<i>Address:</i>	6-39 Shinchi-machi, Nagasaki-shi 850-0842
<i>Telephone:</i>	095-822-3251
<i>Type:</i>	Government; 414 beds
<i>Services:</i>	Medical -- neurology; surgical -- urology, ophthalmology, ENT; OB/GYN; pediatrics; dermatology; radiology; anesthesiology; psychiatry; other specialties represented
<i>Mass casualty capability:</i>	Probably limited
<i>Comments:</i>	Also known as Nagasaki Shiritsu Shimin Hospital and Nagasaki Municipal Citizen's Hospital

HISTORY

According to traditional Japanese accounts, Japan was founded in B.C. 600 by Emperor Jimmu, a descendant of the sun goddess and ancestor of the present emperor. Strong, upper-class clans were the first to establish power in Japan. The Yamato clan became the dominant great clan in the 5th century. The Yamato priest-chief assumed the role of emperor.

From the 6th to the 8th centuries, the thriving Tang dynasty of China heavily influenced Japanese culture. The Chinese writing system was adopted in A.D. 405. Korean and Chinese immigrants introduced Buddhism to Japan during the 6th century, which further linked Japan to China. Japanese language, literature, philosophy, art, science, and government were influenced by Chinese culture. Nara, the capital of Japan, was modeled after Changan, the capital of China. The capital was later moved to Heian (present-day Kyoto) and was also modeled after Changan, but on a larger scale.

A key development in early Japanese history was the rise of the Tokugawa *shogunate*, or military dictatorship. Beginning in 1603 with the rise of Tokugawa Ieyasu, the first *shogun*, the Tokugawa shogunate lasted until the Meiji Restoration in 1868.

Japan's first known contact with the West took place around 1542, when a Portuguese ship headed for China was blown off course and landed in Japan. For the next 100 years, traders from Portugal, the Netherlands, England, and Spain, as well as missionaries from Jesuit, Dominican, and Franciscan backgrounds visited Japan. The *shoguns*, feeling threatened by the Europeans, forced all foreigners to leave the country, banned Christianity, forbid Japanese people from leaving the islands, and limited commercial contacts to Dutch and Chinese merchants at Nagasaki.

Japan remained isolated for most of the following two centuries. In 1853, U.S. commodore Matthew Perry arrived in Japan with a small fleet and threatened to attack Japan if it refused to open to foreign trade. Special economic and legal privileges were granted to the west through the Treaty of Kanagawa in 1854.

In 1868, power was restored to the emperor under a new government system that became known as the Meiji Restoration. The leaders of the Meiji Restoration studied Western institutions and adapted them to Japanese culture to develop powerful and advanced political, social, and economic systems. In 1871, feudalism was abolished. In 1889, a new constitution established a parliamentary government that gave the emperor ultimate authority. Military conscription, compulsory primary education, and a new currency and banking system were also introduced.

Japan went to war against China in the First Sino-Japanese War from 1894 to 1895, and against Russia in the Russo-Japanese War from 1904 to 1905. The defeat of China gave Japan control of the Liaotung Peninsula in Manchuria, the Pescadores Islands, and Taiwan. The defeat of Russia gave Japan control of the southern portion of Sakhalin. Japan occupied Korea in 1910, and did not relinquish it until the end of WWII in 1945. This has caused a significant amount of tension between Japan and the Korean nations even into the 21st century. Similarly, Japan occupied Taiwan in 1894 and did not relinquish it until 1945.

When World War I began, Japan was a rising great power with a large navy and considerable overseas territory taken in earlier wars with China and Russia. Japan's alignment with the Allies during WWI allowed it to develop its influence in Asia and the Pacific. Following the war, Japan established itself as one of the great military and industrial world powers. Japan was official-

ly recognized as one of the “Big Five” (with the United States, France, England, and Italy) powers in the Versailles Peace Conference of 1919. Japan joined the League of Nations and was given rights over Shandong and a mandate over the Pacific Islands, both previously held by Germany.

Japan moved toward a democratic system of government focusing on economic development in the 1920s. Global economic depression during the 1930s made way for the rise of Japanese military elites in society and government.

The rise of the military elite in the 1930s led to Japan’s invasion of Manchuria, war with China, the occupation of most of South-East Asia, and the Japanese attack on Pearl Harbor in 1941. Japan invaded Manchuria and set up the puppet government of Manchukuo in 1931. Japan terminated its membership from the League of Nations in 1933 after being criticized over Manchukuo. In 1936, Japan signed the Anti-Comintern Pact with Nazi Germany. The pact stated that both countries would keep each other informed about communist activities and work together to prevent the spread of communism. Japan invaded China in 1937, leading to the Second Sino-Japanese War. On 7 December 1941, Japan attacked the United States at Pearl Harbor, Hawaii. For the following 4 years, Japan waged a costly war with China and the Allied Powers.

In 1945, the United States dropped atomic bombs on Hiroshima (6 August) and Nagasaki (9 August) in an attempt to end the war without invading mainland Japan. Japan officially surrendered to the United States on 2 September 1945 on the U.S.S. *Missouri* in Tokyo Harbor. Upon surrender, Japan agreed to give up its captured territory and limit its territorial control to the four main islands and Okinawa.

Japan was placed under international control of the Allies through United States Supreme Commander, General Douglas MacArthur. Japan's new constitution of 1947 established popular sovereignty, abandoned the use of military force, and began land, labor, and anti-trust reforms. Article 9 of the constitution renounced all aggressive war and military maintenance for non-defense purposes. Many in Japan are considering repealing this article. The peace treaty with Japan was signed by the United States and 45 other Allied nations in 1951. The treaty was ratified in 1952 and Japan became fully sovereign on 28 April 1952.

Japan's economy grew rapidly after World War II. The Liberal Democratic Party (LDP) controlled politics from after World War II until 1993. Opposition political parties and a coalition of new parties banded together to elect a new prime minister in August 1993. Under the new leadership, the Japanese government issued a three tier statement to its regional neighbors recognizing and apologizing for its activities during WWII, especially the issue of "comfort women," Korean and Chinese women forced to serve the Japanese military as prostitutes. This new party "The Frontier" was soon disbanded and the LDP resumed control of the Japanese government in 1995.

In 1995, more than 6,000 people died and many more were injured when an earthquake hit the Kobe area of Japan. The same year, a cult known as Aum Shinrikyo released nerve gas in the Tokyo subway system killing 12 people and injuring 5,500.

Recent History

Junichiro Koizumi was elected prime minister in 2001. Koizumi remained in power until 2006, when he passed on leadership to Shinzo Abe, the new LDP leader. A charismatic reformer, Koi-

zumi was popular for his unusual dynamism, but public opinion fluctuated widely on his performance.

Koizumi visited South Korea and reiterated previous Japanese apologies for the atrocities Koreans suffered under historic Japanese rule. Shortly thereafter, however, Koizumi began his annual visits to the Yasukuni Shrine honoring Japanese war dead, some of whom were involved in the atrocities. He continued to visit the shrine until he left office in 2006.

Koizumi also increased Japanese military assertiveness and worldwide involvement. In 2003, Japan announced its intentions to install defense missiles. Non-combat Japanese soldiers were sent to Iraq in 2004, but by 2006 all Japanese troops were out of Iraq. An application was submitted to make Japan, Brazil, Germany, and India permanent members of the UN Security Council in 2004.

In 2006, Shinzo Abe became the new prime minister by a landslide. He was expected to continue Koizumi's reform efforts and his emphasis on constitutional reform, nationalist education, and the rise of Japanese influence in East Asia. Diplomatically, he began by visiting South Korea and China to warm relations that had been damaged by Koizumi's visits to the Yasukuni Shrine. However, relations with Japan's neighbors were damaged again in 2007 when Abe questioned claims that the Japanese military tricked and forced "comfort women" into service during WWII. Abe apologized several weeks later and reiterated the 1993 apology, but tensions remain over his nationalist agenda.

Japan imposed sanctions on North Korea following that country's nuclear test in 2006, playing a central role in the international community's response to North Korea's aggressiveness. In 2006, the Diet passed a law upgrading the Defense Agency to the Min-

istry of Defense, a Cabinet-level agency. This move, led by the LDP, was intended to expand the role of the Self Defense Forces.

A succession crisis was averted in 2006 when Prince Hisahito was born to Emperor Akihito's son Prince Akishino. The baby was the first male born in the succession line for the past 41 years.

Chronology of Key Events

Date	Event
B.C. 600	Emperor Jimmu founds Japan according to traditional accounts.
1603	Rise of the Tokugawa shogunate; Tokugawa Ieyasu comes to power.
1853	Commerce is opened with the West.
1854	Japan signs the Treaty of Kanagawa.
1868	Power restored to the emperor under the Meiji Restoration.
1895	Japan defeats China in the First Sino-Japanese War. China surrenders control of Taiwan to Japan. Japan is allowed to trade in China.
1905	Japan wins the Russo-Japanese War.
1910	Japan invades and annexes Korea.
1914	Japan joins with the Allies in World War I.
1923	An earthquake kills more than 100,000 in Tokyo.
1931	Japan attacks Manchuria, renames it Manchukuo, and installs a puppet government.
1932	The prime minister is assassinated. Military influence expands.
1936	Japan signs the Anti-Comintern Pact with Germany.
1937	Japan signs an anti-communist pact with Italy. War breaks out between Japan and China.
1941	Japan attacks Pearl Harbor, Hawaii. United States declares war on Japan.

- 1945 The United States drops atomic bombs on Hiroshima and Nagasaki, ending war.
- 1947 A new constitution is approved under Allied management.
- 1951 Japan signs the Treaty of Peace.
- 1952 Japan reclaims its independence.
- 1955 The Liberal Democratic Party (LDP) is created.
- 1956 Japan joins the United Nations.
- 1972 Japan and China return to diplomatic relations. Okinawa is returned to Japan.
- 1989 Emperor Hirohito dies and is succeeded by Akihito.
- 1993 LPD party loses power for the first time since 1955.
- 1995 An earthquake in central Japan kills thousands; Tokyo sarin gas attack kills 12 and injures more than 5,500.
- 1997 The Japanese economy falls into an intense recession.
- 2001 Koizumi becomes prime minister. Japan's neighbors protest after Koizumi visits the Yasukuni shrine. Koizumi visits South Korea and apologizes for past suffering under Japanese rule. Japan's new princess is born, which sparks debate over male-only succession law.
- 2002 Diplomatic relations develop after Koizumi visits North Korea.
- 2003 The Japanese government publicizes its decision to install defense missiles.
- 2004 Japan deploys non-combatant soldiers in Iraq.
- 2006 Shinzo Abe becomes prime minister. Japan and China fail to reach a conclusion over who controls oil and gas reserves in disputed areas of the East China Sea. The last group of Japanese soldiers leaves Iraq.
- 2007 Defense Agency upgraded to Ministry of Defense. South Korea and China are angered at Shinzo Abe's short-lived refusal to admit Japanese use of 'comfort women' during WWII.

GOVERNMENT AND POLITICS

Government

Japan's government is a constitutional monarchy in which the emperor serves as head of state, while the bicameral Diet operates like a traditional Western parliament.

National Level

Executive Branch

The Emperor of Japan is the chief of state, but his responsibilities are ceremonial. He oversees such activities as the appointment of the prime minister and the chief justice of the Supreme Court, but his activities require the consent of the Cabinet or the Diet. Until the end of WWII, all governmental power was concentrated in the Emperor; his current powers are limited by the constitution enacted under Allied supervision after the war.

Japan's parliamentary system is led by a traditional Western-style prime minister, who is aided in executive responsibilities by the cabinet, which serves as the executive organ of the government. The cabinet is composed of 10 ministries, the National Public Safety Commission, and the Defense Agency. These are headed by cabinet ministers, most of whom must come from the Diet. Ministers are selected by the prime minister, who also has the right to dismiss them.

The prime minister is chosen by the Diet and officially appointed by the emperor. He must be a civilian. His responsibilities include submitting bills to the Diet on behalf of the cabinet. He also reports to the Diet on foreign relations and national issues, and supervises the administration of the cabinet agencies.

Each minister controls an agency dedicated to the minister's particular area of responsibility. Below the ministers, the agencies are run by civil servants, who join the government after passing public service examinations and do not turn over with changes in party control. This includes the vice ministers of cabinet agencies. In 2001, a vast central government reform plan restructured the executive branch, cutting the number of cabinet ministries from 22 to 10 and adding a cabinet office to strengthen inter-agency cooperation and the prime minister's ability to lead the cabinet.



Japan Prime Minister Shinzo Abe

Cabinet resolutions must be passed unanimously by the cabinet members, all of whom are required by the constitution to be civilians. The cabinet must resign en masse if the House of Representatives passes a no-confidence resolution, or rejects a confidence resolution put forward by the cabinet. The only exception to this rule is if the House of Representatives is dissolved within 10 days.

Much of the legwork for legislation is done in the cabinet before arrival in the legislative branch. A bill that the cabinet will introduce to the Diet is first drafted by the cabinet ministry with jurisdiction over the issues involved in the bill. A process of internal writing and review within that agency produces the first draft, which is then reviewed by the other ministries and the political

party or parties in control of the government at that time to produce the final draft. The cabinet minister then requests a cabinet meeting, at which point the bill is submitted to the Cabinet Legislation Bureau for a comprehensive review to determine constitutionality, propriety of wording, legality, and technical and structural soundness. The cabinet then holds a meeting and decides whether to present the bill to the Diet. If they decide to do so, the prime minister presents the bill to either the House of Councilors or the House of Representatives.

Legislative Branch

The Diet comprises the House of Representatives and the House of Councilors. It is the highest branch of the government and the only one empowered to make laws.



Japanese Diet in Session

The House of Representatives has 480 members, of which 300 are elected from districts with one seat each, and the other 180 from a separate system of proportional representation. In the proportional representation system, 11 segments of the nation each provide between 6 and 30 representatives depending on size. The full term of office for members of the House of Representatives is 4 years, but if the House is dissolved before a member's full term is up, the term will be ended anyway. To be eligible for election to the House of Representatives, candidates must be at least 25 years old.

The House of Councilors has 242 members. To be eligible for election to the House of Councilors, candidates must be at least 30 years old. Of the 242 seats, 146 are from electoral districts, and the other 96 are elected by the proportional representation system. Members are elected to 6-year terms, and half of the House of Councilors goes up for election every 3 years.

A bill that is passed by the House of Representatives and not by the House of Councilors may still become law, as the House of Representatives may override the House of Councilors with a two-thirds majority vote. Additionally, the House of Representatives predominates on issues such as the budget, international treaties, and designation of the prime minister.

The legislative process is initiated by the cabinet, which presents a bill to either house; most (88 percent) bills are presented first to the House of Representatives. The first house to receive the bill refers it to a relevant committee, which debates it and makes any necessary amendments before referring it to the whole house for debate, modification, and a vote. If the bill passes, it then goes on to the second house, which puts it through the same process as the first. If the bill passes in the second house, it becomes law and is sent to the emperor for his approval.

Judicial Branch

Japan's judiciary is constitutionally independent of the other branches of government. It is led by a Supreme Court, which oversees four categories of lower courts: 8 high courts, 50 family courts, 50 district courts, and 438 summary courts.

The Supreme Court is composed of 15 justices, in three petty benches of five judges each. Petty benches can review appeal cases from lower courts that do not deal with the constitution. The entire court must preside over constitutional cases.

At least 10 out of the 15 Supreme Court justices must have a legal background. Though appointed by the Cabinet, each Supreme Court justice must come up for popular review in the first general election after appointment, and again every 10 years. The minimum age for appointment is 40. Mandatory retirement age is 70.

Losing parties in Japanese courts are guaranteed two appeals after the initial unfavorable decision. Hence, cases initiated in summary courts have final appeal in the high courts, whereas cases initiated in district courts can go all the way to the Supreme Court.

There is a system-wide backlog of cases in Japan. The Supreme Court significantly cut back on its backlog problem with the Code of Civil Procedure in 1998, which allowed the Court to limit its review to constitutional cases only if it sees fit. However, backlog remains a problem even in the Supreme Court.

Local Level

Japan's provinces are largely dependent upon the national government for subsidies. Provincial governors, mayors, and provincial assembly members are elected by popular vote to 4-year terms.



Japan Administrative Divisions

Japan has 47 administrative prefectures: Aichi, Akita, Aomori, Chiba, Ehime, Fukui, Fukuoka, Fukushima, Gifu, Gunma, Hiroshima, Hokkaido, Hyogo, Ibaraki, Ishikawa, Iwate, Kagawa, Kagoshima, Kanagawa, Kochi, Kumamoto, Kyoto, Mie, Miyagi, Miyazaki, Nagano, Nagasaki, Nara, Niigata, Oita, Okayama, Oki-

nawa, Osaka, Saga, Saitama, Shiga, Shimane, Shizuoka, Tochigi, Tokushima, Tokyo, Tottori, Toyama, Wakayama, Yamagata, Yamaguchi, and Yamanashi.

Politics

Political Parties

Japan has a thriving multiparty system with changing coalitions and vigorous debates. The Liberal Democratic Party dominated politics until it was defeated in 1993; since then it has been involved in several major coalitions.

Liberal Democratic Party (LDP). Japan's largest party, currently ruling in a coalition with Komeito. The oldest party in Japan, it is divided between traditional interests and new approaches to governance.

Democratic Party of Japan (DPJ). Established in 1998 to create an opposition force against the LDP. Dominated by young professionals.

New Clean Government Party (Komeito). Buddhist lay movement party founded in the 1960s.

Japan Communist Party (JCP). Founded in the 1920s with other national communist parties, the JCP holds nine seats in the Diet but is very strong in local legislatures.

Social Democratic Party (SDP). A leftist party that supports social government institutions and foreign relations neutrality.

Conservative New Party (CNP). Founded in 2002, the CNP is composed of conservatives and defectors from the DPJ. It is a member of the ruling coalition.

Foreign Relations

Japan has been a member of the UN since 1956 and sits on the UN Security Council in a temporary seat. As the world's third-largest economy (after the United States and China, using purchasing power parity (PPP), it is actively involved worldwide in resources diplomacy and economic development initiatives. It is also a crucial player in the East Asian balance of power.

Because Japan's constitution forbids military action except in self-defense, Japan's relations with the world are defined by economics and diplomacy. In recent years, Japan has begun to show greater interest in military influence, resulting in Self-Defense Forces deploying to Iraq to assist Coalition forces, among other military endeavors. This stems partly from growing Japanese nationalism and a willingness to move away from the pacifism that has dominated Japanese society since the end of WWII, but also from growing concerns about North Korea's belligerence and China's aggressive military spending.

Article 9 of the Japanese constitution, which restricts military activities to self-defense, has been increasingly questioned in Japanese politics since Koizumi came to power in 2001. Open discussion of the topic continues in 2007, with a possibility of amendment in the next several years.

Japan's brief involvement with the Coalition in the Iraq war in 2003 and 2004 was enabled by the Iraq Reconstruction Law, which allowed the Prime Minister to dispatch troops from the SDF for humanitarian purposes only.

United States

The United States and Japan have a very close diplomatic and security relationship. The U.S.-Japan Treaty of Mutual Cooperation

and Security guarantees U.S. military and nuclear protection of Japan. There are 50,000 U.S. troops in Japan, mainly stationed on Okinawa. Japan has contributed significantly to the Global War on Terrorism and also to Coalition forces in Iraq. U.S. and Japanese military forces engage in regular bilateral training, which strengthens the alliance and improves their military readiness countries.

One outstanding diplomatic issue between the United States and Japan is the location of U.S. bases on Okinawa. The SOFA signed between the United States and Japan in 1960 regulates the relationship between Japan and U.S. forces. Japanese frustrations regarding base placement, crimes committed by U.S. servicemen, and other issues have led to multiple revisions of the SOFA and U.S. measures to increase Japanese comfort with the U.S. military basing situation in Japan.

China

China and Japan have a historically contentious relationship. After centuries of competition for regional hegemony and several wars, the two nations signed a peace treaty in 1978 that has allowed rapid economic development and robust China-Japan trade. However, visits by top-level Japanese politicians to the Yasukuni Shrine memorial for Japanese war dead have revived contentions between the two nations. A historical Chinese fear of Japanese nationalism, particularly the possibility of Japan further developing its military, has led to increased tensions.

A trade dispute between Japan and China began after Japan levied import tariffs on Chinese agricultural products. China placed import taxes on Japanese vehicles and manufactured goods in 2001.

Japan administers and asserts ownership of the Senkaku Islands, a small island chain west of Okinawa and east of Taiwan. China

claims the islands, as does Taiwan, complicating relations between Japan and China. At stake are the large natural gas deposits in the sea surrounding the Senkaku Islands. The appearance in Japanese waters of a Chinese submarine in 2005 set the SDF on high alert. In 2006, talks between Japan and China failed to determine ownership of oil and gas reserves in the East China Sea.

South Korea

South Korea and Japan have a strained relationship that began with the Japanese occupation of Korea prior to WWII. The two nations have developed economic and political ties, but there is strong anti-Japanese sentiment in South Korea. This sentiment is aggravated by Japanese education that South Koreans believe glosses over unsavory parts of Japanese history.

Japan and South Korea both claim ownership of the Liancourt Rocks, a small group of rocky islands off the east coast of South Korea. The discovery of large oil and gas reserves around the islands in 2004 intensified the dispute. South Korea currently maintains de facto ownership and has threatened to keep Japanese surveyors away from the islands with military force.

North Korea

The tense relationship between North Korea and Japan worsened recently as a result of North Korea's nuclear ambitions and the abduction of Japanese citizens to North Korea. Japan has worked with international community to curtail North Korea's nuclear ambitions. Japan participates in the Six-Party Talks and supports the U.S. Proliferation Security Initiative.

The North Korean Mangyongbong-92 ferry routinely carries passengers from North Korea to Japan and back. The ferry has caused some controversy after it was discovered that North Korean mili-

tary personnel were boarding the ferry to confiscate technology items that shoppers had purchased in Japan. Japan suspended the ferry's operations in 2006 because of the espionage and as of 2007 has not ended the ban.

In 1998, North Korea flew a test missile over Japan to test its military readiness and increase its posture in the region. The test was widely condemned, and Japanese military planners began specifically preparing against a North Korean threat.

In 2004, North Korea returned what it claimed were the remains of an abducted Japanese citizen North Korea claimed had committed suicide. Japanese technology confirmed the remains were not authentic, creating uproar in Japan.

Russia

Russia and Japan have been strategic competitors in Asia for centuries. The two nations have still not signed a treaty ending hostilities from WWII on account of a dispute over the Kuril Islands north of Japan, which Russia seized after the war.

Taiwan

Like the United States, Japan does not maintain diplomatic relations with Taiwan, officially recognizing it as a Chinese territory. However, Japan has a robust economic relationship with Taiwan.

Association of Southeast Asian Nations

Japan works extensively with the Association of Southeast Asian Nations (ASEAN) to address regional challenges and foster cooperation. Japan is a leading partner with ASEAN and has significant influence over the organization's processes and decisions.

International Organizations

Japan participates in the following international organizations, as well as many others:

- Asia-Pacific Economic Cooperation (APEC)
- Asian Development Bank (AsDB)
- Association of Southeast Asian Nations (ASEAN)
- Group of Seven (G-7)
- Group of Eight (G-8)
- International Atomic Energy Agency (IAEA)
- International Monetary Fund (IMF)
- United Nations (UN)
- World Federation of Trade Unions (WFTU)
- World Health Organization (WHO)
- World Trade Organization (WTO)

ECONOMY

Statistics

Gross Domestic Product	US\$4.9 trillion (2005 Estimates) Purchasing Power Parity: US\$4 trillion
Growth Rate	2.8%
Per Capita	US\$33,100
Industry (% of GDP)	25.3%
Agriculture (% of GDP)	1.6%
Services (% of GDP)	73.1%
Inflation Rate	-0.3%
Debt	US\$1.5 trillion
Unemployment Rate	4.1%
Imports	US\$524.1 billion f.o.b.
Exports	US\$590.3 billion f.o.b.
Labor Force	66.4 million

Japan has the third largest economy in the world measured by purchasing power parity (PPP), after the United States and China; and the second largest economy in the world measured by official exchange rate (OER). Its remarkable economy is due to enormous growth of industry after World War II, its relatively small defense allocation (1 percent of GDP), and its aggressive export trade policy. Closely interconnected circles of Japanese businessmen, politicians, and bureaucrats help coordinate government regulation and business competitiveness.

Japan suffers from a lack of natural resources, but successful trade enables it to compete effectively and remain formidable in the global market. Japan has a diverse manufacturing and service oriented economy and is a leading producer of motor vehicles, steel, and technologically advanced goods. Although the agriculture industry is small, it is highly subsidized and protected by the government.

After Japan's economic bubble burst and subsequent stagnant era, former Prime Minister Koizumi initiated policies that revived the Japanese economy in the mid-1990s, including privatizing some state-owned companies, cutting government outlays, and reforming Japan's notoriously inefficient postal system. Prime Minister Shinzo Abe is following the same economic policies and expects continued economic growth. He aims to reduce the large government debt that totals 170 percent of annual GDP. Unemployment was 4.2 percent in September 2006, one of the lowest rates of developed countries. The Bank of Japan increases money supply to ensure a lower valued yen.

Lacking natural resources, Japan must import oil and other fuels to support its high energy consumption. Japan's energy policy aims to diversify energy source generation and curb dependency



Bank of Japan in Tokyo

on oil. Japan has implemented large-scale programs to build more nuclear power facilities and enhance use of renewable energy.

The Japanese market is favorable; consumers spend hundreds of billions of dollars on food, clothing, travel, entertainment, and other goods and services each year. Japan has one of the highest savings rates in the world. Japan is loosening regulation in the Japanese economy, but restrictions to foreign firms remain.

Resources

Japan has a severe lack of natural resources and is the second largest energy importer in the world. Oil accounts for more than half of Japan's energy supply and nearly all oil is imported. Ninety percent of oil is imported from the Middle East. Japan aims to reduce dependency on petroleum in the transport industry from 85 percent to 80 percent by 2030. To decrease the volatility of

energy supply, Japan created a stockpile oil reserves, maintains close relationships with oil producing nations, and aims to diversify its energy sources. Natural gas is also in critically short supply, requiring nearly all gas to be imported. An oil and natural gas belt extends from northern Honshu to the lowlands of Hokkaido. There are also natural gas deposits in the disputed Senkaku Islands, which Japan administers but China and Taiwan claim. Eastern Chiba also holds minor deposits of natural gas. Japan has relatively large deposits of coal and limestone. However, over the years, Japan relied on inexpensive coal imports and closed nearly all domestic mines. Coal reserves are in Hokkaido and Kyushu.

