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ARMED FORCES MEDICAL INTELLIGENCE CENTER

HEALTH THREATS AND ASSESSMENTS -- DESERT SHIELD AREA OF OPERATION ~~(C/NF)~~

SEPTEMBER 1990
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Health Threats and Assessments – Desert Shield Area of Operation ~~(C/NF)~~

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PREFACE

(b)(1),1.4 (c)

(U) Each classified paragraph, caption, and title in this report has been properly marked; those unmarked are unclassified.

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KEY JUDGMENTS

Health Threats and Assessments — Desert Shield Area of Operation (C/NF)

(U) The Arabian Peninsula is among the hottest regions in the world. Average summertime highs (April through October) can exceed 110°F, with temperatures of 140°F not uncommon. Even acclimatized personnel will experience difficulty performing sustained combat operations under these conditions. Commanders and medical planners should be prepared to implement countermeasures to preclude large numbers of heat related injuries.

(U) Water supplies are tenuous throughout the Arabian Peninsula. Water is obtained from wells, and increasingly, from the sea. Saudi Arabia and other Persian Gulf countries have an established desalination capability. Destruction or sabotage of desalination plants is a vulnerability. Exodus of the largely expatriate work force operating these plants is of grave concern.

(U) Cultural and religious sensitivities of Islamic patients and host nation health care providers may pose initial obstacles to effective management of casualties and patient care. Measures to educate US health care personnel to Islamic customs and culture should be implemented immediately.

(U) The overall threat of infectious diseases in southern Iraq, eastern Saudi Arabia, and the Gulf States is low and can be further reduced through preventive measures. The most immediate threats to force readiness are acute diarrheal diseases and acute respiratory diseases.

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PERFORMANCE DEGRADATION BECAUSE OF CLIMATIC FACTORS (U)

(U) The Arabian Peninsula is among the hottest regions in the world. Average summertime highs (April-October) can exceed 110°F, with temperatures of 140° not uncommon. Even acclimatized personnel will experience difficulty performing sustained combat operations under these conditions. Commanders and medical planners should be prepared to implement countermeasures to preclude large numbers of heat related injuries.

(U) Heat injuries are likely to occur at the onset of combat operations, and can be expected to increase dramatically if operations are conducted in a chemical or biological warfare environment.

(U) Summertime coastal humidity, which approaches 90 to 100 percent, will significantly increase the potential for heat stress injuries.

(U) Sand and dust storms are worse during the summer months. Sand and dust can obscure vision without actual injury; irritate skin and sensitive membranes of the eyes, nose, throat; and aggravate sinus and asthmatic conditions.

(U) Combined factors of high heat, fatigue, and mental stress may contribute to an elevated level of operator/equipment accidents if safety awareness countermeasures are not implemented and sustained.

(U) Degradation of medical materiel (equipment and pharmaceuticals) may be accelerated by climatic variations of hot-dry and warm-wet. Equipment failure, because of drying and cracking of rubber components, excessive dust, and overheating of electrical circuits and biological growths is likely to occur. Pharmaceuticals may experience a shortened shelf-life and product degradation may occur because of lack of available and appropriate storage facilities.

VENOMOUS ANIMAL TIIREATS (U)

(U) The venomous animal hazard is limited in comparison with environmental and disease threats; however, personal contact definitely is a threat to consider. For example, the poisonous scorpions, *Leiurus quinquestriatus* and *Androctonus crassicauda*, common to this area, have caused their share of casualties, including fatalities during the Iran/Iraq War. Antivenins for these two scorpions are available through the Institut d'Etat de Serum et Vaccins Razi, PO Box 656, Tehran, Iran, and the Lister Institute of Preventive Medicine, Elstree, Herts WD63AX, England.

(U) On the other hand, poisonous sea snakes in the Persian Gulf are small and nonaggressive (except possibly during their mating season), posing little threat to combat forces.

(U) The following snakes may pose a threat to personnel:

Persian Horned Viper	*Pseudocerastes persicus*
Puff Adder	*Bitis arietans*
Carpet Viper or the Saw Scaled Viper	*Echis carinatus*
Saw Scaled Viper (different genus)	*Echis coloratus*
Levantine Viper	*Vipera lebetina*
Palestine Viper	*Vipera Palestinae*
Beaked Sea Snake	*Enhydrina schistosa*
Annulated Sea Snake	*Hydrophis cyanocinctus*

(U) Regional antivenin sources include the King Fahd (SANG) Hospital in Riyadh and the Institut d'Etat de Serum et Vaccins Razi, PO Box 656, Tehran, Iran. A snakebite expert in the region is Larry Curtis, an American expatriate, who is the director of the Zoologic Gardens in Riyadh.

(b)(1),1.4 (c)

(U) ***Water supplies*** — Water supplies are tenuous throughout the Arabian peninsula. There are no perennial streams. Water is obtained from wells and, increasingly, the sea. Saudi Arabia and other countries in the region have an established desalination capability.

(U) Surface water sources essentially are nonexistent during summer. Surface water is seasonally available in limited quantities during the rainy months (October to December). Fresh surface water is sea-

sonally available throughout most of northern Oman and along the Arabian Sea littoral. In northern Saudi Arabia, seasonal fresh water can be found adjacent to King Khalid Military City, following wadi Al Batin, in a band extending from approximately 27°N 45°E northeast to the Kuwait/Neutral Zone border. Water in this area is available in very small quantities. All surface water should be considered grossly contaminated.

(U) In Saudi Arabia, ground water is found in deep wells, between 500 to 1,000 feet. The aquifers are nonrenewable and are quickly being depleted. As the rainy season in Saudi Arabia progresses, water can be drawn from shallow wells; however, because this water is brackish and very high in total dissolved solids, the water must be treated before it can be considered potable. Also, long-term use of this water as coolant water in vehicles is not advised unless it is treated prior to use. In Bahrain, 50 percent of the water supply is ground water drawn from fresh water springs and artesian wells. Wells in Bahrain are increasingly adulterated with salt water as they are drawn down.

(U) The primary source of water in the Arabian Peninsula is the sea. Major desalination plants are listed below.

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(b)(1),1.4 (c)

MEDICAL CUSTOMS AND TABOOS (U)

(U) When using host nation medical facilities, US medical personnel are advised to consider the sensitivities of their medical hosts. The effectiveness of non-Saudi, non-Arabic-speaking health care personnel often is limited by an inadequate understanding of the Saudi environment and culture. Because of cultural and religious upbringing, Arab health care providers and administrators may take offense to the refusal of offered services and differences in diagnostic assessments.

(U) The majority of the population, Sunni Muslim, have no objections to postmortems, surgery, and destroying animal vectors of disease; however, a large segment of the population believes that donating blood adversely affects sexuality, which greatly impedes efforts to collect blood, even if a relative's life depends on it.

(U) Superstitions, such as belief in demons and the "evil eye," still exist throughout the country. Treatment of disease among nomads often follows ancient barbaric practices. For relief of pain, the common practice is to apply heat. Hot irons are used to brand infected areas and hot camel dung is applied. Dental treatment consists of pointed sticks plugged into cavities to relieve toothaches. Individuals with mental diseases are treated with kindness, even though superstition surrounds their presence.

(U) The indigenous view of illness does little to further preventive measures. Disease is precipitated by spiritual causes (God's will, jinns, and the evil eye) or exposure to physical conditions (hot, cold, or fatigue). There is a pronounced fatalistic view among the indigenous—nothing can be done to prevent disease; therefore, "God will keep us safe."

(U) Traditional Arabic medicine is based on the Hippocratic medical theory modified through the centuries by Islam and local magical practices. The essence of the theory is the classification of humans into four basic "characters": the hot and dry (corresponding to fire and summer); the hot and humid (corresponding to air and spring); the cold and humid (corresponding to water and winter); and the cold and dry (corresponding to earth and autumn). Illness in the body may be attributed to an imbalance of two or more of the conditions.

(U) There are a variety of native practitioners, with most specializing in treating forms of mental illness, setting bones, cauterization, and various herbal remedies. Indigenous personnel have worked out a division of labor between Western-trained and local specialists. Some ailments, such as tuberculosis, are considered within the Western-educated physician's purview; others are best left to indigenous practitioners.

(U) ***Supernaturally caused illness.*** Many rural people attribute diseases to the evil eye or the influence of jinn. Minor and short-term disturbances, headache, sleeplessness, anxiety, and a spouse's infidelity, may be attributed to the possession of demons. Ultimately, all illnesses, accidents, and deaths are attributed to the will of Allah.

(U) Separation of males and females is common in medical facilities in Islamic countries. There are separate entrances, waiting rooms, wards, and in some cases, even separate pharmacies. Females must have the permission of a male family member (usually the husband) to seek care at a hospital (women usually are permitted to receive treatment from female practitioners). Female patients should not be attended by male practitioners unless a male family member has granted permission and the male family member is present for treatment. Examinations often are limited to an oral history and possibly palpation and auscultation through the clothing. Visual examinations are not always permitted. In cases where the female patient permits (or is permitted by a male family member) to disrobe for a male physician, she may be more self-conscious (modest) about removing her veil than her clothing. It is important, therefore, that female patients be allowed to keep their faces covered whenever in the presence of male medical personnel. The following advice is offered for US medical personnel treating the local population or for those working with indigenous health care personnel:

- Do not touch female patients (any age) without the permission of a family member.
- Do not uncover the face of a female patient.
- Do not remove clothing if at all possible (males or females).

- Avoid making eye contact with or touching Moslem females.
- Do not turn out the lights to perform medical procedures such as ophthalmic examinations without first obtaining the patient's full understanding and cooperation.
- Do not admire children ("What beautiful eyes!") as this may be perceived as a potential for transmission of evil.
- Do not make general inquiries of a Moslem male regarding his wife or female children.
- Do not extend the hand "palm up" to beckon a patient to follow or to help someone; always extend the hand "palm down."
- Do not place your arm around a patient to comfort or console them.
- Do not remove amulets (shaped like an eye or a hand or sometimes attached to a string around the waist) from adults or children.
- Do not leave female patients alone with male health care practitioners.
- Do not touch patients during explanations or as a gesture of reassurance.
- Do not propel or assist male patients physically without asking if they need assistance walking.
- Allow male patients to walk in front of female health care providers.
- Protect health care personnel from being in potentially compromising situations with Arab patients.
- Have female health practitioners treat female patients if possible.

(U) Male Moslems, particularly the more orthodox, are likely to be uncomfortable if put in situations where they are with women they do not know (for example, sharing same sick call facilities as female US military personnel).

(U) Dating is prohibited in Saudi Arabia. Unrelated males and females (not family) caught by the Saudi religious police (the Matawan) are subject to verbal and physical harassment that may culminate in a mandatory sexually transmitted disease work-up (which may include, urethral, cervical, and anal swabs).

(U) There has been one incident in Saudi Arabia where an American female flight line worker scandalized Saudi military personnel by removing her uniform shirt and working in her tee-shirt. Saudi women are never seen in public with their arms, legs, face, or hair uncovered, and female members of the US Embassy frequently wear a loose fitting gown called an "abaya" when they go out in public.

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(U) The overall threat of infectious diseases in southern Iraq, eastern Saudi Arabia, and the Gulf States is low and can be further reduced through preventive measures.

Diseases of Operational Importance (U)

(U) Diseases are prioritized in descending order of expected impact on military operations if no preventive measures are taken.

Diseases with Short Incubation Periods (usually less than 15 days)

(U) ***Acute Diarrheal Diseases*** (6 hours to 10 days)
Risk period/distribution: Occur year-round, with an overall increased incidence from July to September. Viral cases increase from December to March, while bacterial cases increase from June to October. Occur regionwide, although more common in rural areas.
Remarks: Frequently occurring pathogens include enterotoxigenic *Escherichia coli*, rotaviruses (most common in children), *Shigella* spp., *Salmonella* spp., and *Campylobacter* spp. Acute diarrheal disease is the most common infectious disease problem for nonindigenous personnel. Shigellosis, usually caused by *Shigella sonnei*, is common. Salmonellosis increasingly is being reported. Multiple drug

resistance is common among *Salmonella* and *Shigella* isolates.

(U) ***Acute Respiratory Diseases*** (1-10 days)
Risk period/distribution: Occur year-round, with increased incidence in July and August due to the dusty environment and in December to February due to influenza activity. Occur regionwide.
Remarks: Acute respiratory diseases are the most common reason for seeking medical attention among the local population. Acute respiratory diseases may be a major source of morbidity among nonindigenous personnel.

(U) ***Enteric Protozoal Diseases*** (1 week to several months)
Risk period/distribution: Year-round, with increased incidence in August and September. Occur regionwide.
Remarks: Usually associated with more chronic infections, some protozoans such as *Entamoeba histolytica* and *Giardia lamblia* can cause acute diarrhea. Clinical cases of giardiasis and amebiasis are common, although underreported. Fecal samples of apparently healthy adults have indicated high carrier rates, especially among the nonindigenous workers, for giardiasis and amebiasis. Clinical cases of giardiasis usually are seen in children; amebiasis usually is seen in adults. Cryptosporidiosis has been found in 10 percent of stool samples from apparently healthy children, but the clinical significance is unknown.

(U) ***Typhoid and Paratyphoid Fevers*** (1-3 weeks)
Risk period/distribution: Occur year-round, with increased incidence from April to June. Occur regionwide.
Remarks: Endemic, although incidence is low. The majority of cases are due to *Salmonella typhi*. A high carrier rate among the imported work force has been reported. A low level of multiple drug resistance is reported. May be a significant source of morbidity among non-indigenous personnel.

(U) ***Meningococcal Meningitis*** (2-10 days, usually 3 to 4 days)
Risk period/distribution: Cases occur year-round, with a peak incidence between November and February. Occurs regionwide, with increased risk among lower socioeconomic groups.
Remarks: Endemic, causing sporadic cases with cyclic epidemics every 8 to 12 years. Group A is the predominant serotype. An epidemic occurred after the Hajj (pilgrimage to Mecca) in August 1987. Most clinical cases occur in children or young adults. The overall case fatality rate in the Middle East is between 10 and 25 percent.

(U) ***Sexually Transmitted Diseases (STDs)*** (2 days to 3 weeks)
Risk period/distribution: Year-round; regionwide.
Remarks: Endemic, although under-reported. Patterns of STD isolates appear similar to Western Europe, with nonspecific urethritis and gonorrhea commonly reported and rare reports of tropical STDs (chancroid, lymphogranuloma venereum, and granuloma inguinale). Syphilis is uncommon. Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) is reported at low levels.

(U) ***Malaria*** (12 to 14 days)
Risk period/distribution: Malaria poses little or no risk in the Middle East and eastern Mediterranean area except in discrete foci (see map). Malaria transmission has been interrupted in several areas, including eastern Saudi Arabia, through active vector (*Anopheles* mosquitoes) control programs. Disruption of these vector control programs could lead to re-introduction of active transmission. Deployed units should institute active vector surveillance and control measures at bivouac sites, especially in rural areas near oases.
Remarks: Malaria transmission does not occur in Bahrain, Cyprus, Diego Garcia, Jordan, Kuwait, Qatar, or the United Arab Emirates. Transmission is limited in Egypt, Iraq, Oman, and Saudi Arabia, but is widespread in Yemen. Malaria is almost exclusively vivax in Iraq and Turkey, while in Oman, Saudi Arabia, and Yemen it is falciparum. Both types occur in Egypt, with vivax predominating. Recent invalidated and unconfirmed reports indicated that chloroquine-resistant strains could occur in the southwestern Arabian peninsula (including Yemen) and Oman. However, drug-resistant falciparum malaria has not been confirmed in this region, and chloroquine is the recommended prophylaxis for travelers in malaria endemic areas. A description of endemic areas follows:

Egypt - overall low endemicity. Risk period primarily from June to October. Occurs in rural areas of the Nile delta, El Faiyum area, the oases, and part of

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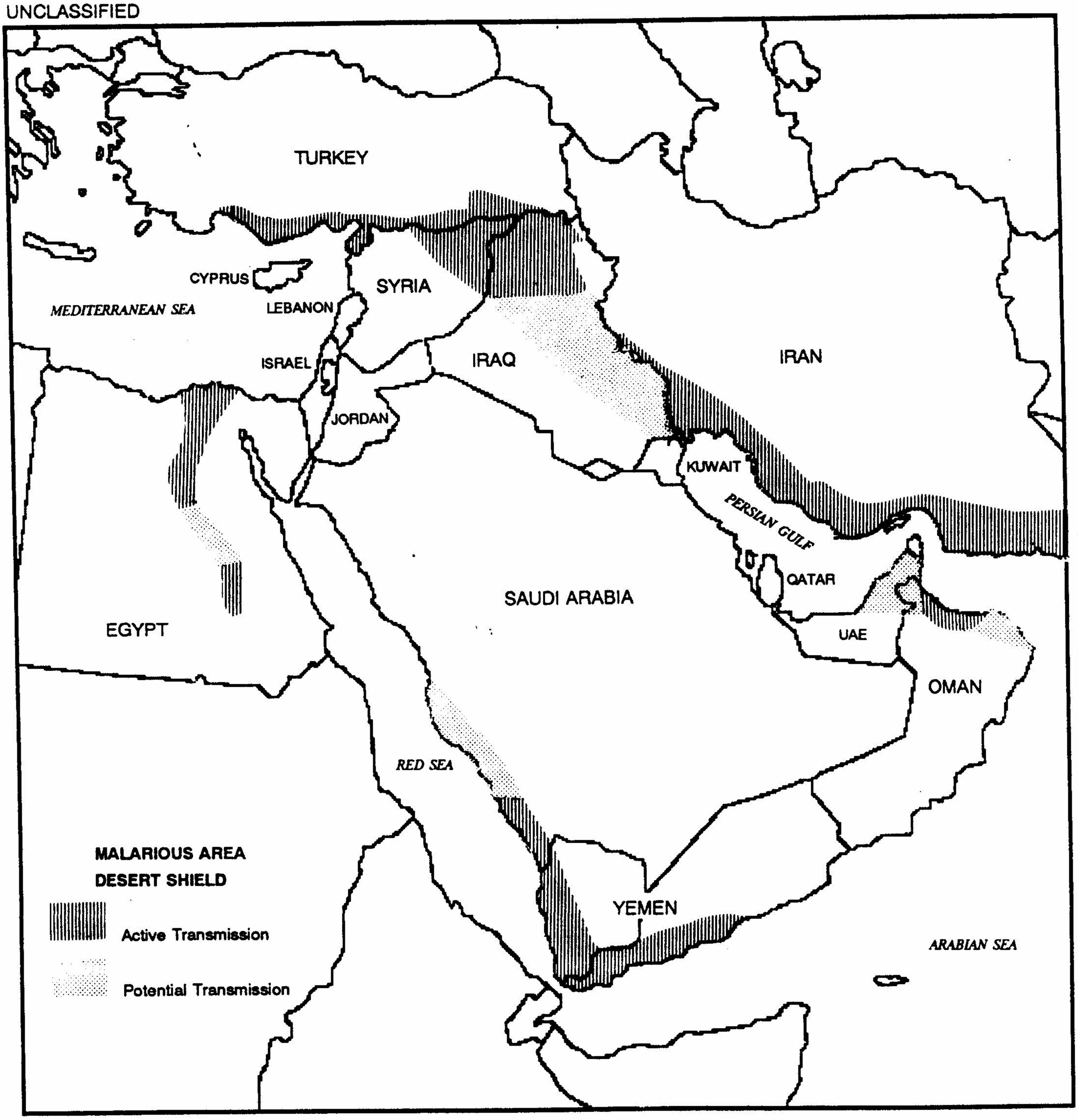


southern Egypt (presumably in rural areas outside of Aswan). Cases previously have been reported along the Suez Canal and the northern Red Sea coast. Alexandria, Cairo, and other urban areas are risk-free (vivax and falciparum).

