



North Africa, Southwest Asia, and Central Asia

WHY IT'S IMPORTANT—

Your modern lifestyle depends on oil. Without vehicles powered by gasoline, how would you get from one place to another, and how would goods be sent from warehouses to stores? Today, much of the world's oil comes from the region of North Africa, Southwest Asia, and Central Asia. Many American companies do business in the region. As a result, political, social, and economic changes there have a major impact on your daily life.



World Regions Video



To learn more about North Africa, Southwest Asia, and Central Asia and their impact on your world, view the World Regions video "North Africa, Southwest Asia, and Central Asia."



Bedouin resting on roof of ancient stone building at Petra, Jordan

What Makes North Africa, Southwest Asia, and Central Asia a Region?

Arid and often forbidding, the region of North Africa, Southwest Asia, and Central Asia stretches from Morocco to Kazakhstan. Rugged mountain ranges surround vast, dry plateaus and some of Earth's greatest deserts. Through these parched landscapes flow a handful of life-sustaining rivers. The Nile, the world's longest river, slices northward through Egypt to the Mediterranean Sea. The

Tigris and Euphrates flow southeast across Turkey, Syria, and Iraq. These two rivers cradle the "Fertile Crescent," an area of rich soil where some of the world's earliest agricultural societies took root.

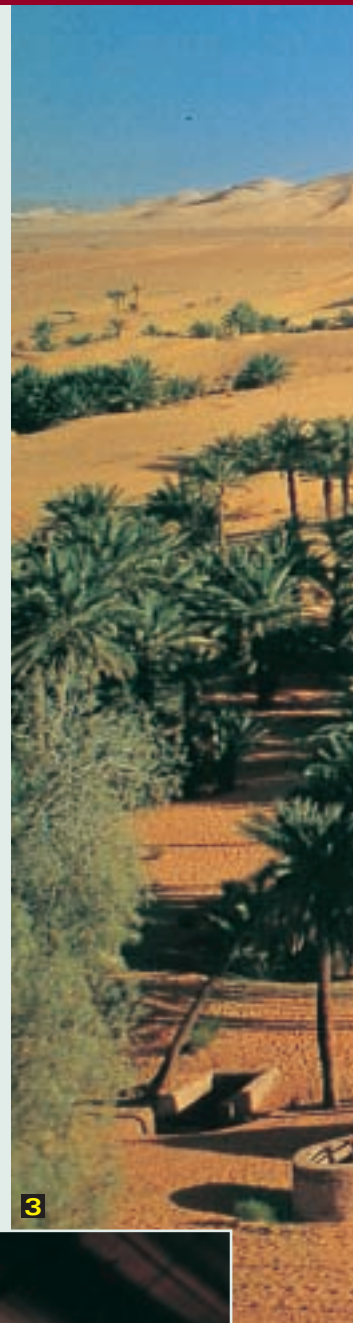
Where slightly more rain falls, deserts give way to grass-covered steppes where nomadic herders roam with their flocks. Only coastal areas and highlands enjoy a moister, milder Mediterranean climate. On the whole, water, perhaps the most precious resource, is very scarce in this region. Oil, in contrast, is one of the region's most abundant resources.