Japan also has small deposits of several other resources including alumina, antimony oxide, arsenic, bismuth, carbonate rocks, chromite, clays, copper, elemental selenium, germanium oxide, gold, iron ore, iron sand concentrate, lead, manganese oxide, manganese zinc, mine lead, pyrophyllite, rare-earth oxide, silica, silver, silicon, sulfur, titanium dioxide, tungsten, zinc, and zirconium oxide. Timber resources are abundant, with two-thirds of Japan's land area covered in forest.

Agriculture

Major agriculture products in Japan include rice, sugar beets, vegetables, lumber, fruit, pork, poultry, dairy products, beef (specifically Kobe beef) and eggs. Japan is the world's largest provider of fish. Japan's agriculture sector is small, accounting for only 1.7 percent of GDP. The government protects the agriculture sector and provides subsidies to ensure continuity.

Japan's mountainous terrain leaves little room for arable land and what exists is diminishing. Cultivation is intensive with heavy use of fertilizers, mechanization, and experimental high-yield crops. Japan usually produces enough rice for domestic consumption, but



A Farmer Planting Rice

must import 60 percent of its food. The United States is Japan's main agricultural supplier.

The Ministry of Agriculture, Forestry and Fisheries aims to increase Japan's self sufficiency of food to 45 percent by 2010. Initiatives to accomplish this include encouraging farmers to diversify food products and introducing market oriented pricing.

Industry

The industrial sector of Japan accounts for little more than a quarter of Japan's GDP. Although Japan has few natural resources, the processing industry is significant. Raw materials make up 38.5 percent of imports while industrial products account for 90 percent of exports. Japan has a highly educated work force and high level of technology, which allows it to import raw materials and

efficiently produce and export processed minerals, chemicals, and steel. Japan is a major producer of cadmium, selenium metal, electrolytic manganese dioxide, titanium sponge metal, iodine, pig iron, nickel metal, and crude steel.

Due to quantitative growth, quality, variety, and efficiency, Japanese products are in high demand worldwide. Japan is a major manufacturer and exporter of computer and electronic technology, office machinery, motor vehicles, ships, and processed foods. Japan also produces semiconductors, optical fibers, prime motors, video discs, industrial robots, pharmaceuticals, and bio-industrial goods. After a stagnant period in the 1990s, the manufacturing sector averaged 3.8 percent growth from 2000 to 2004. Improved production in the information technology field greatly contributed to manufacturing growth.

The yen is at its weakest point since 1985, providing a competitive advantage to Japanese exporters. Some of the largest importers of Japanese products are the United States, China, South Korea, Taiwan, Hong Kong, Thailand, Germany, Singapore, the United Kingdom, and the Netherlands. The United States is Japan's largest customer and second largest supplier.

Japan's tertiary industries such as services, transportation, distribution, banks, and government services account for 72.5 percent of GDP. Improvements in computer technology, biotechnology, and environmental related business contribute to growth in tertiary industries.

The Ministry of Economy, Trade and Industry recently restructured its organization and developed new growth strategies. Its current industrial goals include developing new technology, providing innovative services, and establishing closer economic relationships with Asian countries.

Utilities

Electricity

Japan ranks fourth in the world for electricity consumption. Japan produces 1 trillion kilowatt hours of electricity and uses 946.3 billion kilowatt hours. The power grid is split into two systems, one 50 hertz and one 60 hertz. Due to its lack of natural resources, Japan produces electricity from many sources. Electricity is produced from coal, oil, gas, biomass, waste, nuclear, hydro, geothermal, solar, and other renewable sources.

Thermal plants run on oil, and coal is the largest power source in Japan, producing more than 30 percent of electricity. Natural gas is another major contributor generating 25.7 percent of electricity.

Japan has invested greatly in development of an extensive nuclear program for energy production. Twenty-nine percent of electricity in Japan comes from nuclear power. Japan set goals to increase nuclear production by building 10 to 13 new facilities by 2010, but safety related incidents have slowed progress.

Japan's many rivers provide 10 percent of hydroelectric-power generation. Major hydroelectric plants are strategically located near industrial centers of central Honshu and parts of Kyushu. However, irregular water flow in Japanese rivers causes hydroelectric plants to operate at below optimum levels for most of the year.

Japan leads the world in development of solar, hybrid car and fuel cell technologies. By 2010, Japan aims to produce 5,000 megawatts from solar power, 300 megawatts from wind, and 1,000 megawatts from geothermal power. Japan enacted a Renewable Portfolio Standard law in April 2003 that seeks 1.4 percent of nationwide power from renewable energy by 2010. Tokyo plans to increase renewable energy use to 20 percent by 2020.

Water

Japan is one of the most developed countries in the world and has safe drinking water throughout. Despite being an island with many rivers and higher average precipitation than the world average, Japan still suffers from sporadic water shortages. Japan consumes 78.2 billion cubic meters of water, of which 13.2 billion cubic meters come from groundwater. Japan relies heavily on rivers for water; however, occasional drought periods, erratic water flow, small basins, and steep channels prevent efficient use. Japan has more than 2,700 river basins and 2,556 dams, which provide water supply, hydropower generation, and flood control.

Foreign Investment

In the past, Japan was known for its excessive regulation and the difficulty that foreign investors faced in penetrating Japanese markets. In an effort to stimulate its dormant economy, Japan has recently opened markets to foreign direct investment (FDI) and loosened some regulations. Japanese firms are more willing to cooperate with foreign partners than they were in the past. In January 2003, Japan vowed to double FDI stocks within 5 years. From April 2003 to October 2005, foreign investors purchased US\$191 billion of Japanese equities on the stock market and now own one-quarter of listed Japanese shares. The oil sector in Japan is fully liberalized, but accessibility is limited due to restructuring of the industry.

Recent legislation increases access to merger and acquisition techniques for foreign companies in Japan. Japanese Prime Minister Abe plans to further loosen regulations on investments. His new plan aims to double FDI in Japan in 4 years.

Japanese firms can be brutally competitive, especially when facing a foreign rival. Conducting business in Japan can be expensive

and time consuming, but economic prospects in the newly accessible market are promising. Japanese households have an average savings of over US\$100,000 and disposable monthly income of US\$4,100. The Economic Partnership for Growth was implemented to enhance economic cooperation and investment between the United States and Japan. Japan strives to increase FDI that will create jobs and revive corporations. Commercial Service Japan assists foreigners invest in Japan.

Although deregulation of the Japanese market has begun, more reforms are needed and secretive collaboration is still practiced and tolerated.

Economic Outlook

Deregulation in many industries including the power generation market will continue to contribute to Japan's economic growth. Privatization of Japan's postal service is the topic of much debate and will influence reform of Japan's financial system. Analysts expect unemployment to decrease from 4.2 percent to 4 percent. Analysts expected nearly 3 percent growth of GDP in 2006.

Challenges to economic growth include Japan's public spending, large government debt, an aging population, and a shrinking workforce. Public spending on healthcare will increase as Japan's population ages. If the undervalued yen is reevaluated, Japanese exporters will lose competitiveness. Analysts claim that inflation will not be significant, but consumer prices will likely rise. External risks to economic growth include unstable oil prices, rising interest rates, and possible slowdown of the global market.

THREAT

Crime

Although Japan is home to significant organized crime activity, Japanese robust law enforcement efforts enable them to maintain a safe and stable environment. The crime threat is assessed as low (well below the U.S. national average) and crimes against U.S. citizens in Japan are rare. Pocket picking has occurred on occasion in crowded shopping areas, on public transportation and at airports. Some U.S. personnel have reported their passports being lost or stolen at Narita Airport. Japanese police can appear to be less sensitive and responsive to a victim's concerns than what is typically experienced in the United States. Most crimes reported by U.S. personnel have occurred in the entertainment district of Roppongi and include a murder, heroin overdose, thefts of purses and wallets, and alleged tainting of drinks with illegal drugs. Criminal activity in Japan that involves U.S. military personnel is usually the result of an assault or confrontation between U.S. service members on U.S. military installations, especially on Okinawa. Alcohol is a key factor in many of the crimes involving U.S. personnel. In recent years, the rate of serious crime has risen, although the occurrence of violent crime is still relatively low, compared to most places. The Japanese government is addressing the rising violent crime rate by recruiting additional police officers, advancing victims' rights, strengthening mentoring programs for youths, and increasing efforts to prevent illegal immigration.

Travel Security

Japan is a very stable, highly developed country with a modern economy and widely available tourist facilities. Traveling throughout the country is generally safe and transportation systems are

well maintained. Although there is no credible threat information concerning a possible terrorist attack in Japan, the country has experienced terrorist attacks in the past and is at risk for future terrorist attacks by Islamic extremists due to Japan's support for the Global War on Terror. The large number of U.S. personnel stationed on U.S. bases in Japan also make them viable targets for terrorist attacks. U.S. personnel are at risk for attack when traveling abroad and should always be aware of their surroundings and the environment in which they travel.

Terrorism

Al Qa'ida has made public statements listing Japan as a viable target for terrorist attacks due to its alliance with the United States. A French nationalist with links to al Qa'ida was arrested in Germany in 2003 after having spent more than a year in Japan reportedly trying to establish a cell. Japanese police arrested five foreigners in Japan suspected of having ties to the French nationalist. Since the events of 11 September 2001, Japanese officials have increased their counterterrorism measures and maintain the capability to adequately handle any future terrorist threat.

Japan is home to several radical leftists groups such as the Kakurokyo, the Kakamaru-Ha, and the Chukakuha, which have conducted attacks against Japanese government interests and U.S. facilities in Japan and Okinawa. These groups have protested against the dispatch of Japanese Self Defense Forces to Iraq, the expansion of the Narita airport, and also against U.S. Military bases in Japan. They have conducted mortar attacks against U.S. facilities and have protested outside the front gate of military installations in Japan and Okinawa. Most of the attacks have caused only minor exterior damage and are meant as more of a protest than to cause bodily injury. The Japanese government closely monitors the ac-

tivities of these groups and they do not pose a significant threat to U.S. personnel in Japan.

The Aum Shinrikyo cult, now known as Aleph, is the group that was responsible for the 1995 Sarin nerve gas attack on the Tokyo subway system that left 12 people dead and more than 5,000 seeking medical treatment. They were also responsible for a 1994 Sarin gas attack in Matsumoto city, killing 7 people and injuring 144 others. The group's leader was arrested and sentenced to death. In 2000, under new leadership, the group changed its name to Aleph. The group lost many of its followers following the arrest of its leader and there are rumors of infighting within the group. Japanese authorities closely monitor the activities of the group and are fully capable of taking action against the group when warranted.

The Revolutionary Army is an indigenous group that has been active since 2000. They strongly protest against the deployment of Japanese troops to Iraq and against any potential plans to attack North Korea by Japan, South Korea, or the United States. Intelligence reports initially indicated that the Revolutionary Army was a cover name for the Kakurokyo but the claim has not been definitively proven and information now indicates that it is a separate group. The group has claimed responsibility for attacks against Japanese Self Defense Forces and explosions that occurred outside the U.S. Army base at Camp Zama.

Drug Trafficking

The penalties for possession, use, or trafficking illegal drugs in Japan are very strict and U.S. personnel arrested for these crimes can expect long jail sentences and fines. Suspects are detained and forbidden to receive visitors or correspond with anyone other than a lawyer or U.S. consular officer until after indictment. Blood and/or urine tests alone can be the basis for conviction of drug use.

U.S. personnel are currently serving time in Japanese prisons as a result of blood and urine tests conducted during sting operations. Almost half of all U.S. personnel in prison in Japan are there due to drug related crimes. An aggressive approach, using sophisticated detection equipment and drug-sniffing dogs, is used by Japanese authorities in pursuing drug smugglers entering the country. Arrests are made for even the smallest amounts of illegal drugs.

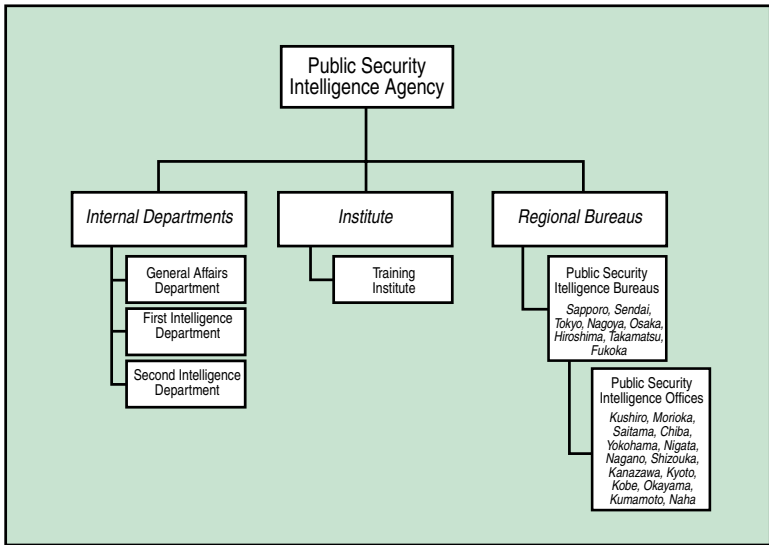
Some over-the-counter medicines commonly used in the United States are illegal in Japan, including inhalers and some allergy and sinus medications. Find out in advance if a particular medication is allowed in country. Medications and/or drugs purchased on the black market are illegal and U.S. personnel are subject to arrest and imprisonment for purchasing them.

Major Security and Intelligence Services

Public Security Intelligence Agency

The Public Security Intelligence Agency (PSIA) is a small intelligence body within the Ministry of Justice that is responsible for matters of national security. The PSIA was established in 1952 to monitor “international subversive organizations.” Today, the agency is primarily focused on counter-intelligence activities, although it still monitors domestic extremist groups.

The PSIA is one of Japan’s lead agencies in the effort to combat terrorism. The PSIA consists of three internal departments, eight regional bureaus, 14 field offices, and a Training and Research Institute. The internal departments include the General Affairs Department, and the First and Second Investigation Departments. The PSIA provides relevant organizations with necessary foreign and domestic data collected through investigations and intelligence activities. The PSIA has a workforce of approximately 1,800.



Public Security Intelligence Agency Organization

The Security Council

Japan's Security Council, established in 1986, is modeled on the U.S. National Security Council, and is presided over by the prime minister and includes the country's key cabinet ministers. The Security Council replaced the National Defense Council as the Japanese government's main advisory group on defense and national security. The Security holds a wide ranging portfolio, including military and civilian security issues, national defense policy, the National Defense Program Outline (NDPO), industrial production and economic planning.

Defense Intelligence Office

The Defense Intelligence Office (DIO) is Japan's first joint intelligence center that became operational in 1997. It operates under

the direction of a two-star general. The Defense Intelligence Office has civilian and military personnel. It combines the functions of military intelligence gathering with counter-espionage and government communications.















Defense Intelligence Headquarters

The Japan Defense Intelligence Headquarters (DIH) was created in 1996 as the country's first central military intelligence entity since WWII. The DIH collects, processes, and analyzes information obtained from a network of remote listening devices operated by the Japanese Self-Defense Forces (JSDF). The DIH also handles imagery and intelligence data supplied by other foreign partner agencies and open sources.

The DIH is administratively subordinate to the jurisdiction of the Joint Staff Council and is controlled by the Defense Intelligence Committee, which consists of the permanent vice-minister, the director of the Defense Bureau, the chairman of the Joint Staff Council and the chiefs of the JGSDF, the JMSDF, and the JASDF. The Defense Intelligence Committee determines the overall framework of the international military intelligence to be collected. Based on this basic plan, each division of the intel-



JGSDF Personnel

	Armor 		Artillery 				
General	Tank	Recon- naissance	Field Artillery	Anti-Aircraft Artillery	Aviation	Facility	Com- munications
							
Weapons	Quarter- master Corps	Transportation	Chemical	Military Police	Accounting	Medical	Music

JGSDF Service Badges

Intelligence headquarters will collect, analyze, and assess information gathered from radio waves, images, and publications.

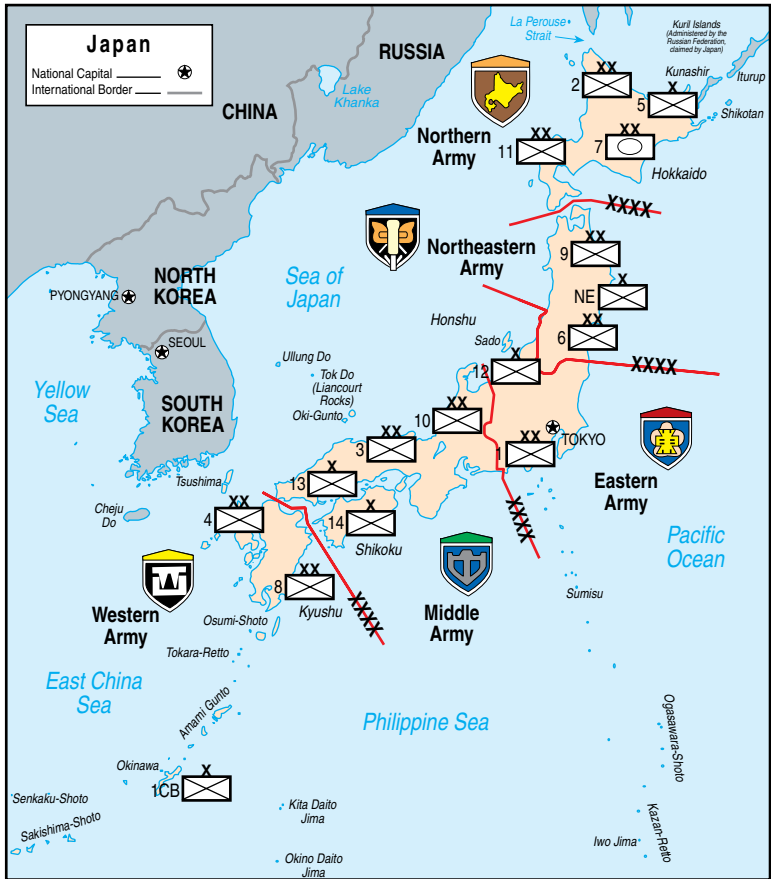
The DIH integrates the five intelligence elements from the JGSDF, JMSDF, JASDF, the Japan Defense Agency (JDA), and the Joint Staff Council. Based in the new JDA headquarters in Tokyo's Ichigaya district, the organization reports to the Joint Staff Council and is the armed forces' first fully integrated unit. At the time of its formation the DIH strength was 1,580 (military and civilian) although it is projected to increase to 2,000. The DIH includes an Administration/General Headquarters, Planning Division, Imagery Division, Signals Intelligence, and an Analysis Division.

Intelligence and Analysis Bureau

The Intelligence and Analysis Bureau of the Ministry of Foreign Affairs takes charge of the following matters:

- General administration of research affairs;
- Research and surveys on foreign countries (except matters under the charge of other bureaus)
- General analysis of the international situation and collection of necessary information

The Intelligence and Analysis Bureau is divided into the General Management Division, the First Analysis Division and the Second Analysis Division. The Bureau plans and formulates a comprehensive policy on how the Ministry as a whole collects, analyzes, manages, and provides information.



JGSDF Locations

ARMED FORCES

Japan Self-Defense Force

Japan is in the unusual position of being a major world economic power and political power, but has limited position to develop its armed forces. Under Article 9 in the 1947 constitution, Japan is limited in using force as means to settle international dispute. The constitution further prohibits Japan from having a regular standing army. Although a self defense force is allowed under the constitution, it prohibits Japan from possessing nuclear capabilities or other offensive weapons, and from deploying outside of Japan. There is current debate in Japan about revising Article 9 and the role of the self defense force.

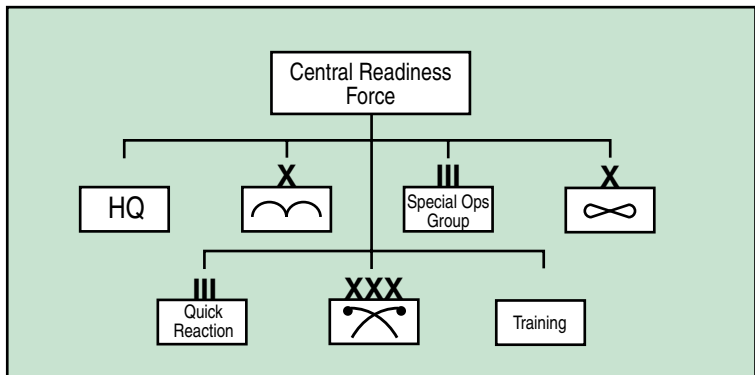
Japan's defense policy includes promoting efforts for peace, the establishment of the foundations for national security, development of an efficient defense capability and adherence to the Japan-U.S. Defense Security Treaty. Japan seeks to forge a "multi-functional, flexible, and effective defense force" to address a wide range of threats. These changes include the following:

- Introducing a ballistic missile defense system;
- Maintaining and enhancing readiness and force mobility to respond to attacks by guerillas and special operations forces;
- Increasing capability to resist an invasion of Japan's offshore islands with enhanced unit mobility and rapid response;
- Deploying vessels, aircraft and other assets to maintain patrol and surveillance duties in their surrounding seas and air space, including fighter aircraft units to instantly respond in cases of the violation of territorial airspace, and escort vessel units to respond to armed spy ships and foreign submarine presence in Japanese territorial waters;

- Increasing capability to respond to large-scale natural and/or special (nuclear, biological and chemical) disasters, with a force structure to conduct disaster relief operations and units with “special capabilities and expertise.”

There has been a focus on defending against a full-scale invasion of Japan, with recommendations to “modify the current defense for building concept” that emphasized anti-tank, anti-submarine and anti-air warfare, and to “reduce personnel and equipment prepared for coping with full-scale invasion.”

The SDF is under the control of the Japan Defense Ministry. In 2007, the Japan Defense Ministry was elevated from Agency to the Ministry level. This change renamed the Director-General of the Defense Agency to the Minister of Defense. Subsequently, corresponding cabinet position were also given new titles as well as granted authority to request meetings of the cabinet, and permitted direct access to the Finance Ministry for budget proposals and acquisitions. The prime minister retained authority of supreme commander to order the SDF defense operations and public secu-



Future Central Readiness Force Organization

rity operations, but in all other matters, the Japan Defense Ministry interacts directly with cabinet members as an equal ministry. The elevation from agency to ministry level will allow the Japan Defense Ministry more flexibility and authority to deploy the SDF for humanitarian and peacekeeping duties, precluding the need for special legislation prior to each overseas deployment.

The SDF is divided into three branches. These branches include the Japan Ground Self-Defense Force (JGSDF), the Japan Air Self-Defense Force (JASDF), and the Japan Maritime Self-Defense Force (JMSDF).

Army – Japan Ground Self Defense Force

Mission

In accordance with Japan's overall defense goals, the primary mission of the JGSDF is to defend the country against direct and indirect attacks and to assist in maintaining public order. Specific missions include:

- Respond to attacks by guerrillas or special operations forces
- Protect Japan's Offshore Islands or main islands
- Respond to large natural disasters, terrorist or nuclear attacks

The threat of a large-scale, conventional attack against Japan is in decline and the threat of ballistic missile or unconventional attacks from regional countries, especially North Korea, is increasing. These factors, combined with the government's emerging willingness to participate in peacekeeping and peace enforcement operations beyond its shores, is leading to a reorganization of the JGSDF to a more mobile force, capable of operating more effectively with coalition partners.

Despite constitutional restrictions on the use of Japan's military forces abroad, the JGSDF has participated in several international operations since 1992, including:

- UN Transitional Authority in Cambodia (UNTAC): September 1992 - September 1993 – 1,200 personnel
- UN Operations in Mozambique (UNOMOZ): May 1993 - January 1995 - 150 personnel
- UN Disengagement Observer Force (UNDOF): January 1996-Current - 810 personnel
- UN Mission of Support to East Timor (UNMISSET): February 2002 - June 2004 – 2,400 personnel
- Iraq (January 2004 - July 2006): 2,400 personnel

Personnel

The authorized personnel strength of the JGSDF is approximately 154,000 active duty soldiers plus 8,000 reserves, though the on hand strength of the active duty forces is closer to 146,000. The ongoing reorganization of the JGSDF is planned to result in a force with an authorized strength of 148,000 active duty personnel plus 7,000 reserves.

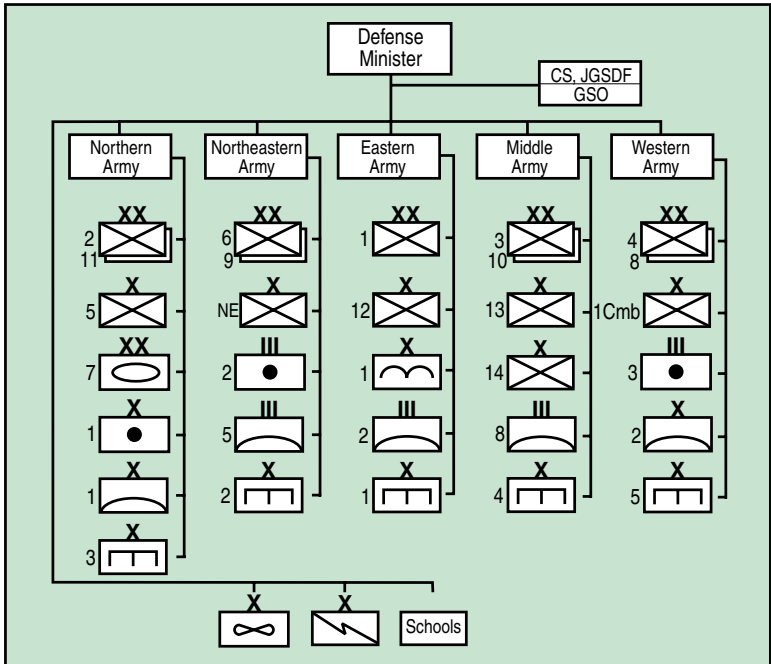
Tactics and Doctrine

Since being rebuilt by the U.S. military in the decades following WWII, the JGSDF has used U.S. Army tactics modified to fit their own mission, terrain, and equipment. Offensive tactics exist only in the context of the force's overall defensive mission. However, urban combat and responses to irregular warfare threats and peacekeeping and aid missions are receiving more emphasis.