Iraq - overall low endemicity. Risk period primarily from May to November, with a peak in July and August. Occurs below 1,500 meters elevation in rural and urban areas in the northern provinces of Dahuk, Ninawa, Irbil, and As Sulaymaniyah. Baghdad and southern Iraq are risk-free (vivax only).

Oman - overall low endemicity. Year-round transmission, peaking November to April. Occurs below 2,000 meters elevation in the inland mountainous village areas of north-central Oman, especially around Nazwa, and along the Batinah coastal plain north of the Seeb International Airport to the northern border. The capital area around Muscat and the southern Dhofar region (including Thamrat) are risk-free (falciparum predominates).

Saudi Arabia - overall low endemicity. Year-round transmission, peaking October to April. Transmission only occurs south of 18 degrees north latitude (south of the towns of Abha and Khamis Mushayt), which are located about 500 kilometers south of Jeddah. Occurs below 2,000 meters elevation in areas in the western provinces; all other parts of the country (including Jeddah, Riyadh and Dhahran) are risk-free (falciparum predominates).

Turkey - overall low endemicity. Transmission occurs from February and November, peaking in June and July. Occurs below 1,700 meters elevation in rural areas in the southeast (Tigris-Euphrates Basin) and along the Mediterranean coast, east of Antalya. Urban areas are risk-free (vivax only).

Yemen (North and South) - overall high endemicity. Year-round transmission, peaking November to March. Occurs below 1,500 meters elevation throughout Yemen and on the island of Socotra (urban and rural areas). Aden and Sanaa are risk-free (falciparum predominates).

Vector ecology: the primary mosquito vectors in Iraq are *Anopheles sacharovi, An. superpictus*, and *An. stephensi*, and in Saudi Arabia, *An. arabiensis* (in the Tihama/coastal area of the southwestern provinces) and *An. sergenti* (in scattered foci in western and the higher elevations of the southwestern provinces).

(U) ***Arboviral Fevers*** (3-12 days)
Crimean-Congo hemorrhagic fever is endemic in discrete foci, with a small number of sporadic clinical cases. First reported in 1979 from Baghdad, Dyala, and Karbala. An unconfirmed source reported over 300 fatalities among Egyptian agricultural workers in 1980 in Iraq. The case fatality rate in confirmed cases is over 50 percent. The virus is transmitted by the *Hyalomma* tick or by exposure to infected humans (or other animals). Transmission occurs during the summer, from June to September. The virus is circulating in rural, agricultural areas, especially in northern Iraq. Many infections apparently are asymptomatic; serological studies indicate exposure rates of up to 30 percent among persons associated with livestock. **Sandfly fever** may be circulating, although clinical cases are not reported. Serological studies indicate prevalence of 5 percent for the Sicilian and Naples viruses. The potential vector, *Phlebotomus papatasii*, a night-biting sandfly, is present countrywide. The vector is reported between April and November, peaking in population in September. **West Nile fever** cases have not been reported, but the virus may be circulating locally. Although the 15 percent positive serum samples found from 1979 through 1982 included mostly non-indigenous persons, several indigenous positives were suspected. Several potential mosquito (*Culex*) vectors are present. **Sindbis** reportedly has caused viral encephalitis along the coast in the eastern province of Saudi Arabia. However, human cases have not been reported recently, and serological studies indicate the virus may no longer be circulating. Potential mosquito vectors (*Culex* spp.) are present in this area. **Dengue** has been reported historically from the eastern coastal areas, but is believed not to be circulating at present. The mosquito vector, *Aedes aegypti*, may be present.

(U) ***Cholera*** (usually 2-3 days, range of 6 hours to 5 days)
Transmission: Ingestion of causative agent, primarily in water contaminated with feces or vomitus of infective humans.

Risk period/distribution: Currently not endemic.
Remarks: Occasional imported cases (and outbreaks) occur, usually during the summer. The last outbreak (due to biotype el Tor, serotype Ogawa) occurred in 1978 and 1979, with 946 officially reported cases, mostly in children. Nonindigenous personnel are at a low risk of infection.

Diseases with Long Incubation Periods (usually more than 15 days) (U)

(U) ***Viral Hepatitis*** (15-180 days)
(Includes hepatitis A (HAV), hepatitis B (HBV), and non-A non-B hepatitis (NANB))
Risk period/distribution: Year-round, with increased incidence from October to December. Occurs regionwide.
Remarks: Most cases of viral hepatitis are attributed to hepatitis A virus (HAV). Although HAV is circulating widely, it may be at a lower level than previously, as a result of sanitation improvements in Kuwait and Bahrain. Antibodies occur in an estimated 75 percent of children by age 10 and in almost 100 percent of adults. The annual incidence of acute hepatitis A cases is increasing, in part because of a slightly larger nonimmune child population and the continued circulation of the virus. Antibodies to hepatitis B virus (HBV) occur in 20 to 40 percent of the population. The HBV carrier rate is estimated at 2 percent. The delta agent (HDV) has been found in approximately 5 percent of HBV carriers. Parenterally transmitted NANB hepatitis (hepatitis C or HCV) is reported sporadically. Enterically transmitted NANB hepatitis is not reported. HAV, HBV, and HCV pose major health hazards to non-indigenous personnel.

(U) ***Leishmaniasis*** (1 week to many months)
Risk period/distribution: Transmission of cutaneous leishmaniasis (CL) may occur year-round but peaks from July through September. *Leishmania major* (the wet/rural form) is the most common form in Kuwait, Bahrain, and eastern Saudi Arabia, where it occurs in semi-rural areas, at the outskirts of urban areas, or in oases. *L. tropica* (the dry/urban form) occurs mostly in western Saudi Arabia and central Iraq (sporadically in the north and rarely in the south). Transmission of visceral leishmaniasis (VL) occurs year-round in focal areas of the central region of Iraq and in the southwestern provinces of Saudi Arabia.
Remarks: CL caused by *L. major*, also called zoonotic CL, has a focal distribution based on its reservoir, the fat-tailed sand rat (*Psammomys obesus*). The annual number of CL cases is very low and is decreasing, because of the reduction of reservoir habitats. Clinical cases usually are reported from September to March, peaking in February. Most cases occur in nonimmune individuals, either children or nonindigenous adults, including many Westerners (among whom, without precautions, an annual attack rate as high as 50 percent is reported). *L. tropica*, also called the dry form, usually occurs in urban areas. Some southwestern areas of Saudi Arabia have a high prevalence (Jizan - 80 percent). *L. tropica* occurs in all age groups and can cause multiple cases in a single individual. Although *L. tropica* is thought to be zoonotic and has been isolated from several dogs, an animal reservoir has not been definitively established. The annual incidence of VL has been increasing in Iraq and Saudi Arabia (855 and 305 cases respectively in 1988). Cases occur among children and young adults between December and March. In Iraq, VL is caused by *L. donovani* and occurs in focal lowland areas with alluvial soil in the central region. In Saudi Arabia, VL is caused by *L. donovani sensu lata* and occurs in the southwestern highlands (at elevations up to 2,000 meters). Dogs and jackals are the reservoir in Iraq, but no reservoir has been reported in Saudi Arabia.
Vector ecology: Most sand flies are active from sunset to dawn, and have very limited flight ranges. The primary vectors for CL are *Phlebotomus papatasii* for *L. major* and *P. sergenti* for *L. tropica*. The primary vector for VL is *P. alexandri* in Iraq, but has not been identified in Saudi Arabia.

(U) ***Schistosomiasis*** (2 to 6 weeks)
Risk period/distribution: Transmission occurs year-round, with an increase between June and September. Distribution is focal in areas of the Tigris and Euphrates Rivers in Iraq and in the western (in wadis and cisterns) and central (in oases) provinces of Saudi Arabia. No transmission occurs south of Basrah (due to the salinity of the delta waters) or in Bahrain, Kuwait, or eastern Saudi Arabia.
Remarks: Although still present in Saudi Arabia (prevalence is estimated at 2 percent or 20,000 cases) in the 12 identified foci, the annual reported incidence (less than 1,000 clinical cases) is decreasing

as a result of control programs. Intestinal schistosomiasis foci occur in the central (Hail, Riyadh), northern (Al Jawf), northwestern (Tabuk, Medina), and midwestern (Makkah, Al Bahah) provinces, and the highlands of the southwestern provinces (Asir, Najran). Urinary schistosomiasis foci occur in the lowlands of the southwestern (Jizan) and midwestern (Makkah) provinces. In Iraq, urinary schistosomiasis occurs throughout the Tigris and Euphrates River basin, especially in the central regions. Although still prevalent (prevalence is estimated at 5 percent in focal areas), the annual reported incidence is decreasing as a result of control programs.

Ecology: *Bulimus truncatus* is the primary intermediate host for *Schistosoma haematobium* (urinary form), and *Bulimus beccarii* is the primary intermediate host for *Schistosoma mansoni* (intestinal form).

Other Diseases Endemic in the Indigenous Population (U)

(U) ***Zoonotic diseases*** — **Brucellosis** (caused by *B. melitensis*; enzootic in livestock, especially goats and sheep, and a common cause of fever in humans in both rural and urban areas, usually as a result of consumption of raw dairy products); **rabies** (enzootic in foxes in Iraq and Saudi Arabia; Bahrain and Kuwait are rabies free); **echinococcosis** (common, especially in southern Iraq, where it is a frequent cause of surgery; the tapeworm is carried by an estimated 15 percent of stray dogs, especially in agricultural areas); **anthrax** (occurs very sporadically in rural areas during summer months; related to exposure to livestock, usually sheep); **Q fever** (rarely reported in humans, but enzootic in livestock; human serology in rural areas indicates exposure); **glanders** (sporadic cases have been reported in horses, with occasional human exposure, despite an effort to eradicate the disease); **sylvatic plague** (last reported near the Saudi Arabia-Yemen border in 1969, but presently is not thought to be endemic; in Iraq, the highlands near the border with Syria historically have been an enzootic focus).

(U) ***Sexually Transmitted Diseases*** — Through the end of 1989, few cases of AIDS or HIV infections have been officially reported; additional cases are believed to have occurred. In-country testing for HIV infection is performed.

(U) ***Other Infectious Diseases*** — **Tuberculosis** (endemic, although the annual incidence, 100 cases in 1988, has been declining, and the prevalence is estimated to be only 0.1 to 0.2 percent); **trachoma** (common, and the most frequent cause of blindness, although the incidence has been declining as a result of control measures); **nonveneral endemic syphilis** (common in rural areas in Saudi Arabia, especially among nomadic tribesmen, where the prevalence is as high as 20 percent); **soil transmitted helminthic infections** (roundworms and whipworms are present, but the incidence is less than 5 percent; hookworms are uncommon).

(b)(1),1.4 (c)

(b)(1),1.4 (c)

CHEMICAL WARFARE (U)

(U) The following articles on chemical warfare are solely intended to describe the foreign threat and the environment in which DESERT SHIELD operations are conducted. These articles must not be used by operational medical personnel as the basis for medical preventive or treatment measures. For correct information on prevention and treatment, refer to approved US military medical doctrine.

(b)(1),1.4 (c)

Note: Crossed out sections are 1.4(c,h)

(b)(1),1.4 (c)

(U) CX produces immediate symptomatology, while sulfur mustard has a latent period of 15 minutes to several hours depending on dispersal method, environmental conditions, and exposure dose. An exposure to CX liquid or vapor that produces pain will also produce skin necrosis at the site of contact. CX reacts rapidly with tissue (within seconds), but immediate decontamination can reduce the extent of the injury by decreasing agent tissue concentration. Thorough decontamination will also prevent contamination of health care personnel. The exposed skin ultimately ulcerates. Immediately, it blanches with a surrounding erythematous ring within 30 seconds. The swelling or wheal appears within 30 minutes and develops a brown pigmentation within 24 hours. The eschar (scab) forms within a week, and

OK (U)

(b)(1),1.4 (c)

dilated pupils and photophobia, bloodshot eyes, chronic cough, bronchitis, and slight rhinorrhea ("the sniffles"). In addition to these symptoms, regular heavy smoking of hashish has been linked with the "amotivational syndrome," characterized by loss of energy, loss of desire to work, and loss of productivity. Persons with this syndrome lack concern for work performance and are unable to handle frustration.

(U) Crude opium is the brown or black tar-like gum of the poppy plant (*Papaver somniferum*). Morphine is the chief active constituent of opium, while heroin is a more potent semi-synthetic analog with more profound effects on the human brain. Opiates are depressant drugs. A person intoxicated with opiates shows lethargy, drowsiness, analgesia, changes in mood, mental clouding, and pinpoint pupils. The degree of intoxication depends upon the dose and route of administration (injection, oral, or smoking). Severe intoxication can result in loss of consciousness, coma, depression of respiration, and death. Opiates cause dilation of blood vessels in the skin. In a desert environment, this effect will lead to increased sweating, more rapid loss of electrolytes, and dehydration.

(U) Hashish is the most commonly abused drug in the Middle East. The resin from the flowering tops of the marijuana (cannabis) plant yields hashish, which also is available as hash oil. This drug produces a euphoric state that varies with the level of intoxication (blood level concentration). Mild intoxication may produce sleepiness, heightened sensory awareness, a general relaxed feeling of well-being, and altered time sense. Moderate intoxication may produce a short-term memory loss, lapses of attention, decreased social inhibition, and mood alterations, including depression or giddiness manifested by laughing episodes. Severe intoxication may decrease coordination, muscle strength, hand steadiness, concentration, and reactions. Other effects are sleepiness, slurred speech, and unsteadiness. Nervous patients may experience panic reactions. Blood levels of the drug and degree of intoxication do not always match. Large doses also may produce muscle jerking. Persons observing an individual intoxicated with hashish may witness euphoria, relaxed inhibitions, increased appetite, impaired physical coordination, loss of motivation, increased heart rate,

(U) Cocaine and amphetamine ("uppers") are both central nervous system stimulants. Cocaine is the active constituent of the South American coca shrub. Amphetamines are synthetic drugs chemically related to stimulants that occur naturally in the human body. Abusers of stimulants are likely to be seen in either a state of acute excitation or a depressed, "crash" phase. The high is easily recognizable by the user's increased alertness, talkativeness, euphoria, excitation, and overall heightened responses. The amphetamine crash is prolonged and deep as compared to cocaine. In polydrug users, consumption of barbiturates ("downers") allows the stimulant abuser to sleep through the "crash." Sleeping through the crash is more common with amphetamines than with cocaine. Amphetamines can cause a marked rise in body temperature, heart rate, and blood pressure, physiological responses that can be fatal in hot desert conditions.

(U) Khat, which consists of the leaves of the catha edulis plant, is chewed for its stimulant effect. The psychological, behavioral, cardiovascular, and toxic effects of khat are similar to those of amphetamines.

Khat is grown and used by tribes in Yemen. Since only the fresh leaves retain drug activity, the distribution of khat is limited by the ability to keep the leaves fresh during transport. Thus, in Saudi Arabia, khat is used mainly in the south, near the border with Yemen.

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(U) The following publications address the medical management of laser eye injuries:

- Emergency War Surgery, 2nd US Revision of the Emergency War Surgery NATO Hand Book, 1988

- Medical Management of Combat Laser Eye Injuries, USAFSAMTR-88-21 October 1988 (available through USAFSAM/RZV, AUTOVON 240-3622).

- Prevention and Medical Management of Laser Injuries, Army FM 8-50 (August 90) to be distributed to field ASAP.

- Navy video tape Laser Bioeffects: The Physiology and Medical Considerations of Eye and Skin Injuries, Number 804172 DN.

(b)(1),1.4 (c)

Wartime Casualty Handling (U)

(b)(1),1.4 (c)

(U) Iraq can be expected to apply its wealth of combat-related medical lessons learned to any future regional conflict.

Key Medical Facilities (U)

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(U) Iraq's primary military medical treatment facility is the Rashid Military Hospital, also located in Baghdad. The Rashid Military Hospital, 700 to 800 beds, was a major treatment facility for Iran/Iraq War casualties. The facility has chemical warfare casualty treatment capabilities, a CT scan, and a blood bank.

(b)(1),1.4 (c)

SAUDI ARABIA

(b)(1),1.4 (c)

(U) Saudi Arabia ranks as one of the best health care providers in the Middle East. The quality of medical care generally is good, but is affected by the lack of continuity of medical staff attributed to a high turnover rate at most Saudi medical facilities. Medical personnel are hired for 1 to 2 year contracts and many do not renew. Private hospitals are less well-manned than government facilities; some are only 27 to 30 percent staffed.

(b)(1),1.4 (c)

(U) The pride of Saudi Arabia's emergency response capability is its flying medical service operated by the Medical Service Division of the Ministry of Defense and Aviation. In addition to a fleet of Augusta Bell and 365N Dauphine II helicopters, the service has a number of C-130 flying hospitals. Additionally, the royal family is believed to have several flying hospitals at their disposal consisting of one DC-8, one 747, and several C-130s.

(b)(1),1.4 (c)

(U) Saudi Arabia's military medical capabilities are extremely limited. The country is certain to rely heavily on allies for medical assistance in the event this crisis escalates into a serious war.

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(U) Emergency ambulance service in Saudi Arabia is the responsibility of the Saudi Red Crescent Society. Emergency evacuation by Red Crescent ambulances is basically a load and go procedure, as very few ambulance drivers and attendants are first aid qualified. Onsite emergency care is described as dismal. The country has begun a program to teach medical skills to ambulance drivers; however, it will be a number of years before that program achieves fruition.

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(b)(1),1.4 (c)

centers in the kingdom. The G-III's most important modification is its large hatch located near the front of the aircraft. This custom-built feature allows easy loading of critically ill patients. An electrical hoist can be used to lift up to 300 pounds on a specially configured stretcher.

(U) The Gates Lear 35-A is configured to carry one litter patient and has respiratory ventilation/suction equipment aboard. It also functions as an airborne runabout service for transporting human organs.

(b)(1),1.4 (c)

(U) The crew includes the pilot, co-pilot, engineer, loadmaster, and medical personnel.

(b)(1),1.4 (c)

(U) The Gulfstream II is used for intercontinental medical flights and may be configured for up to five litters with redundant life support systems. The plane's crew includes a pilot, copilot, navigator, flight attendant, and flight nurse. The G-III can transport as many as 14 patients. It also is equipped with sophisticated communications equipment and is designed to fly nonstop to most important medical

(U) The two older Bell 212 helicopters primarily serve as shuttles, carrying patients between the flying hospital aircraft and the receiving medical facility.

(b)(1),1.4 (c)

(U) ***Health Care Facilities*** — Saudi Arabia has about 24,000 civilian hospital beds and 6,000 military hospital beds. The best hospitals are located in Riyadh, with the King Faisal Medical Center considered the best in the country.

(U) Aside from the King Faisal Medical Center, Saudi military hospitals generally are better than their civilian counterparts, with the Armed Forces MODA and the King Fahd SANG hospitals in Riyadh believed to be the best military hospitals in the country.

(U) The quality of Saudi military medical facilities in the eastern province, however, is generally not as good as those located in Riyadh. Staffing is a greater problem in this region and there are no adequate referral facilities within a reasonable distance.

(U) The following information is provided:

(U) Dhahran
Aramco Hospital (361 beds)
State-of-the-art ER
2 trauma rooms
Blood bank

Historically, this has been one of the better private hospitals in the country. However, the quality of available medical care may be starting to reflect the impact of the declining oil dollar.

(U) King Abdul Aziz Air Base Hospital (200 beds)
CT scan; blood bank; 4 helicopters

May have poor emergency and x-ray capabilities and significant staff shortages.

(U) Damman
Abdoulla Fouad Hospital (300 beds)
Small blood bank (30 units)

Rated the top private hospital in the eastern province.

(U) RiyadhKing Faisal Specialist Hospital
(460 beds)
CT scan, blood bank, burn unit

Reputed to be the best medical facility in the country and is likely to serve as a referral facility for many of the casualties initially treated in the eastern province.