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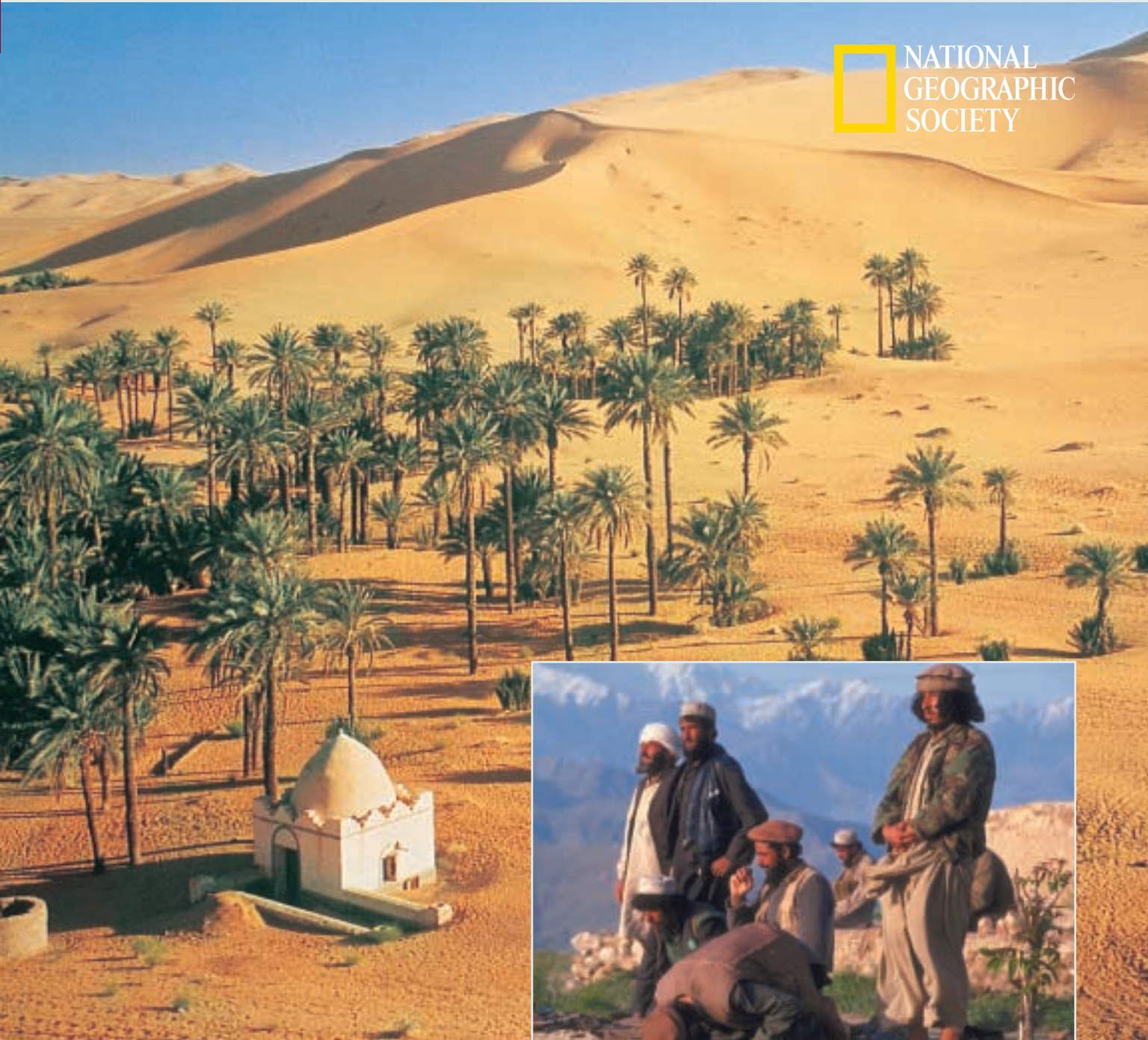
1 A Bedouin girl holds a baby goat on an arid plain in Jordan. Bedouins traditionally are nomadic herders of goats, sheep, and camels. Nomadic herding is common—and practical—in the vast parts of this region that are too dry for growing crops.

3



2

CONTENTS



4

2 Gleaming pipes surround an oil refinery in Kuwait. This tiny country and its neighbors on the Arabian Peninsula produce much of the world's oil. An elaborate system of pipelines transports the oil from refineries to seaports where huge oil tankers dock.

3 Wind-carved sand dunes surround a small oasis in the Algerian Sahara. The world's largest hot desert, the Sahara covers most of North Africa. Surprisingly, sand dunes are relatively rare in the Sahara. Far more common are wind-swept expanses of rock and gravel.

4 Muslims pause to pray high in the mountains of Afghanistan's Hindu Kush, one of the region's many mountain ranges. Other ranges include the Atlas Mountains, which span Morocco and Algeria, and the glacier-crowned Tian Shan of Kyrgyzstan.

Cradle of Civilization

Along the banks of the Nile River, colossal stone statues are mute reminders of the ancient Egyptian civilization. Many other great civilizations, including those of the Sumerians, Persians, and Phoenicians, also

arose in this region. So did three of the world's great religions—Judaism, Christianity, and Islam. Today, Islam claims the greatest number of followers here. Yet Georgia and Armenia remain Christian strongholds, and Israel is the Jewish state.

Ethnic diversity is a hallmark of this region, which has long been a cultural crossroads linking Europe, Africa, and Asia. Just as cultures mix in this part of the world, so tradition intermingles with the newest technology. Ancient customs persist even in the most modern cities.



1

1 A man wearing a traditional headdress chats on a cellular phone in the Israeli desert. Scenes like this one are most common in countries with oil- or industry-based economies that support high standards of living.