Organization

- 9 Infantry Divisions
- 1 Armored Division

- 6 Infantry/Combined Brigades
- 1 Airborne Brigade
- 1 Artillery Brigade
- 2 Artillery Groups
- 2 Antiaircraft Artillery Brigades
- 3 Antiaircraft Artillery Groups
- 4 Training Brigades
- 1 Aviation Brigade
- 5 Engineer Brigades
- 5 Antitank Helicopter Groups



Future Trends

The changes to the ground forces planned by the National Defense Programs Guidance (NDPG) are to be implemented through 2009 and beyond. Aside from changes in active duty and reserve personnel levels, other changes are expected to include:

- Reduce the size of the Northern Army's Infantry Divisions by 1,400 to approximately 7,300
- Reduce the size of other regional armies' divisions by 3,100 to approximately 6,400
- Reduce to 600 tanks and 600 large-caliber artillery pieces
- Create a 4,300-man Central Readiness Force for reacting quickly to domestic and overseas missions, especially peace-keeping and humanitarian relief missions
- Restructure and expand the intelligence service

The NDPG calls for a total of the following major combat units:

- 8 Infantry Divisions
- 1 Armored Division
- 6 Infantry Brigades
- 1 Central Readiness Force

Equipment

Armor

Type	Role	Quantity
Type 90	Main Battle Tank	280
Type 74	Main Battle Tank	700
Type 87	Reconnaissance Vehicle	100
Type 89	Infantry Fighting Vehicle	70
Type 96	APC/Command Post Vehicle	160
Type 82	APC/Command Post Vehicle	200
Type 73/Type 60	APC	340/30

Air Defense

Type	Role	Quantity
KEIKO	Manportable SAM	210
KIN KYORI	SP SAM Launcher	90
I-HAWK	SAM Launcher	200
Patriot PAC-3	SAM Launcher	18
Type 81	SAM Launcher	60
35-mm Type 87	Self-Propelled AAA	50
35-mm (twin) Oerlikon	AAA	60
12.7-mm (quad) M55	AAA	280

Artillery

Type	Role	Quantity
155-mm Type 75	Self-Propelled Howitzer	140
155-mm Type 99	Howitzer	20
155-mm FH-70	Howitzer	480
227-mm MLRS	MLRS	90
130-mm Type 75	MLRS	20
120-mm Brandt	Mortar	380
107-mm M30	Mortar	90
81-mm Type 64 & M1	Mortar	670

Infantry Weapons

Type	Role
9-mm SIG P220	Pistol
0.38 New Nambu	Pistol
7.62-mm Type 64	Rifle
9-mm H&K MP5	Submachinegun
9-mm SCK M66	Submachinegun
7.62-mm type 62	General-Purpose Machinegun
0.50 Browning M2HB	Heavy Machinegun

Antitank Weapons

Type	Role	Quantity
Type 87/79	ATGM Launcher	300/230
Type 64	ATGM Launcher	220
106-mm RCL	Recoilless Rifle	200
89-mm M20	Recoilless Rifle	80
84-mm Carl Gustaf	Recoilless Rifle	2,720

Army Aviation

Type	Role	Quantity
AH-1S HueyCobra	Attack Helicopter	90
AH-64D	Attack Helicopter	>2
OH-6D Cayuse	Observation Helicoptoer	171
OH-1	Observation Helicoptoer	20
CH-47J Chinook	Transport	34
CH-47JA	Transport	19
UH-1H/J	Utility	150
UH-60JA	Utility	30
AS 332L Super Puma	Communications	3

Amphibious Forces

In 2002, the Western Army Infantry Regiment (WAIR) was established to react to potential offshore penetrations of Japanese territorial waters in the southern Ryukyu island chain. Based at Camp Ainoura in southern Honshu, the 640-strong Regiment consists of four companies with a ranger platoon in each company. This is the first time that the JGSDF has integrated units with specialized amphibious capabilities with its regular forces.

In 2006, approximately 200 WAIR soldiers trained with U.S. Marines at the Naval Amphibious Base in Coronado, California. The primary goal of the exercise was the movement of a company-

sized element from ship to shore. The WAIR trained in basic water navigation, small boat driving, and combat swimming.

Air Force – Japan Air Self Defense Force

Mission

The Japan Air Self Defense Force (JASDF) is an important element in the overall strategic defense of Japan. The core mission of the JASDF is early warning surveillance and rapid reaction. The JASDF works to preserve peace and stability, and independence through air defense, responding to various situations such as major disasters, and establishing a secure environment. Its defense capabilities are centered on a fleet that predominantly consists of fighters configured for the interceptor role, supported by a modest but increasing quantity of multi-purpose fighters.

The JASDF has a substantial air defense network aligned throughout Japan and designed to provide maximum defensive cover of Japanese air space and territory.

Japan's defense is divided into three main geographic vectors: Northern, Central, and Western Air Defense areas, with each possessing a force that includes interceptors and SAMs as core elements. The South-Western Air Division, a separate distinct organization, is responsible for the defense of Okinawa.

Personnel

The JASDF has the overall strength of slightly under 45,000 personnel and approximately 350 combat aircraft. The JASDF has been engaged in a process of reform. The introduction of policies designed to adapt and transform capabilities for the traditional invasion defense posture of the post WWII era to a more functional force that is better able to deal with a range of threats such as terrorism, weapons of mass destruction and ballistic missiles.

The JASDF maintains an integrated network of radar installations and air defense. The JASDF consists of eight aircraft control and warning groups and 20 subordinate control and warning squad-

Enlisted					
	<small>Ground SDF insignia - Green Air SDF insignia - Blue</small>	Santo Kushi	Nito Kushi	Itto Kushi	Kushicho
U.S. Equivalent	<i>Airman Basic/ Recruit</i>	<i>Airman 3rd Class/ Private 2nd Class</i>	<i>Airman 2nd Class/ Private 1st Class</i>	<i>Airman 1st Class/ Leading Private</i>	
Enlisted					
		Santo Kuso	Nito Kuso	Itto Kuso	Kusocho
U.S. Equivalent	<i>Sergeant</i>	<i>Sergeant First Class</i>	<i>Master Sergeant</i>	<i>Chief Master Sergeant</i>	
Officers					
		Jun Kui	Santo Kui	Nito Kui	Itto Kui
U.S. Equivalent	<i>Warrant Officer</i>	<i>2nd Lieutenant</i>	<i>1st Lieutenant</i>	<i>Captain</i>	<i>Major</i>
Officers					
		Nito Kusa	Itto Kusa	Kushoho	Kusho
U.S. Equivalent	<i>Lieutenant Colonel</i>	<i>Colonel</i>	<i>Major General</i>	<i>Lieutenant General</i>	<i>General</i>

JSDF Army and Air Force Rank Structure

rons, nine squadrons specifically tasked in the interceptor role, three support fighters, one air reconnaissance squadron, three air transport squadrons and an airborne early warning squadron. The JASDF also has six surface-to-air missile groups.

Training

JASDF has a substantial training organization with five schools specializing in flying training, an operational conversion unit and five technical schools specializing in various aerospace-related disciplines. Aggressor training is provided by the Aggressor Squadron in Nyutabaru with F-15J and F-15DJ aircraft.

The JASDF engineering and technical support personnel receive basic training at the Air Basic Training Group and the Air Officers Candidate School. After completing this training personnel attend the technical school consider most appropriate for their intended professional careers.

Disposition

- 8 Aircraft Control and Warning Groups
- 1 Airborne Early Warning Squadron
- 9 Interceptor Squadrons
- 3 Support Fighter Squadrons
- 1 Air Recon Squadron
- 3 Air Transport Squadrons
- 6 Ground-to Air Missile Groups

Organization

The JASDF is divided into the following:

- **Air Staff Office:** the chief organization for military service operations. It includes the Chief of Staff of JASDF and his assistant agency. It is under direction of the Minister of Defense.

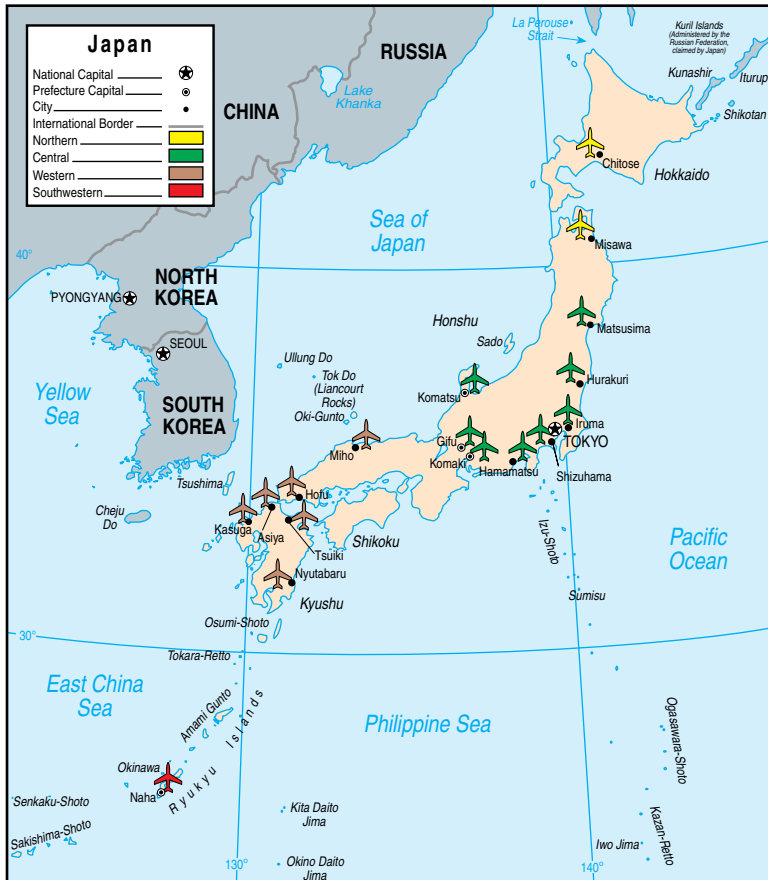
- **Air Defense Command:** consists of the Air Defense Command, Air Defense Force, and other directly controlled forces, to carry out command and operations in an integrated manner.
- **Air Support Command:** supports the Air Defense Command by carrying out air strategy. It consists of troops for rescue, air transportation, air control, weather, and maintenance.
- **Air Training Command:** carries out basic education and training for SDF members.
- **Air Developing and Proving Command:** the organization for the development of experimental aircraft and equipment, aeromedicine, human engineering, and to carry out a wide range of research.
- **Air Material Command:** controls supply depots and oversees procurement, safe-keeping, recruitment, and maintenance of necessary fuel, ammunition, and equipment.
- **Air Defense Command**
 - *Northern Air Defense Force* (Headquarters: Misawa)
 - 2nd Air Wing (Chitoso)
 - 3rd Air Wing (Misawa)
 - Northern Aircraft Control and Warning Wing (Misawa)
 - 3rd Air Defense Missile Group (Chitose)
 - 6th Air Defense Missile Group (Misawa)
 - Northern Air Civil Engineering Group (Misawa)
 - Northern Air Bank (Misawa)
 - *Central Air Defense Group* (Headquarters: Iruma)
 - 6th Air Wing (Komatsu)
 - 7th Air Wing (Hyakuri)
 - Central Aircraft Control & Warning Wing (Iruma)
 - 1st Air Defense Missile Group (Iruma)

- 4th Air Defense Missile Group (Gifu)
 - Central Air Civil Engineering Group (Iruma)
 - Iwojima Air Base Group (Iwojima)
 - Central Air Band (Hamamatsu)
- *Western Air Defense Group* (Headquarters: Kasuga)
 - 5th Air Wing (Nyutabaru)
 - 8th Air Wing (Tsuiki)
 - Western Aircraft Control & Warning Wing (Kasuga)
 - 2nd Air Defense Missile Group (Kasuga)
 - Western Air Defense Force HQ Support Fight Squadron (Kasuga)
 - Western Civil Engineering Group (Ashiya)
 - Western Air Band (Kasuga)
- *Southwestern Composite Air Division* (Headquarters: Naha)
 - 83rd Air Wing (Naha)
 - Southwestern Aircraft Control and Warning Wing (Naha)
 - 5th Air Defense Missile Group (Naha)
 - Southwestern Air Civil Engineering Group (Naha)
 - Southwestern Air Band (Naha)
- **Air Support Command** (Headquarters:Fuchu)
 - Air Rescue Wing (Iruma)
 - 1st Tactical Airlift Group (Komaki)
 - 2nd Tactical Airlift Group (Iruma)
 - 3rd Tactical Airlift Group (Miho)
 - Air Traffic Control Service Group (Iruma)
 - Air Weather Service Group (Fuchu)
 - Flight Check Squadron (Iruma)
 - Special Airlift Group (Chitose)

- **Air Training Command**
 - 1st Air Wing (Hamamatsu)
 - 4th Air Wing (Matsushima)
 - 11th Flying Training Wing (Shizuhamu)
 - 12th Flying Training Wing (Hofu-Kita)
 - 13th Flying Training Wing (Ashiya)
 - Air Basic Training Wing (Hofu-Minami)
 - Flying Training Squadron (Nyutabaru)
 - Air Training Aids Group (Hamamatsu)
 - Air Officer Candidate School (Nara)
 - 1st Technical School (Hamamatsu)
 - 2nd Technical School (Hamamatsu)
 - 3rd Technical School (Ashiya)
 - 4th Technical School (Kumagaya)
 - 5th Technical School (Komaki)
- **Air Development and Test Command**
 - Air Development and Test Wing (Gifu)
 - Electronics Development and Test Group (Iruma)
 - Aeromedical Laboratory (Tachikawa)
- **Other Units and Organizations**
 - Air Communications and Systems Wing (Ichigaya)
 - Aerosafety Services Group (Tachikawa)
 - Central Air Band (Tachikawa)
 - Central Air Base Group (Ichigaya)
 - Air Staff College (Meguro)
 - Misawa SDF Hospital (Misawa)
 - Gifu SDF Hospital (Gifu)
 - Naha SDF Hospital (Naha)

Equipment

Type	Role	Quantity
F-15J/DJ	Fighter	213
F-2/FSX	Fighter	40
F-1	Fighter	20



Japan Air Self Defense Force Locations

Type	Role	Quantity
F-4E/J	Fighter	70
RF-4E/EJ	Fighter	20
C-1/EC-1	Transport	21
C-130	Transport	10
E-2C(AEW)	Surveillance	10
YS-11 W/E	Surveillance	10
T-400	Training	12
T-4	Training	170
T-3	Training	40
T-2	Training	20

Navy – Japan Maritime Self Defense Force

Missions

Because Japan is an island nation, many of its threats will approach via the sea. Japan is also resource-poor country that must rely upon countries overseas for most of the materials required for daily life. Japan uses a worldwide maritime transport network to obtain more than ninety percent of its resources. Consequently, one of the JMSDF's primary missions is to ensure the safety of maritime traffic. The JMSDF will conduct a combination of various operations, including anti-surface warfare, anti-submarine warfare, localized anti-air warfare, and mine warfare in waters of several hundred miles surrounding Japan (or in waters of approximately 1,000 miles in case a sea-lane is established) and will patrol the areas, escort ships, and defend Japan's ports, harbors and straits.

The JMSDF's other primary mission is defense of the surrounding sea areas. The JMSDF trains to accomplish warfare missions in order to successfully defend the surrounding sea areas by obstructing the advance of enemy forces and reducing their military strength.

Operations for defending the sea areas surrounding Japan would be conducted mainly by the JMSDF in cooperation with the Japan Ground Self-Defense Force (JGSDF) and the Japan Air Self-Defense Force (JASDF). The JMSDF will patrol vast sea areas using P-3C patrol aircraft and patrol shipping lanes using destroyers.

Since late-2001, the JMSDF has also contributed to the U.S.-led global war on terrorism through the provision of rear echelon support activities, e.g., supplying fuel to U.S. Navy and coalition vessels participating in maritime interdiction operations (MIO) in the Indian Ocean. In the five years ending in September 2006, JMSDF had provided free fuel on 678 occasions to vessels and on 49 occasions to ship-embarked helicopter.

Although a mission typically assigned the Japan Coast Guard, the JMSDF also assists in providing search-and-rescue response.

Organization

The JMSDF consists of the Fleet Escort Force, the Fleet Air Force, and the Fleet Submarine Force.

Fleet Escort Force (Headquarters located in Yokosuka) is currently organized into four escort flotillas:

- Escort Flotilla 1 – Yokosuka
- Escort Flotilla 2 – Sasebo
- Escort Flotilla 3 – Maizuru
- Escort Flotilla 4 – Kure

Fleet Air Force (Headquarters located in Atsugi) consists of seven air wings:

- Fleet Air Wing 1 – Kanoya
- Fleet Air Wing 2 – Hachinohe

- Fleet Air Wing 4 – Atsugi
- Fleet Air Wing 5 – Naha
- Fleet Air Wing 21 – Tateyama
- Fleet Air Wing 22 – Omura
- Fleet Air Wing 31 – Iwakuni

Fleet Submarine Force (Headquarters located in Yokosuka) consists of two submarine flotillas:

- Submarine Flotilla 1 – Kure
- Submarine Flotilla 2 – Yokosuka

Personnel

(U) JMSDF personnel strength for the current Japan fiscal year (April 2006 through March 2007) is 45,812 personnel.

Training



















(U) The JMSDF continues to train, man, and equip to counter a full-scale invasion of Japan. Operations for the defense of surrounding sea areas include anti-surface ship warfare, anti-submarine warfare, and localized anti-air warfare. The JMSDF trains to defend the surrounding sea areas by obstructing the advance of enemy forces and reducing their military strength.

(U) The JMSDF routinely conducts bilateral naval exercises with the U.S. Navy, notably in RIMPAC-2006 exercise conducted off the coast of Hawaii. During this exercise, the JMSDF conducted a missile firing off the Hawaiian island of Kauai.

Capabilities

As an advanced regional navy, the JMSDF possesses many of the capabilities of a “major” navy, including a force projection capability. It is highly qualified, operates state-of-the art equipment,

and is fully able to accomplish its assigned missions. JMSDF has benefited from favorable defense budget allocations that have resulted in robust naval modernization and training.

Enlisted					
	Santo Kaishi	Nito Kaishi	Itto Kaishi	Kaishicho	
<i>U.S. Equivalent</i>	<i>Seaman Basic</i>	<i>Seaman/Fireman Apprentice</i>	<i>Seaman/Fireman</i>	<i>Leading Seaman</i>	
Enlisted					
	Santo Kaiso	Nito Kaiso	Itto Kaiso	Kaisocho	
<i>U.S. Equivalent</i>	<i>Petty Officer 3rd Class</i>	<i>Petty Officer 2nd Class</i>	<i>Petty Officer 1st Class</i>	<i>Master Chief Petty Officer</i>	
Officers					
	Jun Kai	Santo Kaii	Nito Kaii	Itto Kaii	Santo Kaisa
<i>U.S. Equivalent</i>	<i>Warrant Officer</i>	<i>Ensign</i>	<i>Lieutenant Junior Grade</i>	<i>Lieutenant</i>	<i>Lieutenant Commander</i>
Officers					
	Nito Kaisa	Itto Kaisa	Kaishoho	Kaisho	Kaijo Bakuryocho
<i>U.S. Equivalent</i>	<i>Commander</i>	<i>Captain</i>	<i>Rear Admiral</i>	<i>Vice Admiral</i>	<i>Admiral</i>

Japan Maritime Self Defense Force Rank Structure

The JMSDF is the primary service organization dedicated to defend the surrounding sea areas.

- **Maritime surveillance:** JMSDF P-3C maritime patrol aircraft fly daily patrols in the sea areas surrounding Hokkaido, the Sea of Japan, and the East China Sea. Destroyers execute surveillance patrols in shipping lanes.
- **Anti-submarine warfare:** The JMSDF is enhancing and improving the capabilities to detect, identify and track foreign submarines navigating submerged in the territorial waters of Japan. In the event that a submarine is found to be attacking Japanese ships or others, the JMSDF will prosecute the foreign submarine with its destroyers, submarines, and patrol aircraft. The JMSDF will request foreign submarines to navigate on the surface and show their flag. If the submarine does not comply with this request, the JMSDF will request it to leave its territorial waters.
- **Anti-surface warfare:** JMSDF also is prepared to attack enemy surface ships using its destroyers and submarines. The JMSDF, using its destroyers, patrol aircraft and minesweeping ships, will patrol the main ports and harbors for early detection of enemy attacks and for securing the safety of ships and coastal areas.
- **Anti-air warfare:** JMSDF will use its destroyers for air defense, receiving support from fighters of the Japan Air Self-Defense Force, as necessary.

Equipment

Type	Active (Auxiliary)	Building (Projected)
Submarines	16 (2)	3 (1)
Destroyers	44	3 (1)
Frigates	9	-

Type	Active	Building
Patrol Forces	9	-
LST	3	-
LCU	4	-
LCAC	6	-
Landing Craft (LCM)	12	-
MCM	4	-
Tenders/Controllers		
Minesweepers-Ocean	3	(1)
Minesweepers-Coastal	24	3
Major Auxiliaries	33	(2)

Naval Air Force

- 16 Air Patrol Squadrons: P-3C, EP-3, OP-3C, SH-60J/K
- 6 Air Training Squadrons: P-3C, YS-11, TC-90, T-5, OH-6D, SH-60J
- 1 Air Training Support Squadron: U-36A, UP-3D, LC-90
- 1 Transport Squadron: YS-11, LC-90
- 1 MCM Squadron: MH-53E

Air Training Command (Shimofusa)

Air Wings at Kanoya (Wing 1), Hachinohe (Wing 2), Atsugi (Wing 4), Naha (Wing 5), Tateyama (Wing 21), Ohmura (Wing 22), Iwakuni (Wing 31)

In December 2004, the government of Japan adopted the Mid Term Defense Program (MTDP Japan Fiscal Years 2005-2009) that in conjunction with the National Defense Program Guidelines (NDPG) will determine the force structure of the Self-Defense Forces. The MTDP is the government of Japan's formula for reaching the level of defense capability as provided for in the NDPG.

The MTDP 2005-2009 planned JMSDF procurements and modifications are as follows:

Platform Type	Quantity
Improvement of capabilities of Aegis-equipped destroyers	3
Destroyers	5
Others	11
Submarines	4
Total number of ships/submarines to be built	20
New fixed-wing patrol aircraft	4
Patrol helicopters (SH-60K)	23
Minesweeping and transport helicopter (MCH-101)	3

Japan Police Forces

Japan's police structure is divided into national and local jurisdictions. The national level police organizations are the National Public Safety Commission (NPSC) and the National Police Agency (NPA). The NPSC makes basic policy. The NPA administers police affairs as the central coordinating body for the entire police system. It determines general standards and policies, detailed direction of operations is left to the lower echelons. The local police structure is the Prefectural Police (PP). The local forces are much larger and have more contact with the general public than the NPA. The local forces handle general operations.

National Police Agency

The National Police Agency (NPA) is the central coordinating body for Japan's police system. It determines general standards and policies; detailed direction of operations is left to the lower echelons. In a national emergency or large-scale disaster, the agency is authorized to take command of Prefectural Police (PP)

forces. The NPA responds to policy decisions made by the National Public Safety Commission (NPSC). The NPA duties include

- Planning and research on police system
- National police budget
- Review of national polices on police
- Police operations in time of large-scale disasters and disturbances
- Formulation and implementation of plans for emergency situations
- Measures against trans-prefectural organized crime
- Traffic regulation on national highways
- International criminal investigation assistance
- Operation of the Imperial Guard
- International emergency relief activities
- Police training
- Police communications
- Criminal identification
- Criminal statistics
- Police equipment
- Standards of recruitment, duties and activities of police personnel
- Coordination of police administration
- Inspection

Mission

The NPA determines the standards and policies of law enforcement in Japan. It is the central coordination office for the PP. The NPA sets national law enforcement policy and is designed for communications and policy setting. It also has the capability

to fight cybercrimes in response to internet drug sales, computer fraud, and hacking.

Subordination and Structure

The NPA is headed by a commissioner general, who is appointed by the National Public Safety Commission with the approval of the prime minister. The NPA consists of the Commissioner General's Secretariat, the Community Safety Bureau, the Criminal Investigation Bureau, the Organized Crime Department, the Traffic Bureau, the Security Bureau, the Foreign Affairs and Intelligence Department, the Info-Communications Bureau, attached organizations and regional bureaus.

The NPA has seven regional police bureaus, each responsible for a number of prefectures. The major mission is to coordinate between the NPA and the local Prefecture Police (PP). These regional bureaus (Chubu, Chugoku, Kanto, Kinki, Kyushu, Shikoku, and Tohoku) cover all of Japan except for Tokyo and part of Hokkaido. These two areas are covered by the Tokyo Metropolitan Police Communications Division and the Hokkaido Prefecture Police Communications Division, respectively. They are more autonomous than the regional police bureaus due to Tokyo's urban situation and Hokkaido's unique geography.

The secretariat consists of six divisions and five bureaus. The divisions are general operations, planning, information, finance, management, and equipment. The bureaus are administration, criminal investigation, traffic, security, and communications.

The administration bureau is divided into personnel, education, welfare, training, and unit inspections sections. The criminal investigation bureau is responsible for research and statistics, national investigations, international investigations, and legislation

research in the realms of firearms, explosives, food, drugs, and narcotics. The safety bureau's mission includes crime prevention, juvenile delinquency, and pollution control. The communications bureau supervises police communications systems. The traffic bureau supervises Japan's highways.

Prefectural Police

The Prefectural Police (PP) is the largest police force in Japan. While the National Police Agency (NPA) is responsible for the development of general polices, the PP are responsible for police work concerning the general public.

Mission

Police law stipulates that each local government prefecture will have its own police. The PP are supervised by the Prefectural Public Safety Commission.

The scope of the present police law limits police work to passive involvement such as maintaining social order, keeping harmonious relations, and preventing crime. The combined mandate held by the police and the authoritative power under the Meiji Restoration no longer exists. Under present police practices, they are required to prepare proper documents (e.g. warrants) prior to making arrests, except where people are caught in the act of committing a crime. The police are not allowed to interfere in civil issues. Police are subject to the most stringent regulations of conduct, which results in a well-mannered, and well-behaved police force. Local municipal authorities employ the police.

Jurisdiction

In general, police officers are expected to work only within their municipalities. Police law stipulates that each local government prefecture shall have its own PP. The PP are supervised by the Pre-

fectural Public Safety Commission, which carries out all police duties within the boundaries of the prefecture. In practice, the PP forces are located in each of the 47 prefectures.

Force Capabilities

In addition to maintaining order and fighting crime, Japanese police duties include taking care of people who have had too much to drink, helping lost children, and giving street directions. In areas where many elderly live alone, the police may visit their homes to make sure they are all right. People living or working nearby sometimes drop in to ask for advice.