(U) Hafar Al Batin
King Khalid Military Hospital (SANG)
(300 beds)

Successor to older 100-bed facility. Facility is newly opened and is located in the King Khalid Military City southwest of Hafar Al Batin. Although medical equipment is new, much of it may be outdated due to delays in hospital construction (equipment was purchased well in advance of the facility's completion).

(U) Al Jubayl Naval Hospital (146 beds)
Excellent mass casualty capability, CT scan, small burn unit, small blood bank, hyperbaric chamber

Facility has an excellent British staff and may be the best military hospital in the eastern province. Its official name is King Abdul Aziz Naval Hospital (not to be confused with the King Abdul Aziz Air Base Hospital in Dhahran.

(U) More detailed information on the region and on facilities in the Middle East is provided at Appendix A and B respectively.

(U) ***Personnel*** — Saudi Arabia suffers a chronic shortage of indigenous health care workers. Problems are exacerbated by the recruitment of non-Arabic speaking health care workers unfamiliar with local language and customs.

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(b)(1),1.4 (c)

(U) Saudi Arabia has 3 Saudi physicians on active duty in the MODA — 2 are in Dhahran and the other in Riyadh. SANG does not have a medical corps, and all physicians are contracted civilians; however, all corpsmen in the SANG are Saudi nationals.

COUNTRY:	Bahrain
CITY:	Al Manamah
FACILITY:	Al Salmaniyah Medical Center
COORDINATES:	(b)(3):10 USC 424,(b)(6)
ADDRESS:	
TELEPHONE:	
TYPE:	Government
BEDS:	760

EVACUATION CAPABILITY

Distance from airport:	About 7 km from Bahrain International Airport
Airport capacity:	C-141B, C-130, KC-10, C-5 (special instructions required)
Helipad:	Use nearby baseball field
Ambulance:	4 trauma/cardiac ambulances with 1 emergency medical team per shift. Regular ambulance staff is CPR-certified
Ambulance telephone:	999; notification required prior to ambulance being dispatched to airport or pier
Ambulance hours:	24-hours

PERSONNEL

Physician qualifications:	Most are expatriates; surgeons are well-trained, but qualifications of major trauma and internist personnel are weak
Nurse qualifications:	Most are expatriates; many Western-trained but not up to US standards
Auxiliary personnel qualifications:	Most do not perform as well as their US counterparts

ENGLISH-SPEAKING STAFF Yes

MEDICAL SERVICES

Emergency room:	Can handle 160 patients in 3-hour period
Operating room:	6 suites
Intensive care unit:	8 beds + 8-bed recovery; has staffing problems
Burn unit:	17 beds
Trauma unit:	2 operating rooms with resuscitation equipment and 7 beds
Ancillary services:	X-ray, laboratory (parasitology, hematology, serology, and microbiology capabilities)
Blood bank:	Yes
Specialties:	General medicine, surgery, ENT, OB/GYN, pediatrics, ophthalmology, orthopedics, dental, psychiatry (most specialties)
Specialized equipment:	CT scan, cardiocerebrocatheterization, physiotherapy
Mass casualty capability:	May be limited by chronic heavy workload

SUPPORT SERVICES

Water supply:	Local, potable
Power supply:	AC 50 Hz; 230/400 volts; 1,3 phase

COMMENTS

Teaching hospital. Heavy workload for the size of staff and facilities. Medical materiel from the West or Japan. Poor access to physician staff makes follow-up of US patients difficult. Total staff about 1,800. Contact US Navy support activity for assistance (b)(6) 500-bed expansion planned.

UNCLASSIFIED

COUNTRY:	Bahrain
CITY:	West Rifaa
FACILITY:	Bahrain Defense Force Hospital
COORDINATES:	(b)(3):10 USC 424,(b)(6)
TELEPHONE:	
TYPE:	Military
BEDS:	165

EVACUATION CAPABILITY

Distance from airport:	4.8 km from Bahrain International Airport
Airport capacity:	C-5, C-141B, C-130, KC-10 (special instructions required)
Distance from seaport:	16 km
Helipad:	No (contingency plans call for use of parking lot)
Ambulance:	Probably

PERSONNEL

Number of physicians:	50% civilians
Physician qualifications:	No surgical sub-specialists
Number of nurses:	Adequate

ENGLISH-SPEAKING STAFF Yes

MEDICAL SERVICES

Emergency room:	Open 24-hours; 4-bed resuscitation room
Operating room:	5 suites
Intensive care unit:	6-bed + 4- to 6-bed CCU
Burn unit:	Designated, but not yet operational
Trauma unit:	Yes
Ancillary services:	X-ray, laboratory, pharmacy
Blood bank:	Small
Specialties:	General medical, surgery, most specialties (except neurosurgery)
Specialized equipment:	CT scan, arteriography
Mass casualty capability:	Primary hospital for mass casualty situation

SUPPORT SERVICES

Water supply:	Local, potable
Power supply:	AC 50 Hz; 230/400 volts; 1,3 phase

COMMENTS

Hospital completed in 1980. Bahrain's only military hospital. Has mobile CCU. Facility appears to be underused. Contact US Navy support activity for assistance (b)(6)

UNCLASSIFIED

Pgs. III-IX are denied in full under (b)(1) 1.4(c), (b)(3) 10 U.S.C. 424 and (b)(6)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

(b)(1),(b)(3):10 USC 424,(b)(6),1.4 (c)

COUNTRY: Qatar
CITY: Doha
FACILITY: Hamad General Hospital
COORDINATES: (b)(3):10 USC 424,(b)(6)
TELEPHONE:
TYPE: Civilian (major referral)
BEDS: 900

EVACUATION CAPABILITY

Distance from airport:	About 6 km from Doha International Airport
Airport capacity:	C-141B, C-130, KC-10
Distance from seaport:	About 5 km
Ambulance:	Yes
Ambulance hours:	24-hours

PERSONNEL

Number of physicians:	321
Physician qualifications:	Qualified personnel, many are Western-trained
Number of nurses:	1,028
Number of auxiliary personnel:	1,800 (administrative and technical staff)

ENGLISH-SPEAKING STAFF Yes

MEDICAL SERVICES

Emergency room:	Well-equipped; 20 exam rooms; wall suction/oxygen
Operating room:	Yes
Intensive care unit:	4 separate ICUs, 10 to 12 beds each + CCU
Burn unit:	Located at Rumaillah extension; 12 beds; good reputation
Trauma unit:	Collocated with emergency room; 4 major resuscitation rooms
Ancillary services:	X-ray and laboratory with full diagnostic capabilities, pharmacy, pathology
Blood bank:	Laboratory houses central blood bank
Specialties:	Medical, surgical, cardiology, ophthalmology, ENT, orthopedics, urology, dental, neurosurgery, internal medicine, dermatology, psychiatry, OB/GYN, pediatrics, oncology, nephrology, gastroenterology
Specialized equipment:	CT scan, ultrasound, 9 hemodialysis units
Mass casualty capability:	Can be handled in emergency room

SUPPORT SERVICES

Water supply:	Local
Power supply:	50 AC Hz; 240/415 volts; 1,3 phase

COMMENTS

Qatar's only referral hospital. Opened in 1982. Ambulance telephone number can be obtained from first aid station at airport. Helipad planned. Emergency and trauma rooms are well-equipped. Total staff 3,248; only 16% are Qatari; staff shortages are a problem. Hospital expansion planned. This facility is the center of an integrated network of hospital services which includes Rumaillah, Maternity & GYN, and Isolation Hospitals.

UNCLASSIFIED

x

COUNTRY:	United Arab Emirates (UAE)
CITY:	Abu Dhabi
FACILITY:	Al Jazira Hospital*
COORDINATES:	(b)(3):10 USC 424,(b)(6)
ADDRESS:	
TELEPHONE:	
TYPE:	Civilian (surgical hospital)
BEDS:	320

EVACUATION CAPABILITY

Distance from airport:	About 26 km from Abu Dhabi International Airport (b)(1),1.4 (c)
Airport capacity:	C-141B, C-130, KC-10
Distance from seaport:	About 3 to 5 km
Ambulance:	Ambulance services are available in Abu Dhabi by dialing 998 from any telephone
Ambulance hours:	24-hours

PERSONNEL

Physician qualifications:	Primarily Middle Eastern; some are Fellows of the Royal College of Surgeons-qualified
Nurse qualifications:	Primarily Indian, Filipino, Middle Eastern; supervisors are British

ENGLISH-SPEAKING STAFF Yes

MEDICAL SERVICES

Emergency room:	No; emergencies are treated at Central Emergency Hospital
Operating room:	3 suites
Intensive care unit:	12 beds
Burn unit:	Located at Central Emergency Hospital
Ancillary services:	X-ray, laboratory, pharmacy
Specialties:	General medicine, surgery, cardiology, pediatrics (nephrology available at Central Emergency Hospital)
Specialized equipment:	CT scan, nuclear medicine, hemodialysis, ultrasound

SUPPORT SERVICES

Water supply:	Probably potable
Power supply:	AC 50 Hz; 240/415 volts

COMMENTS

The quality of care in this clean, modern facility is good. Facility is adequately staffed with well-trained personnel.
*Linked with adjacent Central Emergency Hospital.

UNCLASSIFIED

COUNTRY:	United Arab Emirates (UAE)
CITY:	Abu Dhabi
FACILITY:	Mafraq Hospital
COORDINATES:	(b)(3):10 USC 424,(b)(6)
ADDRESS:	
TELEPHONE:	
TYPE:	Civilian (major referral)
BEDS:	510

EVACUATION CAPABILITY

Distance from airport:	About 10 km from Abu Dhabi International Airport (24-26-XXN 54-39-XXE)
Airport capacity:	C-141B, C-130, KC-10
Distance from seaport:	About 26 km
Helipad:	Yes
Ambulance:	Yes
Ambulance telephone:	Ambulance service available in Abu Dhabi by dialing 998 from any telephone
Ambulance hours:	24-hours

PERSONNEL

Number of physicians:	144
Physician qualifications:	Trained in UK or US (see comments)
Number of nurses:	550
Nurse qualifications:	Most are from Saudi Arabia and India; supervisors are from UK (see comments)
Auxiliary personnel qualifications:	See comments

ENGLISH-SPEAKING STAFF Yes

MEDICAL SERVICES

Emergency room:	24-hours; preferred trauma hospital
Operating room:	8 suites
Intensive care unit:	Yes
Burn unit:	10 beds
Ancillary services:	X-ray, laboratory, pharmacy
Specialties:	General medicine, surgery, cardiovascular surgery (open heart capability), neurosurgery, pediatrics, urology (renal transplant capability)
Specialized equipment:	CT scan, nuclear medicine
Mass casualty capability:	Most likely responds to airport emergencies

SUPPORT SERVICES

Water supply:	Probably potable
Power supply:	AC 50; 240/415 volts

COMMENTS

Opened in 1983. Clean, well-organized, outfitted with modern equipment; believed to be the most modern facility in the UAE. Medical staff is adequate and well-trained.

UNCLASSIFIED

COUNTRY:	United Arab Emirates (UAE)
CITY:	Dubai
FACILITY:	Dubai Hospital
COORDINATES:	(b)(3):10 USC 424,(b)(6)
ADDRESS:	
TELEPHONE:	
TYPE:	Civilian (referral facility)
BEDS:	648

EVACUATION CAPABILITY

Distance from airport:	About 5 km from Dubai International Airport (b)(1),1.4 (c)
Airport capacity:	C-5, C-141B, C-130, KC-10
Distance from seaport:	Approximately 5 km
Helipad:	Yes
Ambulance:	Yes
Ambulance telephone:	Ambulance service available in Abu Dhabi by dialing 999
Ambulance hours:	24-hours

PERSONNEL

Number of physicians:	See comments
Physician qualifications:	Predominantly Europeans (see comments)
Number of nurses:	See comments
Nurse qualifications:	Mostly Indian and Filipino (see comments)
Number of auxiliary personnel:	See comments
Auxiliary personnel qualifications:	See comments

ENGLISH-SPEAKING STAFF English is the working language

MEDICAL SERVICES

Emergency room:	24-hours
Operating room:	8 suites
Intensive care unit:	10 beds + monitors
Burn unit:	Yes
Trauma unit:	Yes
Ancillary services:	X-ray, laboratory, pharmacy
Blood bank:	Yes
Specialties:	General medicine, surgery, urology, ENT, orthopedics, OB/GYN, ophthalmology, neurosurgery, pediatrics (most specialties except cardiothoracic)
Specialized equipment:	AMI 7070 CT scan, angiography, ultrasound
Mass casualty capability:	Hospital is designed to deal with major disasters

SUPPORT SERVICES

Water supply:	Probably potable
Power supply:	AC 50 Hz; 220/380 volts

COMMENTS

Dubai Hospital has 14 floors; opened in 1983; modern and well-equipped; staff is well-qualified. Offers quality care. Only 50% of beds are occupied; staffing supports present occupancy. Both Dubai and Rashid Hospitals are trauma facilities. Rashid Hospital refers the most critically injured patients to Dubai Hospital.

UNCLASSIFIED

COUNTRY:	United Arab Emirates (UAE)
CITY:	Dubai
FACILITY:	Rashid Hospital
COORDINATES:	(b)(3):10 USC 424,(b)(6)
ADDRESS:	
TELEPHONE:	
TYPE:	Civilian (emergency hospital)
BEDS:	500 to 650

EVACUATION CAPABILITY

Distance from airport:	About 5 to 10 km from Dubai International Airport (b)(1),1.4 (c)
Airport capacity:	C-5, C-141B, C-130, KC-10
Distance from seaport:	Approximately 5 km
Helipad:	Yes
Ambulance:	Yes
Ambulance telephone:	Ambulance service available in Abu Dhabi by dialing 999 from any telephone
Ambulance hours:	24-hours

PERSONNEL

Number of physicians:	300
Physician qualifications:	All graduates of schools in the Middle East; 90% received graduate training in either the UK or the US
Nurse qualifications:	Mostly Filipino, Indian, or Pakistani (see comments)
Number of auxiliary personnel:	See comments

ENGLISH-SPEAKING STAFF Yes

MEDICAL SERVICES

Emergency room:	24-hours; staffed with 2 physicians
Operating room:	Yes
Intensive care unit:	13 beds + CCU
Burn unit:	Uses isolation rooms
Trauma unit:	Provided in emergency room
Ancillary services:	X-ray, laboratory, pharmacy
Blood bank:	Maintains 200 units
Specialties:	General medicine, surgery, ophthalmology, OB/GYN, most major specialties
Specialized equipment:	CT scan, dialysis, angiography, ultrasound
Mass casualty capability:	Trauma triage facility (see comments)

SUPPORT SERVICES

Water supply:	Probably potable
Power supply:	AC 50 Hz; 220/380 volts

COMMENTS

Offers quality care. Opened in 1972 and expanded in 1978. Facility has a 90% occupancy rate. Hospital is adequately staffed with well-qualified personnel; emphasis is internal medicine. Both Rashid and Dubai Hospitals are trauma facilities. Following triage, Rashid Hospital refers the most critically injured patients to Dubai Hospital.

UNCLASSIFIED

BAHRAIN

(b)(3):10 USC 424

LOCAL TIME: ZULU +3, EST +8
LANGUAGES: Arabic (official), English widely spoken, Farsi, Urdu

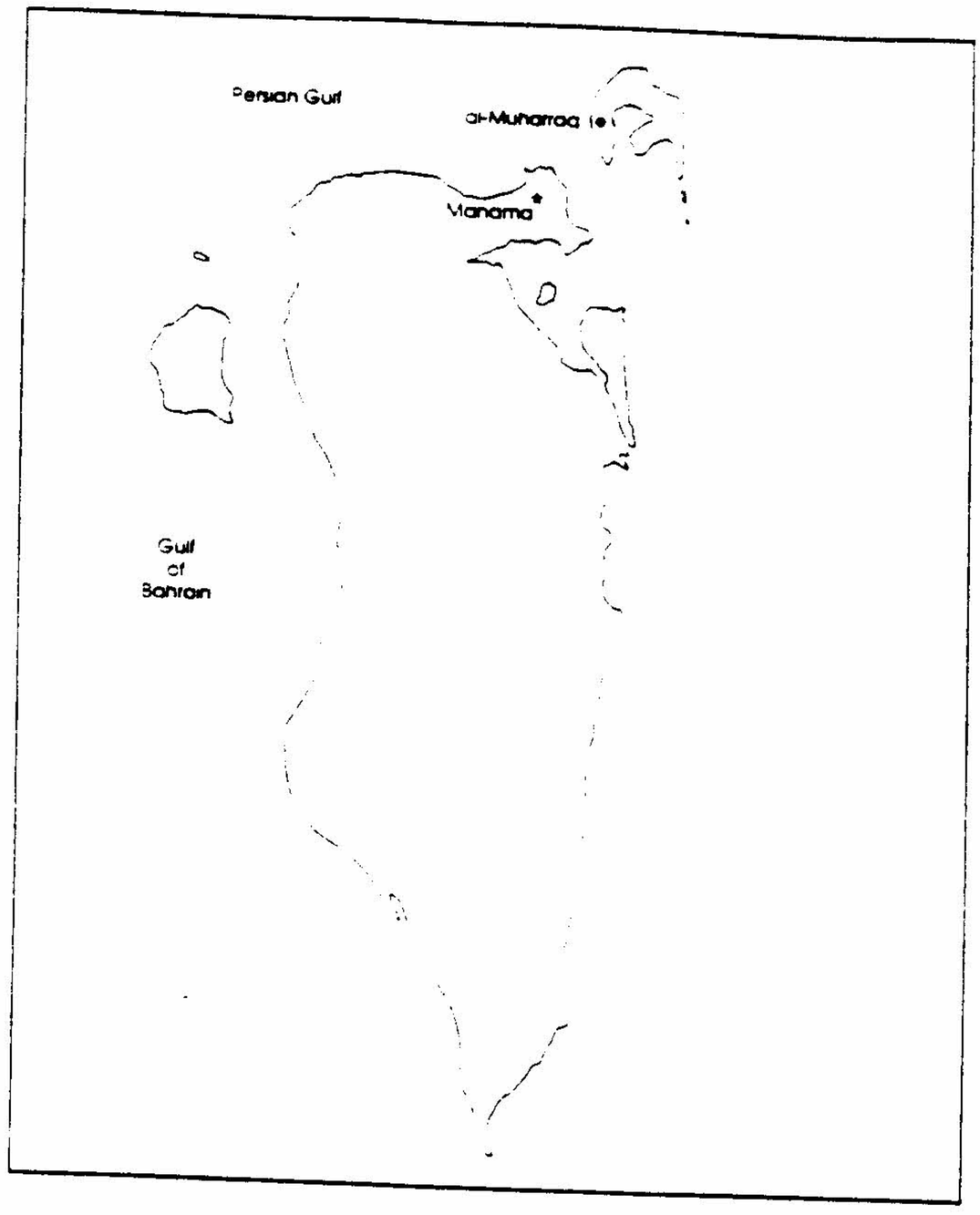
TOPOGRAPHY

General. 90% sandy plains and salt marshes, 6% meadows and pastures, 4% arable.

Major Features. Bahrain is an archipelago of 25 low-lying islands in the Persian Gulf about halfway down and 24.2 km out from the east coast of Saudi Arabia. Bahrain Island, comprising seven-eighths of the country's total area, is the location of the capital city and, together with al-Muharraq and Sitrah Islands off its northeast coast, constitutes the population and economic center of the country. Bahrain Island has 3 major regions: (1) an interior plateau 31-72 meters in elevation with a central hill, Jabal Durkan, that rises to 136 meters above sea level. A rolling basin surrounding the central plateau is bordered by overhanging bluffs that slope toward the sea; (2) a narrow, cultivated strip of land along the north and northwest coasts; (3) lowlands in the south and southwest areas of the island, composed primarily of sandy plains and salt marshes.