3



2



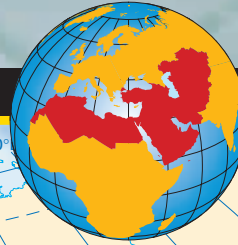
2 Draped in flowing *chadris*, or body veils, women shop for shoes in a market in Kabul, Afghanistan. The women practice a conservative form of Islam, which encourages women to conceal their bodies under these traditional full-length garments.

3 Straddling the Bosphorus Strait, Istanbul, Turkey, is the only major city to stand on two continents—Asia and Europe. The magnificent, domed Hagia Sophia was initially built as a Christian cathedral. Nearly a thousand years later, it was converted into a mosque. It now serves as a museum.

4 Standing guard for centuries, giant stone figures flank the entrance to an ancient temple in Egypt. Pharaoh Ramses II built this and a neighboring temple beside the Nile River during the 1200s b.c. When the Aswan High Dam was built in the 1960s, the temples were moved to higher ground.

North Africa, Southwest Asia, and Central Asia

PHYSICAL



Elevation Profile

POLITICAL

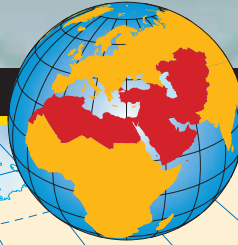


MAP Study

1. Which North African cities are located on the Mediterranean Sea?
2. Which capital cities are located along the Persian Gulf?

North Africa, Southwest Asia, and Central Asia

POPULATION DENSITY



ECONOMIC ACTIVITY



Land Use

	Commercial farming
	Subsistence farming
	Livestock raising
	Nomadic herding
	Hunting and gathering
	Manufacturing and trade
	Commercial fishing
	Little or no activity

Resources









































	Coal		Bauxite
	Petroleum		Manganese
	Natural gas		Phosphate
	Iron ore		Tungsten
	Copper		Gold
	Lead		Silver
	Zinc		Chromite

MAP Study

1. Describe the area of North Africa that has the highest population density. Why do you think this is so?
2. Which country has the most diverse natural resources?

North Africa, Southwest Asia, and Central Asia





































COUNTRY PROFILES

COUNTRY * AND CAPITAL	FLAG AND LANGUAGE	POPULATION AND DENSITY	LANDMASS	MAJOR EXPORT	MAJOR IMPORT	CURRENCY	GOVERNMENT
AFGHANISTAN  Kabul	 Pashto, Dari	26,800,000 106 per sq.mi. 41 per sq.km	251,772 sq.mi. 652,089 sq.km	 Fruits and Nuts	 Foods	Afghani	Islamic Republic
ALGERIA  Algiers	 Arabic, French, Berber	31,000,000 34 per sq.mi. 13 per sq.km	919,591 sq.mi. 2,381,521 sq.km	 Petroleum	 Machinery	Algerian Dinar	Republic
ARMENIA  Yerevan	 Armenian, Russian	3,800,000 330 per sq.mi. 127 per sq.km	11,506 sq.mi. 29,801 sq.km	 Gold	 Grain	Dram	Republic
AZERBAIJAN  Baku	 Azeri, Russian, Armenian	8,100,000 243 per sq.mi. 94 per sq.km	33,436 sq.mi. 86,599 sq.km	 Petroleum	 Machinery	Manat	Republic
BAHRAIN  Manama	 Arabic	700,000 2,688 per sq.mi. 1,038 per sq.km	266 sq.mi. 689 sq.km	 Petroleum	 Machinery	Bahrain Dinar	Traditional Monarchy
EGYPT  Cairo	 Arabic	69,800,000 181 per sq.mi. 70 per sq.km	386,660 sq.mi. 1,001,449 sq.km	 Crude Oil	 Machinery	Egyptian Pound	Republic
GEORGIA  T'bilisi	 Georgian, Russian	5,500,000 139 per sq.mi. 54 per sq.km	26,911 sq.mi. 69,699 sq.km	 Citrus Fruits	 Fuels	Lari	Republic
IRAN  Tehran	 Persian, Kurdish	66,100,000 108 per sq.mi. 42 per sq.km	630,575 sq.mi. 1,633,189 sq.km	 Petroleum	 Machinery	Rial	Islamic Republic
IRAQ  Baghdad	 Arabic, Kurdish	23,600,000 139 per sq.mi. 54 per sq.km	169,236 sq.mi. 438,321 sq.km	 Crude Oil	 Machinery	Iraqi Dinar	Republic
ISRAEL  Jerusalem**	 Hebrew, Arabic	6,400,000 791 per sq.mi. 305 per sq.km	8,131 sq.mi. 21,059 sq.km	 Polished Diamonds	 Chemicals	Shekel	Republic

* COUNTRIES AND FLAGS NOT DRAWN TO SCALE

**Israel has proclaimed Jerusalem as its capital, but many countries' embassies are located in Tel Aviv.

The Palestinian Authority has assumed all governmental duties in non-Israeli-occupied areas of the West Bank and Gaza Strip.