Organization

The Japanese police structure is designed as a hierarchy. The lowest divisions in the hierarchy are the *kobans* (police boxes in urbanized areas) and *chuzai-shos* (police boxes in rural areas). The police boxes are in direct contact with the people. The police boxes defer to the police stations, the stations are subordinate to prefecture headquarters. Various prefecture headquarters defer to regional commands and, finally, the regional commands defer to a national command. While the national command possesses absolute authority, their role is mostly administrative and only take direct control over operations in times of emergency. For the most part, prefecture headquarters is the highest level that concerns itself with daily police operations.

Personnel

The number of police personnel at the local level is approximately 274,100 (2004 est). Japan's police officers are predominately male. Most incoming police officers come from middle-class neighborhoods where police work is seen as honorable work.



Mechanical Police at Construction Sites

Training

The importance of education is highly stressed in police recruitment and promotion. Entrance to the force is determined by examinations administered by each prefecture. Recruits undergo rigorous training — a year for upper-secondary school graduates and 6 months for university graduates — at the residential police academy attached to the prefecture headquarters. On completion of basic training, most police officers are assigned to local police boxes. Promotion is achieved by examination and requires further course work. In-service training provides mandatory continuing education in more than 100 fields. Police officers with upper-secondary school diplomas are eligible to take the examination for sergeant after 3 years of on-the-job experience. University graduates can take the examination after only a year. University graduates are also eligible to take the examination for assistant police inspector, police inspector, and superintendent after shorter periods than upper-secondary school graduates. There are usually 5 to 15 examinees for each opening. About 15 officers per year pass advanced civil service examinations and are admitted as senior officers. Officers are prepared for administrative positions and although some rise through the ranks to become senior administrators, most of these positions are held by specially recruited senior executives.

Basic Training

All Japanese police recruits undergo a standardized curriculum set by Japan's National Police Agency. High school graduates undergo a year of police school. After this, they are given "hands on" experience through 3 months of field work. After 3 months, the recruits return for 6 more months of training and discussions about what they experienced. College graduates undergo a slightly different program. While they must also experience 3 months of

field work, they only attend police school for 8 months beforehand and 4 months after. Approximately 5 percent of Japanese police candidates fail to complete the course. Anyone attending their first year of police school must live in a dormitory, even if they are married. For single officers, this requirement extends into their first 6 months of duty. All dorms maintain a curfew. Residents must obtain special permission to stay out past 2300. Cadets and rookie officers are not the only officers living in the dorms. Due to the high cost of living in certain areas, many new officers will continue to reside in a dormitory after the first 6 months. A distinct aspect of Japanese police training is the focus on developing an officer's social skills and moral judgment. At the Tokyo police academy, Confucianism, *bushido* (the way of the samurai), and psychology compose 10 percent of the total curriculum for high school graduates and 8 percent of the total curriculum for college graduates.

Martial Arts

Police officers are expected to be able to control situations and apprehend the suspects with minimum effective force. To do this, police officers practice judo, kendo (Japanese fencing), arrest techniques and marksmanship.

Equipment

Standard equipment for all officers includes handcuffs, a nightstick, and a 15-foot piece of light rope. Male officers receive a .38-caliber revolver. Female officers are not issued firearms.

Additional accessories depend on the tasks an officer is assigned. Officers on foot patrol or on bicycles are given two-way radios in order to keep in touch with headquarters and to be able to radio for information or assistance. Lighted batons are given to officers who direct traffic. Officers checking for drunk drivers carry a

small device that beeps when the alcohol concentration in the air reaches a certain value. Out of tradition, many officers wear white gloves when they go on patrol or drive a patrol car.

Uniforms

All Japanese officers wear uniforms standardized by the National Police Agency. During the autumn, winter, and spring, male officers wear a white shirt underneath a four-button single-pleated coat accompanied with a matching pair of trousers. Uniforms for female officers are identical, aside from replacing the trousers with a matching skirt. The coats, pants, and skirts are black in the winter months. During spring and autumn, the coats are steel-blue and made of lighter material. Women may replace the light coat during the spring and autumn months with a vest. Over the summer, uniforms are reduced to an open-necked short-sleeved steel-blue shirt with matching trousers for men and skirts for women. An officer's rank insignia appears over the left breast pocket (blue shirt in summer, coat during all other times). Shoes worn throughout the year are black, however, officers assigned to motorcycles or patrol cars may wear ankle length boots. Officers also wear a cap with a black visor and the gold police insignia. The style of cap men wear is slightly different from the one women wear. Motorcycle officers must wear a helmet.

OKINAWA

U.S. Consulate

The Public Affairs section of the U.S. consulate at Naha provides information to Okinawans and coordinates cultural and educational exchanges. The commercial section promotes economic development and cooperation with U.S. businesses. The political/military section works closely with all branches of the U.S. military.

U.S. Consulate Information

Mailing address	2-1-1 Toyama Urasoe City Okinawa, Japan 901-2104 PSC 556, Box 840 FPO AP 96386-0840
Telephone	81-98-876-4211/DSN: 645-7323/5
Fax	81-98-876-4243
Internet address	naha.usconsulate.gov
Hours	Monday - Friday 0800 - 1700



Okinawa

U.S. Military Facilities

U.S. military facilities use 10 percent of the land on Okinawa. Okinawa accommodates 65 percent of U.S. Forces in Japan.

Troop Strength

In 2003, U.S. defense personnel in Okinawa totaled 50,826, including 26,282 military personnel, 1,679 civilian employees, and 22,865 family members. In 2005, the number of U.S. Marines decreased from 18,000 to 11,000 in compliance with alterations to the Status of Forces Agreement (SOFA).

International incidents have caused outrage against U.S. forces operating on Okinawa. The Special Actions Committee on Okinawa examined the impact of U.S. military presence and determined ways to diminish negative impacts of the U.S. military presence on the island. Reducing troop numbers and consolidating military bases are among the goals of the committee.

Okinawa hosts some of the most extensive training activities for U.S. forces outside the United States. Troops receive training in counterinsurgency operations, combat, jungle warfare training, live firing, aircraft operations, and amphibious operations.

The Green Line Mass Transit System provides free transportation for the Marine Corps Community. The system's hub is in Camp Foster and provides service from as far north as Camp Schwab to as far south as Camp Kinser. Shuttle services are also free and available throughout the week.

Base/Branch	Location	Use	Land Area
Camp Butler/ Camp Foster Marine Corps	Ginowan City	MCB HQ	

Base/Branch	Location	Use	Land Area
Camp Hansen Marine Corps	Kin Town	MLG, 31st MEU	511,830
Camp Schwab Marine Corps	Nago City	Live fire ranges, Amphibious Training. 4th Mar Reg	206,270
Camp Kinser Marine Corps	Naha	3rd FSSG	



U.S. Bases on Okinawa

Base/Branch	Location	Use	Land Area
Kadena Air Base Air Force	South central Okinawa	HQ for 18th Wing, residential, recreational, and commercial facilities	199,500
MCAS Futenma Marine Corps	Ginowan City	Airfield, hangars, communication & maintenance facilities. 1st MAW	48,050
White Beach Area Navy and Army	Katsuren Peninsula	Logistical	15,680
Camp Courtney Marine Corps	Gushikawa City	III MEF HQ	13,480

Geography

General Description

Okinawa is the largest island in the Ryukyu Island chain. The chain of 160 islands is spread out over 400,000 square kilometers (154,440 square miles). Okinawa is the southernmost prefecture in Japan, located 1,500 kilometers (932 miles) southwest of Tokyo, 560 kilometers (348 miles) from Kyushu, the southernmost point on mainland Japan, and 590 kilometers (367 miles) from Taiwan.

Land Statistics

Okinawa contains most of the prefecture's land area at 2,267 square kilometers (875.3 square miles). Okinawa prefecture extends as far southwest as Iriomote.

Bodies of Water

Reservoirs include Fukuji, Arakawa, Aha, Fungawa, and Benoki.

Topography

Many of the 160 islands are barren, rocky, and uninhabited. Northern Okinawa is mountainous and rugged, and the southern part has rolling hills and plateaus.

Environment

Okinawa has no major environmental issues, although there are typical environmental challenges posed by industrial development and military presence on the islands. Red soil pollution has become a concern with the run off of red clay soil into water ecosystems. The soil is deposited onto the coral reefs, blocking sunlight and killing the coral. The USMC and the U.S. Forest Service have been combating the problem with many measures, including nail and plant slope repair method (soil nailing), which reinforces soil by nailing it down with steel rods, wire mesh, and vegetation.

Climate

Okinawa has a subtropical climate with long summers and short winters, starkly different from mainland Japan. The subtropical island of Okinawa has an average yearly temperature of 22°C (72°F) to 23°C. Humidity averages at 74 percent. *See page 17 for precipitation information for Naha.*

Climatic Phenomena

Multiple typhoons occur from June through November.

Precipitation

Okinawa's rainy season occurs from May to June. Heavy rains and sometimes squalls occur during this period. Okinawa receives more than 2,000 millimeters (79 inches) of precipitation annually.

Transportation

A 57-kilometer (35-mile) expressway connects Nago in the north to Naha in the south. Roads are narrow, and traffic is often heavy. Coral dust covers the roads and becomes slick in rainy weather.

Affordable public buses and taxis are available. Some taxis accept Japanese and U.S. currency. Drivers usually carry a currency exchange rate chart that can be referred to and also used for checking on fare charges. Only taxis contracted through AAFES are permitted to enter U.S. military installations.

Ferries transport passengers to other islands within the Okinawa prefecture and to the main islands. Okinawa Monorail transports passengers from central Naha to Naha airport.

Airports offer flights to various cities of Japan's main islands. Naha airport offers international service. Airlines include All Nippon Airways, Japan Airlines, Asiana Airlines, China Airlines, China Eastern Airlines, and Philippine Airlines.



Taxi in Iriomote, a Southwestern Okinawa Village

Primary Airports

Airport Name Coordinates	Runway Dimensions	Runway Surface	Elevation
Futenma MCAS 2616N 12745E	2,743 x 46 m (9,000 x 150 ft)	Asphalt	75 m (247 ft)
Iwo Jima AB 2447N 14119E	2,652 x 61 m (8,700 x 200 ft)	Asphalt	117 m (384 ft)
Kadena AB 2621N 12746E	3,688 x 61 m (12,100 x 200 ft)	Concrete	44 m (143 ft)
	3,688 x 91 m (12,100 x 300 ft)	Asphalt	
Naha Airport 2611N 12738E	2,999 x 46 m (9,840 x 150 ft)	Asphalt	4 m (12 ft)

Okinawa is a critical transshipment point, with several ports that can handle significant container shipments and serve as a connecting point for cargo traffic to and from Japan, China, and other East Asian nations.

Primary Ports

Port Coordinates	Berthing	Anchor Depth	Pier Depth
Hirara 2448N 12517E	N/A	More than 23.2 m (76 ft)	3.4 to 4.6 m (11 to 15 ft)
Ishigaki 2420N 12410E	Vessels up to 152 m (500 ft) long	21.6 to 22.9 m (71 to 75 ft)	4.9 to 6.1 m (16 to 20 ft)
Kinwan 2622N 12758E	Vessels up to 152 m (500 ft) long	17.1 to 18.3 m (56 to 60 ft)	6.4 to 7.6 m (21 to 25 ft)
Naha 2613N 12741E	Vessels up to 152 m (500 ft) long	12.5 to 13.7 m (41 to 45 ft)	4.9 to 6.1 m (16 to 20 ft)
Nakagusuku 2614N 12755E	Vessels up to 152 m (500 ft) long	21.6 to 22.9 m (71 to 75 ft)	14 to 15.2 m (46 to 50 ft)

Communication

Radio service is similar to that of mainland Japan. Digital radio is available on Okinawa.

Radio Station	Programming
NHK1, 549 AM	News, talk
NHK2, 1125 AM	Classical music, education
Radio Okinawa, 738 AM	News
AFN, 648 AM	News, talk (English)
AFN, 89.1 FM	News, talk (English)
FM Okinawa, 87.3 FM	Popular music
NHKFM, 88.1 FM	News

Television Channel/ Station	Owner
Channel 2 ANKH	Japanese Broadcasting Company
Channel 6 AFN	Armed Forces Network (English)
Channel 8 OTV	Okinawa Television
Channel 10 RBC	Ryukyu Broadcasting Company
Channel 12 NHK	NHK

CNN is broadcast on the Armed Forces Network (AFN) every evening. Other channels broadcast movies, RBC news, and NHK news in English, but bilingual televisions and converters are required. Okinawa Cable Network and satellite television also offer several English language programs.

Okinawa has approximately 470,000 telephone subscribers and 812,000 cellular phone users. Phone booths on Okinawa are colored differently to indicate the type of call that can be made on them. Red, pink, and beige phones are intended for local calls, accepting one 10-yen coin at a time. Red phones located on military bases are for calling international numbers with calling cards. The blue phones will take up to six 10-yen coins at once and are used for longer local calls. Yellow phones are for local and domestic

long distance calls accepting up to ten 10-yen coins and nine 100-yen coins at a time. International long distance calls can be made from green phones. Gray phones are for on-base dialing. International calls are made mostly with calling cards sold at any corner market or USO, commissary, or military exchange.

Newspapers on Okinawa have circulation at 461,000 daily copies. The *Okinawa Times* and *Ryukyu Shimpo* each have nearly 200,000 subscribers. English language books and publications are available at “American Corners” in Urasoe City and in Nago City public libraries. There are several internet service providers serving Okinawa including Info Okinawa, Open Computer Network, and The Okinawa Cable Network.

Japanese postal service is available, as are UPS and FedEx. Military installations have USPS and APO boxes available to use also. Space Available Mail (SAM), Parcel Air Lift (PAL), Parcel Post, and 3rd or 4th class mailing options are also available for military personnel sending or receiving mail.

Culture

Okinawa has a population of 1.4 million (2005). Okinawa’s history as an independent state at the crossroads of East Asian civilizations gave it a distinct culture and language. Interaction with China and other Asian powers early in its history shaped its culture, which has since been subject to numerous pressures from the Japanese government to assimilate into Japanese culture. Many of these historical Japanese measures met with the approval of the Okinawan people, who wished to assimilate into Japanese culture for economic and political success. As a result of these efforts, there is a divide in Okinawan culture between Okinawans who identify themselves as primarily Japanese, and those who identify themselves as primarily Okinawan. Most members of the younger



Futenma Shrine

generation speak standard Japanese, and social, economic, and political ties have made Okinawa's position as a prefecture of Japan a societal, as well as political status.

Okinawans are genetically different from mainland Japanese, although not different enough to constitute a different race. Their distinct cultural, linguistic, and racial heritage gives them a sense of identity distinct from mainland Japanese. Particularly for younger generations, this identity is joined with their Japanese identity. In 2006, when asked about their identity, 57 percent of men and women between ages 18 and 24 said they identified themselves as both Okinawan and Japanese.

Okinawan cuisine developed during the Ryukyu Kingdom, when the royal court sent cooks to China, South East Asia, and mainland Japan to bring new recipes. Okinawa is referred to as the "island of pork" because they consume so much of the meat. Seaweed is a

significant part of the Okinawan diet and is included in many recipes. Okinawa produces 90 percent of the Mozuku seaweed that is consumed in Japan. Okinawan food has stronger and spicier flavors than Japanese food and is more influenced by Chinese cuisine. Due to the large U.S. military presence on Okinawa, there are many Western-style fast food restaurants.



Taco Rice Dish

Okinawa has the highest concentration of fast food restaurants and bars per capita in Japan, resulting in the highest percentage of obesity in Japan.



Traditional Okinawa Home

Chopsticks should never be placed straight up and down. This is performed only at funerals. Never pass food from chopsticks to chopsticks. Bones from the cremated body are passed this way to the urn. When eating noodles or drinking soup, it is polite to slurp; meaning that the food is good. When entering an Okinawan's home remember to remove your shoes.

Bowing means the same on Okinawa as it does on mainland Japan. Okinawan culture is still in many ways distinct from Japanese culture. It has its own dance forms, indigenous music, and pop music. Ryukyuan traditional music began in the royal court of Shuri with the upper-class performing the music. Sanshin folk songs were performed with the contents taken from Okinawan customs, legends, and old songs. *Rojigaku*, the traveler's music, came from China and is performed with an instrument called "Gaku" or "Gakubura," and is mainly played in processions. *Uza-gaku* is another form of Okinawan music that came from China



Naha Festival

and is used for entertainment indoors. Today it is played in castles during celebrations, in Ukansen festivities, and during Edo pilgrimages by people from the Uzagaku Preservation Committee.

Modern Okinawan music covers a wide range of styles with a distinctive and original mix of influences from jazz, pop, rock, 60s style folk music, country, and Latin music, all laid on a foundation of traditional Okinawan music. There are many new generation bands bringing in rap and rock influences from the United States presence on the island.

Sports and Recreation

Okinawans enjoy celebrations and festivals. There are many family-oriented events and activities held throughout the year. There are also many attractions and parks on the island designed to attract families.



Chatan American Village



Oura Wan Beach (top) and Churaumi Expo Park Aquarium (bottom)

Language

Historically, nearly all Okinawans spoke the language of the Ryukyu Islands. The Ryukyuan language bears many similarities to Japanese, but the languages are unintelligible to each



**Okinawan Bull
Fight (top)**



**Dragon Boat Race
in Naha (left)**

other. Language scholars believe the language is either a distant branch of Japanese or a completely distinct language. The government, however, refers to Ryukyuan as a dialect of Japanese, in support of its claim that Okinawans are ethnically and linguistically Japanese.

After annexing Okinawa during the Meiji Restoration in 1879, Japan sought to transform Okinawans into Japanese. Okinawa was highly receptive to this initiative. One measure included mandatory learning and exclusive speaking of mainland Japanese. This measure, along with many language standardization initiatives in the 20th century, proved highly effective. Today, most Okinawans speak mainland Japanese exclusively. The Ryukyuan language is spoken only by a few Okinawans.

Education

After the Battle of Okinawa, U.S. military personnel were assigned to rewrite Okinawa's education policy. The first post-war school, The Ishikawa School, opened on 7 May 1945 inside a refugee camp located in modern day Uruma City. In 1972, when the U.S. released Okinawa back to Japan, 43 high schools, 5 junior colleges, 3 universities and 6 special requirement schools had been constructed and all taught in the Ryukyuan dialect of Japanese.

History

In the 11th century, the Ryukyu island chain was governed by a number of feudal kingdoms. In the 15th century, the Sho dynasty on Okinawa consolidated the kingdoms of the Ryukyu island chain and founded the independent Ryukyu Empire. The kingdom had close relations with China until 1609, when the Satsuma kingdom of Kyushu, one of the Japanese main islands, invaded the Ryukyu Empire and asserted Japanese dominance over it. In 1879, under the Meiji Restoration, Japan annexed the Ryukyu Islands and forced Japanese language and customs on the Okinawan people. Nevertheless, elements of Chinese influence remain strong in Okinawan culture today.



Shuri Castle Ruins on Southern Okinawa

In 1939, the national mobilization campaign for WWII increased the pressure to learn standard Japanese. The Battle of Okinawa, which lasted from April to June 1945, resulted in the Allied Powers gaining of Okinawa. The battle was one of the deadliest of the Pacific Campaign. After Japan surrendered in September 1945, U.S. forces occupied Japan until 1952. The San Francisco Peace Treaty of 1951 gave the United States control of Okinawa.

In 1972, Okinawa was officially returned to Japan. Under the Status of Forces Agreement, the United States has continued to maintain military bases on the island. U.S. presence on Okinawa has been a major source of contention.

In 2000, Okinawa hosted the Kyushu-Okinawa G8 Summit. Okinawa hosted the Third Pacific Islands Summit in 2003 and the Fourth Pacific Islands Summit in 2006. Government leaders from Papua New Guinea, Solomon Islands, Fiji, Vanuatu, Samoa, Kiribati, Tonga, Federated States of Micronesia, Palau, Republic of



Shuri Castle

the Marshall Islands, Tuvalu, Nauru, Niue, Cook Islands, Australia and New Zealand attended the summit.

Government

Okinawa is one of Japan's 47 prefectures. It is the most autonomous among the prefectures, mostly due to its distance from the mainland and its history as an autonomous entity under the Ryukyu Empire. It is also the smallest prefecture and is one of the poorest.

Executive

The governor of Okinawa is elected by popular vote to a 4-year term. The next scheduled gubernatorial election is in November 2010. The governor has significant influence at the national level regarding political issues in his prefecture, and one of his most important functions is working with the national government to coordinate Okinawa's relations with the U.S. military.

Legislative

The Okinawa Prefectural Assembly consists of 48 members, elected by popular vote to 4-year terms. The next scheduled election is in June 2008.

Local

There are many municipalities in the Okinawa Prefecture. Mayors are elected by popular vote to 4-year terms. The largest cities are Naha, Okinawa, and Uruma. Naha is the capital.

Cities in Okinawa	Population (2006)	Cities in Okinawa	Population (2006)
Naha	312,308	Nago	59,440
Okinawa	125,869	Itoman	55,822
Uruma	113,574	Miyakojima	53,480
Urasoe	106,047	Tomigusuku	52,507
Ginowan	89,775	Ishigaki	45,145

Politics

Okinawa politics are dominated by a deep divide over the U.S. military presence. U.S. military bases occupy nearly 10 percent of the total area of the island. They are a source of noise pollution, environmental damage, and crime that concerns many Okinawans. Consequently, the Okinawa Prefectural Assembly has passed a number of resolutions calling on the national government and the United States to amend the Status of Forces Agreement, relocate bases from heavily developed areas, and generally adjust the U.S. commitment on the islands. At the same time, most Okinawans recognize that the U.S. military is a driving force in the Okinawan economy, and many appreciate the U.S. security guarantee and wish the bases to remain.

In 1996, under pressure from the population and the prefectural assembly, the Japanese national government and the U.S. Department of Defense agreed to move Futenma Air Base in Ginowan to Camp Schwab in northern Okinawa on the Henoko peninsula. Okinawan's complained that Futenma's aircraft flew over housing and schools located near the base. In addition, noise pollution and safety were major concerns of the Okinawan residents and local government. The base also stood in the way of urban development in Ginowan. Despite U.S. efforts to move the base, however, the construction process has been held up by political opposition in the prefectural assembly and municipal governments.

Foreign Relations

Mainland Japan

Attitudes among Okinawans toward mainland Japan and its residents vary widely. Okinawan society is affected by a perception that Okinawans are discriminated against by people and institutions on mainland Japan. Many Okinawans believe they are denied opportunities or promotions in the Self Defense Forces, the national civil service, the parliament, and mainland business because of their identity as Okinawans. At the same time, many are fiercely patriotic and defend their Japanese identities.

United States

Okinawan society and the prefectural government tend to resent the United States because of the large U.S. military presence on the island, although some Okinawans appreciate the military presence because of its economic contributions. Many aspects of Okinawan culture, including music, food, and dress style, are heavily influenced by the U.S. presence.

Taiwan

Because Taiwan and Okinawa are neighbors, Okinawa has periodically related to Taiwan directly rather than through the government of Japan. For example, in 1996, Taiwan began holding military drills in waters where Okinawan fishermen traditionally fished. The prefectural governor resolved the issue directly with Taiwan's president.

China

Historically strong trade relations between the Ryukyu Empire and China led to a strong political and cultural Chinese influence on Okinawa. Some of this cultural influence remains today.

Economy

Okinawa's economy is not as prosperous as that of mainland Japan. Construction and tourism are the largest sectors, and public investment and U.S. military bases contribute to the economy.

Okinawa's GDP was US\$34 billion in 2003 with growth expected to exceed Japan's overall growth rate. The unemployment rate is 8 percent, 4 points higher than the national average.

Agriculture accounts for 1.8 percent of industry, and products include beef, fish, flowers, fruits, sugar cane, and vegetables. Manufacturing constitutes 14.4 percent of the economy and includes food processing, refining petroleum, and manufacturing beverages, feed, and tobacco. Okinawa's tertiary industries such as banks, distribution, services, and transportation account for 88.1 percent of GDP, a higher percentage than that of the overall Japanese economy.

Okinawa's relatively young workforce of 890,000 continues to increase. Beach resorts offer employment opportunities in service and retail, but there are nearly twice as many applicants as jobs. Government subsidies have enabled more than 100 businesses, such as call centers and information technology companies to relocate to Okinawa.

Okinawa consumes 7.2 to 7.3 billion kilowatt hours of electricity annually. Despite energy conservation initiatives, electricity demand is increasing due to population and economic growth. Thermal generators burn oil or coal to produce electricity on Okinawa.

Okinawa collects 182 million cubic meters of its annual water intake from rainfall, and only 12 million cubic meters from surface water. Interconnected water reservoirs and dams include Fukuji, Arakawa, Aha, Fungawa and Benoki.

The government of Japan creates favorable conditions for foreign direct investment in Okinawa. Okinawa is the only Special Free Trade Zone in Japan with tax incentives for investors. Other favorable investor and employer conditions include Japan's lowest wage scales, government subsidies, and low commercial property rates. Imported goods are popular, especially from the United States.

The government is establishing the Okinawa Institute of Science and Technology, which aims to improve Okinawa's social and economic development. Developing industries include agriculture, finance and data communications, fisheries, health foods, and tourism.