CLIMATE

General. Bahrain's climate is hot and very humid year-round. Summer (May - October) temperatures regularly reach 41°C, with a relative humidity of 70-80%. Rainfall during the summer is nearly nonexistent. The 4 winter months (December - March) generally are mild and pleasant, with temperatures that average below 21°C. Almost all of the country's annual 76.2 mm rainfall occurs during the winter.



Seasonal. Northerly winds often occur in May, and dust storms are common through the hot summer months. The infrequent rainfall during the winter months sometimes is quite heavy and often produces minor local flooding.

WATER SUPPLY

Sources. In Bahrain's north and northwest, freshwater aquifers and numerous springs provide water in sufficient quantity to permit irrigation. However, subsurface water sources in the country are rapidly being depleted. The development of large-scale desalination capabilities is required.

AL-MUHARRAQ

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	20	21	25	29	33	36	37	38	36	32	27	22
Mean daily minimum (°C)	15	16	18	22	26	29	30	31	29	26	22	17
PRECIPITATION												
Mean total (mm)	22.9	17.8	10.2	7.6	2.5	0	<1.3	0	0	<1.3	2.5	15.2
FIRST LIGHT	0602	0550	0523	0449	0425	0418	0429	0446	0500	0514	0533	0553
LAST LIGHT	1732	1754	1810	1826	1843	1858	1858	1837	1804	1732	1712	1713

(Mean civil twilight, local standard time)

prepared: April 1989

Potability/Treatment. Bottled or treated water is recommended for consumption.

ELECTRICITY/PLUGS (Tab A)
AC 50/60 Hz, 230/400 volts; plugs are types D and G. A grounding conductor is required in the electrical cord attached to appliances.

ANIMAL THREATS
Snakes. No venomous land snakes are known to inhabit the country. Sea snakes occur in open waters surrounding Bahrain but are thought rarely to be a threat close to shore.
Invertebrates (Tab B - antivenin sources)
Centipedes (*Scolopendra* spp.), **scorpions**, and **black widow spiders** (*Latrodectus* spp.) occur in Bahrain.
Others. Various species of **sea urchins**, **sea cones**, **jellyfish**, and **stingrays** are present in Bahrain coastal waters and may pose a threat to unprotected personnel.

PLANT TIIREATS
No significant plant threats have been identified in Bahrain. However, thorny shrubs that puncture and abraid skin surfaces, and can result in serious secondary infections, are found in the central plateau and southern lowlands.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.
Military Requirements. See Tab C.

IIIV SCREENING REQUIREMENTS
None identified.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. Ground medical logistics and transport support to military operations will depend largely on Bahrain's transportation network. Five of the 6 principal islands in the archipelago that comprises the State of Bahrain are linked by causeways. A four-lane causeway connects the capital city of Manama on Bahrain Island with the island and town of al-Muharraq, the site of the modern international airport. A causeway connects Bahrain Island to Saudi Arabia, and bridges connect Bahrain Island to Sitrah, Nabih Saleh, and Um al-Nassan Islands. A network of island roads connects Manama with other villages. Most of the major roads on the northern one-third of Bahrain Island are four-lane and are well maintained.

MEDICAL TREATMENT/EVACUATION
Medical Facilities

Manama (b)(3):10 USC 424
International Hospital (300 beds); new civilian general care facility; most specialty services; emergency and surgical capabilities.
Al-Salmaniyah Medical Center (620 beds); government teaching facility; all specialty services except neurosurgery.

US Navy Administrative Support Unit (ASU) Bahrain; dispensary staffed with Navy physicians, nurses, and corpsmen.

Major Airfields
Bahrain International (b)(3):10 USC 424 • L-3,963m, W-60m; civil control; suitable for all types of aircraft; special instructions for C-130, C-141B, C-5 in current MACAF summary of airport restrictions.

(b)(6)

EGYPT

(b)(3):10 USC 424

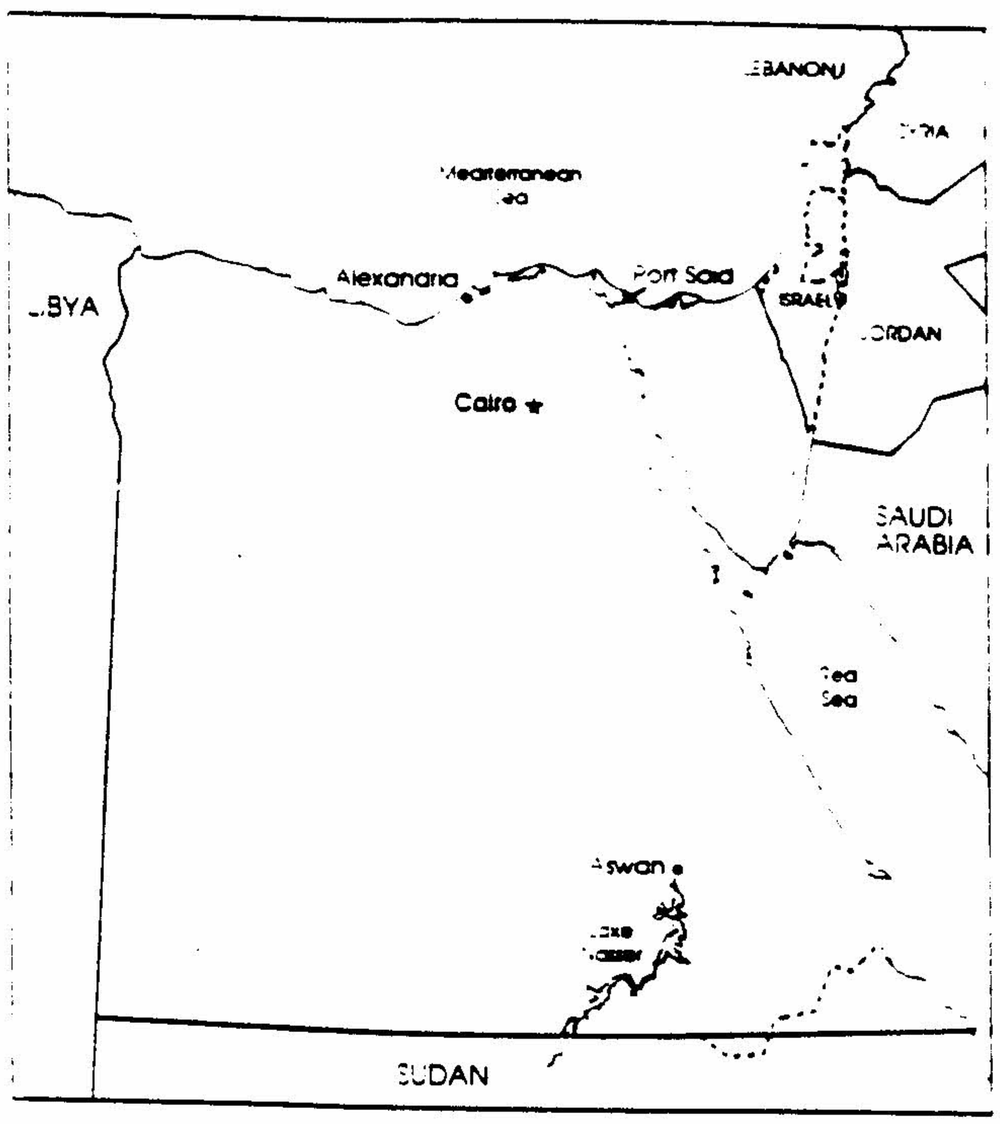
LOCAL TIME: ZULU +2, EST +7
LANGUAGES: Arabic (official), English, French

TOPOGRAPHY

General. 95% arid desert wasteland, 5% arable.
Major Features. Egypt has 3 distinctive geographic regions: the Western Desert, the Eastern Desert, and the Nile River Valley. The 2 deserts are separated by the Nile, which flows south to north. (1) The Western Desert, the larger of the desert areas, is a low-lying plateau without wadis (gullies) that contains the Qattara Depression (30°00'N 27°30'E), a 6,200 square kilometer area approximately 122 meters below sea level. (2) The Nile River forms a flat-bottomed valley, generally 8-16 km wide, bordered by precipitous scarps. North of Cairo the river fans out into the delta lowlands (161 km long, 242 km wide), which are densely populated and irrigated year-round. (3) The Eastern Desert is a limestone and sandstone plateau area extensively dissected by wadis and fringed by rugged mountains in the southeast. Several peaks in the Eastern Desert's Red Sea Hills exceed 1,829 meters above sea level. The Sinai, northeast of the Eastern Desert, is a peninsula marked by wadis. Egypt's highest peak, Mt. Catherine (2,642 meters), is situated there.

CLIMATE

General. Egypt's climate consists of 2 major seasons, winter (November to March) and summer (May to September). The winters are cool and mild, and the summers generally are hot. Temperatures in Cairo, for



example, range between 4 and 18° C during the winter and 21 and 43° C during the summer. Annual rainfall varies from about 178 mm at Alexandria to 25 mm in Cairo and only about 2.5 mm at Aswan in southern Egypt. The Red Sea coastal plain is almost rainless.
Seasonal. Hot, driving windstorms known as khamsins occur in spring. Khamsins have raised the temperature 20° C in 2 hours and have produced winds up to 136 km per hour. The resulting sandstorms can make walking and driving dangerous. Occasionally khamsins force the closure of airports, the desert road to Alexandria, and the Suez Canal.

WATER SUPPLY

Sources. Egypt's perennial surface water sources consist only of the Nile River and a few small streams in the mountains of southern Sinai. Water is scarce. Water pollution is a major problem.
Potability/Treatment: Cairo's water supply is chem-

CAIRO

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	19	22	24	29	33	36	36	35	33	31	27	22
Mean daily minimum (°C)	8	8	11	13	17	20	22	22	20	18	14	9
PRECIPITATION												
Mean total (mm)	5	5	5	3	3	0	0	0	0	3	3	5
FIRST LIGHT	0626	0611	0541	0504	0435	0425	0436	0456	0514	0532	0554	0616
LAST LIGHT	1742	1807	1826	1846	1907	1925	1924	1901	1825	1748	1754	1722

(Mean civil twilight, local standard time)

prepared: April 1989

ically treated, but is subject to pollution as it passes through the distribution system in Cairo. All water supplies in Egypt should be treated; only bottled water is recommended for consumption.

ELECTRICITY/PLUGS (Tab A)
AC 50 Hz, 220/380 volts; plugs are type C.

ANIMAL THREATS
Snakes. (Tab B - antivenin sources)
Colubridae - *Atractaspis enggaddensis*
Elapidae - Desert Black Snake (*Walterinnesia aegyptia*)
Cobras: *Naja haje haje, N. mossambica pallida, N. nigricollis*
Viperidae - Vipers: *Cerastes cerastes cerastes, C. vipera, Echis carinatus pyramidium, E. coloratus*
Invertebrates (Tab B-antivenin sources)
Dangerous **scorpions** occur; 2 species (*Androctonus australis* and *A. crassicauda*) commonly cause human fatalities. Two additional species (*Buthus occitanus* and *Leiurus quinquestriatus*) have very toxic venoms which can cause fatalities in small children, but are somewhat less dangerous to adult humans. **Black widow spiders** (*Latrodectus pallidus*) also occur in Egypt.

PLANT THREATS
Much of the Western Desert is devoid of plant life. The Eastern Desert supports a vegetation that includes a variety of thorny shrubs and small succulents. The Nile Valley contains many kinds of coarse grasses, bamboo, and reeds, all of which can cause painful and debilitating puncture wounds and skin abrasions.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas and of those arriving from or transiting several African and South/Central American countries. Travelers from Sudan are required to have a vaccination certificate or a location certificate stating that they have not been south of 15° north latitude in Sudan within the preceding 6 days.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroqine regime for travelers to rural areas of the Nile Delta, El Faiyum area, the oases, and other areas of malaria risk in southern Egypt.

HIV SCREENING REQUIREMENTS
Foreign contractors entering Egyptian military facilities. Egypt does not routinely accept screening tests performed in the US.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. A major network of paved north-south roads is located along the Nile River. There is a major east-west paved route in the northern region. Other roads in the country consist primarily of unpaved desert tracks. Road conditions may impede surface transportation in many areas; aircraft may be required.

MEDICAL TREATMENT/EVACUATION
Medical Facilities

Cairo (b)(3):10 USC 424
al-Maadi Military Hospital (700 beds); telephone 37039; rated best military hospital; staff has mass casualty experience and facility can expand to 900 beds; all major specialties, but sanitation is well below US standards; helipad and ambulance service.
al-Salam Hospital (300 beds); civilian, private hospital; telephone 636278, 636764; quality of care probably Egypt's best; most major specialties; ambulance service.

El Nasr City [Madinat an Nasr] (b)(3):10 USC 424
El Nasr City Medical Center (600 beds); government hospital; opened in 1980; sophisticated diagnostics and most major specialties; helipad and ambulance service.
Arab Contractors' Medical Center (350 beds); one of the best and cleanest in country, although still below US standards; all major specialties.

Alexandria (b)(3):10 USC 424
Alexandria University Hospital (1,700 beds); government teaching hospital; all major specialties.

Embassy Health Unit, Zahara Building in the US compound; manned by the State Department regional medical officer, the regional psychiatrist, American and Egyptian nurses, and a laboratory technician.
US Naval Medical Research Unit (NAMRU-3) offers laboratory support for the Embassy Health Unit and referral (only) service to Egyptian physicans and medical facilities.

Major Airfields

El Gora (b)(3):10 USC 424 • L-2,400m, W-45m; military control; visual daylight operations only; suitable for all types of aircraft.

Alexandria (b)(3):10 USC 424 • L-2,200m, W-45m; joint military-civil control; daylight visual operations only; suitable for C-130, C141B; unsuitable for C-5, KC-10.

Aswan (b)(3):10 USC 424 • L-3,400m,W-45m; joint military-civil control; suitable for C-130; C141B, KC-10(runway only, narrow taxiway - use requires waiver from SACAF); site has not been surveyed for C-5 suitability.

Cairo East International (b)(3):10 USC 424 • L-4,000m,W-45m; joint military-civil control; suitable for C-130, C-141B, C-5 (all with special instructions from current MACAF summary of airfield restrictions); suitable for KC-10.

Luxor (b)(3):10 USC 424 • L-3,000m, W-45m; joint military-civil control; suitable for all types of aircraft.

Ras Nasrani (b)(3):10 USC 424 • L-3,080m, W-45m; military control; visual daylight operations only; suitable for all types of aircraft.

Joint Medical Regulating Office

Rhein-Main AFB, Germany
AUTOVON: 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

(b)(3):10 USC 424,(b)(6)

IRAN

CAPITAL*/MAJOR CITIES: Tehran* (b)(3):10 USC 424 Isfahan (b)(3):10 USC 424 Tabriz (b)(3):10 USC 424 Mashhad (b)(3):10 USC 424 Shiraz (b)(3):10 USC 424

LOCAL TIME: ZULU +3.5, EST +8.5

LANGUAGES: Persian, Turkish dialects, Kurdish, Arabic, English, French

TOPOGRAPHY

General. 54% rugged mountains and desert wasteland, 27% meadows and pastures, 11% forest and woodland, 8% arable.

Major Features. Iran generally is a high (above 457 meters), largely barren plateau characterized by vast salt deserts and rimmed on all sides by mountains. The only lowlands are the Karun River Basin along the border with Iraq, the narrow coastlands along the Persian Gulf and the Gulf of Oman, and the marshy coasts along the Caspian Sea. The Elburz Mountains, containing towering volcanic peaks and the country's highest point, Mt. Demavend (est. 5,791 meters), are located in the north and run along the southern shore of the Caspian Sea to join the Khurasan border ranges in the east. The Elburz Mountains and the Baluchistan Mountains in the south demark the interior plateau on the east. Iran's major mountain range, the Zagros, stretches from the northwestern border with the USSR to the Makran Mountains in the southeast.

CLIMATE

General. Iran has a complex climate that ranges from subtropical to subpolar. Temperature extremes vary from summer highs near the Persian Gulf of 53° C to winter lows of -37° C recorded in the northwest. Precipitation varies from less than 51 mm in the southeast to about 1,980 mm in the Caspian Sea region. Winter is the normal rainy season for the whole country, and spring frequently brings destructive thunderstorms and hailstorms. The climate of the Caspian Plain in the northwest, a fertile, semitropical region with luxuriant forests, swamps, and rice paddies, presents a sharp contrast to the rest of the country.

Seasonal. Two seasonal wind patterns occur in Iran: the "shamal," which blows northwesterly throught the Tigris-Euphrates Valley from February to October, and the "120-day" summer wind, which sometimes reaches 113 km per hour in the Seistan region near the Pakistan border.

WATER SUPPLY

Sources. In more than half the country, water supplies are very limited. Shallow and linear wells serve most villages and rural areas. Most urban areas and some of the larger villages have fairly well-developed water treatment and distribution systems, but these systems commonly are ill-maintained, overtaxed, and/or ineffective.

TEHRAN

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	7	11	15	21	27	33	36	35	31	24	17	10
Mean daily minimum (°C)	-3	0	4	9	15	19	22	21	18	12	6	1
PRECIPITATION												
Mean total (mm)	91	28	28	33	13	<1	<1	<1	<1	<1	20	31
FIRST LIGHT	0646	0652	0617	0533	0432	0418	0430	0456	0521	0545	0613	0638
LAST LIGHT	1742	1746	1812	1837	1931	1952	1950	1922	1838	1756	1725	1721

(Mean civil twilight, local standard time)

prepared: April 1989

Potability/Treatment. All water sources potentially are contaminated; water should be treated before use.

ELECTRICITY/PLUGS (Tab A)
AC 50 Hz, 220/380 volts; no information currently is available about plugs.

ANIMAL THREATS
Snakes. (Tab B - antivenin sources)
Elapidae - Desert Black Snake *(Walterinnesia aegyptia*); **Hydrophidae - Sea Snakes:** *Hydrophis cyanocinctus, H. gracilis, H. Lapemoides, H. ornatus ornatus, H. spiralis, Lapemis curus*, Pelagic (*Pelamis platurus*), *Thalassophis viperinus*
Viperidae - Vipers: Saw-Scaled (*Echis carinatus pyramidium*), Asian Sand (*Eristocophis macmahoni*), False Horned (*Pseudocerastes persicus persicus*), *Vipera latifii*, West Asian Blunt- Nosed (*V. levetina obtusa*), Central Asian Blunt-Nosed (*V. lebetina turanica*), Steppe (*V. ursinni renardi*).

Invertebrates (Tab B - antivenin sources)
Centipedes (*Scolopendra* spp.), **black widow spiders** (*Latrodectus* spp.), and a very dangerous (commonly causing human fatalities) **scorpion** (*Androctonus crassicauda*) occur in Iran.

PLANT THREATS
Plant life in Iran varies greatly with the character of the topography, altitude, and water supply. The forested areas have an abundant growth of thorny scrubs which also form the ground cover of the steppes. Desert sand dunes support thickets of brush and reeds, and coarse grasses are found in the swampy areas of the country. Contact with all these plant varieties can cause painful puncture wounds and skin abrasions. Ingestion of poisonous plant parts from the **oleander** and **tamarisk**, which commonly are located at oases, will debilitate personnel.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas. Iran considers former endemic zones to be infected areas.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroquine regime for travelers to areas of risk.

HIV SCREENING REQUIREMENTS
None identified.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. The State Department strongly advises US citizens not to travel to Iran, because the virulently anti-American policies of the Iranian government continue to foster extremely dangerous, often physically violent, situations.

MEDICAL TREATMENT/EVACUATION
Medical Facilities
Local medical facilities are substantially below Western standards and should be used by US citizens only in cases of extreme emergency.

Abadan (b)(3):10 USC 424
National Iranian Oil Hospital (700 beds); most specialty services; brick buildings in fair condition.