COUNTRY * AND CAPITAL	FLAG AND LANGUAGE	POPULATION AND DENSITY	LANDMASS	MAJOR EXPORT	MAJOR IMPORT	CURRENCY	GOVERNMENT
JORDAN 	 Arabic	5,200,000 150 per sq. mi. 58 per sq. km	34,444 sq. mi. 89,210 sq. km	 Phosphates	 Crude Oil	Jordanian Dinar	Constitutional Monarchy
KAZAKHSTAN 	 Kazakh, Russian	15,417,000 15 per sq. mi. 6 per sq. km	1,049,039 sq. mi. 2,716,998 sq. km	 Petroleum	 Machinery	Tenge	Republic
KUWAIT 	 Arabic	2,300,000 297 per sq. mi. 115 per sq. km	6,880 sq. mi. 17,818 sq. km	 Petroleum	 Foods	Kuwaiti Dinar	Constitutional Monarchy
KYRGYZSTAN 	 Kirghiz, Russian	5,000,000 65 per sq. mi. 25 per sq. km	76,641 sq. mi. 198,500 sq. km	 Cotton	 Grain	Som	Republic
LEBANON 	 Arabic, French	4,300,000 1,061 per sq. mi. 410 per sq. km	4,015 sq. mi. 10,399 sq. km	 Paper	 Machinery	Lebanese Pound	Republic
LIBYA 	 Arabic	5,200,000 8 per sq. mi. 3 per sq. km	679,359 sq. mi. 1,759,540 sq. km	 Crude Oil	 Machinery	Libyan Dinar	Military Dictatorship
MOROCCO** 	 Arabic, French, Berber	29,500,000 105 per sq. mi. 41 per sq. km	279,757 sq. mi. 724,571 sq. km	 Foods	 Manufactured Goods	Dirham	Constitutional Monarchy
OMAN 	 Arabic	2,400,000 29 per sq. mi. 11 per sq. km	82,031 sq. mi. 212,460 sq. km	 Petroleum	 Machinery	Omani Rial	Traditional Monarchy
QATAR 	 Arabic	600,000 139 per sq. mi. 54 per sq. km	4,247 sq. mi. 11,000 sq. km	 Petroleum	 Machinery	Qatari Riyal	Traditional Monarchy

* COUNTRIES AND FLAGS NOT DRAWN TO SCALE

**Morocco claims the Western Sahara area, but other countries do not accept this claim.






























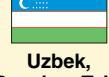






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CONTENTS  

North Africa, Southwest Asia, and Central Asia

COUNTRY PROFILES

COUNTRY * AND CAPITAL	FLAG AND LANGUAGE	POPULATION AND DENSITY	LANDMASS	MAJOR EXPORT	MAJOR IMPORT	CURRENCY	GOVERNMENT
SAUDI ARABIA 	 Arabic	21,100,000 25 per sq. mi. 10 per sq. km	829,996 sq. mi. 2,149,690 sq. km	 Petroleum	 Machinery	Riyal	Traditional Monarchy
SYRIA 	 Arabic, Kurdish, Armenian	17,100,000 231 per sq. mi. 89 per sq. km	71,498 sq. mi. 185,180 sq. km	 Petroleum	 Machinery	Syrian Pound	Republic
TAJIKISTAN 	 Tajik, Russian	6,200,000 112 per sq. mi. 43 per sq. km	55,251 sq. mi. 143,100 sq. km	 Aluminum	 Fuels	Tajik Ruble	Republic
TUNISIA 	 Arabic, French	9,700,000 154 per sq. mi. 59 per sq. km	63,170 sq. mi. 163,610 sq. km	 Petroleum Products	 Machinery	Tunisian Dinar	Republic
TURKEY 	 Turkish, Kurdish	66,300,000 221 per sq. mi. 85 per sq. km	299,158 sq. mi. 774,819 sq. km	 Foods and Livestock	 Machinery	Turkish Lira	Republic
TURKMENISTAN 	 Turkmen, Russian, Uzbek	5,500,000 29 per sq. mi. 11 per sq. km	188,456 sq. mi. 488,101 sq. km	 Natural Gas	 Machinery	Manat	Republic
UNITED ARAB EMIRATES 	 Arabic, Persian	3,300,000 103 per sq. mi. 40 per sq. km	32,278 sq. mi. 83,600 sq. km	 Petroleum	 Manufactured Goods	Emirian Dirham	Federal Monarchy
UZBEKISTAN 	 Uzbek, Russian, Tajik	25,100,000 145 per sq. mi. 56 per sq. km	172,471 sq. mi. 446,700 sq. km	 Cotton	 Machinery	Som	Republic
YEMEN 	 Arabic	18,000,000 88 per sq. mi. 34 per sq. km	203,849 sq. mi. 527,969 sq. km	 Cotton	 Textiles	Rial	Republic