APPENDIX A: Equipment Recognition

INFANTRY WEAPONS

9-mm Pistol SIG P220



Cartridge
Operation
Feed Device
Weight Empty
Overall Length

9 x 19 mm
Short-recoil, self-loading, single- or double-action
9-round detachable single-column magazine
0.750 kg
0.198 m

0.38-in Revolver New Nambu Model 60



Cartridge	0.38-in Smith & Wesson Special
Effective Range	40 m
Operation	Manual, single- or double-action
Feed Device	5-chamber cylinder
Weight	0.680 kg
Overall Length	197 mm

7.62-mm Assault Rifle Type 64



Cartridge	7.62 x 51.0 mm
Effective Range	400 m
Maximum Range	3,700 m
Cyclic Rate of Fire	440 to 450 rounds/minute
Operation	Gas blowback, selective fire
Feed Device	20-round detachable box magazine
Weight Empty	4.7 kg
Overall Length	932.0 mm, without bayonet

9-mm Submachinegun H&K MP5A3



Cartridge	9 x 19 mm
Effective Range	200 m
Maximum Range	1,600 m
Cyclic Rate of Fire	650 to 800 rounds/minute
System of Operation	Delayed blowback, selective fire
Feed Device	Detachable 15- or 30-round box magazine
Weight Empty	2.25 kg
Overall Length	660 mm

7.62-mm General-Purpose Machinegun Model 1962



Cartridge	7.62 x 51.0 mm
Cyclic Rate of Fire	Approximately 600 rounds/minute (variable)
System of Operation	
Feed Device	250-round disintegrating metallic link belt or 50-round box magazine
Weight Empty	10.7 kg, with bipod
Overall Length	1,159.8 mm

.50-in Heavy Machinegun Browning M2 HB



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

ARMOR

Main Battle Tank Type 90



Crew	3
Armament	
Main	120-mm smoothbore gun
Auxiliary	12.7-mm turret-mounted machinegun and 7.62-mm coaxial machinegun
Maximum Speed	70 km/h
Road Range	300 km
Gradient/Side Slope	60/40 percent
Vertical Obstacle	1.0 m
Trench	2.7 m
Fording	2.0 m
Combat Weight	50,000 kg
Overall Length x Width x Height	9.7 x 3.4 x 2.3 m
Fuel Capacity	1,100 liters

Main Battle Tank Type 74



Crew	4
Armament	
Main	105-mm rifled gun
Auxiliary	12.7-mm turret-mounted machinegun and 7.62-mm coaxial machinegun
Maximum Speed	60 km/h
Road Range	400 km
Gradient/Side Slope	60/40 percent
Vertical Obstacle	1.0 m
Trench	2.7 m
Fording	2.0 m
Combat Weight	38,000 kg
Overall Length x Width x Height	9.4 x 3.8 x 9.4 m
Fuel Capacity	950 liters

Light Armored Vehicle Type 89



Crew; passengers	3; 7
Armament	
Main	35-mm rifled gun
Auxiliary	7.62-mm machinegun and 2x Jyu-MAT ATGMs
Maximum Speed	70 km/h
Road Range	400 km
Gradient/Side Slope	60/30 percent
Vertical Obstacle	0.8 m
Trench	2.4 m
Fording	1.0 m
Combat Weight	27,000 kg
Overall Length x Width x Height	6.8 x 3.2 x 2.8 m
Fuel Capacity	600 liters of diesel

Armored Personnel Carrier Type 73



Crew; passengers	3; 9
Armament	
Main	12.7-mm machinegun
Auxiliary	7.62-mm bow-mounted machinegun
Maximum Speed	70 km/h (7 km/h on water)
Road Range	300 km
Gradient/Side Slope	60/30 percent
Vertical Obstacle	0.7 m
Trench	2.0 m
Fording	Amphibious with kit
Combat Weight	13,300 kg
Overall Length x Width x Height	5.8 x 2.8 x 2.2 m
Fuel Capacity	450 liters of diesel

Armored Personnel Carrier Type SU 60



Crew; passengers	4; 6
Armament	
Main	12.7-mm machinegun
Auxiliary	7.62-mm bow-mounted machinegun
Maximum Speed	45 km/h
Road Range	300 km
Gradient/Side Slope	60/30 percent
Vertical Obstacle	0.6 m
Trench	1.82 m
Fording	1.0 m
Combat Weight	11,800 kg
Overall Length x Width x Height	4.9 x 2.4 x 2.3 m

Armored Personnel Carrier, Command Post Vehicle Type 96



Crew; passengers	2; 8 to 12
Armament	
Main	12.7-mm machinegun or 40-mm grenade launcher
Auxiliary	7.62-mm light machinegun
Maximum Speed	100 km/h
Road Range	780 km
Gradient/Side Slope	60/30 percent
Vertical Obstacle	0.6 m
Trench	2.0 m
Fording	1.5 m
Combat Weight	22,000 kg
Overall Length x Width x Height	7.6 x 2.7 x 2.6 m
Fuel Capacity	300 liters of diesel

Armored Personnel Carrier, Command Post Vehicle Type 82



Crew	8
Armament	
Main	12.7-mm machinegun
Auxiliary	7.62-mm pintle-mounted machinegun
Maximum Speed	100 km/h
Road Range	500 km
Gradient	60 percent
Trench	1.5 m
Fording	1.0 m
Combat Weight	13,500 kg
Overall Length x Width x Height	5.7 x 2.5 x 2.4 m

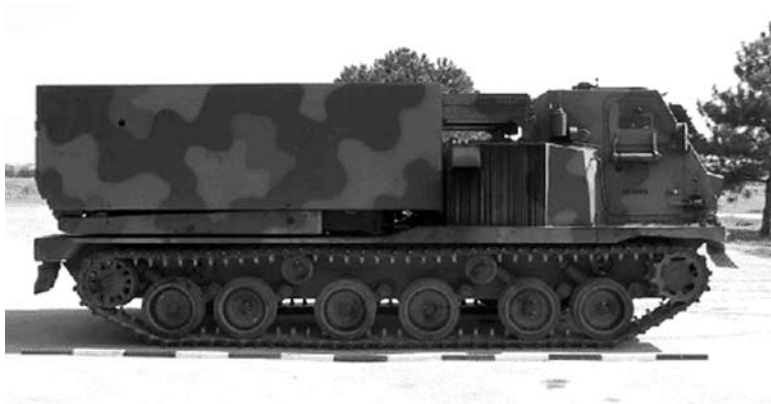
Armed Reconnaissance Vehicle Type 87



Crew	5
Armament	
Main	25-mm light cannon
Auxiliary	7.62-mm coaxial machinegun
Road Range	500 km
Gradient	60 percent
Vertical Obstacle	0.6 m
Trench	1.5 m
Fording	1.0 m
Combat Weight	15,000 kg
Overall Length x Width x Height	6.0 x 2.5 x 2.8 m

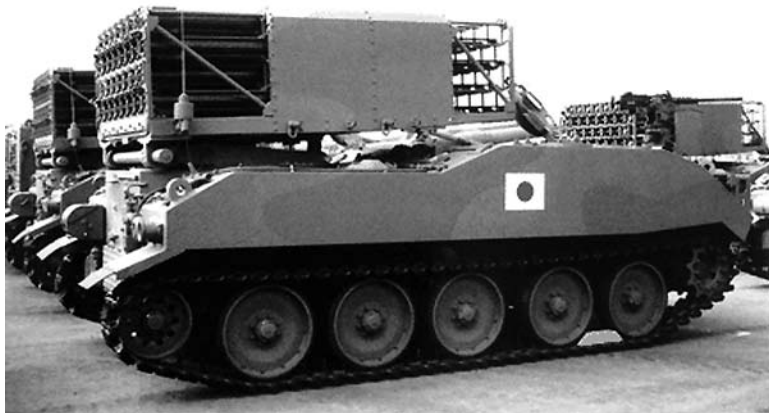
ARTILLERY

227-mm Multiple Launch Rocket System M270



Crew	3
Tube Configuration	2 pods x 2 rows x 3 rockets = 12 rockets total
Range	5,000 to 32,000 m
Rate of Fire	12 rockets in 60 seconds
Rocket Type	DPICM and practice rockets
Cruising Range	483 km
Grade/Side Slope	60/40 percent
Vertical Step	1.0 m
Fording Depth	1.1 m
Travel Weight	24,036 kg
Travel Length x Width x Height	6.3 x 3.0 x 2.6 m

130-mm Multiple Launch Rocket System Type 75



Crew	3
Tube Configuration	4 alternating rows of 7 or 8
Range	3,000 to 14,500 m
Rate of Fire	30 rockets in 12 seconds
Traverse Limits	50 degrees total
Elevation Limits	0 to +50 degrees
Reload Time	12 minutes
Auxiliary Weapon	12.7-mm machinegun
Cruising Range	300 km
Maximum Speed	50 km/h
Gradient	60 percent
Vertical Obstacle	0.7 m
Trench	2 m
Weight Empty	16,764 kg
Travel Length x Width x Height	5.8 x 2.8 x 2.7 m
Emplacement Time	2 minutes

SSM-1A, -1B (Type 88, 89) Short-range, Ground- or Ship-launched, Surface-to-Surface Missile system



Fire Unit Components for Ground Launching	A C ² vehicle, 6x radar vehicles, 4x fire control vehicles, 12x data-relay vehicles, 16x TELs, 16x reload vehicles
Warhead	225 kg of HE
Guidance	Inertial with active radar
Propulsion	Turbojet
Range	150 km
Missile Launch Weight	660 kg
Missile Length x Diameter	5.08 m (SSM-1A) or 5.1 m (SSM-1B) x 0.35 m
NOTE: ground launcher for Type 88 shown above. Note two rows of three launch canisters. During reloading, all six canisters are moved as a unit.	

203-mm Self-Propelled Howitzer M110A2



Crew; Section Size	9; 13
Range	
Conventional	17,200 m
Extended	30,000 m
Rates of Fire	
Burst	2 rounds/minute
Normal	1 round/2 minutes
Sustained	1 round/2 minutes
Elevation Limits	-2 to +65 degrees
Traverse Limits	30 degrees left or right
Maximum Road Speed	54 km/h
Cruising Range	523 km
Grade/Side Slope	60 percent/13.5 degrees
Vertical Step	1.07 m
Trench	1.9 m
Fording Depth	1.066 m
Travel Weight	28,350 kg
Travel Length x Width x Height	10.7 x 3.1 x 3.1 m
Emplacement/Displacement Time	8.5/2 minutes

155-mm Self-Propelled Howitzer Type 75



Crew	6
Range	19,000 m
Rate of Fire	6 rounds/minute
Traverse Limits	360 degrees total
Elevation Limits	-5 to +65 degrees
Cannon Tube	155.0 mm x 30
Auxiliary Weapon	12.7-mm machinegun
Cruising Range	300 km
Maximum Speed	50 km/h
Gradient	60 percent
Vertical Step	0.7 m
Trench	2.5 m
Fording Depth	1.3 m
Travel Weight	22,952 kg
Travel Length x Width x Height	7.8 x 3.0 x 2.6 m

155-mm Self-Propelled Howitzer Type 99



Crew	4
Cannon Tube	155.0 mm x 52
Range	
Conventional	30,000 m
Extended	40,000 m
Traverse Limits	360 degrees total
Elevation Limits	-2 to +72 degrees
Auxiliary Weapon	12.7-mm machinegun
Maximum Speed	50 km/h
Travel Weight	36,287 kg
Length x Width x Height	11.3 x 3.2 x 4.3 m
Emplacement/Displacement Time	1 minute

155-mm Towed Howitzer FH-70



Type	
Crew; Section	7; 8
Cannon Tube	155.0 mm x 39
Range	
Conventional	24,700 m
Extended	30,000 m
Rate of Fire	
Burst	3 rounds in 13 seconds
Normal	6 rounds/minute
Sustained	2 rounds/minute
Traverse Limits	28 degrees left or right
Elevation Limits	-5 to +70 degrees
Ammunition Types	HE-Frag., DPICM, smoke, illumination
Travel Weight	9,300 kg
Travel Length x Width x Height	9.8 x 2.6 x 2.6 m
Emplacement/Displacement Time	Less than 2 minutes

NOTE: An APU, attached to the carriage, is used to drive the main wheels for moving the howitzer, provide hydraulic power for steering and raising and lowering the main and trail wheels, and allow semiautomatic operation. In self-propelled mode the FH-70 can attain speeds up to 16 km/h, negotiate slopes up to 34 percent, and ford to a depth of 0.75 m. Under tow, it can ford to a depth of 1.5 m.

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



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

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

4.2-in (107-mm) Mortar M30



Crew	6
Range	920 to 6,600 m
Rates of Fire	
Sustained	3 rounds/minute
Normal	9 rounds/minute for 5 minutes
Burst	18 mounds/minute for 1 minute
Elevation Limits	+40 to +65 degrees
Traverse Limit	360 degrees
Ammunition Types	Frag-HE, illumination, and smoke
Complete Weight	305 kg
Barrel Length	1.524 m
Prime Mover	2-ton truck (mortar not normally towed)

81-mm Mortar M1, Type 64,



Type	Manportable
Range	100 to 3,045 m
Rate of Fire	
Burst	30 rounds/minute
Normal	18 rounds/minute
Traverse Limits	5 degrees left or right
Elevation Limits	+40 to +85 degrees
Weight of Tube Support Mechanism	19.3 kg
Weight of Baseplate	20.45 kg
Tube Length	1,265 mm

ANTIARMOR

106-mm Self-propelled Twin Recoilless Gun Komatsu Type 60



Crew	3
Ranges	
Maximum	7,000 m
Effective	1,100 m
Auxiliary Weapon	12.7-mm machinegun
Traverse Limits	30 degrees left or right
Elevation Limits	-20 to +15 degrees
Road Range	Over 250 km
Maximum Road Speed	55 km/h
Gradient	60 percent
Vertical Obstacle	0.6 m
Trench	1.8 m
Fording	0.7 m
Combat Weight	8,000 kg
Travel Length x Width x Height	4.3 x 2.23 x 1.59 m
Fuel Capacity	140 liters

84-mm Recoilless Gun Carl Gustaf M3



Type

Multipurpose manportable shoulder-fired recoilless weapon.

Effective Ranges

HEAT

Up to 700 m

HEDP

Hardened targets 500 m; troop in the open 1,000 m

HE

Up to 1,250 m

Flechette

100 m

Types of Rounds

HEAT, HEDP, HE, flechette, illum., smoke

Armor Penetration

400 mm of RHA

Launcher Weight

10 kg

Overall Length

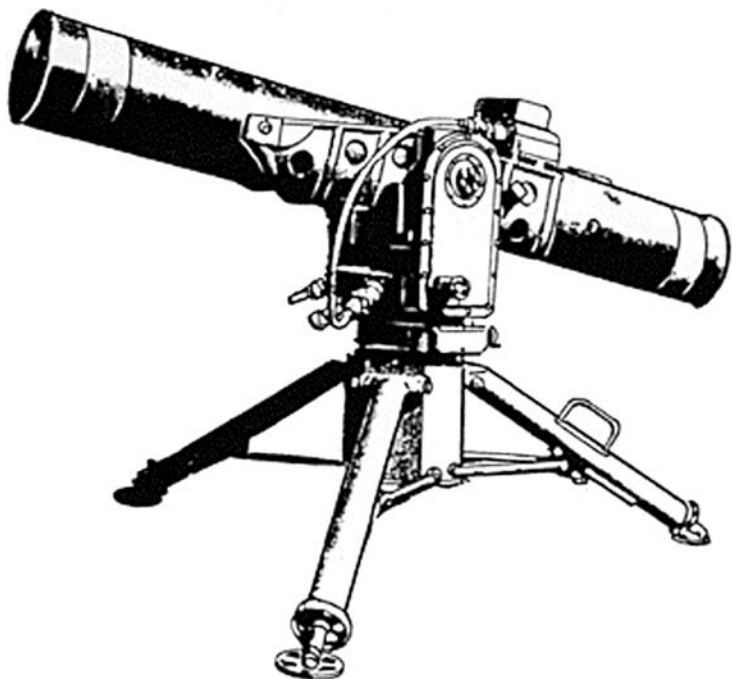
1,065 mm

3.5-in (89-mm) Recoilless Gun M20 (Super Bazooka)



Type	Rocket launcher
Caliber	120-mm
Effective Ranges	
Stationary Target	1,200 m (area target)
Armor	110 m
Warhead	0.87 kg of Composition B
Fuze	Base percussion
Launcher Weight	5.5 kg
Missile Weight	4.04 kg
Missile Length	1 m

ATGM System Type 87 Chu-MAT



Type	Medium-range laser-guided antitank missile system
Caliber	120-mm
Guidance	Semi-active laser
Launch Weight	12 kg
Missile Length	1 m

ATGM System Type 79 Jyu-MAT



Type	Heavy-weight wire-guided Medium-range laser-guided antitank missile system
Caliber	120-mm
Types of Rounds	HE shaped-charge; HE enhanced-blast fragmentation with variable-delay fuze
Range	320 to 4,000 m
Guidance	Wire-guided SACLOS
Launch Weight	12 kg
Missile Length x Diameter	1.5 x 0.152 m
NOTE:	designed to be mounted on the Type 89 light armored vehicle; can be mounted on a tripod as shown above.

AIR DEFENSE

Surface-to-Air Missile System FIM-92A Stinger



Type	2-stage low-altitude air defense missile system
Ranges	
Effective	4,000 m
Maximum	8,000 m
Maximum Engagement Altitude	3,500 m
Warhead	1 kg HE-frag.
Guidance	Passive IR-homing
Fuze	Time-delayed contact
Missile Weight	10.1 kg
System Weight, Shoulder-Fired	15.7 kg
System Weight, Tripod-Mounted	136.4 kg
Missile Length x Diameter	1.47 x 0.069 m
NOTE:	Missile and manportable launcher shown above.

Low- to Medium-Altitude Surface-to-Air Missile System I-HAWK



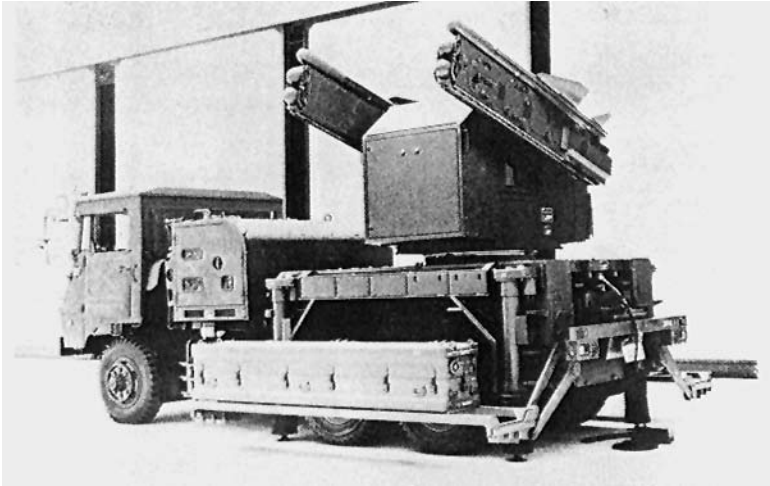
Missile Designations	MIM-23A, MIM-23B
Effective Ranges	
High-Altitude Target	1,500 to 40,000 m (MIM-24B)
Low-Altitude Target	2,500 to 20,000 m (MIM-24B)
Effective Altitude	60 to 17,700 m
Warhead	54 or 75 kg HE blast-fragmentation
Guidance	Semi-active radar homing with proportional navigation
Fuze	Proximity and contact
Missile Launch Weight	584 kg (MIM-24A) or 627.3 kg (MIM-24B)
Missile Length x Diameter	5.08 x 0.37 m
Wingspan	1.19 m
NOTE: can be integrated with Patriot.	

Surface-to-Air Missile System Patriot Advanced Capability-3 (PAC-3)



Type	Mobile short-range theater defense missile
Range	Up to 70 km, depending on target
Warhead	90-kg HE-fragmentation
Guidance	Command with inertial and semi-active Track-via-Missile terminal homing
Fuze	Proximity
Missile Launch Weight	914 kg
Missile Length x Diameter	5.2 x 0.41 m

Surface-to-Air Missile System Tan-SAM 1 kai (Type 81)



Type	Ground-based short-range theater defense missile
Range	500 to 14,000 m
Effective Altitude	15 to 3,000 m
Warhead	9.2-kg HE-fragmentation
Guidance	Inertial with updates and active radar (infrared in older versions)
Missile Launch Weight	105 kg
Missile Length x Diameter	2.7 x 0.16 m

Theater Defense Missile System RIM-7H NATO Sea Sparrow



Type	Short-range ship-launched SAM system
Missile Speed	2.5 mach
Maximum Range	15 km
Intercept Altitude	15 to 5,000 m
Warhead	30 kg HE-continuous-rod
Guidance	Conical-scan semi-active radar
Missile Launch Weight	205 kg
Missile Length x Diameter	3.66 x 0.2 m

35-mm Self-Propelled Air-Defense Artillery System Type 87



Crew	3
Number of Barrels	2
Range	
Tactical	3,500 m
Maximum Vertical	8,500 m
Maximum Horizontal	11,200 m
Rate of Fire per Barrel	550 rounds/minute
Elevation Limit; Rate	-5 to +85 degrees; over 42 degrees/second
Traverse Limit; Rate	Unlimited; over 56 degrees/second
Ammunition Types	HEI-T, APDS-T
Reload Time	20 minutes
Reaction Time	4 to 6 seconds
Maximum Cruise Speed	53 km/h
Weight	38,000 kg
Platform	Type 74 tank chassis

35-mm Towed Air Defense Artillery System GDF-001, -002, -003, and -005



Crew	3 (except 1 for GDF-005)
Number of Barrels	2
Range	
Tactical	4,000 m
Maximum Vertical	8,500 m
Maximum Horizontal	11,200 m
Rate of Fire per Barrel	550 rounds/minute
Elevation Limit; Rate	-5 to +92 degrees; 60 degrees/second
Traverse Limit; Rate	Unlimited; 120 degrees/second
Ammunition Types	HEI, HEI-T, SAPHEI-T, APDS-T, PFHE
Emplacement/Displacement Time	2 to 4 minutes/5 minutes
Maximum Cruise Speed	
Weight	6,300 to 6,400 kg (GDF-001, -002, -003) or 7,700 kg (GDF-005)

NOTE: GDF-002 shown.

AIRCRAFT

Mitsubishi F-2A, F-2B Multirole Fighter



Crew	1 (F-2A) or 2 tandem (F-2B)
Armament	
Gun	1x 20-mm multibarrel gun in port wingroot
External Stores (13 stations)	Various air-to-air missiles, antiship missiles; 500-lb general purpose bombs; cluster bombs; rocket launchers; and external fuel tanks
Max. Level Speed at High Altitude	Approximately 1,250 kn
Typical Combat Radius	More than 450 nmi
Design Max. Takeoff Weight	22,100 kg with external stores
Operating Weight Empty	9,527 kg (F-2A); 9,633 (F-2B)
Length x Wingspan x Height	15.52 x 11.125 x 4.96 m

F-15J Eagle Interceptor, F-15DJ Eagle Combat Trainer



Crew	1 (F-15J); 2 tandem (F-15DJ)
Armament	
Gun	20 mm M61A1 6-barrel
External Stores	Various short- and medium-range air-to-air weapons; up to 10,705 kg of bombs, rockets, or additional ECM equipment
Maximum Level Speed	Approximately 1,550 kn
Ferry Range, External Tanks	More than 2,200 nmi
Service Ceiling	18,300 m
Maximum Takeoff Weight	26,521 kg
Operating Weight Empty	12,973 kg
Length x Wingspan x Height	19.43 x 13.05 x 5.63 m

F-4EJKai Phantom II Multirole Fighter, RF-4EJ Kai Phantom II Reconnaissance Aircraft



Crew	2 tandem
Armament	
Gun (internal)	20-mm multibarrel
External Stores	F-4EJ – Various air-to-air missiles and up to 7,250 kg of various conventional bombs, land mines, fire bombs, cluster bombs, practice bombs, antiship missiles; flares, rocket packs, ECM pods, gun pods, or spray tanks; tow targets' Pave Knife pod; or AAVSIV camera pod RF-4EJ – various radar and photographic systems and sensors
Maximum Level Speed	Approximately 1,250 kn (with external stores)
Ferry Range, External Tanks	1,718 nmi
Service Ceiling	10,975 m
Maximum Takeoff Weight	28,030 kg
Basic Mission Weight Empty	14,448 kg
Length x Wingspan x Height	19.20 x 11.77 x 5.02 m

Mitsubishi T-2A Supersonic Combat Jet Trainer



Crew	2 tandem
Armament	20-mm multibarrel gun in fuselage; air-to-air missiles at wingtips; various other stores such as bombs or rockets on external attachment points
Maximum Level Speed	Approximately 1,000 kn
Service Ceiling	15,240 m
Maximum Takeoff Weight	12,800 kg
Operational Weight Empty	6,309 kg
Length x Wingspan x Height	17.85 x 7.88 x 4.39 m

F-1 Close-Support Fighter



Crew	1
Armament	20-mm multibarrel cannon; air-to-surface missiles, 500- or 750-lb bombs, cluster bombs, 70- or 125-mm rockets air-to-air missiles, ,
Maximum Level Speed	Approximately 1,000 kn
Service Ceiling	15,240 m
Maximum Takeoff Weight	13,700 kg
Operational Weight Empty	6,418 kg
Length x Wingspan x Height	17.85 x 7.88 x 4.48 m
NOTE: the F-1 can carry up to three auxiliary fuel tanks for long-range missions. Design is based on the T-2, which was used as a test bed for this aircraft.	

E-767 (Upgraded B767-27CER) Airborne Warning and Control System

**Crew****Mission Equipment****Endurance****Range without Refueling****Service Ceiling****Maximum Takeoff Weight****Length x Wingspan x Height****Radome Diameter x Thickness**

2 flight and up to 19 mission crew members

AEW and control radar system; IFF interrogator; central mission computer; advanced navigation system; weather radar system; communications systems

22 hours with inflight refueling

4,500 to 5,000 nmi

10,360 to 13,100 m

171,004 kg

48.51 x 47.57 x 15.85 m

9.14 x 1.83 m

P-3C, EP-3, UP-3C, UP-3D Orion (and variations) Long-Range Maritime Patrol and Antisubmarine Warfare Aircraft



Crew, Passengers	3 flight, 7 mission crew members plus up to 11 relief crew members or passengers
Mission Equipment	Computer processor, navigation system, communications systems, sonar receivers, acoustic processor, photographic equipment, infrared sensor, SLAR system, acoustic source signal generator, and others
Armament	Various torpedoes, depth bombs, bombs, rockets, and mines, antiship missiles, and air-to-air missiles
Maximum Level Speed	411 kn
Cruising Speed	328 kn
Patrol Speed	206 kn
Ferry Range	4,830 nmi
Maximum Mission Radius	2,070 nmi (no time on station)
Service Ceiling	8,625 m
Maximum Takeoff Weight, Normal	61,235 kg
Weight Empty	27,890 kg
Length x Wingspan x Height	35.61 x 30.37 x 10.27 m

E-2C Hawkeye



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

C-1A Medium-Range Transport, EC-1 Combat Support Aircraft



Crew; Passengers	5
Capacities	
As Transport	60 troops, 45 paratroops, or 36 stretchers plus attendants
As Freighter	Cargo items include 2½-ton truck, 105-mm howitzer, 2x ¾-ton trucks, 3x 4x4 light trucks, or 3x freight pallets
Flight Deck Access	Downward-opening door with built-in stairs on port side, forward fuselage; paratroop door on each side of fuselage aft of wing trailing-edge; rear-loading ramp-door (can be opened in flight)
Maximum Level Speed	435 kn
Range with Maximum Fuel	1,810 nmi
Service Ceiling	11,580 m
Maximum Payload	11,900 kg
Maximum Takeoff Weight	45,000 kg
Weight Empty	23,320 kg
Length x Wingspan x Height	29.00 x 30.60 x 9.99 m
NOTE:	C-1A shown above.