Major Airfields
Bandar Abbass International (b)(3):10 USC 424
L-3,664m, W-45m; joint military-civil control; suitable for all types of aircraft; no published DOD approach - survey recommended prior to operations.
Dezful (b)(3):10 USC 424 • L-3,901m, W-45m; military control; visual daylight operations only; suitable for all types of aircraft; survey recommended prior to operations.
Khark Island (b)(3):10 USC 424 • L-1,562m, W-45m; civil control; visual daylight operations only; suitable for C-130, C-141B (requires approval by MACAF with area jurisdiction); unsuitable for C-5, KC-10; no DOD published approach - survey recommended prior to operations.
Mehrabad International (b)(3):10 USC 424 • L-4,075m, W-60m; joint military-civil control; suitable for all types of aircraft; no DOD published approach - resurvey recommended prior to operations.
Shiraz International (b)(3):10 USC 424 • L-4,334m, W-46m; joint military-civil control; suitable for all types of aircraft; no DOD published approach - resurvey recommended prior to operations.
Zahedan International (b)(3):10 USC 424 • L-427m, W-45m; civil control; suitable for C-130, C-141B, unsuitable for KC-10; site has not been surveyed for C-5 suitability; no DOD published approach - resurvey recommended prior to operations.

Pg. IR-3 is denied in full under (b)(6)

(b)(6)

prepared: April 1989

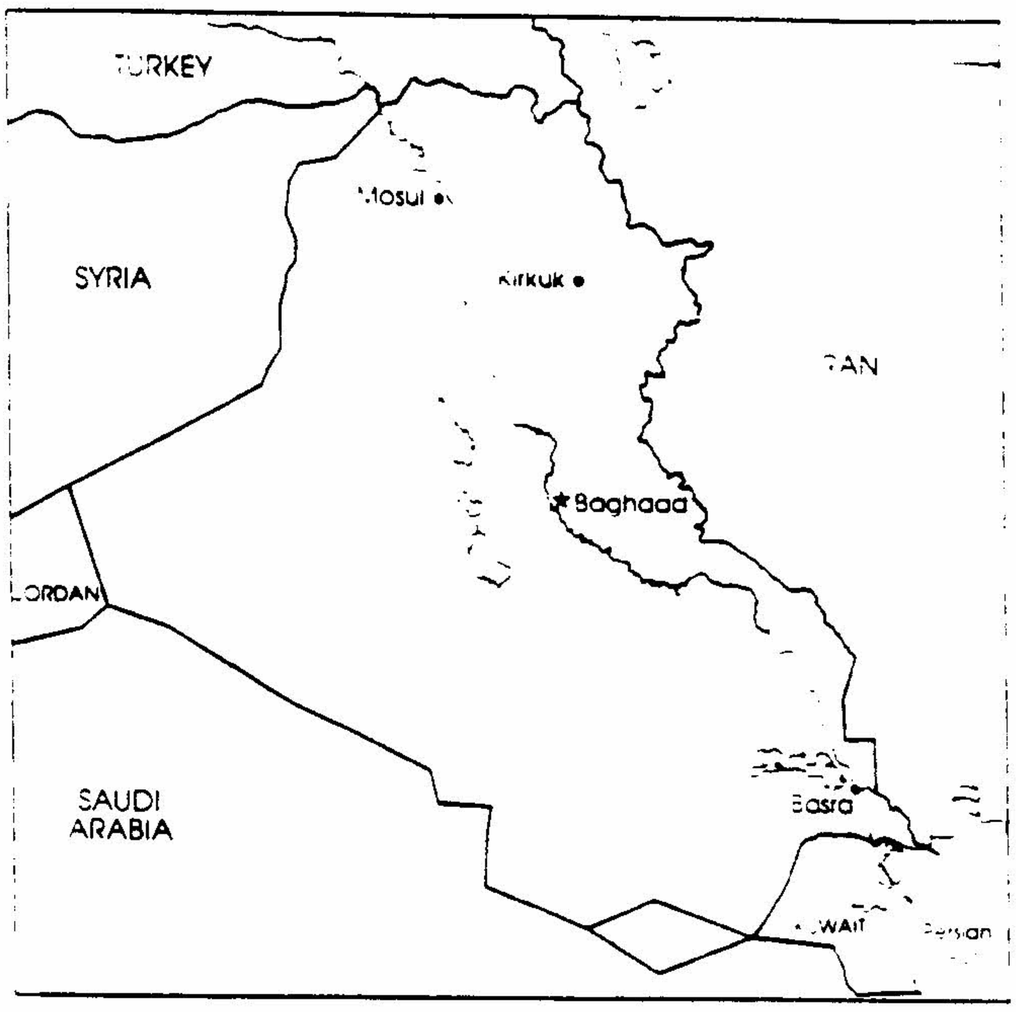
IRAQ

(b)(3):10 USC 424

CAPITAL*/MAJOR CITIES: Baghdad* (b)(3):10 USC 424 Basra (b)(3):10 USC 424 Mosul (b)(3):10 USC 424 Kirkuk (b)(3):10 USC 424 (b)(3):10 USC 424

LOCAL TIME: ZULU +3, EST +8

LANGUAGES: Arabic (official), Kurdish (official in Kurdish regions), Assyrian, Armenian



TOPOGRAPHY

General. 75% mountains and desert wasteland, 9% meadows and pastures, 3% forest and woodland, 13% arable.

Major Features. There are 3 major physiographic regions: (1) The southwestern desert (about 40% of Iraq's land area) descends gradually from the western volcanic plateau areas of Syria and Jordan and reaches sea level at the head of the Persian Gulf. (2) The Tigris-Euphrates Basin (about 5%), which separates Iraq's highlands from the southwestern desert, extends northwest to southeast and forms distinctive upper and lower basins separated by a tongue of high land near Baghdad. The lower basin has extensive marshlands. The Tigris and Euphrates become the Shatt al-Arab for the final 161 km from their junction at al-Qurnah to the Persian Gulf. (3) The northeastern highlands have a typical elevation of about 1,525 meters. The country's highest peak, Rawanduz (3,658 meters), is situated in the northeastern highlands near the convergence of the Turkish, Iranian, and Iraqi borders.

CLIMATE

General. Two contrasting seasons with short transitional periods occur in the lowlands: a dry, intensely hot summer from May to October and a relatively cool, humid winter from December to March. High humidity intensifies the summer heat in the river areas. In the mountain zones, winters can be quite severe. In the northeastern highlands, rainfall is sufficient for cultivation without irrigation, summer temperatures are slightly lower than elsewhere, and a colder, continental winter brings snow for up to 3 months in some places.

Seasonal. Blowing dust and severe sandstorms are commonplace during the dry summer season, particularly in July.

WATER SUPPLY

Sources. The Tigris and Euphrates Rivers provide abundant water resources for Baghdad and some other major urban areas. The northern mountain areas have abundant supplies of spring water. A large segment of the population receives water from contaminated reservoirs, irrigation canals, drainage ditches, and open wells.

Potability/Treatment. Water from the central system in most large Iraqi cities is commonly considered safe to drink after filtering. However, drinking the water in villages outside large urban areas is unsafe. Bottled water usually is in very limited supply.

BAGHDAD

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	15	18	23	28	34	40	43	43	39	33	24	17
Mean daily minimum (°C)	3	6	9	14	20	24	27	26	22	17	11	7
PRECIPITATION Mean total (mm)	23	23	23	15	10	<1	<1	<1	<1	3	20	25
FIRST LIGHT	0640	0622	0549	0508	0436	0424	0435	0458	0521	0542	0607	0631
LAST LIGHT	1744	1812	1835	1858	1922	1942	1941	1915	1835	1755	1727	1724

(Mean civil twilight, local standard time)

prepared: April 1989

ELECTRICITY/PLUGS (Tab A)
AC 50 Hz, 220/380 volts; plugs are types C, D, and G. A grounding conductor is required in the electrical cord attached to appliances.

ANIMAL THREATS
Snakes. (Tab B - antivenin sources)
Elapidae - Desert Black Snake (*Walterinnesia aegyptia*)
Viperidae - Vipers: Arabian Horned (*Cerastes cerastes gasperettii*), Saw-scaled (*Echis carinatus pyramidium*), False Horned (*Pseudocerastes persicus persicus*), Central Asian Blunt-Nosed (*Vipera lebetina euphratica*), West Asian Blunt-Nosed (*V. lebetina obtusa*)
Invertebrates. (Tab B - antivenin sources)
Centipedes (*Scolopendra* spp.), **scorpions** (*Androctonus crassicauda* and *Leiurus quinquestriatus*), and **black widow spiders** (*Latrodectus* spp.) occur in Iraq.

PLANT THREATS
The southwest desert area of Iraq is dominated by thorns and shrubs, including varieties of euphorbia, many of which cause contact dermatitis. Ingestion of the poisonous plant parts of **tamarisk**, which flourishes near the rivers, can debilitate personnel.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroquine regimen for travelers to areas of risk. The State Department recommends typhoid, tetanus, and poliomyelitis immunizations and gamma globulin prophylaxis.

HIV SCREENING REQUIREMENTS
Iraq requires all foreigners entering the country to report to the Special Centers for a blood test within 5 days of arrival. Tests are not required of anyone over 60 years old. Iraq does not accept the results of tests performed in the US.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. The dust-laden air may severely aggravate sinus and other existing respiratory tract problems and also may cause acute irritative conjunctivitis. Since the recent war with Iran has seriously depleted local pharmaceutical supplies, it is essential to bring all required medications for existing medical conditions and for those that may be exacerbated by environmental conditions.

MEDICAL TREATMENT/EVACUATION
Medical Facilities
Medical facilities and practicing physicians in Iraq have been severely overburdened as a result of the recent war with Iran. Local hospitals commonly cannot provide comprehensive medical, surgical, or diagnostic care. In emergency situations, US personnel should obtain the current list of recommended local physicians from the Embassy Health Unit.

US Embassy Health Unit, staffed by a registered nurse, is located in the Embassy compound. The Regional Medical Officer, based in Riyadh, Saudi Arabia, periodically visits the Health Unit.

Major Airfields
Saddam International (b)(3):10 USC 424 • L-3,695m, W-60m; civil control; suitable for C-130, C-141B, KC-10; no published DOD approach; site has not been surveyed for C-5 suitability.

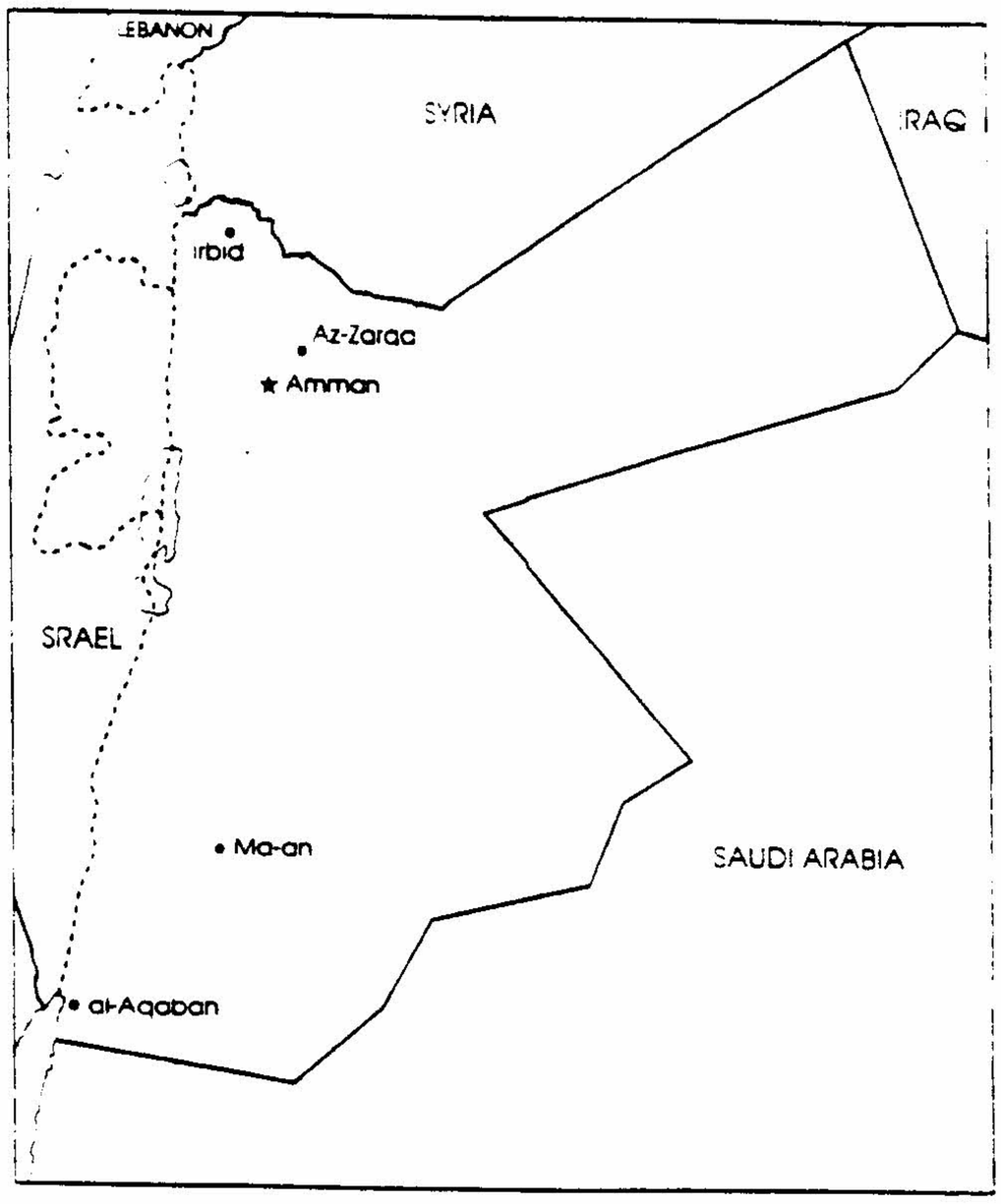
Joint Medical Regulating Office
Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy
(b)(3):10 USC 424,(b)(6)

JORDAN

CAPITAL*/MAJOR CITIES: Amman* (b)(3):10 USC 424 Irbid (b)(3):10 USC 424 Az-Zarqa 32°05'N Ma-an (b)(3):10 USC 424 al-Aqabah (b)(3):10 USC 424

LOCAL TIME: ZULU +2, EST +7
LANGUAGES: Arabic (official), English



TOPOGRAPHY

General. 94% mountains and desert wasteland, 1% meadows and pastures, 1% forest and woodland, 4% arable.

Major Features. Jordan readily can be divided into 4 physiographic regions: (1) The desert, in the eastern part of the country, comprises about four-fifths of the East Bank territory and is composed primarily of volcanic rock in the north and of sandstone and granite outcroppings in the south. (2) The East Bank uplands region is an escarpment formed by the East African Rift Valley. The elevation of this region averages between 610 and 914 meters, and rises to the country's highest point, Jabal Ramm (1,754 meters), near the Gulf of Aqaba in the south. (3) The Jordan Valley region contains the Dead Sea, the lowest point on earth (401 meters below sea level). (4) The West Bank uplands region, comprising Israeli-occupied Jordan, is a plateau (averaging 914 meters elevation) characterized by large valleys and deep gorges.

CLIMATE

General. Jordan's climate varies from Mediterranean in the west to desert in the east, but the land generally is arid. Mean monthly temperatures for Jericho (252 meters below sea level) range from 16 to 32° C, and at Amman (720 meters above sea level), from 7 to 31° C. Throughout the country the prevailing winds are westerly and southwesterly, and winds are more humid in the north. Rainfall usually occurs during the short, cool winters, averaging 406 mm in the north and 100 mm in the south. Frost and snow occasionally occur in the uplands but rarely in the Rift Valley.

Seasonal. Hot, dry desert winds are common in the spring.

WATER SUPPLY

Sources. Springs, wells, rivers, wadis, and rainwater cisterns are the primary sources of water in Jordan. Surface water supplies become critically inadequate during the dry season in most areas of the country. The northern highlands, where springs are plentiful, is an exception. Although some central water systems exist in a few of the larger towns, water treatment procedures are highly unreliable.

Potability/Treatment. No water in Jordan is safe to

AMMAN

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	12	13	16	23	28	31	32	32	31	27	21	15
Mean daily minimum (°C)	4	4	6	9	14	16	18	18	17	14	10	6
PRECIPITATION Mean total (mm)	69	74	31	15	5	0	0	0	3	5	33	46
FIRST LIGHT	0611	0554	0523	0443	0412	0401	0413	0434	0455	0514	0538	0602
LAST LIGHT	1720	1747	1808	1830	1853	1911	1911	1846	1807	1729	1703	1700

(Mean civil twilight, local standard time)

prepared: April 1989

drink; strict water sanitation is essential. Bottled mineral water usually is locally available.

ELECTRICITY/PLUGS (Tab A)
AC 50 Hz, 220/380 volts; plugs are types C, F, and G. A grounding conductor is required in the electrical cord attached to appliances.

ANIMAL THREATS
Snakes. (Tab B - antivenin sources)
Colubridae - *Atractaspis engaddensis*
Elapidae - Egyptian Cobra (*Naja haja haja*)
Viperidae - Vipers: Arabian Horned (*Cerastes cerastes gasperettii*), Saw-scaled (*Echis coloratus*), False Horned (*Pseudocerastes persicus fieldi*), *Vipera bornmulleri*, Palestine (*V. palaestinae*).
Invertebrates (Tab B - antivenin sources)
Centipedes (*Scolopendra* spp.), very dangerous **scorpions** (*Androctonus australis* and *A. crassicauda*), scorpions less dangerous to adult humans (*Buthus occitarus* and *Leiurus quinquestriatus*), and **black widow spiders** (*Lactrodectus* spp.) occur in Jordan.

PLANT THREATS
The desert and steppe areas of the country are characterized by sparse, low-lying vegetation and may contain some varies of euphorbia, many of which are contact vesicants.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. No vaccination requirements for any international traveler.
Military Requirements. See Tab C.
Other. The State Department recommends initial typhoid, tetanus, and poliomyelitis immunizations, and gamma globulin prophylaxis, followed by regular gamma globulin and optional cholera boosters.

HIV SCREENING REQUIREMENTS
None identified.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. The consumption of local pastries or desserts sold by street vendors in the urban areas poses a serious health hazard; strict avoidance is essential.

MEDICAL TREATMENT/EVACUATION
Medical Facilities

Amman (b)(2)
Ashrifiyah Hospital (520 beds); government; civilian facility; most medical specialties; recent expansion includes a new burn treatment unit.
King Hussein Medical Center (600 beds); military facility; all specialties available; latest Western state-of-the-art medical and surgical equipment; burn and trauma units; helipad.
University of Jordan Hospital (400 beds); civilian; teaching facility; all specialties available.
US Embassy Health Unit is staffed by a part-time American nurse. The Regional Medical Officer, stationed in Cairo, visits the post quarterly.

Major Airfields
King Faisal AB (b)(2) • L-3,600m, W-45m; military control; visual daylight operations only; suitable for C-130, C-141B, C-5 (runway narrow - requires approval by MACAF with area jurisdiction); unsuitable for KC-10.
Marka (b)(2) • L-3,286m, W-45m; joint military-civil control; suitable for C-130, C-141B, C-5 (all with special instructions in current MACAF summary of airfield restrictions); suitable for KC-10.
Aqaba International (b)(2) • L-3,000m, W-45m; civil control; visual daylight operations only; suitable for C-130, C-141B, KC-10; site has not been surveyed for C-5 suitability.
Prince Hasan (b)(2) • L-3,002m, W-60m; military control; visual daylight operations only; suitable for all types of aircraft with information provided by MACAF with area jurisdiction; C-5 requires MACAF approval; KC-10 requires SACAF waiver.
Shaheed Mwaffaq AB (b)(2) • L-3,000m, W-45m; military control; visual daylight operations only; suitable for all types of aircraft; airfield has obstacles - operations require approval of MACAF with area jurisdiction.