* COUNTRIES AND FLAGS NOT DRAWN TO SCALE

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► Traffic speeds by eastern harbor, Alexandria, Egypt



سيراميك كلوباندا
مهندسة بيك و انظمة حمامات

ايوان وسايك
EGYBEL
ايجيبل



GLOBAL
CONNECTION

SOUTHWEST ASIA AND THE UNITED STATES

RELIGIONS



Chances are there's a church, a synagogue, or a mosque in your community. These places of worship represent three of the most widespread religions in the United States: Christianity, Judaism, and Islam. All three have their roots in Southwest Asia and profess belief in one God.

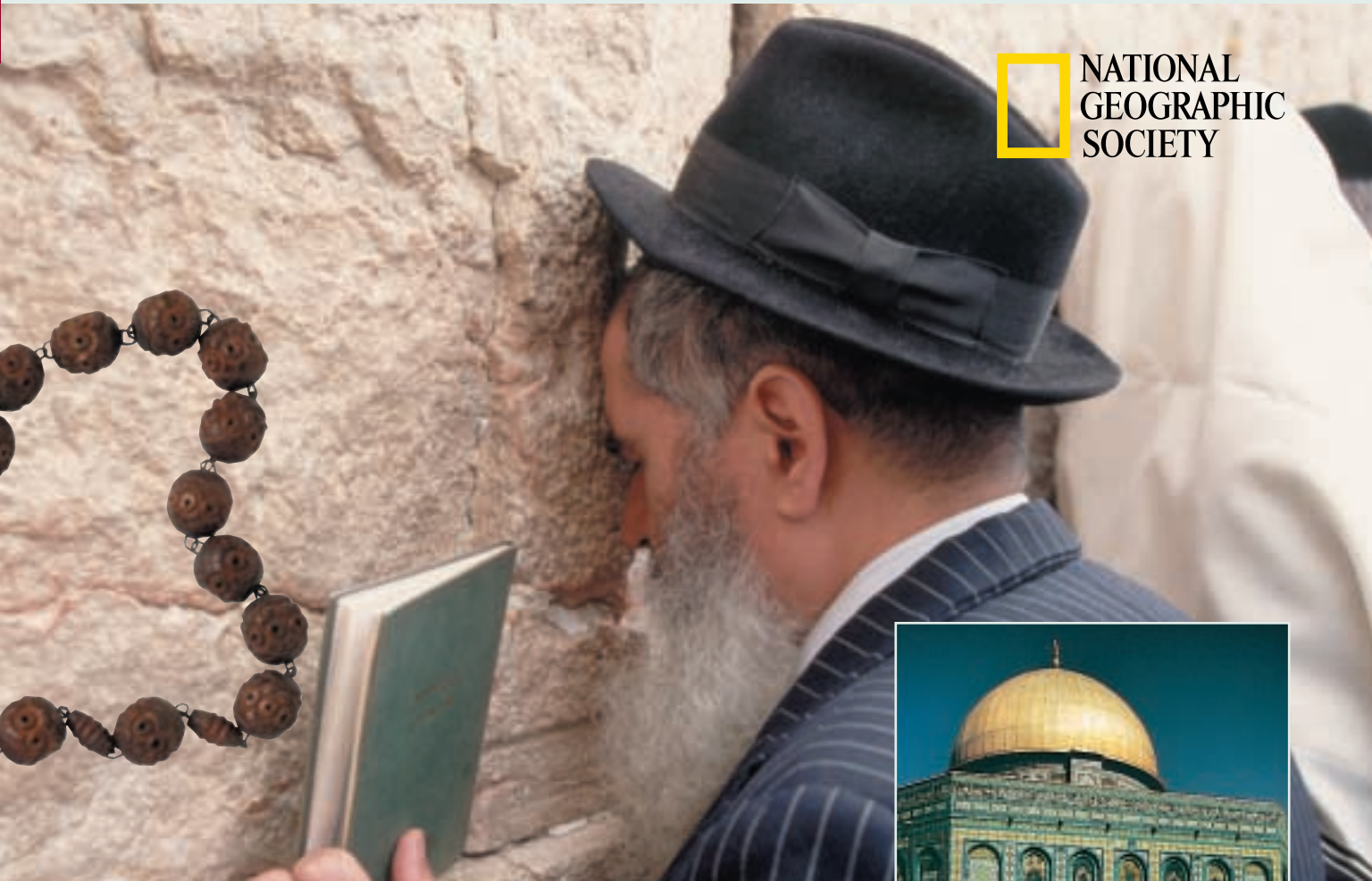
Jews trace their ancestry to a herder named Abraham, who lived at least 3,500 years ago in what is now Iraq. According to Jewish scripture, God instructed Abraham to settle in the area that became known as Israel and promised to bless Abraham's descendants if they worshiped one God.