KC-767 Global Tanker-Transport Aircraft



Capacities

Fuel, Total

Approximately 110,000 liters

Cargo

18 pallets or 216 passengers

Maximum Takeoff Weight

179,170 kg

Maximum Zero-Fuel Weight

127,006 kg

Operating Weight Empty

90,720 kg

Length x Wingspan x Height

48.51 x 47.57 x 15.85 m

NOTE: shown in Italian colors.

YS-11, -11EA, -11EB, -11EL, -11FC, -11NT, -11P
Transport and Combat Support Aircraft



Maximum Level Speed	287 kn
Range with Maximum Payload	700 nmi
Service Ceiling	8,230 m (AUW of 25,000 kg)
Maximum Takeoff Weight	25,700 kg

NOTE: combat support functions include ELINT, SIGINT, ECM, flight checker, navigation trainer. Calibrator.

747-47C (747-400) VIP Transport



Flight Crew	2 plus 2 observers, accommodation for additional members in crew rest cabin
Approach Speed	146 kn
Design Range	6,185 nmi
Initial Cruising Altitude	10,575 m
Takeoff Field Length	2,820 m (at 30°C)
Maximum Structural Payload	67,175 kg
Maximum Takeoff Weight	362,875 kg
Operating Weight Empty	180,485 kg
Length x Wingspan x Height	70.67 x 64.44 x 19.51 m

C130 B, H



Mission	Tactical transport and multimission
Crew	4 or 5
Passengers	92 troops, 64 paratroopers, or 74 litter patients with 2 attendants (H)
Maximum Cruising Speed	602 km/h
Range with Maximum Payload	3,791 km
Service Ceiling	10,060 m
Maximum Payload	19,356 kg (H)
Maximum Normal Takeoff Weight	70,310 kg
Operating Weight Empty	34,686 kg
Length x Wingspan x Height	29.79 x 40.41 x 11.66 m

US-1A, US-2 STOL Search and Rescue Amphibian Aircraft



Crew; Passengers

3 on flight deck and 3 in main cabin; 20 passengers or 12 stretchers plus one auxiliary and 2 observer seats.

Equipment and Features

Marker launcher, 10 marine markers, 6 green markers, 2 droppable message cylinders, 10 float lights, pyrotechnic pistol, parachute flares, 2 flare storage boxes, binoculars, 2 rescue equipment kits, 2 droppable liferaft containers, rescue equipment launcher, lifeline pistol, lifeline, three lifebuoys, loudspeaker, hoist unit, rescue platform, lifeboat with outboard motor, camera, and 12 stretchers (can be replaced by troop seats); sea anchor in nose compartment; sliding rescue hatch on port side aft of wing (1.58h x 1.46w m)

Cruising Speed

230 kn

Range at Cruising Speed

2,060 nmi

Service Ceiling

8,655 m

Maximum Weight

Takeoff From Land

45,000 kg

Takeoff From Water

43,000 kg

Operating Over Sea

36,000 kg

Weight Empty, Equipped

25,500 kg

Length x Wingspan x Height

33.46 x 33.15 x 9.95 m

U-125 Calibration, U-125A Search and Rescue (Hawker 800)



Crew

2 to 3;

Design Features, U-125A SAR

Search radar, infrared imager; large observation window on each side of fuselage ahead of wing; flare and marker buoy dispenser; life raft (rescue pack dropping system through pressure door built into lower fuselage)

High Cruising Speed

448 kn

Range at 402 kn

2,598 nmi

Service Ceiling

11,887 m

Maximum Payload

962 kg

Maximum Takeoff Weight

12,701 kg

Basic Operating Weight

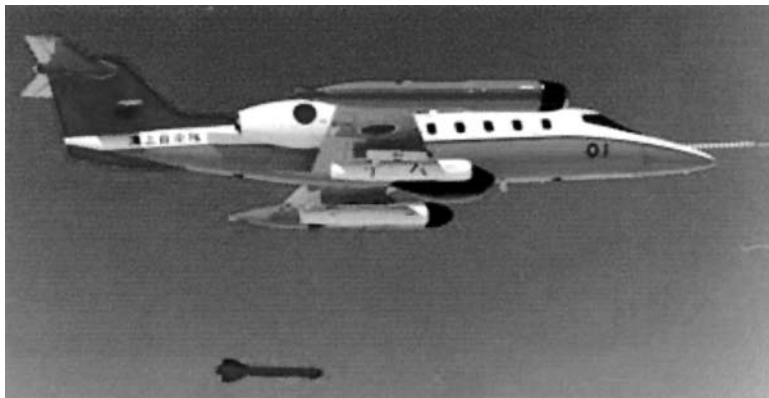
7,407 kg

Length x Wingspan x Height

15.60 x 16.56 x 5.51 m

NOTE: U-125A shown above.

U-36A (modified Learjet 36 Business Jet)



Role	Electronic countermeasures, electronic aggressor simulation, antiship missile simulation, target towing
Flight Crew	2
Equipment	Onboard and external pod-mounted equipment may include threat emission simulator, radar jammer and surveillance radar systems, countermeasures dispensing system (chaff and infrared decoys), electronic warfare and countermeasures suite
Maximum Level Speed	471 kn
Range	Approximately 2,500 nmi
Service Ceiling	12,500 m
Maximum Payload	1,534 kg
Maximum Takeoff Weight	Over 8,300 kg
Length x Wingspan x Height	14.83 x 12.04 x 3.73 m
NOTE: U-36A shown above. Dimensions, weights, and performance data are for Learjet 36 Business Jet.	

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



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

UH-60JA Utility



Crew; Passengers	3; 14
Armament	
External	Possible external weapon loads include anti-armor missiles, air-to-air missiles, mines, rockets
Internal	Two pintle mounts can accommodate 0.50-in machineguns or 7.62-mm 6-barrel miniguns
Never-Exceed Speed	193 kn
Maximum Dash Speed	150 kn
Service Ceiling	5,700 m
Payload	
Internal	1,197 kg
Sling Load	4,082.4 kg
Maximum Design Takeoff Weight	9,979.2 kg (10,659.6 kg with external lift load)
Basic Weight Empty	5,118 kg
Main Rotor	
Number of Blades	4
Diameter	16.4 m
Fuselage Length x Width x Height	15.2 x 2.4 x 4.0 m
NOTE:	fuel tanks may be added to allow the UH-60JA to self-deploy up to 1,200 nmi without refueling

SH-60J, -60K Naval Combat Helicopter



Crew; Passengers	3; 2
Armament	Possibly 7.62-mm machineguns or antiship missiles
Never-Exceed Speed	180 kn
Range	581 nmi
Maximum Payload	2,698.9 kg
Maximum Design Takeoff Weight	9,943.1 kg
Basic Weight Empty	6,554.5 kg
Main Rotor	
Number of Blades	4
Diameter	16.4 m
Fuselage Length x Width x Height	15.2 x 2.4 x 4.0 m

NOTE: SH-60J and SH-60K are derivatives of SH-60B. Specifications are for SH-60B Seahawk. SH-60J shown above

S-80M-1 (MH-53E) Sea Dragon



Role	Mine sweeping; transport
Crew; Passengers	7 (normal for mine clearing); up to 55 troops or 24 stretchers
Maximum Speed	170 kn
Range	Up to 810 nmi
Service Ceiling	5,640 m
Maximum Payload	14,290.4 kg
Towing Capacity	11,340.0 kg
Maximum Design Takeoff Weight	31,639.0 kg
Basic Weight Empty	16,668 kg
Main Rotor	
Number of Blades	7
Diameter	24.1 m
Fuselage Length x Width x Height	22.35 x 2.69 x 5.32 m
NOTE:	The S-80M-1 can tow through water a hydrofoil sledge carrying mechanical, acoustic, and magnetic sensors.

HSS-2A, -2B Sea King (S-61)



Crew	4
Armament	Provisions for 381 kg of weapons, including homing torpedoes
Maximum Dash Speed	120 kn
Range	543 nmi
Service Ceiling	4,480 m
Normal Takeoff Weight	8,185 kg
Weight Empty	4,428 kg
Main Rotor	
Number of Blades	5
Diameter	18.9
Fuselage Length x Width x Height	17.01 x 4.98 x 4.7 m
NOTE:	fuel tanks may be added to allow the UH-60JA to self-deploy up to 1,200 nmi without refueling

AH-1F (modernized AH-1S) Cobra Attack Helicopter



Crew	2 tandem
Armament	20-mm multibarrel cannon, rockets, ATGMs
Maximum Speed	129 kn
Dash Speed	170 kn
Range at 115 kn	322 nmi
Maximum Design Takeoff Weight	4,536 kg
Main Rotor	
Number of Blades	2
Diameter	13.4 m
Wingspan	3.2 m
Fuselage Length x Width x Height	13.6 x 0.98 x 3.7 m

AH-64DJP Apache Attack Helicopter



Crew	2 tandem
Armament	30 mm automatic cannon; combination of up to 16 antitank missiles and 76 2.75-in rockets; air-to-air missiles
Maximum Speed	197 kn
Range with Typical Weapons	286 nmi at 154 kn
Maximum Design Takeoff Weight	10,432.8 kg
Basic Weight Empty	Approximately 5,165 kg
Main Rotor	
Number of Blades	4
Diameter	14.6 m
Wingspan	5.0 m
Fuselage Length x Width x Height	15.0 x 3.0 x 4.9 m

OH-1 Ninja Armed Reconnaissance Helicopter



Crew	2 tandem
Armament	Air-to-air missiles
Maximum Speed	150 kn
Range	297 nmi
Service Ceiling	4,880 m
Maximum Design Takeoff Weight	4,000 kg
Basic Weight Empty	2,450 kg
Main Rotor	
Number of Blades	4
Diameter	11.6 m
Wingspan	3.3 m, with weapons on wing stations
Fuselage Length x Width x Height	12.0 x 1.0 x 3.8 m

OH-6D Cayuse (MD 500D) Observation Helicopter



Crew; Passengers	2; 2 (normal) or 5 (high-density seating)
Maximum Speed	156 kn
Range	260 nmi
Maximum Design Takeoff Weight	1,360.8 kg
Maximum Payload	589.7 kg
Main Rotor	
Number of Blades	5
Diameter	8.05 m
Fuselage Length x Width x Height	6.87 x 1.39 x 2.71 m

CH-47J, -47JA Chinook Transport Helicopter



Crew; Passengers	3; 33
Maximum Speed	170 kn
Maximum Design Takeoff Weight	22,680 kg
Cargo Handling or Sling Load	
From Fore or Aft Hook	7,711.2 kg
From Center Hook	11,793 kg
From Fore and Aft Hooks	11,340 kg (tandem load)
Main Rotor	
Number of Blades	3 front, 3 rear
Diameter	18.3 m
Fuselage Length x Width x Height	15.5 x 4.8 x 5.7 m
NOTE:	CH-47JA shown above.

AS 332L1 Super Puma Transport



Role	Support; search and rescue
Crew; Passengers	2; 25
Maximum Speed	150 kn
Range	432 nmi
Service Ceiling	4,600 m
Maximum Payload	5,000 kg
Maximum Design Takeoff Weight	9,350 kg
Basic Weight Empty	4,280 kg
Main Rotor	
Number of Blades	4
Diameter	15.6 m
Fuselage Length x Width x Height	16.29 x 3.79 x 4.92 m

SHIPS

OYASHIO Class Attack Submarine



LOA x Max. Beam x Max. Draft	81.7 x 8.9 x 7.4 m
Displacement, Submerged	3,500 metric tons
Speed	12 kn surfaced, 20 kn submerged
Complement	70
Armament	
SSM Systems	Sub-Harpoon
Torpedoes	Type 89 (U.S. MK 48 ADCAP equivalent), Type 80
Surface Search Radar Systems	ZPS-6D
Sonar Systems	ZQQ-5B, ZQR-1
NOTE: a slightly larger, IMPROVED OYASHIO Class is under construction.	

YUUSHIO Class Attack Submarine



LOA x Max. Beam x Max. Draft	76 x 9.9 x 7.4 m
Displacement, Submerged	2,900 metric tons
Speed	12 kn surfaced, 20 kn submerged
Complement	75
Armament	
SSM Systems	Sub-Harpoon
Torpedoes	Type 89, Type 80
Surface Search Radar Systems	ZPS-5, -6
Sonar Systems	ZQQ-5, ZQR-1

HARUSHIO Class Attack Submarine



LOA x Max. Beam x Max. Draft	77 x 10 x 7.7 m
Displacement, Submerged	About 2,750 metric tons
Speed	12 kn surfaced, 20 kn submerged
Diving Depth	350 m
Complement	75
Armament	
SSM Systems	Sub-Harpoon
Torpedoes	Type 89, Type 80
Surface Search Radar Systems	ZPS-6
Sonar Systems	ZQQ-5B, ZQR-1

HIBIKI Class AG



Role	Auxiliary
LOA x Max. Beam x Max. Draft	67 x 29.9 x 7.5 m
Displacement, Full Load	2,800 metric tons
Speed, Full Power	11 kn
Range	3,800 nmi and 10 kn
Complement	40
Aircraft Platform	Suitable for OH-6D, OH-6J
Radar Systems	
Surface Search	OPS-16
Navigation	OPS-9
Sonar System	UQQ-2 SURTASS

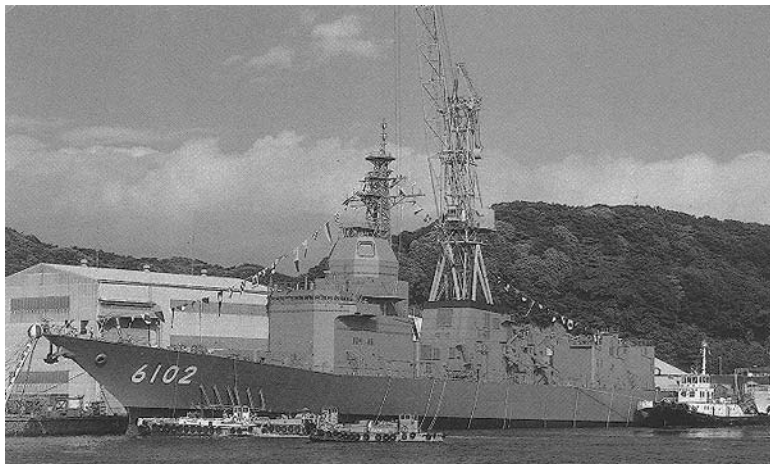
SHIRASE Class AGB



Role	Icebreaker
LOA x Max. Beam x Mean Draft	134 x 28 x 9.2 m
Displacement, Full Load	18,800 metric tons
Speed	19 kn
Range	25,000 nmi at 15 kn
Complement	174
Aircraft	S-61A, OH-6D
Radar Systems	
Surface Search	OPS-16
Navigation	OPS-22
Sonar System	ECHO SOUNDER
Navigation Systems	LORAN C, OMEGA

NOTE: designed for continuous breaking of ice up to 1.5 m thick.

ASUKA Class AGE



Role	Research and development test bed for weapon, surveillance and countermeasures systems
LOA x Max. Beam x Max. Draft	151 x 17.3 x 5 m
Displacement, Standard	4,250 metric tons
Speed	27 kn
Complement	70 plus up to 100 scientists
Armament	Surface-to-air missile launchers
Aircraft	SH-60J Seahawk
Radars Systems	
Air Search	SPY-1D
Air/Surface Search	OPS-14C
Surface Search	OPS-18-1
Sonar Systems	
Hull Mounted	QQS-XX
Flank Array	ZQQ-6 Flank Array

KURIHAMA Class AGE



Role	Research and development test bed for underwater weapons and sensors
LOA x Max. Beam x Max. Draft	68 x 11.6 x 4.1 m
Displacement, Standard	959 metric tons
Speed	15 kn
Complement	55
Navigation Radar System	OPS-9B

FUTAMI Class AGS



Role	Research, search and rescue
LOA x Max. Beam x Max. Draft	96.8 x 15 x 4.7 m
Displacement, Standard	2,050 metric tons
Speed	16 kn
Complement	105
Equipment	RCV-225 remote-controlled submersible
Navigation Radar System	OPS-18-3
Sonar System	RQN-3B
Navigation Systems	DECCA HI-FIX, LORAN C

NICHINAN Class AGS



Role	Cable repair and hydrographic survey
LOA x Max. Beam x Max. Draft	111 X 17 X 4.5 m
Displacement, Standard	3,350 metric tons
Speed	19 kn
Complement	90

MASHU Class AOR



Role	Replenishment
LOA x Max. Beam x Max. Draft	221 x 27 x 8.3 m
Displacement, Full Load	28,500 metric tons
Speed	24 kn
Complement	145
Armament	2x 6-barrel 20-mm Phalanx gun
Aircraft	Helicopter deck
Equipment, Features	2 cranes, 15-T capacity each; surgical room; intensive care unit; internal medicine and dental care facilities
Capacities	Ammunition 320 tons kg, 30 containers, Fuel 390,000 liters, DFM 8,400,000 liters, Water 1,150 tons

TOWADA Class AOR



LOA x Max. Beam x Mean Draft	167 x 22 x 8.1 m
Displacement, Full Load	15,850 metric tons
Speed	22 kn
Complement	140
Aircraft	OH-6D and OH-6J
Cargo Capacity	5,700 tons
Surface Search Radar System	SS OPS-18-1.
Navigation Sonar System	ECHO SOUNDER

CHIHAYA Class ASR



Role	Search and rescue; Submarine rescue
LOA x Max. Beam x Max. Draft	128 x 20 x 5.1 m
Displacement, Standard	5,450 metric tons
Speed	21 kn
Complement	125
Aircraft	MH-53E Sea Dragon
Equipment, Features	40-ton manned deep submergence rescue vehicle (DSRV); personnel transfer capsule (PTC); decompression chamber; remotely operated vehicle; hospital

CHIYODA Class ASR



Role	Logistics; search and rescue, submarine rescue and support
LOA x Max. Beam x Max. Draft	112.5 x 17.6 x 6 m
Displacement, Full Load	5,250 metric tons
Speed	17 kn
Complement	120
Aircraft	Can accommodate an HSS-2 A/B. Sea King
Equipment, Features	DSRV; PTC; 2-room decompression chamber; accommodation for 80 submarine crew members
Surface Search Radar System	OPS-16
Sonar System	ECHO SOUNDER, Hull mounted
NOTE: the DSRV is lowered through a central well in the ship's hull.	

HATSUYUKI Class ATX



Role	Anti-air, -surface, and -submarine warfare
LOA x Max. Beam x Max. Draft	130 x 13.7 x 4.3 m
Displacement, Full Load	3,600 metric tons
Speed	32 kn
Complement	199
Aircraft	HSS-2J Sea King
Armament	
SSM Systems	Harpoon; ASROC
SAM Systems	NATO Seasparrow
Guns	1x 76-mm x 62; 2x 6-barrel 20mm x 70 Phalanx
Other weapons	MK-46 MOD 5 Torpedoes
Radar Systems	
Fire Control	MK-15 BLOCK 1.
Early Warning	OPS-14B.
Surface Search	OPS-18-1
Sonar Systems	
Towed Array	OQR-1
Hull Mounted	ECHO SOUNDER, QQS-4A MOD 2

HIUCHI Class ATX



Role	Training
LOA x Max. Beam x Max. Draft	65 x 12 x 3.5 m
Displacement, Standard	980 metric tons
Economical Speed	15
Range	5,000 nmi
Complement	40
NOTE: equipped for torpedo launch and recovery.	

KASHIMA Class ATX



Role	Training
LOA x Max. Beam x Max. Draft	142 x 18 x 4.6 m
Displacement, Standard	4,060 metric tons
Speed	25 kn
Complement	389
Aircraft	Helicopter platform
Armament	1x 76-mm x 62-85 gun
Radar Systems	Surface and air search radar systems
Surface Search	OPS-18-1
Navigation	OPS-20
Fire Control	Type 2-23
Sonar System	OQS-4
NOTE:	equipped for torpedo launch..

KUROBE Class ATX



Role	Logistics, training
LOA x Max. Beam x Max. Draft	101 x 16.5 x 8.5 m
Displacement, Full Load	3,200 metric tons
Speed	20 kn
Complement	143
Aircraft	BQM-34AJ Firebee and Chukar II target drones; helicopter platform
Armament	1x 76-mm x 62-85 gun
Radar Systems	
Early Warning	OPS-14B.
Surface Search	OPS-16

TENRYU Class ATX



Role	Logistics, training
LOA x Max. Beam x Max. Draft	106 x 16.5 x 4.1 m
Displacement, Standard	2,450 metric tons
Speed	22 kn
Complement	140
Aircraft	BQM-34J Firebee and Chukar III target drones; helicopter platform
Armament	1x 76-mm x 62-85 gun
Radar Systems	
Air/Surface Search	OPS-14
Surface Search	OPS-28D
Fire Control	Type 2-22

ASAGIRI Class DD



Role	Anti-air, -surface, and -submarine warfare
LOA x Max. Beam x Max. Draft	136.5 x 14.6 x 4.5 m
Displacement, Full Load	4,300 metric tons
Speed	33.5 kn
Complement	230
Aircraft	SH-60J Seahawk
Armament	
SSM Systems	ASROC, Harpoon
SAM Systems	NATO Seasparrow
Guns	1x 76-mm x 62, 2x 6-barrel 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Multifunction	OPS-24
Surface Search	OPS-289
Fire Control	MK-15 BLOCK 1, TYPE-2/12.
Early Warning	OPS-14C
Sonar Systems	
Towed	SLQ-25, OQR-1
Hull Mounted	OQS-4A MOD 2

HATSUYUKI Class DD



LOA x Max. Beam x Max. Draft	130 x 13.7 x 4.3 m
Displacement, Full Load	3,600 metric tons
Speed	33 kn
Complement	199
Armament	
SSM Systems	Harpoon, ASROC
SAM Systems	NATO Seasparrow
Guns	1x 76-mm x 62, 2x 6-barrel 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Fire Control	MK-15 BLOCK 1
Early Warning	OPS-14B
Surface Search	OPS-18-1
Sonar Systems	
Hull Mounted	ECHO SOUNDER, OQS-4A MOD 2
Towed Array	OQR-1

MURASAME Class DD



LOA x Max. Beam x Max. Draft	150.5 x 17 x 8.8 m
Displacement, Full Load	5,100 metric tons
Speed	30.7 kn
Complement	165
Aircraft	SH-60J Seahawk
Armament	
SSM Systems	SSM-1B, ASROC
SAM Systems	NATO Seasparrow
Guns	1x 76-mm x 62-85, 2x 6-barrel 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Air Search	OPS-24B
Surface Search	OPS-28D
Fire Control	2x MK-15 BLOCK 1
Navigation	OPS-20
Sonar Systems	
Towed	SLQ-25, OQR-1, OQR-2
Hull Mounted	OQS-5

TAKANAMI Class DD



LOA x Max. Beam x Max. Draft	151 x 17.4x 5.3 m
Displacement, Full Load	5,300 metric tons
Speed	30.5 kn
Complement	175
Aircraft	SH-60J Seahawk
Armament	
SSM Systems	SSM-1B, ASROC
SAM Systems	NATO Seasparrow;
Guns	1x 127-mm x 54, 2x 6-barrel 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Fire Control	FCS-3, MK-15 BLOCK 1
Multifunction	OPS-24
Surface Search	OPS-28
Sonar Systems	
Hull Mounted	OQS-5
Towed	SLQ-25, OQR-2

ATAGO Class DDG



LOA x Max. Beam x Max. Draft	164.9 x 21 x 6.2 m
Displacement, Full Load	9,985 metric tons
Speed	32.4 kn
Complement	310
Aircraft	SH-60J Seahawk
Armament	
SSM Systems	SSM-1B
SAM Systems	Seasparrow, Standard Missile II and III
Guns	1x 75-mm x 25, 1x 127-mm x 54-45
Torpedoes	MK-46 MOD 5
Radar Systems	
Fire Control	SPG-62
Early Warning	SPY-1D
Surface Search	OPS-28
Navigation	OPS-20
Sonar System	SLQ-25 (towed)

HATAKAZE Class DDG



LOA x Max. Beam x Max. Draft	150 x 16.4 x 4.8 m
Displacement, Full Load	6,400 metric tons
Speed	34 kn
Complement	260
Aircraft	HSS-2B Sea King or SH-60J Seahawk
Armament	
SSM Systems	Harpoon, ASROC
SAM Systems	Standard Missile I
Guns	1x 127-mm x 54-42, 2x 6-barrel 20-mm 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Fire Control	SPG-51C
Air Search	SPS-52C, OPS-11C
Surface Search	OPS-28B
Sonar Systems	OQS-4 MOD 1

KONGOU Class DDG



LOA x Max. Beam x Max. Draft	161 x 21 x 6.1 m
Displacement, Full Load	9,485 metric tons
Speed	32.8 kn
Complement	310
Aircraft	SH-60J Seahawk
Armament	
SSM Systems	Harpoon, SSM-1B
SAM Systems	Evolved Seasparrow, Standard Missile II and III
Guns	1x 127-mm x 54, 2x 6-barrel 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Fire Control	SPG-62, MK-15 BLOCK 1
Early Warning	SPY-1D
Surface Search	OPS-28
Navigation	OPS-19
Sonar Systems	OQR-2 towed array; OQS-101 bow dome

TACHIKAZE Class DDG



LOA x Max. Beam x Mean Draft	143 x 14.3 x 4.6 m
Displacement, Full Load	4,700 metric tons
Speed	30 kn
Range	7,000 nmi at 20 kn
Complement	236
Armament	
SSM Systems	Harpoon, ASROC
SAM Systems	Standard Missile I
Guns	1x 127-mm x 54-42, 2x 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Fire Control	SPG-51C, TYPE-2/21
Air Search	OPS-11
IFF	NYPX-2
Sonar Systems	UQC-1, WQC-2A, Echo Sounder, OQS-3 Series, OQS-4

HARUNA Class DDH



LOA x Max. Beam x Max. Draft	153 x 17.5 x 5.2 m
Displacement, Full Load	6,000 metric tons
Speed	32 kn
Complement	364
Aircraft	3x SH-60J Seahawk
Armament	
SSM Systems	ASROC
SAM Systems	NATO Seasparrow
Guns	2x 127-mm x 54, 2x 20-mm x 70 Phalanx, 2x 12.7-mm machineguns
Torpedoes	Mk 46 Mod 5
Radars	
Early Warning	OPS-11C
Surface Search	JRC OPS-28C
Fire Control	Type 1A (guns), Type 2-12 (SAMs)
Navigation	Koden OPN-11
IFF	Mk 10
Sonars	OQS-3 MOD 1

SHIRANE Class DDH



LOA x Max. Beam x Max. Draft	158.8 x 17.5 x 5.3 m
Displacement, Full Load	6,800 metric tons
Speed	32 kn
Complement	367
Aircraft	3x SH-60J Seahawk
Armament	
SSM Systems	ASROC
SAM Systems	NATO Seasparrow
Guns	1x 127-mm x 54-42, 2x 6-barrel 20-mm x 70 Phalanx
Torpedoes	MK-46 MOD 5
Radar Systems	
Surface Search	OPS-28
Fire Control	MK-15 BLOCK 1, TYPE-2/12, WM-20
Sonar Systems	
Hull Mounted	QQS 101, SQS-35(J)
Towed Array	SQR-18

ABUKUMA Class FF



LOA x Max. Beam x Max. Draft	109 x 13.4 x 3.8 m
Displacement, Full Load	2,550 metric tons
Speed	30.7 kn
Complement	120
Armament	
SSM Systems	Harpoon, ASROC
Guns	1x 76-mm x 62, 1x 6-barrel 20-mm x 70 Phalanx
Torpedoes	Mk 46 MOD 5
Radars	
Early Warning	OPS-14C
Fire Control	MK-15 BLOCK 1
Surface Search	OPS-28
Sonar Systems	OQS-8 (hull mounted)

ISHIKARI Class FF



LOA x Max. Beam x Mean Draft	84.5 x 10.6 x - -m
Displacement, Full Load	1,450 metric tons
Speed	29 kn
Complement	94
Armament	
SSM Systems	Harpoon
Guns	1x 76-mm x 62
Rockets	375-mm ASW
Torpedoes	MK-46 MOD 5
Radar Systems	
Surface Search	OPS-28
IFF	MK 10
Sonars	SQS-36J (hull mounted)

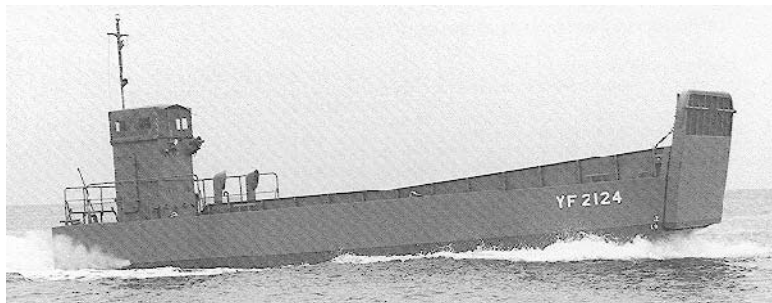
YUBARI Class FF



LOA x Max. Beam x Max. Draft	91 x 10.8 x 3.5 m
Displacement, Full Load	1,690 metric tons
Speed	25
Complement	98
Armament	
SSM	Harpoon
Guns	1x 76-mm x 62
Rocket	375-mm ASW
Torpedo	MK-46 MOD 5
Radar Systems	
Surface Search	OPS-28
IFF	MK 10
Sonars	SQS-36J (hull mounted)

NOTE: The YUBARI Class is an enlarged, improved variant of the ISHIKARI Class.