Joint Medical Regulating Office
Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

Address: Jebel Amman, P.O. Box 354, Amman, Jordan
Telephone: Embassy switch 962-6-644-371/2/3/4/5/6/, ext 264/67, local 644371-6
Message address: (b)(2)

prepared: April 1989

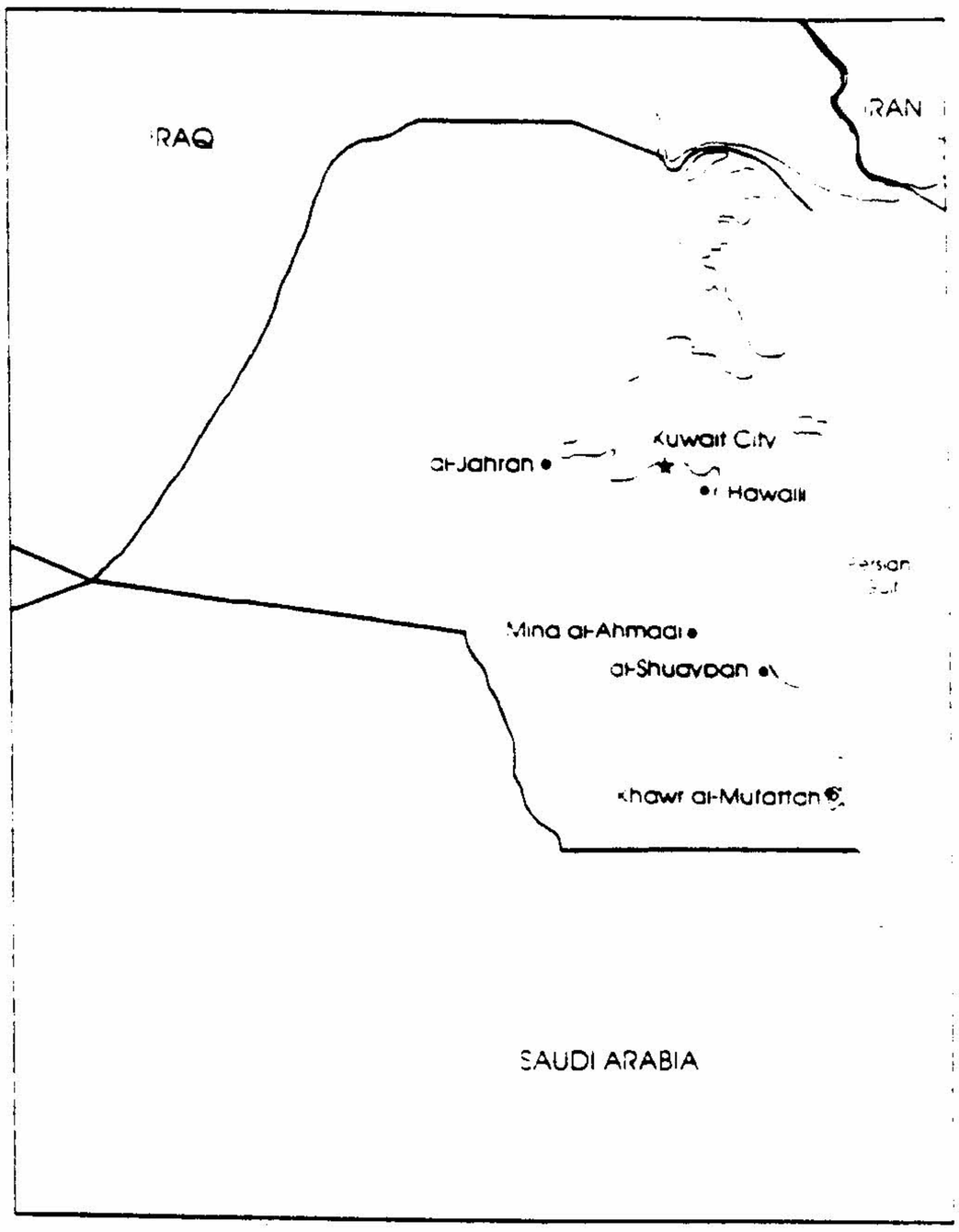
KUWAIT

CAPITAL*/MAJOR CITIES: Kuwait City* (b)(2) Hawalli (b)(2) Mina al Ahmadi (b)(2) al-Jahrah (b)(2) Khawr al-Mufattah (b)(2); al-Shuaybah (b)(2)

LOCAL TIME: ZULU +3, EST +8
LANGUAGES: Arabic (official), English widely spoken

TOPOGRAPHY
General. 99% hot arid desert land, 1% arable.
Major Features. Kuwait is located on a gradually sloping plain that rises westward from the Persian Gulf and reaches a maximum elevation of 290 meters at the extreme western border. The country consists primarily of sandy, riverless desert with some oases and a few fertile patches. Kuwait Bay extends approximately 19 km inland from the Persian Gulf on the central-eastern border. The Jal az-Zawr escarpment, which reaches an elevation of 145 meters, extends along the northwestern shore of Kuwait Bay. The capital city of Kuwait and a natural harbor are located on the southern shore of Kuwait Bay, and urban/port concentrations extend southward along Kuwait's eastern border.

CLIMATE
General. Essentially, Kuwait has a hot, desert climate with minimal rainfall. In summer (April-October), precipitation is nearly nonexistent, and temperatures often reach 52°C and occasionally 74°C. Kuwait's annual 100 mm of precipitation occurs almost exclusively in the winter (December-January). Even in the coolest winter months, temperatures average nearly 16°C.
Seasonal. Sand and dust storms occur throughout the year, but are especially common from March through August.



WATER SUPPLY
Sources. Kuwait has no permanent water sources. Desalinated, chlorinated sea water is the principal water source for populated areas. Outlying areas rely on desert wells, waterholes, and intermittent surface water sources. These supplies generally are contaminated.
Potability/treatment. The municipal water supply in Kuwait City generally is considered safe for drinking, but bottled water still is recommended for consumption. In all other parts of the country, only bottled or treated water should be consumed.

ELECTRICITY/PLUGS (Tab A)
AC 50 Hz, 240/415 volts; plugs are types C, D, and G.

KUWAIT

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	19	21	26	32	39	44	45	45	41	36	26	20
Mean daily minimum (°C)	8	8	13	18	23	27	28	27	23	18	13	9
PRECIPITATION Mean total (mm)	20	8	18	18	<1	0	0	0	0	0	3	23
FIRST LIGHT	0618	0603	0535	0458	0430	0421	0432	0451	0508	0526	0546	0608
LAST LIGHT	1737	1802	1820	1838	1859	1915	1915	1854	1817	1741	1719	1718

(Mean civil twilight, local standard time)

prepared: April 1989

ANIMAL THREATS

Snakes. (Tab B - antivenin sources)
Hydrophidae - Sea Snakes: *Hydrophis* spp., *Lapemis curtus, Pelamis platurus, Thalassophis viparinus*
Elapidae - Desert Black Snake (Walterinnesia aegyptia)
Viperidae - Vipers: (*Cerastes cerastes gasperettii, Echis carinatus pyramidium, Pseudocerastes persicus persicus*)
Invertebrates (Tab B - antivenin sources)
Centipedes (*Scolopendra* spp.), **scorpions** (*Leiurus quinquestriatus, Androctonus crassicauda*), and **black widow spiders** (*Latrodectus* spp.) occur in Kuwait .
Other. Sea urchins, cones, nettles, octopuses, Portuguese man-o-war, and **sea wasps (box jellyfish)** inhabit the coastal waters of Kuwait. Their venomous stings, toxic bites, and/or contact irritants pose a potentially serious threat to unprotected personnel.

PLANT THREATS

Ingested plant parts of the commonly occuring **jimson weed, juniper, lantana, castor bean, night shade, oleander,** or **poppy** can seriously debilitate personnel and, in severe poisonings, may be fatal. Euphorbs are the major contact vesicant threat in Kuwait.

IMMUNIZATION REQUIREMENTS

WHO Recommendations. No vaccination requirements for any international traveler.
Military Requirements. See Tab C.
Other. The State Department recommends typhoid, tetanus, and poliomyelitis immunizations, and biannual gamma globulin.

HIV SCREENING REQUIREMENTS

The Kuwaiti government requires proof of negative HIV testing from applicants for resident visas. Results of tests performed in the US are accepted.

ADDITIONAL OPERATIONAL INFORMATION

Although 90% of Kuwait's roads are paved, there are few major roads in the western desert area of the country. Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. Because Kuwait's extreme heat will degrade unprotected medical supplies, tablet rather than capsule medications are recommended.

MEDICAL TREATMENT/EVACUATION

Medical Facilities

Kuwait City (b)(2)
Ibn Sina and al-Sabah Hospital Complex (800+ beds); major referral center; probably the best hospital in Kuwait; all specialty services; ambulance service; helipad; telephone 81200.
Mubarak Hospital (544 beds); most specialty services; ambulance service; telephone 312725.
Amiri Hospital (400+ beds); general care facility; some specialty services; ambulance service; telephone 447589.

US Embassy Health Unit, staffed by a registered nurse, is located in the Embassy Compound. The Regional Medical Officer, stationed in Riyadh, Saudi Arabia, makes quarterly visits. The Health Unit maintains a referral list for local physicians and services.

Major Airfields

Kuwait International (b)(2) • L-3,399m, W-46m; joint military-civil control; suitable for all aircraft.
Ahmed al-Jaber AB (b)(2) • L-3,048m, W-43m; military control; visual daylight operations only; suitable for C-130, C-141B; unsuitable for C-5, KC-10.
Ali al-Salem AB (b)(2) • L-3,048m, W-45m; military control; visual daylight operations only; suitable for C-130, C-141B, K-10 (requires waiver by SACAF); site has not been surveyed for C-5 suitability.

Joint Medical Regulating Office

Rhein-Main AFB , Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

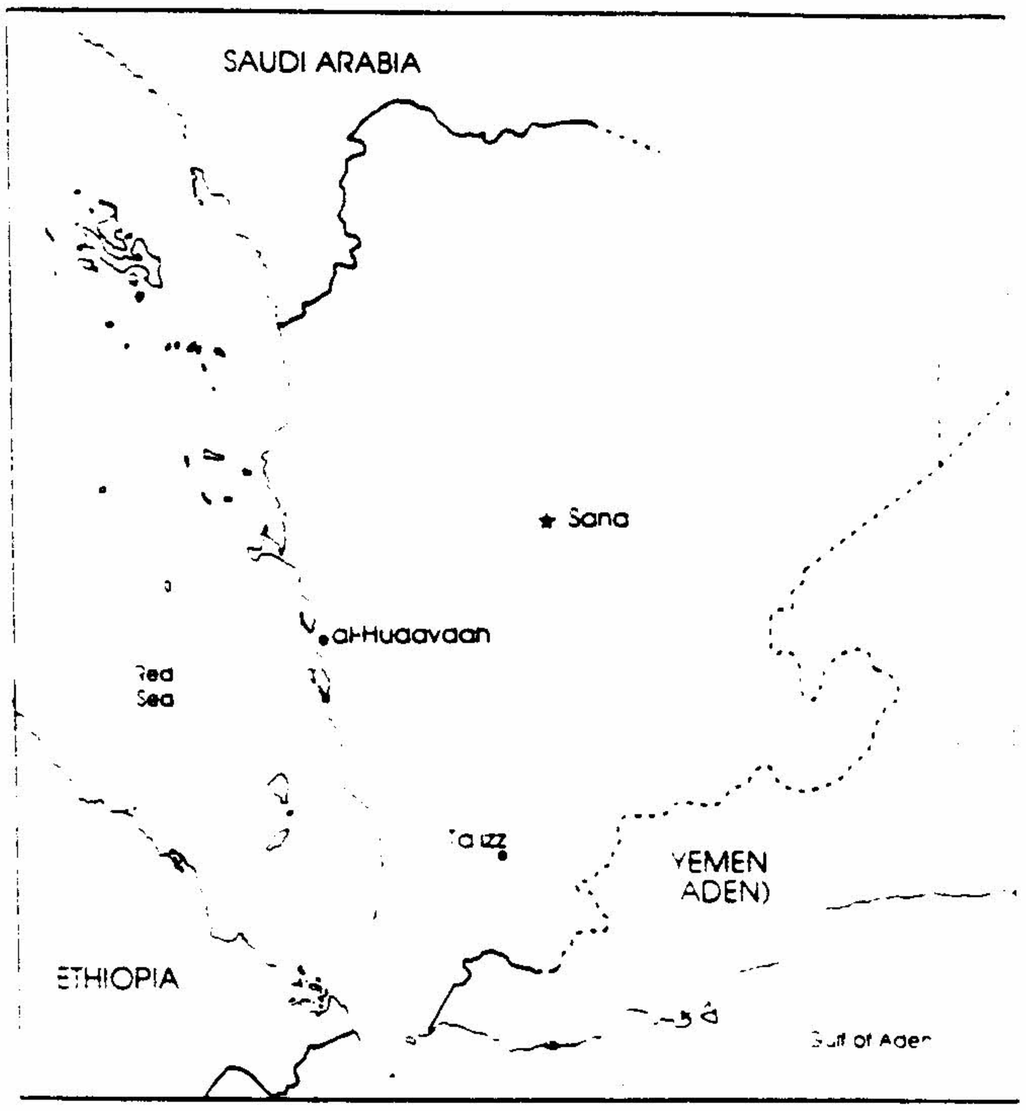
Address: Bneid al-Gar, Kuwait (opposite the Hilton Hotel)
Telephone: Local 2424150-9
Mailing address: P.O. Box 77, Safat, Kuwait, State of Kuwait
Message address: (b)(2)

prepared: April 1989

NORTH YEMEN (SANA)
YEMEN ARAB REPUBLIC

CAPITAL*/MAJOR CITIES: Sana* (b)(2)
Ta'izz (b)(2) al-Hudaydah (b)(2)

LOCAL TIME: ZULU +3, EST +8
LANGUAGES: Arabic



TOPOGRAPHY

General. 42% sandy desert, 36% meadows and pastures, 8% forest and woodland, 14% arable.

Major Features. North Yemen has 3 distinct physiographic regions: (1) A hot, sandy coastal strip, the Tihama, located on the Red Sea west of the mountainous interior; (2) the interior highlands, where the capital, Sana, and the highest peak on the Arabian Peninsula, Nebi Shuyayb (3,749 meters), are located; (3) the sandy desert wastelands of inner Arabia, located to the east of the interior highlands.

CLIMATE

General. The climate in North Yemen varies by region. Temperatures in the Tihama can exceed 49°C with 80% humidity in the summer, but from October to April the coastal region is warm and pleasant. The interior highlands are characterized by clear, sunny weather separated by 2 major rainy seasons. Winter temperatures in the highlands may drop to -1° C, with daytime highs of 22° C; summer temperatures are moderate, with highs of 29° C dropping to 21° C at night. The desert areas are dry, with summer temperatures exceeding 43° C, but can be cold on winter nights. Rainfall in the coastal regions and the mountainous interior usually is adequate, but in recent years the country has experienced severe drought.

Seasonal. The rainy seasons in the interior highlands occur during March and April and again, more heavily, during July and August. There are occasional dust storms throughout the country during the summer months.

WATER SUPPLY

Sources. Most water supplies from city water services or private water companies come from wells that are subject to contamination.

Potability/Treatment. Proper treatment of water supplies by boiling and filtering is essential. Commercially bottled water and carbonated soft drinks manufactured in North Yemen are considered safe and are widely available throughout the country.

ELECTRICITY/PLUGS (Tab A)

AC 50 Hz, 220/380Volts; plugs are types C and D.

ANIMAL THREATS

Snakes. (Tab B - antivenin sources)

Colubridae - *Atractaspis microlepidota andersoni*

SANA

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	23	24	24	25	26	28	27	26	26	23	22	22
Mean daily minimum (°C)	2	6	8	10	12	11	13	13	10	4	2	1
PRECIPITATION Mean total (mm)	<1	3	30	43	33	5	66	89	13	<1	10	5
FIRST LIGHT	0610	0606	0550	0527	0511	0509	0509	0517	0526	0530	0543	0558
LAST LIGHT	1815	1835	1840	1858	1858	1849	1826	1804	1753	1758	1753	1758

(Mean civil twilight, local standard time)

prepared: April 1989

Elapidae - Arabian Cobra (*Naja haje arabica*)
Viperidae - Puff Adder (*Bitis arietans arietans*)
Vipers: Saw-scaled(*Echis carinatus pyramidium*), *Echis coloratus*
Invertebrates (Tab B - antivenin sources)
Dangerous **scorpions** (*Androctonus* spp.) and **black widow spiders** (*Latrodectus* spp.) are found primarily in the arid regions of the country.
Other. Sea cones, rays, and urchins occur in coastal waters and may pose a threat to unprotected personnel.

PLANT THREATS

The primary plant threats in North Yemen probably are the euphorb varieties that thrive in the desert and semidesert regions. Most of these plants can cause painful puncture wounds and skin abrasions, and many species are contact vesicants.

IMMUNIZATION REQUIREMENTS

WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroquine regimen for travelers to areas of risk. In addition to standard immunizations, the State Department recommends rabies prophylaxis for personnel whose operational requirements will cause them to risk contact with the large populations of wild dogs and cats.

HIV SCREENING REQUIREMENTS

None identified.

ADDITIONAL OPERATIONAL INFORMATION

Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. The relatively high elevation of the city of Sana and most of the interior highlands may exacerbate existing respiratory and cardiac conditions.

MEDICAL TREATMENT/EVACUATION

Medical Facilities

Sana (b)(2) Caution: Travelers should use hospitals in Sana for emergency situations only.
al-Thawra General Hospital (500 beds); general medical care facility; hospital falls far below Western standards.
Kuwait General Hospital (250 beds); general care and limited emergency medical care facility.

US Embassy Health Unit is staffed by the Regional Medical Officer and 2 American contract nurses. Two hospitals approximately 4 hours from Sana sometimes are used for simple surgical procedures: a hospital in Jibla (b)(2) and one in Saadah (b)(2)

Major Airfields

Sana International (b)(2) • L-3,252m, W-45m; joint military-civil control; suitable for all types of aircraft; daylight operations only; no DOD published approach.
Ta'izz Ganed (b)(2) • L-2,400m, W-45m; civil control; visual daylight operations only; suitable for C-130, C-141B; KC-10 use requires SACAF waiver; site has not been surveyed for C-5 suitability.

Joint Medical Regulating Office

Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

Address: P.O. Box 1088, Sana, Yemen Arab Republic
Telephone: INTL DD 967-271-950 or through 958, ext. 218/9
Message address: (b)(2)

prepared: April 1989

OMAN

CAPITAL*/MAJOR CITIES: Muscat* (b)(2)
Ruwi (b)(2) Nizwa (b)(2)
Salalah (b)(2) Sohar (b)(2)

LOCAL TIME: ZULU +4, EST +9

LANGUAGES: Arabic (official), English, Baluchi, Urdu, Indian dialects

TOPOGRAPHY

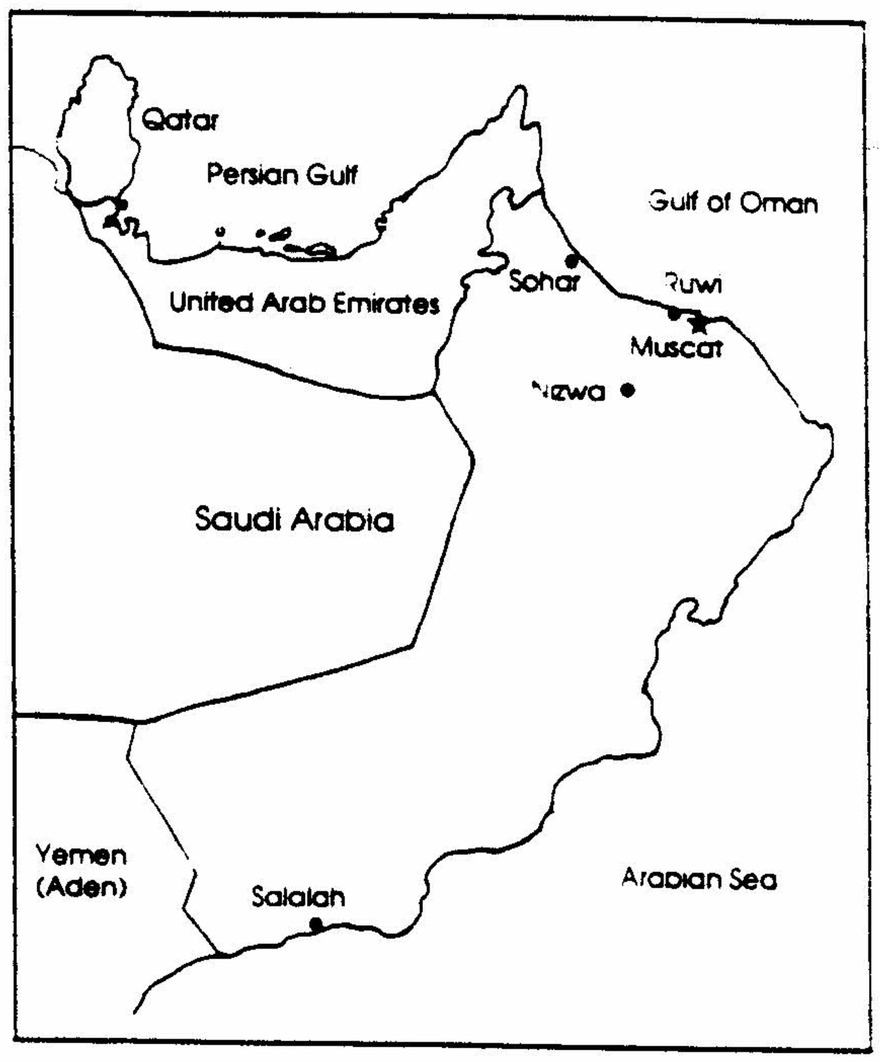
General. 95% desert wasteland and mountains, 5% meadows and pastures.

Major Features. Oman has 3 distinct topographic areas: (1) Flat coastal strips of relatively fertile land that extend, in the north, from Muscat to the UAE border and, in the south, surround the city of Salalah ; (2) 2 mountainous regions deeply scarred by wadis: the al-Hajar mountain chain, which parallels the coast of the Gulf of Oman and reaches an elevation of 3,107 meters in the north, and the Dhofar Mountains, which border the Salalah plain in the south; (3) the vast gravel desert, which extends from the northeast to the southwest, covers almost three-fourths of the country, and becomes a sandy wasteland in the Rub al-Khali (Empty Quarter) along the Saudi Arabian border.

CLIMATE

General. Oman's climate is among the hottest in the world, and the coastal areas experience very high humidity. Temperatures commonly reach 49° C during the summer, which lasts from April to September, and rarely drop below 18° C in the cooler season, from December through March. The humidity averages 65-80%, but the average annual rainfall is only 100-125 mm.

Seasonal. During the summer (May to September), there is a strong monsoon in the southern, coastal



regions of Oman. Summer winds frequently raise large sand and dust storms in the interior of the country.

WATER SUPPLY

Sources. Oman has sparse natural fresh water resources.

Potability/Treatment. All water sources should be treated before consumption or use in washing foodstuffs.

ELECTRICITY/PLUGS (Tab A)

AC 50 Hz, 240/415 volts; plugs are types D and G. A grounding conductor is required in the electrical cord attached to appliances.

ANIMAL THREATS

Snakes. (Tab B - antivenin sources)

Hydrophidae - Sea Snakes: *Hydrophis cyanocinctus, H. gracilis, H. lapemoides, H. ornatus ornatus, H. spiralis, Lapemis curtis*, Pelagic (*Pelamis platurus*), *Thalassophis viperinus*

MUSCAT

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	24	24	27	32	36	37	35	33	33	33	29	26
Mean daily minimum (°C)	19	19	22	26	29	31	31	29	28	27	23	21
PRECIPITATION Mean total (mm)	25	18	10	8	<1	<1	<1	<1	0	3	10	18
FIRST LIGHT	0633	0628	0611	0546	0529	0526	0534	0544	0550	0554	0605	0621
LAST LIGHT	1833	1848	1855	1901	1911	1922	1925	1912	1848	1824	1811	1816

(Mean civil twilight, local standard time)

prepared: April 1989

Viperidae - Saw-scaled Viper (*Echis carinatus pyramidium*)
Invertebrates (Tab B - antivenin sources)
Centipedes (*Scolopendra* spp.), **scorpions** (*Androctonus* spp.), and **black widow spiders** (*Latrodectus* spp.) inhabit the dry, interior regions of Oman, but generally occur in small populations.
Others. Sea urchins and several varieties of marine **rays** inhabit the coastal waters of Oman and could pose a threat to unprotected personnel.

PLANT THREATS

Varieties of euphorbs, many of which are contact vesicants, are found in the desert regions of Oman.

IMMUNIZATION REQUIREMENTS

WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroqine regimen for all travelers. The State Department recommends typhoid, tetanus, and poliomyelitis immunizations, plus gamma globulin and chloroquine.

HIV SCREENING REQUIREMENTS

None identified.

ADDITIONAL OPERATIONAL INFORMATION

Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. Dusty conditions may aggravate existing repiratory problems.

MEDICAL TREATMENT/EVACUATION

Medical Facilities

Muscat (b)(2)
Al-Khoula (370 beds); government hospital; all surgical and most medical specialties; central blood bank; burn unit; large new trauma unit; Western medical materiel; ambulance service; helipad.

Matrah (b)(2)
al-Nahdah (280 beds); government hospital; most general medical and diagnostic specialties.

US **Embassy Health Unit** staffed by 2 part-time American nurses is open 5 mornings a week. The Regional Medical Officer, based in Riyadh, Saudi Arabia, visits the Health Unit quarterly. US Navy physicians aboard ships that periodically visit Muscat may be available for consultation.

Major Airfields

Masirah (b)(2) • L-3,084m, W-45m; military control; visual daylight operations only; suitable for C-130, C-141B; KC-10 requires SACAF waiver; unsuitable for C-5. Prior clearance will be required from local authorities and probably also from MAC.
Salalah (b)(2) • L-2,733m, W-45m; military control; suitable for C-130, C-141B; KC-10 requires SACAF waiver; site has not been surveyed for C-5 suitability; no DOD published approach.
Seeb International (b)(2) • L-3,585m, W-45m; joint military-civil control; suitable for all types of aircraft; airfield has obstacles - approval for operations required from MACAF with area jurisdiction.
Thumrait (b)(2) • L-4,000m, W-45m; civil control; visual daylight operations only; suitable for all types of aircraft; no DOD published approach.

Joint Medical Regulating Office

Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

Address: P.O. Box 966, Muscat, Oman
Telephone: local 738-006/008/231, 737-050
Message address: (b)(2)

QATAR

CAPITAL*/MAJOR CITIES: Doha* (b)(2)
al-Khawr (b)(2) Dukhan (b)(2)

LOCAL TIME: ZULU +3, EST +8
LANGUAGES: Arabic (official), English

TOPOGRAPHY

General. 95% sand and gravel desert, 5% meadows and pastures.

Major Features. Qatar is a peninsula of land that juts out from the Arabian Peninsula into the Persian Gulf in a northeasterly direction. The basically flat terrain rises gradually from the east to a central limestone plateau with hills and some low cliffs at the north end of the eastern coast. Windblown sand covers much of the south, and sand dunes predominate in the southeast part of the country. Most of the rest of Qatar is rocky, sandy, and barren, and the topography consists of salt flats, dune desert, and arid plains.

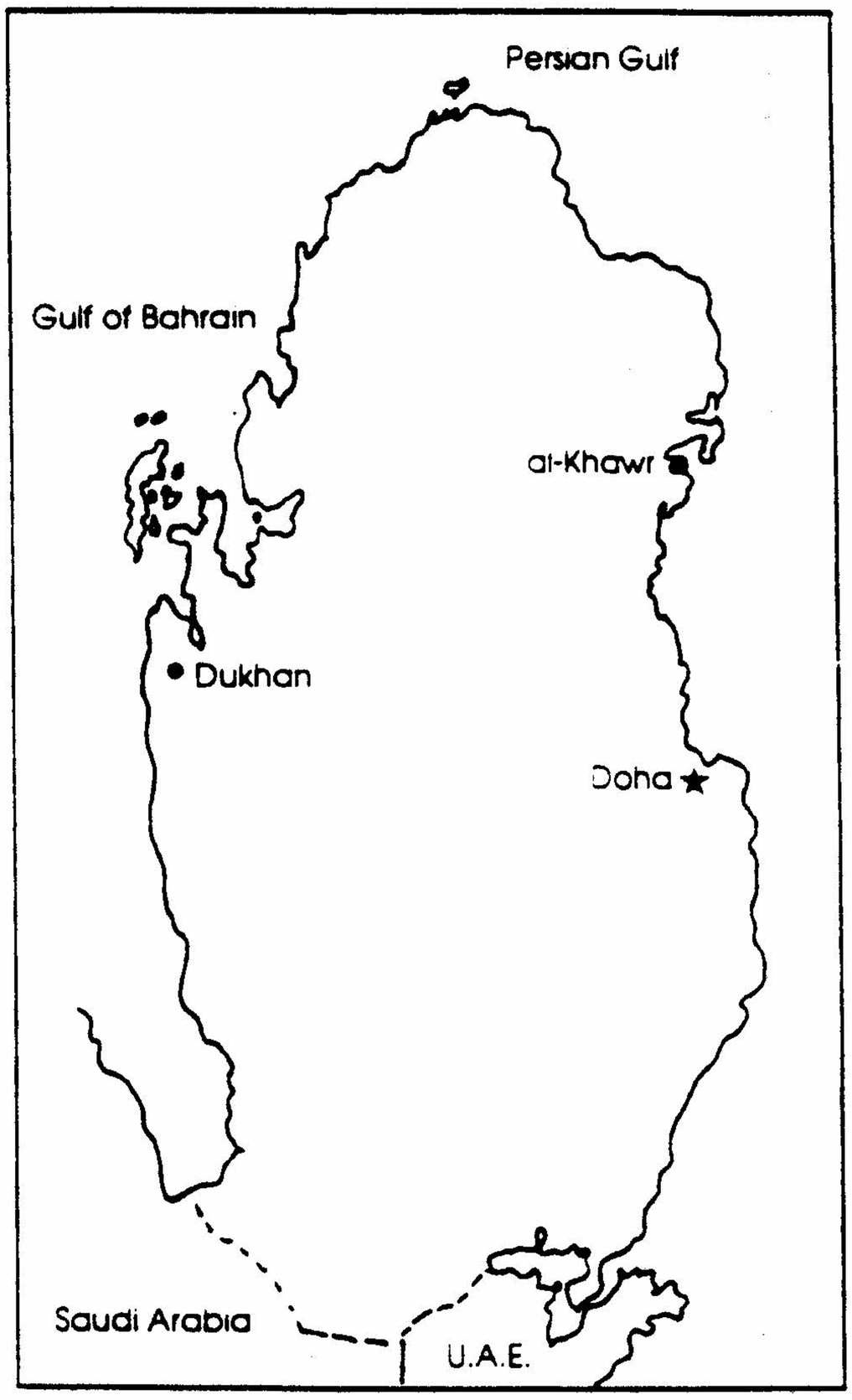
CLIMATE

General. Qatar is hot and humid during the summer and mild in the winter. During the spring and early summer, low (30-40%) humidity and moderate temperatures prevail. After the prevailing wind in late summer, the humidity rises to 85% or more and daytime temperatures rise as high as 49°C. In the winter months, temperatures range from 10 to 20°C and the humidity can be as high as 96 to 100%. Rainfall throughout the country is extremely light.

Seasonal. The "shamal," a constant, rather strong prevailing wind, comes from the north for all but the late summer months. Frequent sand and dust storms occur from March through August.

WATER SUPPLY

Sources. Qatar has very limited fresh water resources.



The high mineral content of the underground water makes it unsuitable for drinking. Water is obtained almost exclusively from large desalination plants, and tapwater reportedly is potable.

Potability/Treatment. Treatment of water supplies before consumption is advised, particularly during the summer months. Inexpensive UAE bottled water and

DOHA

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	21	22	26	32	37	41	42	42	39	35	29	23
Mean daily minimum (°C)	12	12	16	20	25	28	29	29	26	12	18	13
PRECIPITATION Mean total (mm)	23	13	13	3	3	0	0	0	0	0	5	20
FIRST LIGHT	0557	0545	0519	0447	0423	0417	0427	0444	0457	0510	0527	0547
LAST LIGHT	1730	1751	1806	1821	1837	1852	1852	1832	1800	1729	1709	1712

(Mean civil twilight, local standard time)

prepared: April 1989

Qatar's bottled mineral water are readily available locally.

ELECTRICITY/PLUGS (Tab A)
AC 50 Hz, 240/415 volts; plugs are types D and G.

ANIMAL THREATS
Snakes. Distribution data attribute no poisonous snakes to Qatar, but sea snakes (particularly *Hydrophis* spp.) inhabit the Persian Gulf region in erratic distributional patterns and may occur in the coastal and estuarine regions of the country.
Invertebrates (Tab B - antivenin sources)
Black widow spiders (*Latrodectus* spp.) and **scorpions** are found throughout the Persian Gulf countries and probably occur in Qatar, but no specific incidence or distribution data are available.

PLANT THREATS
Multiple species of plant life, many of which have dangerous thorns, flourish in the desert regions of Qatar. Many varieties of euphorbs, some of which are contact vesicants, have been identified.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.
Military Requirements. See Tab C.
Other. The State Department recommends typhoid and tetanus immunization, tuberculosis skin testing, and gamma globulin prophylaxis.

HIV SCREENING REQUIREMENTS
Proof of negative HIV testing is required of foreign applicants for work permits. US tests performed within the past 6 months are accepted. Diplomats are exempted.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. Dusty, sandy conditions may aggravate existing respiratory conditions, and the high heat and humidity of the late summer months will debilitate personnel.

MEDICAL TREATMENT/EVACUATION
Medical Facilities

Doha (b)(2)
Hamad Hospital (600 beds); government-run; major referral center; all specialties; well-equipped and staffed; ambulance service.

US Embassy Health Unit at the Embassy compound has a contract nurse. The Health Unit is visited regularly by the Regional Medical Officer based in Riyadh, Saudi Arabia, and in emergencies can call upon a US Navy physician in Manama, Bahrain.

Major Airfields
Doha International (b)(2) • L-4,572m, W-46m; civil control; suitable for C-130, C-141, KC-10; site has not been surveyed for C-5 suitability; no DOD published approach.

Joint Medical Regulating Office
Rhein-Main AFB Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

Address: P.O. Box 2399, Doha, Qatar
Telephone: INTL DD 974-86-4701/2/3,
local 864701/2/3

SAUDI ARABIA

CAPITAL*/MAJOR CITIES: Riyadh* (b)(2) Jeddah (b)(2) Medina (b)(2) Tabuk (b)(2) Dhahran (b)(2)

LOCAL TIME: ZULU +3, EST +8
LANGUAGE: Arabic (official)

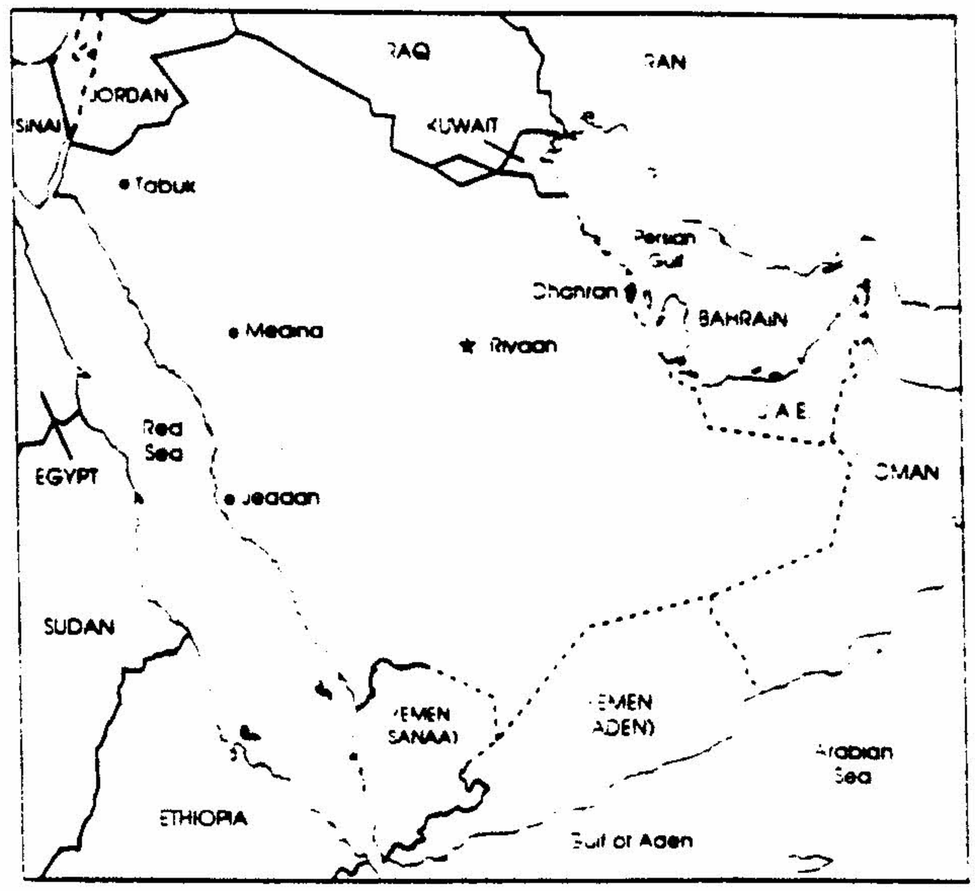
TOPOGRAPHY

General. 59% sandy desert, 39% meadows and pastures, 1% forest and woodland, 1% arable.

Major Features. The land in Saudi Arabia slopes gently eastward from mountain ranges near the Red Sea toward the Persian Gulf. The topography is primarily desert and includes the Rub al-Khali (Empty Quarter), a vast, uninhabited expanse of sand. There are 4 major regions of the country: (1) The Western Region (traditionally the Hijaz) comprises a dry, narrow coastal plain along the Red Sea and a narrow chain of mountains on the eastern border of the plain. (2) The Asir is a densely populated mountainous region along the southern Red Sea coast. (3) The Nejd, the heartland of Saudi Arabia, is the location of the capital city, Riyadh. (4) The eastern province (al-Hasa) is largely desert and contains most of the country's oil fields.

CLIMATE

General. There are 3 major climatic zones in Saudi Arabia: a small area of high humidity and mild temperature conditions in Asir near the Yemen (Sana) border, a steppe (a semi-dry, prairie-like area) along the western highlands, and the arid and semi-arid desert regions. Annual rainfall fluctuates markedly throughout the country, and some regions have no rainfall for years. Temperatures range from 14 to 23° C during the winter months and become extremely hot in the summer, frequently reaching 49° C.



Seasonal. Sand and dust storms are fairly common during the summer months.

WATER SUPPLY

Sources. There are no perennial rivers or permanent water bodies in the country. The Saudis are developing extensive coastal seawater desalination facilities.
Potability/Treatment. All tapwater should be treated. Bottled water is recommended for consumption.

ELECTRICITY/PLUGS (Tab A)

AC 50/60 Hz, 127/220, 220/380, 230/400 volts; plugs are types A, B, C, D, E, F, G, H, I, and J. National power supply is being standardized at 60 Hz, 127/220 volts.