LCM(6) Class LCM



LOA x Max. Beam x Max. Draft	17.1 x 4.4 x 1.2 m
Displacement, Full Load	56.2 metric tons
Speed	6 kn
Complement	6
Armament	2x 12.7-mm machineguns
Cargo Capacity	34,500 kg or 80 troops

TEXTRON-MARINE 27-M Class LCMA



LOA x Max. Beam x Max. Draft	27 x 14.3 X 0.9 m
Displacement, Full Load	167 metric tons
Speed, Loaded	40 kn
Range	200 nmi at 40 kn, 300 nmi at 35 kn
Complement	5
Capacity	60,000 to 75,000 kg, 24 troops, 4 APCs, or 1 MBT
Navigation Radar System	LN-66

NOTE: Two LCMA's are carried in the well deck of OSUMI-Class LPD; the well deck does not need to be flooded for them to exit.

420-TON Class LCU



LOA x Max. Beam x Max. Draft	52 x 8.7 x 1.6 m
Displacement, Full Load	420 metric tons
Speed	12 kn
Complement	28
Armament	1x 20-mm Gatling gun

YURA Class LCU



LOA x Max. Beam x Max. Draft	58 X 9.5 X 1.7 m
Displacement, Full Load	590 metric tons
Speed	12 kn
Complement	32
Armament	1x 20-mm Gatling guns
Equipment	2x cranes, 2-T capacity
Capacity	70 troops (cannot carry tanks)
Sonars	ECHO SOUNDER

OSUMI Class LPD



LOA x Beam x Draft	178 x 25.8 X 6 m
Displacement, Full Load	12,600 metric tons
Speed	22 kn
Range	6,000 nmi at 20 kn
Complement	135
Aircraft	CH-47D Chinook
Armament	2x 6-barrel 20-mm x 70 Phalanx
Equipment	Crane, 15-T capacity
Capacity	330 troops, 2 LCMA's, and 10 MBT's or 1,400 metric tons cargo
Radar Systems	
Fire Control	MK-15 BLOCK 1.
Air/Surface Search	OPS-14C

URAGA Class MCS



LOA x Max. Beam x Mean Draft	141 x 22 x 5.4 m
Displacement	6,100 metric tons
Speed	22 kn
Range	4,600 nmi at 20 kn
Complement	161
Aircraft	MH-53E Sea Dragon
Armament	
Guns	1x 76-mm x 62-85
Mines	K-5
Radar Systems	
Early Warning	OPS-14C.
Navigation	OPS-28C

AWASHIMA Class MHC



LOA x Max. Beam x Max. Draft	58 x 9.4 x 3.2 m
Displacement, Full Load	590 metric tons
Speed	14 kn
Range	2,400 nmi at 10 kn
Complement	45
Armament	1x 20-mm Gatling gun
Equipment	S4 or S7 mine detonating equipment
Navigation Radar System	Possibly OPS-18B
Mine Hunting Sonar System	ZQS-3 (hull mounted)

HATSUSHIMA Class MHC, MSS



LOA x Max. Beam x Max. Draft	55 x 9.4 X 3.2 m
Displacement, Full Load	510 metric tons
Speed	14 kn
Complement	45
Armament	1x 20-mm Gatling gun
Equipment	S4 mine detonating equipment
Radar Systems	
Navigation	OPS-9
IFF	MK 10
Sonar Systems	
Navigation	ECHO SOUNDER
Mine Detection	ZQS-2B

HIRASHIMA Class MHC



LOA x Max. Beam x Max. Draft	57 x 9.8 x 2.5 m
Displacement, Standard	570 metric tons
Speed	14 kn
Complement	48
Armament	1x 20-mm Gatling gun
Equipment	S10 mine disposal system

NOTE: HIRASHIMA is a new class 570-ton minesweeper. First unit was launched in 2006. IOC is scheduled for March 2008.

SUGASHIMA Class MHC



LOA x Max. Beam x Max. Draft	54 x 9.4 x 3 m
Displacement, Standard	510 metric tons
Speed	15.5 kn
Range	2,500 nmi at 10 kn
Armament	1x 20-mm Gatling gun
Equipment	PAP 104 Mk 5 ROV
Surface Search Radar System	OPS-38B
Sonar System	TYPE 2093 VDS (mine detection)

SAM Class MSD



Type	Radio-controlled magnetic and acoustic mine-sweeping catamaran
LOA x Max. Beam x Max. Draft	18 x 6.1 x 1.6 m
Displacement, Full Load	20.2 metric tons
Speed	8 kn
Range	330 nmi at 7 kn

YAEYAMA Class MSF



LOA x Max. Beam x Max. Draft	67 x 11.8 x 3.1 m
Displacement, Full Load	1,275 metric tons
Speed	14 kn
Complement	60
Armament	1x 20-mm Gatling gun
Equipment	S7 deep sea minehunting system
Surface Search Radar System	OPS-39B
Sonar System	SQQ-32 VDS (minehunting)

HAYABUSA Class PTG



LOA x Max. Beam x Max. Draft	50.1 x 8.4 x 4.2 m
Displacement, Standard	200 metric tons
Speed	44 kn
Complement	18
Armament	
SSM Systems	SSM-1B
Guns	1x 76-mm x 62-59, 2x 12.7-mm machineguns
Embarked Troops	10
Radar Systems	
Surface Search	OPS-18-1
Navigation	OPS-20
Fire Control	Type 2-31C

PG-01 Class PTGH



LOA x Max. Beam x Max. Draft	21.8 x 7 x 3.5 m
Displacement, Full Load	63 metric tons
Speed	50 kn
Range	400 nmi at 45 kn; 1,200 nmi at 8 kn
Complement	10
Armament	
SSM Systems	SSM-1B
Guns	1x 20-mm Gatling

TESHIO Class WAGB



Role	Icebreaker
LOA x Max. Beam x Max. Draft	55 x 10.6 x 3.3 m
Displacement, Full Load	870 metric tons
Speed	14.5 kn
Complement	35
Guns	1x 20-mm Gatling
NOTE:	has an icebreaker bow capable of breaking 75-cm-thick ice in charging mode and 55-cm-thick ice traveling at three knots.

HAKUUN Class WAGL



Role	Buoy tender
LOA x Max. Beam x Max. Draft	23 x 6 x 2.8 m
Displacement, Standard	58 metric tons
Speed	13 kn
Range	420 nmi at 13 kn
Complement	10
Navigation Radar System	FRA 10 MK III

HOKUTO Class



Role	Buoy tender, logistics
LOA x Max. Beam x Max. Draft	55 x 10.6 x 2.8 m
Displacement, Full Load	838.6 metric tons
Speed	13.8 kn
Range	3,900 nmi at 13 kn
Complement	31
Capacities	Fresh water 52 metric tons; diesel fuel 52 metric tons; 3 channel-marking bell buoys
Navigation Sonar System	ECHO SOUNDER

MYOJO Class WAGL



Role	Buoy tender
LOA x Max. Beam x Max. Draft	27 x 12 x 2.6 m
Displacement, Normal	303 metric tons
Speed	11.2 kn
Range	1,360 nmi at 10.5 kn
Complement	18
Equipment	Crane, 15-T capacity
Navigation Sonar System	ECHO SOUNDER

TSUSHIMA Class WAGL



Role	Lighthouse supply, navaid measurements
LOA x Max. Beam x Mean Draft	75 x 12.5 x - - m
Displacement, Full Load	2,392 metric tons
Speed	17.6 kn
Range	12,000 nmi at 16.5 kn
Complement	54
Capacities	Evaporator 10,000 kg/day; fresh water 224 metric tons; diesel fuel 418 metric tons

NOTE: duties include measurement of the effective range of OMEGA, LORAN, and NNSS navaid radio signals; spatial wave correction values and distribution error; the intensity of lighthouse signals; light propagation distance; and range of light arc.

ASOGIRI Class WPB



LOA x Max. Beam x Max. Draft	33 x 6.3 x 3.2 m
Displacement, Standard	101 metric tons
Speed	30 kn
Complement	10
Armament	1x 12.7-mm machinegun

KAGAYUKI Class



LOA x Max. Beam x Max. Draft	32 x 6.5 x 3.3 m
Displacement, Full Load	112 kn
Speed	36 kn
Complement	10
Armament	1x 12.7-mm machinegun

MATSUNAMI Class WPB



Role	C ³ , coastal patrol, VIP transport
LOA x Max. Beam x Max. Draft	35 x 8 x 3.3 m
Displacement, Standard	204 metric tons
Speed	25 kn
Complement	30

MURAKUMO Class WPB



LOA x Max. Beam x Max. Draft	31 x 6.3 x 3.4 m
Displacement, Normal	85 metric tons
Speed	31.5
Range	350 nmi at 28 kn
Complement	10
Armament	1x 12.7-mm machinegun

SHIMAGIRI Class WPB



LOA x Max. Beam x Max. Draft	23 x 5.3 x 2.7 m
Displacement, Full Load	60 metric tons
Speed	32 kn
Range	250 nmi at 30 kn
Complement	10
Armament	1x 12.7-mm machinegun

SUZUKAZE Class WPB



Role	Coastal patrol, rescue, fire fighting (some)
LOA x Max. Beam x Max. Draft	20 x 4.3 x 2.3 m
Displacement, Full Load	23 metric tons
Speed	30 kn
Range	1,820 nmi
Complement	5

AKAGI Class WPC



Role	Coastal surveillance, rescue, fire fighting
LOA x Max. Beam x Max. Draft	35 x 6.3 x 3.4 m
Displacement, Full Load	115 metric tons
Speed	26.5 kn
Range	500 nmi at 20 kn
Complement	12
Armament	1x 12.7-mm machinegun (can be interchanged with a water cannon)

AMAMI Class WPC



LOA x Max. Beam x Max. Draft	56 x 7.5 x 4.1 m
Displacement, Normal	230 metric tons
Speed	25 kn
Range	7,000 nmi at 20 kn
Complement	33
Armament	1x 20-mm Gatling gun

HAYANAMI Class WPC



LOA x Max. Beam x Max. Draft	35 x 6.3 x 2.3 m
Displacement, Full Load	190 metric tons
Speed	25 kn
Armament	1x 12.7-mm machinegun
Equipment	Probably 2x water cannons

MIHASHI Class WPC



LOA x Max. Beam x Max. Draft	43 x 7.5 x 1.7 m
Displacement, Full Load	195 metric tons
Speed	35 kn
Range	650 nmi at 34 kn
Complement	34
Armament	1x 20-mm Gatling gun, 1x 12.7-mm machinegun
Radar System	FURUNO-series (navigation/surface search)

TSURUGI Class WPC



LOA x Max. Beam x Max. Draft	50 x 8 x 4 m
Displacement, Standard	220 metric tons
Speed	44 kn
Complement	20
Armament	20-mm Gatling gun

ASO Class WPG



LOA x Max. Beam x Max. Draft	79 x 10 x 6 m
Displacement, Full Load	1,000 metric tons
Speed	30 kn
Armament	1x 40-mm x 70 gun

BIHORO Class WPG



Role	Coastal defense, coastal surveillance, search and rescue, towing
LOA x Max. Beam x Max. Draft	63.4 x 7.8 x 4.3 m
Displacement, Full Load	657 metric tons
Speed	18 kn
Complement	34
Armament	1x 20-mm x 70 gun
Navigation Radar System	JMA-159B
Navigation Sonar System	ECHO SOUNDER

KUNASHIRI Class WPG



LOA x Beam x Draft	58 x 7.4 X 2.7 m
Displacement, Full Load	540 metric tons
Speed	17.8 kn
Range	3,000 nmi at 16 kn
Complement	40
Armament	1x 20-mm x 70 gun
Navigation Radar System	JMA-159B
Navigation Sonar System	ECHO SOUNDER (hull mounted)

NATSUI Class WPG



Role	Coastal defense, coastal surveillance, search and rescue, towing
LOA x Max. Beam x Mean Draft	67.8 x 7.2 x 2.7 m
Displacement, Full Load	670 metric tons
Speed	18.6 kn
Complement	33
Armament	1x 20-mm Gatling gun
Equipment, Features	Television cameras fitted on both masts (<i>Sorachi</i>); ice-resistant construction
Radars	JMA-159B

TAKATORI Class WPG



Role	Coastal and harbor surveillance, fire fighting
LOA x Max. Beam x Max. Draft	45.7 x 9.2 x 4.3 m
Displacement, Full Load	799 metric tons
Speed	15.7 kn
Range	700 nmi at 15 kn
Complement	34
Equipment	2x foam spray guns, 1x water gun, flammable gas detector, self-protection spray system, 2x oil spill treating devices
Capacities	Fresh water 26 metric tons (needed to create foam), diesel fuel 25 metric tons
Sonar System	ECHO SOUNDER

NOTE: has extensive fire fighting equipment including are also carried.

TESHIO Class WPG



LOA x Max. Beam x Max. Draft	54.9 x 10.2 x 5 m
Displacement, Full Load	670 metric tons
Speed	20 kn
Range	3,600 nmi at 14.5 kn
Complement	35
Guns	1x 20-mm Gatling gun
Navigation Radar System	JMA-159B
Sonar System	ECHO SOUNDER

DAIO Class WPS



LOA x Max. Beam x Mean Draft	76.6 x 9.6 x 3.3 m
Displacement, Full Load	1,302 metric tons
Speed	20.4 kn
Range	6,600 nmi at 16 kn
Complement	44
Armament	1x 20-mm x 70, 1x 40-mm x 60 guns
Navigation Sonar System	ECHO SOUNDER

HIDA Class WPS



LOA x Max. Beam x Max. Draft	95 x 12.6 x 5.6 m
Displacement, Full Load	2,000 metric tons
Speed	30 kn
Complement	58
Aircraft	Helicopter platform
Armament	1x 20-mm Gatling, 1x 40-mm x 70 guns
Equipment	2 launches

IZU Class WPS



LOA x Max. Beam x Max. Draft	110 x 15 x 7.5 m
Displacement, Full Load	3,853 metric tons
Speed	20 kn
Complement	40 and 70 spare berths
Aircraft	Platform for Bell 212
Armament	1x 20-mm Gatling, 1x 35-mm x 90 guns
Equipment	2 launches

KOJIMA Class WPS



LOA x Max. Beam x Max. Draft	115 x 14 x 7.3 m
Displacement, Standard	3,136 metric tons
Speed	18 kn
Range	7,000 nmi at 15 kn
Complement	118 (includes 60 trainees)
Aircraft	Helicopter platform
Armament	1x 20-mm Gatling, 1x 35-mm x 90, 1x 12.7-mm machinegun

MIURA Class WPS



LOA x Max. Beam x Max. Draft	115 x 15 x 7.3 m
Displacement, Normal	3,000 metric tons
Speed	18 kn
Complement	40 and 10 spare berths
Armament	1x 20-mm Gatling gun

MIZUHO Class WPS



LOA x Max. Beam x Mean Draft	130 x 15.5 x 5.3 m
Displacement, Full Load	5,300 metric tons
Speed	23 kn
Complement	130
Aircraft	Bell 212
Armament	1x 20-mm Gatling, 1x 35-mm x 90 guns
Equipment	4x water cannons
Radar Systems	
Navigation	JMA-3000
Surface Search	JMA-8303
Navigation Sonar System	ECHO SOUNDER

OJIKA Class WPS



Role	Search and rescue command ship
LOA x Max. Beam x Max. Draft	91.4 x 11 x 5 m
Displacement, Full Load	2,498 metric tons
Speed	19 kn
Range	4,400 nmi at 19 kn
Complement	38
Aircraft	Bell 212 or Super Puma
Armament	1x 20-mm Gatling, 1x 35-mm x 90 guns
Features	Stern dock for RIB, 30-ton bollard for towing
Navigation Radar System	JMA-1596

SHIKISHIMA Class WPS



LOA x Max. Beam x Max. Draft	150 x 16.5 x 7 m
Displacement, Full Load	9,350 metric tons
Speed	25 kn
Complement	100
Aircraft	Flight deck and two hangars for Bell 212 or AS-332 SUPER PUMA
Armament	2x 20-mm Gatling, 2x twin 35-mm x 90 guns
Radar Systems	
Surface Search	JMA-300.
Navigation	JMA-8303
Early Warning	OPS-14C

NOTE: *Shikishima*, the only unit of this class, is the worlds largest patrol ship and the largest unit subordinated to Japan Coast Guard. It was constructed exclusively to escort ships carrying reprocessed plutonium from Europe to Japan.

SHIRETOKO Class WPS



LOA x Max. Beam x Mean Draft	77.8 x 9.6 x 3.5 m
Displacement, Full Load	1,514 metric tons
Speed	20.5
Complement	41
Armament	1x 20-mm Gatling, 1x 35-mm x 90 guns
Navigation Radar Systems	JMA-159B, JMA-165B
Navigation Sonar System	ECHO SOUNDER

SOYA Class WPS



LOA x Max. Beam x Mean Draft	98.6 x 15.6 x 5.2 m
Displacement, Full Load	4,089 metric tons
Speed	21 kn
Complement	71
Aircraft	Bell 212 or Super Puma
Armament	1x 35-mm x 90, 1x 20-mm Gatling guns
Capacities	
Aviation fuel	17 metric tons
Diesel Fuel	561 metric tons
Lubricating Oil	25 metric tons
Fresh Water	250 metric tons
Navigation Sonar	ECHO SOUNDER
NOTE:	The <i>Soya</i> is built for operation in icy conditions.

TSUGARU Class WPS



LOA x Max. Beam x Mean Draft	105.4 x 14.6 x 4.9 m
Displacement, Full Load	4,037 metric tons
Speed	23 kn
Range	5,700 nmi at 18 kn
Complement	56
Embarked Troops	15
Aircraft	Bell 212 or Super Puma
Armament	1x 35-mm x 90, 1x 20-mm Gatling guns
Navigation Sonar System	ECHO SOUNDER

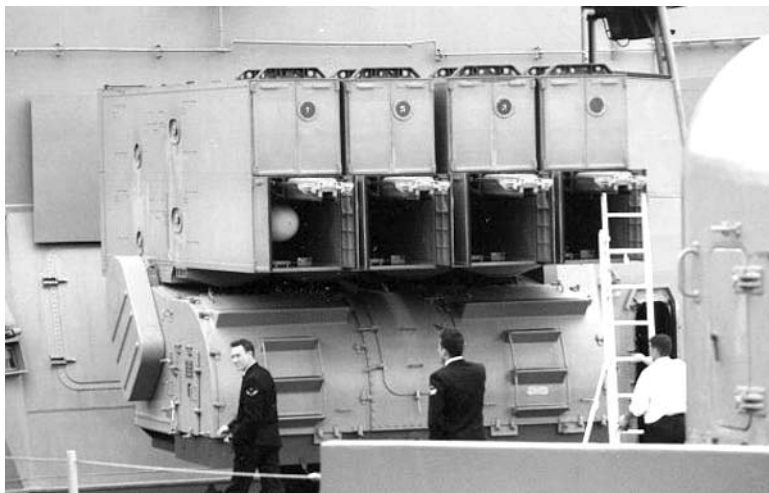
Naval Missiles

RGM-84C Harpoon



Type	Ship-launched antiship missile
Maximum Speed	0.85 mach
Range	67 nmi
Warhead	221.6 kg semi-armor-piercing with 100 kg of explosive
Guidance	Inertial and active radar
Fuze	Contact with delay
Weight Overall	681.9 kg
Wingspan	0.83 m
Length Overall x Diameter	4.63 x 0.34 m

Antisubmarine Rocket (ASROC) RUR-5A



Type	All-weather rocket delivery system for MK 46 torpedo
Components	
MK 16 Launcher Group	MK 112 launcher with 8 cells, weapon magazine, and launcher control station
ASROC	Torpedo with frangible plastic nose cap, fairing, parachute, airframe assembly with solid rocket booster
Rocket	
Range	0.86 to 5.39 nmi
Payload	MK 46 MOD 5 torpedo with HE charge
Launch Weight	435 kg
Wing Span	0.845 m
Length x Diameter	4.57 x 0.325 m

NOTE: After launch, the rocket follows a ballistic trajectory toward the target. The solid-propellant rocket motor is jettisoned in flight and the airframe separates, leaving the payload. A parachute is deployed, which allows the torpedo to enter the water at the correct angle. The protective plastic nose cap breaks off on impact with the water, the parachute detaches, the torpedo's motor starts, the seeker is activated, and the torpedo searches for and acquires its target. Harpoon can be launched from the MK 112 launcher.