ANIMAL THREATS

Snakes. (Tab B-antivenin sources)
Elapidae - Asian Cobra (*Naja haje arabica*), Desert Black Snake (*Walterinnesia aegyptia*)
Hydrophidae - Sea Snakes: *Hydrophis cyanocinctus, H. gracilis, H. lapemoides, H. ornatus ornatus, H. Spiralis, Lapemis curtus,* Pelagic (*Pelamis platurus*),

DHAHRAN

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	21	22	26	26	37	41	42	42	39	35	29	23
Mean daily minimum (°C)	12	12	16	16	25	28	29	29	26	21	18	13
PRECIPITATION Mean total (mm)	23	12	12	3	5	<1	<1	<1	<1	<1	5	20
FIRST LIGHT	0615	0604	0540	0509	0445	0438	0448	0503	0516	0528	0545	0605
LAST LIGHT	1750	1811	1825	1838	1854	1909	1910	1852	1821	1752	1730	1732

(Mean civil twilight, local standard time)

prepared: April 1989

Thalassophis viperinus
Viperidae -Vipers: Arabian Horned (*Cerastes cerastes gasperettii*), Saw-Scaled (*Echis carinatus pyramidium*), False Horned (*Pseudocerastes persicus persicus*)
Invertebrates (Tab B - antivenin sources)
Scorpions (*Androctonus* spp.) and **centipedes** (*Scolopendra* spp.) occur throughout the general region, but only occasionally are encountered in Saudi Arabia. The scorpion species ***Pandinus***, the venom of which has only local action in adult humans, occurs more commonly.

PLANT THREATS

Euphorbs are very well represented in the desert flora of Saudi Arabia. A significant number of the plants are enormous, spiny succulents; contact will produce painful, debilitating puncture wounds and skin abrasions. Many species of the euphorbs that are contact vesicants also occur in the country.

IMMUNIZATION REQUIREMENTS

WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from countries any parts of which are infected. A certificate of vaccination against meningococcal meningitis issued within the past 2 years and not less than the last 3 weeks is required or travelers will be vaccinated upon arrival in country.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroquine regimen for travelers to areas of risk. CDC also advises that "it would be prudent for future travelers to Saudi Arabia to receive the meningococcal vaccine at least 10 days prior to departure."

IIIV SCREENING REQUIREMENTS

Application for a work visa requires proof of a negative AIDS test. Tests performed in the US are accepted. In addition, foreign workers in Saudi Arabia will be re-tested 3 months after their arrival in country.

ADDITIONAL OPERATIONAL INFORMATION

Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. Occasional sand storms in the open deserts may compromise visibility and cause eye irritation.

MEDICAL TREATMENT/EVACUATION

Medical Facilities

Riyadh (b)(2)
King Faisal Specialist Hospital (400 beds); government referral and research facility; all specialties; ambulance service and helipad; may be the best overall medical facility in the country.
Minister of Defense Hospital (890 beds); military facility; all specialties; ambulance service and helipad.

Dhahran (b)(2)
Aramco Hospital (361 beds); private JCAH accredited facility; most specialties; among the best in the country.

US Embassy Health Unit is staffed by the Regional Medical Officer, 2 American registered nurses, and an American laboratory technician.
US Corps of Engineers Health Clinic is staffed by 3 physicians and several registered nurses. The Clinic has laboratory, pharmacy, and X-ray capabilities.
US Military Training Mission (USMTM) **Dispensary** is staffed by a physician, a registered nurse, and 2 corpsmen.

Major Airfields

Dhahran International (b)(2) • L-3,600m, W-45m; joint military-civil control; suitable for all types of aircraft; special instructions for C-130, C-141B; C-5 in current MACAF survey of airfield restrictions.
King Aboul Aziz International (b)(2) L-3,800m, W-60m; joint military-civil control; suitable for all types of aircraft; special instructions for C-130, C-141B, C-5 in current MACAF summary of airfield restrictions.
King Khalid International (b)(2) • L-4,200m, W-60m; joint military-civil control; suitable for all types of aircraft; no DOD published approach.
Riyadh International (b)(2) • L-4,050m, W-45m; joint military-civil control; suitable for all types of aircraft.
Sharourah (b)(2) • L-3,597m, W-61m; military control; visual daylight operations only; suitable for all types of aircraft.
Tabuk (b)(2) • L-3,353m, W-45m; military control; suitable for all types of aircraft; no DOD published approach.

Joint Medical Regulating Office
Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

Address: Diplomatic Quarter, Sulaimaniah District, P.O. Box 9041, Riyadh, Saudi Arabia
Telephone: INTL DD 966-1-488-3800, ext. 275-281
Message address: (b)(2)

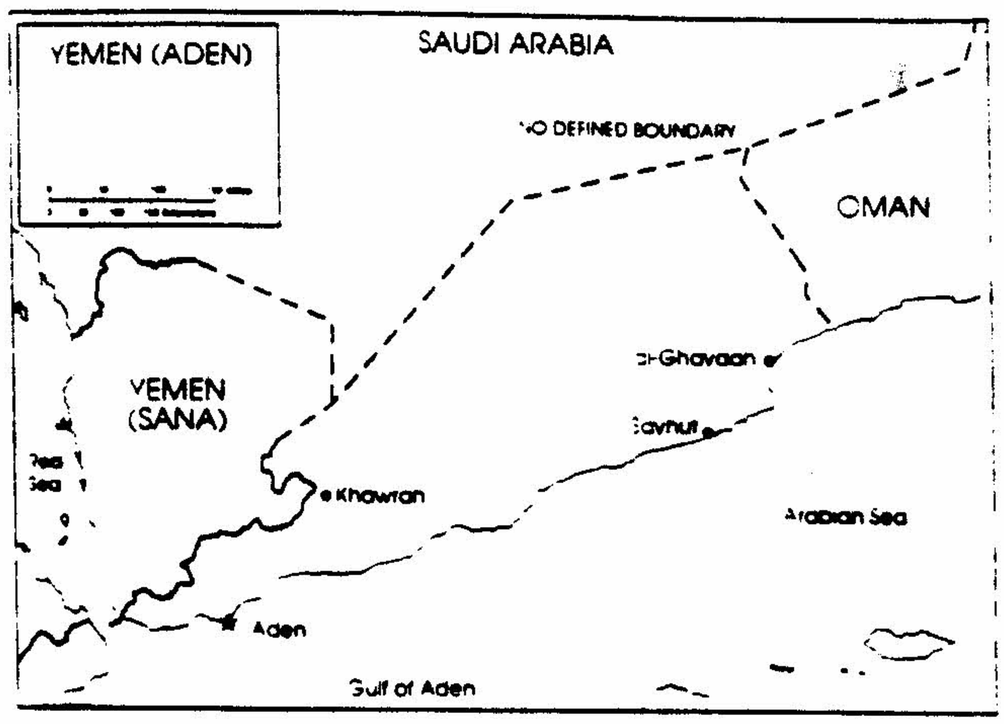
prepared: April 1989

SOUTH YEMEN (ADEN)

PEOPLES DEMOCRATIC REPUBLIC OF YEMEN

CAPITAL/MAJOR CITIES: Aden* (b)(2) al-Ghaydah (b)(2) Khawrah (b)(2) Sayhut (b)(2)

LOCAL TIME: ZULU +3, EST +8
LANGUAGE: Arabic



TOPOGRAPHY

General. 65% desert plains and rugged mountains, 27% meadows and pastures, 7% forest and woodland, 1% arable.

Major Features. There are 3 major regions which generally parallel the Gulf of Aden: (1) The coastal plain is a 1,194 km-long discontinuous strip ranging from 7 to 65 km in width. (2) The Yemen Plateau is divided roughly into thirds by 2 wadi basins. The Plateau's highest elevation occurs at Jabal al-Hasha (3,227 meters) in the southwest peaks on the western border. (3) The desert region is a southern extension of the Saudi Arabian Rub al-Khali (Empty Quarter).

CLIMATE

General. Precipitation in South Yemen is primarily a function of altitude. The lowland coastal regions and the northeastern desert areas average less than 102 mm of rainfall annually, while the southwestern highlands average more than 406 mm. Often, but undependably, nearly 762 mm of rain falls annually near the western border. Daytime summer temperatures in the coastal regions often exceed 38° C, and 80% humidity is common. The highlands are cooler in the summer and can be very cold in winter; frost and snow are not uncommon.

Seasonal. Dust and sand storms occur during the summer months in the northern desert regions.

WATER SUPPLY

Sources. Well water, the primary source of water, usually is contaminated. Water supplies in Aden are limited but adequate. Throughout the rest of the country, fresh water is scarce.

Potability/Treatment. All water supplies should be treated before use.

ELECTRICITY/PLUGS (Tab A)

AC 50 Hz, 230/400 volts; plugs are types A and D. A grounding conductor is required in the electrical cord attached to appliances.

ANIMAL THREATS

Snakes. (Tab B - antivenin sources)
Colubridae - *Atractaspis microlepidota andersoni*
Elapidae - Cobra: Arabian (*Naja haje arabica*)
Hydrophidae - Sea Snake: Pelagic (*Pelamis platurus*)
Viperidae -Puff Adder (*Bitis arietans arietans*)
Saw-scaled Viper (*Echis carinatus pyramidium*), *E. coloratus*
Invertebrates (Tab B - antivenin sources)
Poisonous **scorpions** (*Buthus* spp.) and **black widow spiders** (*Latrodectus* spp.) are found primarily in the arid northern regions of the country.

ADEN

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	27	27	29	34	34	35	34	33	34	32	29	27
Mean daily minimum (°C)	23	23	24	28	28	29	28	27	28	26	24	23
PRECIPITATION Mean total (mm)	5	3	5	<1	<1	<1	3	<1	3	<1	3	3
FIRST LIGHT	0603	0601	0547	0526	0512	0510	0518	0527	0528	0529	0536	0550
LAST LIGHT	1815	1828	1832	1834	1840	1850	1853	1843	1823	1803	1753	175

(Mean civil twilight, local standard time)

prepared: April 1989

Others. Sea urchins and several varieties of **rays** are found in the coastal waters and may pose a threat to unprotected personnel.

PLANT THREATS
The country generally is devoid of vegetation. Natural vegetation, scattered along the coast and in the highlands, consists mainly of thorn scrub and dwarf trees. Thorny scrub vegetation can inflict painful penetrating wounds and commonly includes a variety of euphorbs that contain latex contact vesicants.

IMMUNIZATION REQUIREMENTS
WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.
Military Requirements. See Tab C.
Other. CDC recommends a weekly chloroquine regimen for those traveling to areas of risk.

HIV SCREENING REQUIREMENTS
None identified.

ADDITIONAL OPERATIONAL INFORMATION
Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. High altitude in some parts of S. Yemen may exacerbate existing respiratory and cardiac problems.

MEDICAL TREATMENT/EVACUATION
Medical Facilities

Aden (b)(2)
al-Jumbruriayal Hospital (495 beds); general care facility; ambulance service.
al-Sha'b Hospital (425 beds); general care facility; ambulance service.

Major Airfields
Aden International (b)(2) • L-3,100m,W-60m; civil control; suitable for C-130, C-141B; unsuitable for KC-10; site has not been surveyed for C-5 suitability; no DOD published approach.

Joint Medical Regulating Office
Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

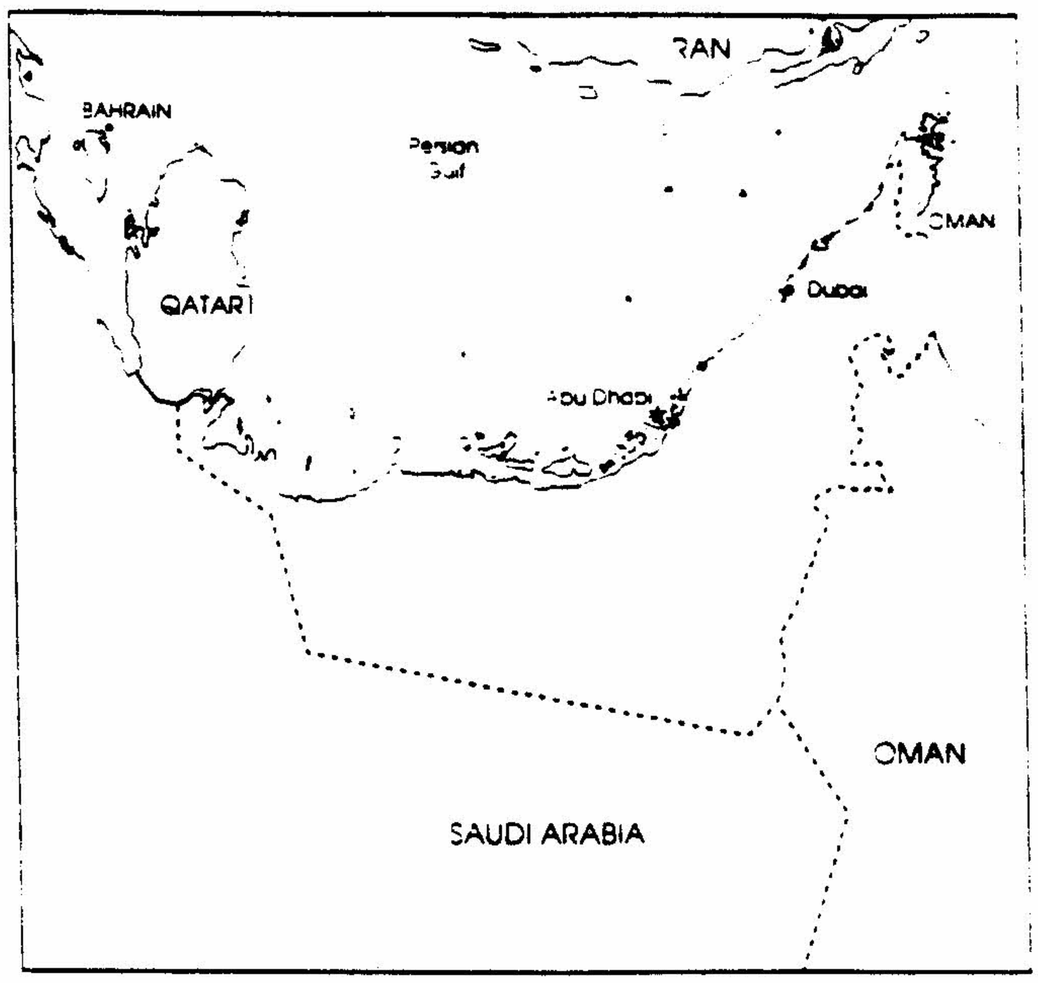
The United States has no diplomatic relations with S. Yemen. American interests in the country are handled by the British Embassy in Aden (telephone: local 32711).

prepared: April 1989

UNITED ARAB EMIRATES (UAE)

CAPITAL*/MAJOR CITIES: Abu Dhabi* (b)(2)
Dubai (b)(2)

LOCAL TIME: ZULU +4, EST +9
LANGUAGES: Arabic (official), Farsi and English widely spoken, Hindi, Urdu



TOPOGRAPHY

General. 98% barren coastal plains, sand dunes, and desert wasteland; 2% meadows and pasture.

Major Features. The only landscape feature other than the low-lying desert plain is the mountainous region in the east. The mountains rise sharply from the plains to an elevation of nearly 3,048 meters. UAE's 3 natural deepwater harbors, Dibbah, Khawr al-Fakkan, and Kalba, are located along the eastern coast at the base of the Gulf of Oman.

CLIMATE

General. The climate throughout UAE is hot and dry. Rainfall averages only 75-102 mm annually, and summer (May - October) temperatures may reach 46°C. The average temperature during the winter months (December - February) is 18°C.

Seasonal. Mid-winter and early summer winds (shamal) blow from the north and give rise to dust storms.

WATER SUPPLY

Sources. The UAE has had a chronically inadequate supply of fresh water. As a result of extensive development of desalination plants, the shortage gradually is being overcome. Dubai tapwater generally is regarded as safe, but even there holding tanks and distribution pipes are subject to contamination.

Potability/Treatment. All water supplies should be treated before use. Inexpensive bottled water is readily available locally and is recommended for consumption.

ELECTRICITY/PLUGS (Tab A)

AC 50 Hz, 220/380, 230/400, 240/415 volts; plugs are types D and G.

ANIMAL THREATS

Snakes. (Tab B - antivenin sources)

Hydrophidae - Sea Snakes: *Hydrophis cyanocinctus, H. gracilis, H. lapemoides, H. ornatus ornatus, H. spiralis, Lapemis curtus*, Pelagic (*Pelamis platurus*), *Thalassophis viperinus*

Viperidae - Saw scaled viper (*Echis carinatus pyramidium*)

Invertebrates (Tab B - antivenin sources)

Scorpions and **centipedes** occur throughout the general region, but only rarely are encountered in the UAE.

PLANT THREATS

Vegetation is scanty in the UAE, but probably contains thorny plants. The low-lying scrubs common on the

ABU DHABI

TEMPERATURE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean daily maximum (°C)	24	24	29	33	37	39	39	41	39	35	30	26
Mean daily minimum (°C)	14	14	18	21	24	27	29	29	27	23	19	16
PRECIPITATION Mean total (mm)	23	18	12	10	<1	0	<1	5	0	<1	<1	3
FIRST LIGHT	0644	0633	0606	0536	0513	0508	0518	0533	0546	0557	0615	0634
LAST LIGHT	1820	1840	1854	1908	1924	1938	1938	1919	1948	1918	1759	1802

(Mean civil twilight, local standard time)

prepared: April 1989

plains undoubtedly include some of the euphorb varieties, which have a latex contact vesicant.

IMMUNIZATION REQUIREMENTS

WHO Recommendations. A yellow fever vaccination certificate is required of travelers coming from infected areas.

Military Requirements. See Tab C.

Other. CDC recommends a weekly chloroquine regimen.

HIV SCREENING REQUIREMENTS

The UAE requires an AIDS test for applicants for work visas and for travelers staying in country longer than 30 days. Results of tests performed in the US are not accepted. AIDS screening also is required of foreign workers applying to renew residence permits.

ADDITIONAL OPERATIONAL INFORMATION

Seasonal heat and high humidity can be expected to degrade personnel performance and cause medical supplies and equipment to deteriorate. Heat and dust in the UAE may exacerbate existing respiratory and allergic conditions.

MEDICAL TREATMENT/EVACUATION

Medical Facilities

Abu Dhabi (b)(2)

Mafraq (520 beds); major referral center; most specialty services; burn unit; ambulance service; helipad.

Dubai (b)(2)

Dubai Hospital (635 beds); major referral facility; most specialty services; trauma/burn units; ambulance service; helipad.

Rashid Hospital (500-600 beds); emergency/trauma facility, all support services, blood bank, ambulance service, helipad.

US Embassy Health Unit is staffed 2 mornings a week by a qualified nurse and has 2 expatriate physicians who serve as medical advisers. The Regional Medical Officer, based in Riyadh, Saudi Arabia, makes occasional visits.

Major Airfields

Abu Dhabi International (b)(2) • L-4,100m, W-45m; civil control; visual daylight operations only; suitable for C-130, C-141B, KC-10; site has not been surveyed for C-5 suitability.

al-Dhafra AB (b)(2) • L-3,675m, W-46m; military control; visual daylight operations only; suitable for C-130, C-141B, KC-10; site has not been surveyed for C-5 suitability.

Dubai International (b)(2) • L-4,001m, W-46m; joint military-civil control; suitable for all types of aircraft; no DOD published approach.

Sharjah International (b)(2) • L-3,597m, W-61m; joint military-civil control; suitable for C-130, C-141B, KC-10; site has not been surveyed for C-5 suitability; no DOD published approach.

Joint Medical Regulating Office

Rhein-Main AFB, Germany
AUTOVON 330-7427/8
Commercial: from CONUS 011-49-69-699-7427/8; from OCONUS 1-800-874-4000 (international information)

US Embassy

Address: Box 4009, Abu Dhabi, United Arab Emirates
Telephone: INTL DD 971-2-336691, local 336691
Telex: AMEMB 23513 EM

(b)(2)

(b)(2)

(b)(2)