Coordinated Universal Time (UTC)

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

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

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

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

Country	UTC	Eastern	Central	Mountain	Pacific
Indonesia East	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Indonesia Central	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Indonesia West	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Iran	+3.5 H	+8.5 H	+9.5 H	+10.5 H	+11.5 H
Iraq	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Ireland	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Israel	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Italy	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Jamaica	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Japan	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Kazakhstan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Kenya	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Kiribati	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Korea, North	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Korea, South	+9.0 H	+14.0 H	+15.0 H	+16.0 H	+17.0 H
Kuwait	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Kyrgyzstan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Laos	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Latvia	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Lebanon	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Lesotho	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Liberia	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Libya	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Liechtenstein	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Lithuania	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Luxembourg	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Macedonia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Madagascar	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Malawi	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Malaysia	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Maldives	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Mali Republic	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Malta	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Marshall Islands	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Mauritania	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H

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

Country	UTC	Eastern	Central	Mountain	Pacific
Qatar	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Reunion Island	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Romania	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia West	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Russia Central 1	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Russia Central 2	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Russia East	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
Rwanda	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Saba	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Samoa	-11.0 H	-6.0 H	-5.0 H	-4.0 H	-3.0 H
San Marino	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Sao Tome	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Saudi Arabia	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Senegal	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Seychelles Islands	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
Sierra Leone	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Singapore	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Slovakia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Slovenia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Solomon Islands	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
Somalia	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
South Africa	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Spain	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Sri Lanka	+5.5 H	+10.5 H	+11.5 H	+12.5 H	+13.5 H
St. Lucia	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Maarten	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Pierre & Miquelon	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
St. Thomas	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
St. Vincent	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Sudan	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Suriname	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
Swaziland	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Sweden	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Switzerland	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Syria	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

Country	UTC	Eastern	Central	Mountain	Pacific
Taiwan	+8.0 H	+13.0 H	+14.0 H	+15.0 H	+16.0 H
Tajikistan	+6.0 H	+11.0 H	+12.0 H	+13.0 H	+14.0 H
Tanzania	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Thailand	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Togo	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Tonga Islands	+13.0 H	+18.0 H	+19.0 H	+20.0 H	+21.0 H
Trinidad and Tobago	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Tunisia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Turkey	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Turkmenistan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Turks and Caicos	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
Tuvalu	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Uganda	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Ukraine	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
United Arab Emirates	+4.0 H	+9.0 H	+10.0 H	+11.0 H	+12.0 H
United Kingdom	+0.0 H	+5.0 H	+6.0 H	+7.0 H	+8.0 H
Uruguay	-3.0 H	+2.0 H	+3.0 H	+4.0 H	+5.0 H
USA Eastern	-5.0 H	+0.0 H	+1.0 H	+2.0 H	+3.0 H
USA Central	-6.0 H	-1.0 H	+0.0 H	+1.0 H	+2.0 H
USA Mountain	-7.0 H	-2.0 H	-1.0 H	+0.0 H	+1.0 H
USA Western	-8.0 H	-3.0 H	-2.0 H	-1.0 H	+0.0 H
USA Alaska	-9.0 H	-4.0 H	-3.0 H	-2.0 H	-1.0 H
USA Hawaii	-10.0 H	-5.0 H	-4.0 H	-3.0 H	-2.0 H
Uzbekistan	+5.0 H	+10.0 H	+11.0 H	+12.0 H	+13.0 H
Vanuatu	+11.0 H	+16.0 H	+17.0 H	+18.0 H	+19.0 H
Vatican City	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Venezuela	-4.0 H	+1.0 H	+2.0 H	+3.0 H	+4.0 H
Vietnam	+7.0 H	+12.0 H	+13.0 H	+14.0 H	+15.0 H
Wallis & Futuna Is.	+12.0 H	+17.0 H	+18.0 H	+19.0 H	+20.0 H
Yemen	+3.0 H	+8.0 H	+9.0 H	+10.0 H	+11.0 H
Yugoslavia	+1.0 H	+6.0 H	+7.0 H	+8.0 H	+9.0 H
Zaire	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Zambia	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H
Zimbabwe	+2.0 H	+7.0 H	+8.0 H	+9.0 H	+10.0 H

APPENDIX C:

Conversion Charts

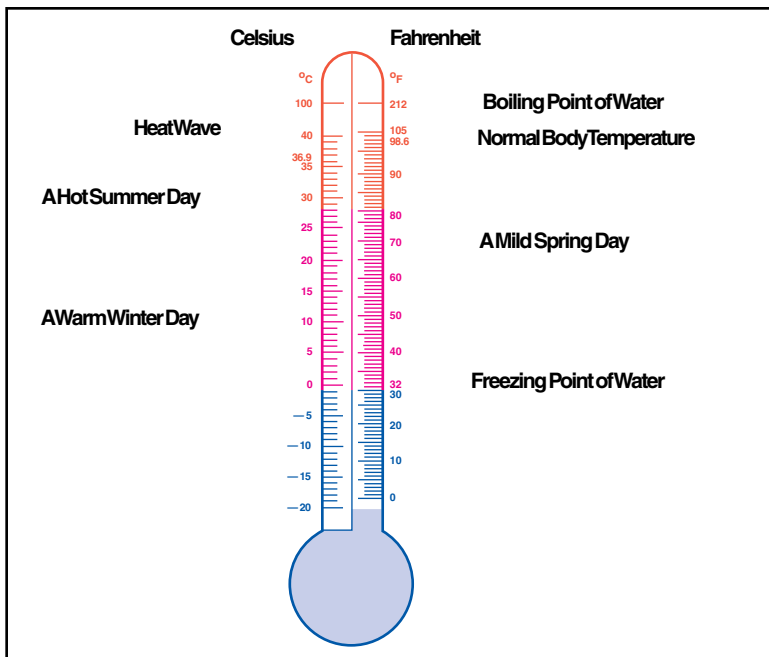
When You Know

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	Kilometers per Hour
Km per Hour	0.62	Miles per Hour

Temperature

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



Temperature Chart

APPENDIX D:

Holidays

National Holidays

Holiday	Description	Traditional Dates
Shogatsu (New Year's)	Similar to Western celebration.	January 1
Hatsumode	First visit of the year to shrines or temples.	Typically 1-3 January; up to the individual.
Setsubun	Traditional celebration of the coming of spring.	3 or 4 February
Hina Matsuri (Doll Festival)	Festival to pray for well-being and growth of young girls.	3 March
Haru no Higan	Vernal equinox; observed by paying respects to family ancestors.	Around 21 March .
Greenery Day	A day for appreciating nature.	29 April
Constitution Day	Celebrates the 1946 Constitution.	3 May
Children's Day	Day to pray for growth and future career success for young boys.	5 May
Tanabata	Observance of summer.	7 July
Obon	Observance to welcome souls of ancestors, who are said to visit homes during this holiday.	Between 13 and 15 July; some regions observe between 13 and 15 August.

Shichigosan	Day for visiting Shinto shrines with boys aged 3 or 5 and girls aged 3 or 7 to pray for future wellbeing.	15 November
Christmas	Holiday celebrated by many Japanese even though they are not Christian. More of a social holiday than family holiday.	25 December
New Year's Eve	A 3-day family holiday involving multiple trips to Shrines and Temples for recognition and to worship ancestors.	31 December

APPENDIX E:

Language

Numbers

0	cero	5	go	9	kyu
1	ichi	6	roku	10	ju
2	ni	7	nana/shichi	11	ju-ichi
3	san	8	hachi	12	ju-ni
4	yon/shi				

In an Emergency

English

Help
Stop
Call a doctor
Call an ambulance
Call the police
Fire
Where is the hospital?
Police box

Japanese

Tasukete
Tomete
Isha o yonde kudasai
Kyukyusha o yonde kudasai
Keisatsu o yonde kudasai
Kaji
Byoin wa doko ni arimasu-ka?
koban

Communication

English

Yes
No
...not...
I don't know
Thank you
Thanks (casual)
Thank you (very much)

Japanese

hai
ie
...nai/chigaimasu
Shirimasen
Arigato
Domo
Domo arigato gozaimasu

English

You're welcome
No, thank you
Please (asking)
Please (when offering something)
Please (when requesting something)
I can't speak Japanese
Excuse me (to get attention)
Excuse me (pardon me)
Could you help me please?
(not an emergency)
Do you speak English?
Yes, I speak a little
Do you understand?
Yes, I understand
Oh, I see
No, I don't understand
Please say it again
Please speak slowly
Please wait a moment
Please show me
Please write it
Please give me this

Japanese

Doitashi mashite
Kekko desu, arigato
Onegai shimasu
Dozo

Kudasai

Nihongo ga hanasemasen
Sumi masen
Shitsurei shimasu
Chotto tetsudatte itadakemasenka?
Anata wa eigo o hanashimasu ka?
Hai, sukoshi hanashimasu
Wakarimasu ka?
Hai, wakarimasu
Aa, soo desu
Ie, wakarimasen
Mo ichido itte kudasai
Yukkuri hanashite kudasai
Chotto matte kudasai
Misete kudasai
Kaite kudasai
Kore o kudasai

Useful Short Phrases**English**

Good morning
Good afternoon (day)
Good evening
Good-bye
Good night

Japanese

Ohayo gozaimasu
Konnichiwa
Konbanwa
Sayonara
Oyasuminasai

English

How are you?

I am fine

How do you do? (only when meeting for the first time)

Pleased to meet you

And you?

I am sorry

I'm sick

Let's go

What is your name?

My name is _____

Where is it?

What time is it?

How much?

I will take it

Do you like it?

I like it

I don't like it

It's beautiful

Hello (on telephone only)

Is that so...

Welcome (to a store, restaurant, etc.)

Where is the toilet?

Japanese

O genki desu ka?

Genki desu

Hajimemashite

Dozo yoroshiku or Yoroshiku onegaishimasu

Anata wa?

Gomen nasai

Byoki desu

Ikimasho

Anata-no namae wa?

Watashi no namae wa _____
desu

Doko desu ka?

Nan-ji desu ka?

Ikura desu ka?

Sore o kudasai

Suki desu ka?

Suki desu

Kirai desu

Kirei desu

Moshi moshi

So desu ne

Irrasshaimase

Toire wa doko desu ka?

Getting Around**English**

Bicycle

Bus

Car

Japanese

jitensha

basu

kuruma

English

Ferry
Motorcycle
One-way ticket
Return ticket
Taxi
Ticket
Ticket office

Japanese

feri
otobai
katamichi kippu
ofuku kippu
takushi
kippu
kippu uriba

Words and Shorter Phrases**English**

Left
Right
Straight ahead
A lot / plenty
A little
Why?
When?
Watch out/Dangerous
It's all right
Quick
Cheap
Cold
Hot
Cake
Chair
Child
Cigarette
Coffee
Coffee with milk
Fruit
Good
Girl / Woman

Japanese

Hidari
Migi
Massugu
Takusan
Sukoshi
Naze
Itsu
Abunai
Daijobu desu
Haiyaku
Yasui
Samui
Atsui
Kehki
Isu
Kodomo
Tabako
Kohhi
Kohhi gyunyu
Kudamono
Yoi
Onna

English

Man
Hot water
Hotel
Key
Money
New
Old
Paper
Pencil
Room
Stamp
Station
Store
Telephone
Tea (green)
Tea (black)
Water (cold)
Small
Large

Japanese

Otoko
Oyu
Hoteru
Kagi
Okane
Atarashii
Furui
Kami
Empitsu
Heya
Kitte
Eki
Mise
Denwa
Ocha
Koh-cha
Mizu
Chiisai
Ohkii

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



Cable height
16' - 6"

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; and
- Avoid standing in direct sunlight for long periods; be prepared for sudden drops in temperature at night, and construct wind screens if necessary to avoid blowing dust or sand.

Sunscreens:

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

Work-Rest Table

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

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

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

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

Note: MOPP gear adds 10° to WBGT Index.

Food

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

Human Waste

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

Cold Weather

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

- Drink plenty of fluids, preferably water or other decaffeinated beverages;
- Closely monitor others who have had previous cold injuries;
- Use well-ventilated warming tents and hot liquids for relief from the cold. Watch for shivering and increase rations to the equivalent of four MREs per day;
- Not rest or sleep in tents or vehicles unless well ventilated; temperatures can drop drastically at night;

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

- Dress in layers, wear polypropylene long underwear, and use sunglasses, scarf, unscented lip balm, sunscreen, and skin moisturizers;
- Insulate themselves from the ground with tree boughs or sleeping mats and construct windscreens to avoid unnecessary heat loss; and
- Seek immediate medical attention for loss of sensitivity in any part of the body.

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

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

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

- Port complexes
- Airports

Detention

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

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

sy or consulate in country. Remember, you will not be able to outwit a foreign intelligence organization. Do not compound your error by betraying your country.

Foreign Terrorist Threat

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

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

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

To realistically evaluate your individual security program, you must understand how terrorists select and identify their victims.

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

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

Travel Security

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

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

- You should not travel in uniform outside the continental U.S. on commercial aircraft.
- Before traveling by commercial aircraft, you should screen your wallet and other personal items, remov-

ing any documents that could reveal military affiliation (e.g., credit cards and club membership cards). Note that USMC policy requires service members to wear two I.D. tags with metal necklaces while on official business. In addition, service members must carry a current I.D. card at all times. These requirements are valid even while traveling to or through terrorist areas. In view of these requirements, service members must be prepared to remove and conceal these and any other items that could identify them as military personnel in the event of a hijacking.

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

Hostage Situation

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

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

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

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

APPENDIX I: Dangerous Plants and Animals

Snakes

Yamakagashi

Description:

Adult length is 0.8 to 1.0 meters. Background color is variable, from uniform greenish brown with a pale belly, to striped pattern with black bands on a red or greenish brown background.

**Habitat:**

Most common in fields and mountain forests.

Activity and behavioral patterns:

Primarily diurnal and terrestrial. When threatened, it rears and spreads its hood.

Venom's effects:

Primarily hemotoxic; symptoms may include local swelling, bleeding from wound site, bleeding gums, and hematuria. Brain hemorrhage and acute renal failure reported. Nuchal glands release defensive secretions when pressure is applied to the snake's skin. Secretions may damage eyes on contact.

Oriental Coral Snake

Description:

Adult length is 0.3 to 0.5 meter; maximum of 1.0 meter. Narrow body; diameter the size of a finger. Background color variable; color either russet to pink, with narrow, widely separated black

crossbands and wide cream band across the base of the head, or brown to crimson, with three longitudinal black stripes from head to tail, and a narrow cream headband. Head is small, barely distinct from neck.



Habitat:

Scrub jungles and monsoon forests. Often found near houses. Avoids dry terrain.

Activity and behavioral patterns:

Nocturnal, remaining hidden during the day within humus of forest floor, or beneath logs, stones, and other debris. Occasionally active in early morning.

Venom's effects:

Likely neurotoxic. Little is known of venom. Few bites recorded. One fatality reported from Nepal.

Japanese Mamushi

No photograph available.

Other names:

Asiatic Pit Viper

Description:

Adult length usually 0.4 to 0.5 meter; maximum of 0.7 meter. Background color pale gray, reddish brown, or yellow brown. Row of large circular markings on each flank comprised of dark oval blotches with darker margin, light inner area, and dark bullseye spot in center. Lower lateral sides whitish with series of dark spots; numerous dark flecks on belly. Dark postocular stripe extends to corner of mouth.

Habitat:

Varied; marshes, swamps, rocky hillsides, open woodland, montane rock outcroppings, and meadows.

Activity and behavioral patterns:

Generally diurnal, but active at twilight during hot weather. Usually docile, inoffensive, and sluggish.

Habu**Description:**

Adult length usually 1.2–1.5 meters; maximum of 2.3 meters. Background color generally pale or dark brown, greenish brown, or



olive. Patterned with irregular blotches, varying in shades of green or brown and bordered with yellow or grayish yellow, which may give marbled effect. Head large and triangular; distinct from slim neck.

Habitat:

Sparsley wooded plains and fields adjacent to forests; bushy, rocky hillsides. Found only on Ryukyu Islands, which include Okinawa

Activity and behavioral patterns:

Nocturnal, but may bask during the day. Shelters in lava caves, rodent burrows, and stone walls; may enter houses and barns in search of rodents. Bold and irritable; strikes with great rapidity and long reach.

Venom characteristics:

Potent hemotoxin. Local symptoms may include intense pain, swelling, blistering, bruising, and necrosis. Systemic symptoms may include hypotension, peripheral cyanosis, fever, vomiting, abdominal pain, and impaired consciousness. About 75 percent of deaths occur within 24 hours. Bites are common and fatalities have been recorded.

Sakishima-habu

No photograph available.

Description:

Maximum length of about 1.2 meters. Long, slender snake with thin neck and distinctive, broad triangular-shaped head. Background color varies from light brown to yellowish brown or dark brown. Dark postocular stripes. Dark blotches along vertebral line form a zigzag pattern. Additional rows of blotches along lower lateral sides. Belly grayish white.

Habitat:

Rocky or wooded country, often in roads and fields. Found only on Ryukyu Islands, which include Okinawa.

Activity and behavioral patterns:

Nocturnal

Venom characteristics:

Primarily hemotoxic. Local symptoms may include swelling, tenderness, and extensive necrosis requiring amputation or leading to permanent deformity. Systemic symptoms may include dyspnea with chest pain, tachycardia, shock, and peripheral cyanosis. Deaths reported, but rare. No known antivenom produced.

Hime-habu

No photograph available.

Description:

Maximum length usually about 0.8 meter; relatively thick-set snake. Background color brown, gray, or olive-brown, with dark markings on either side of vertebral line. Lateral row of similar dark markings along flanks. Dark postocular stripe bordered above and below with white.

Habitat:

Mountain forests in the Amani and Okinawa Islands.

Activity and behavioral patterns:

No information available.

Venom characteristics:

Likely hemotoxic. Reported symptoms include pain, swelling, and redness. No known antivenom produced.

Dangerous Invertebrates

Scorpions

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



Spiders

Although there are several spider species found in the region that are capable of inflicting a painful bite, including some very large and physically imposing tarantulas, none are known to be life-threatening.



Insects

Adults (moths) and larvae (caterpillar) of most of these species have venomous/urticating hairs and/or whose larva (caterpillar) has venomous spines. Some caterpillars are very hairy (such as puss moths and flannel moths) and almost unrecognizable as caterpillars, with long silky hairs completely covering the shorter venomous spines. Others bear prominent clumps of still, venomous spines on an otherwise

smooth body. Contact with these caterpillars can be very painful. Some are brightly colored.

Paederus are small (usually 4 to 7 millimeters), slender rove beetles that do not look like typical beetles and have very short wing covers that expose most of their flexible abdomens. When crushed, their body fluid contains an agent that will blister skin on contact. The lesions take about a week to heal and the area remains painful for several weeks. The substance is extremely irritating if it gets into 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 centimeters long) secrete a very noxious fluid that can cause severe blistering upon contact; some can squirt this fluid at least 2 feet.



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

Comments:

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.

Monkshood

Other names:

Wolfsbane, Aconite, Bikh, Badger's bane.

Mechanisms of toxicity:

Toxic (entire plant) by ingestion or through the skin by absorption. Aconite is a medicinal made from the dried root containing "an extremely toxic" alkaloid

known as aconitine (a steroid alkaloid); may also have quinoline alkaloids. Root has been mistaken as horseradish. Can cause instantaneous death in high doses. Fatal cardiac dysrhythmias have occurred after ingestion of one teaspoonful of dried root. Skin absorption has resulted in paresthesias of the lips followed by cardiac toxicity. Ingestion is followed almost immediately by oropharyngeal pain and burning. Can cause dermatitis, but this is not the main concern. Extracts have been used in arrow poison.

Comments:

Genus includes 100 northern temperate species; presumably all contain alkaloids. Monkshood is a northern European species; a perennial herb, 2 to 6 feet in height, with thick, black, tuberous rootstock; bears blue flowers. Found in fields, woods, and roadsides and cultivated in gardens. Seed pods with numerous tiny seeds. Bikh is found in northern India. Badger's bane is an herb with tuberous roots known in subtropical and temperate areas of China, where it is used as a medicinal despite its toxicity.



Cohosh/Baneberry

Other names:

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

Mechanisms of toxicity:

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

Comments:

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



Tung Nut

Other name:

Tung oil tree, candlenut, varnish tree, lumbang nut, banucalad.

Mechanisms of toxicity:

Contains a milky latex with a toxalbumin and a saponin. The brown drupe has a seed containing a phytotoxin and an irritant ester (a saponin that causes dermatitis). Several episodes are on record of tung oil



mistakenly used as cooking oil resulting in vomiting and diarrhea in those ingesting food cooked with it. The oil will cause severe contact dermatitis with a sac or cyst and large blisters; blindness has resulted from exposure of the eyes to the oil.

Comments:

A tree widely cultivated for commercial use (oil used as a wood preservative).

Mexican Poppy

Other names:

Prickly pear, Argemoney.

Mechanisms of toxicity:

The entire plant contains alkaloids - sanguinarine, bergerine, protopine, and various isoquinolone and dihydrosanguinarine alkaloids (can be transmitted through milk). Has caused “epidemic dropsy” (vomiting, diarrhea, glaucoma, abdominal swelling) in India through the seeds contaminating home-grown grains. Prickles cause skin irritation.



Comments:

Found in arid areas.

Trumpet Creeper

Mechanisms of toxicity:

Causes contact (allergic type) and irritant dermatitis.

Comments:

Woody climbing vine with fluted pink and orange flowers.



Lily of the Valley

Mechanisms of toxicity:

Contains more than 20 cardiac glycosides (e.g. convallatoxin). Potential to be quickly fatal. Has caused death; children are attracted to its pretty flowers and bright berries; poisons have occurred from drinking water from a vase in which flowers were placed. Has been mistaken for wild garlic and made into soup. Used as an arrow poison in Africa.



Comments:

Dried roots made into many medicinals, especially in Russia.

Shanshi

Mechanisms of toxicity:

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



Comments:

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

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, roadsides, margins, sandy soils, and fields.



Spurge Laurel

Other names:

February daphne, merezon, mezereon.

Mechanisms of toxicity:

Bark, leaves, and fruit contain toxic agents called diterpene alcohols and coumarin glycosides. Has a yellow dye (umbelliferone), mallic acid, oil wax, gum, and mezerein resin. Entire plant is toxic. Resin is



acid; has been used in the past as pepper substitute, with fatal consequences. Vesicular dermatitis when skin contact is made (extract used by beggars to induce skin lesions to arouse pity).

Comments:

A very dangerous ornamental. A folk remedy for many symptoms (“dropsy,” “neuralgia,” snakebite, etc.).

Croton

Other names:

Ciega-vista, purging croton.

Mechanisms of toxicity:

Long-lasting inflammation of the skin results from contact with the toxic resin. The laxative and purgative properties of the toxins (croton oil, a



“phorbol,” in leaves, stems, and seeds) causes severe inflammation of the mucous membrane of the stomach and intestines, even death; 20 drops are potentially lethal (the oil applied externally will blister the skin). Many members covered with hundreds of sticky hairs that cling to the skin if contacted. Contact with the eyes can be very serious.

Comments:

Croton is a woolly-haired annual herb, or evergreen bush, or small tree with smooth ash-colored bark, yellow-green leaves, small flowers, fruit, and a three-seeded capsule. Ciega-vista is a 3-foot high bush found in the underbrush of arid areas. Small light green flowers, leaves, and stems are covered with nearly-white hairs.

Foxglove

Other names:

Fairy bells, lady's thimbles, lion's mouth, digitalis.

Mechanisms of toxicity:

Entire plant contains irritant saponins and numerous digitalis glycosides.

Comments:

A tall-growing evergreen with hairy leaves and trumpet-shaped flowers. Sucking the base of the flowers for the sweet taste or drinking water from vase in which they were placed has caused many poisonings. Fatalities have also occurred from mistaking the plant for other herbs.



Jimsonweed

Other names:

Thorn-apple, stinkweed, Devil's trumpet.

Mechanisms of toxicity:

The entire plant is toxic because of tropane alkaloids. Fragrance from the flowers may cause respiratory irritation, and the sap can cause contact dermatitis. People have been poisoned through consumption of crushed seeds ac-



cidentally included in flour; also through attempting to experience the hallucinogenic “high.” Can kill. In particular, jimsonweed has a quickly fatal potential.

Comments:

Originally called Jamestown weed after the mass poisoning of soldiers who were sent to quell “Bacon’s Rebellion” in 1666, and who ate the seeds during a severe food shortage. Jimsonweed is often confused with Angel’s Trumpet.

Mole Plant

Other names:

Caper spurge, Mexican fire plant, milkweed, red spurge, poison spurge, mala mujer, cypress spurge, cat’s milk, wart-wort, sun spurge, candela-bra 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 skin inflammation by direct contact. In some cases rain water dripping from the plant will contain enough toxic principle to produce skin inflammation and keratoconjunctivitis; can blind. Some contain urticating hairs (skin contact breaks off ends and toxic chemicals are injected). The caper spurge has killed those who mistook the fruit for capers. The Mexican fire plant was known for having medicinal properties in the first century and has killed children. Red spurge causes skin inflammation. The pencil cactus has an abundant, white, acrid sap extremely irritating to the skin; has

caused temporary blindness when accidentally splashed in the eyes, and has killed as a result of severe gastroenteritis after ingestion.

Comments:

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

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).

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.

Cow Parsnip**Other names:**

Wild rhubarb, Giant hogweed, Hogweed.

Mechanisms of toxicity:

Many species within this genus contain furocoumarins; roots and rind have phototoxic sap resulting in acute bullous dermatitis a few hours to 2 days after contact if then ex-



posed to the sun, followed by pigmentation (may take months to years to disappear).

May Apple

Other name:

American mandrake

Mechanisms of toxicity:

A dangerous plant used in many folk-remedies. The podophyllin resin is in all parts; the rootstock, leaves, and unripe fruit contain the toxin podophylloresin (purgative), the glycoside podophyllotoxin (a lignan), and the antimetabolic peltatin. All parts are poisonous except the ripe fruit, which is edible. Ingestion results in vomiting and severe diarrhea; fatalities have resulted from repeated ingestion or topical application of an extract of the rootstock. Was used by Native Americans for suicide.



Comments:

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

Poison Ivy

Other Names:

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

Mechanisms of toxicity:

All contain allergenic nonvolatile oils known as



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

Comments:

All species are deciduous, and the leaves turn red before being shed. Poison ivy is a climbing or trailing vine with trifoliate, alternate leaves smooth above and hairy beneath. Poison oak is never a climbing shrub, alternately three-leafed, smooth above and hairy beneath. Found in disturbed areas and along trails in North America and is a common source of skin inflammation. Poison sumac is a shrub or small tree with 7 to 13 alternate leaflets, and is found in swampy areas of North America. Very few cases of skin inflammation are caused by this species because it inhabits isolated areas and few people are exposed to it. Japanese lacquer tree is a large shrub or tree native to India, and cultivated in China and Japan for varnish production. The lacquer is allergenic. It also bears nuts, from which black ink is made, and which is used to mark laundry in India and Malaysia. Can cause skin inflammation. Some individuals suffer intense, debilitating reactions from contact with the sensitizing chemicals.

Castor Oil Plant

Other Name:

Castorbean

Mechanisms of toxicity:

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



allergenic activity have resulted in serious poisoning. Factors making this a high-risk plant threat are its attractive nuts with a hazelnut-like taste; the highly toxic ricin 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 dating as far back as 4000 B.C. Cultivated worldwide for 6,000 years for producing castor oil.

Popcorn Tree

Other names:

Chinese tallow tree;
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.

English Yew

Other names:

Ground hemlock, American yew, Japanese yew.

Mechanisms of toxicity:

Taxine A and B, classed as steroid alkaloids, are present in all plant parts except the aril. A single chewed seed is deadly. An hour after ingestion, nausea, dizziness, and abdominal pain begin. This is followed by



reddening of the lips, dilatation of the pupils, shallow breathing, tachycardia, and coma. Then the pulse slows, blood pressure drops, and death occurs through respiratory paralysis. No proven treatment exists. Emptying the stomach hours after ingestion may be helpful as leaves may not pass through the GI tract expeditiously. Various clinical measures (circulatory stimulants, artificial respiration, cardiac pacemaker) have not prevented death in suicide cases.

Comments:

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

Stinging Nettle**Other names:**

Roman nettle, Roman nettle, dog or small nettle.

Mechanisms of toxicity:

Brushing against the plant shears off a protective cap from specialized siliceous stinging hairs, allowing



skin puncture. After puncture, an irritant liquid is released that can contain several pro-inflammatory mediators including alkaloids, histamine, acetylcholine, and 5 hydroxytryptamine. These substances cause the immediate reaction after a nettle sting. The term “urticaria,” describing the characteristic skin eruption, is derived from the genus name. Thought to be a defense against browsing animals; usually does not involve a hypersensitivity reaction. Stinging can persist at the site for more than 12 hours after clinical features of urticaria have disappeared. This persistence of symptoms is due to secondary release of inflammatory mediators, or persistence of implanted hairs.

Comments:

Genus of 30 species, usually perennial, single-stalked herbs less than 0.3 meter (1 foot) in height, found mainly in northern temperate areas. The tender tips are used as a leafy vegetable in some locales; simmering in water renders the stingers ineffective.

APPENDIX J:

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