Around 1000 B.C., Israel was united under a powerful king, David, who made Jerusalem his capital. Political strife later divided Israel into two parts, Israel and Judah, which were conquered by other nations. Many of the people of Judah—the Jews—left their homeland, and their descendants scattered around the world. The first Jews in North America arrived in the American colonies in the 1650s. Today, the United States is home to the world's largest Jewish population.

The Jews believed that God would send a Messiah to unite and lead them. Jesus was a Jew who was born in Judah when it was under Roman rule. Jesus interpreted Jewish teachings in a new way. His message made him unpopular with the authorities, and the Romans executed him around A.D. 30.



▲ Christmas celebration in Bethlehem, birthplace of Jesus



▲ Jewish worshiper at wall of ancient temple in Jerusalem

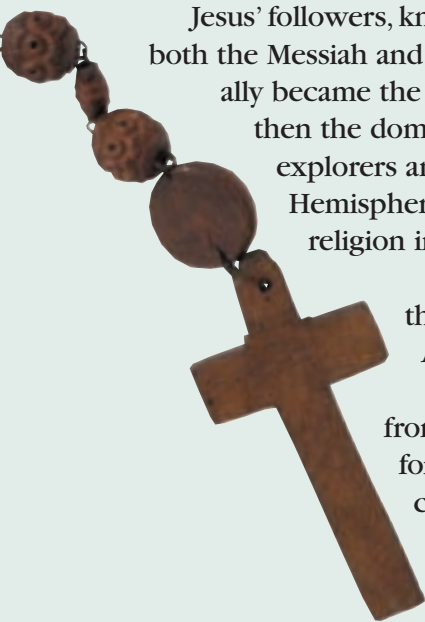
Jesus' followers, known as Christians, believed that Jesus was both the Messiah and the Son of God. The Christian faith eventually became the official religion of the Roman Empire, and then the dominant faith throughout Europe. European explorers and colonists carried it to the Western Hemisphere, and it became the most widely practiced religion in the United States.

More than 500 years after Jesus died, the prophet Muhammad was born on the Arabian Peninsula. According to Muslim tradition, Muhammad received revelations from God and began to teach lessons to his followers. The heart of his teachings form the basis of Islam, which revolves around belief in a single God who periodically communicates through prophets. For believers of Islam, Muhammad was the last in a series of prophets that included Abraham and Jesus.

After Muhammad's death in A.D. 632, Islam spread quickly. Unlike Judaism and Christianity, however, Islam remained the dominant faith in the region where it originated. Islam has more than a billion followers worldwide, and its numbers are growing in the United States.



▲ Muslim women leaving mosque in Jerusalem



CHAPTER

17

The Physical Geography of North Africa, Southwest Asia, and Central Asia

GeoJournal

As you read this chapter, list ways the physical geography of North Africa, Southwest Asia, and Central Asia shapes the lives of people in the region. Include examples you discover in media sources.



Chapter Overview Visit the Glencoe World Geography Web site at tx.geography.glencoe.com and click on Chapter Overviews—Chapter 17 to preview information about the physical geography of the region.

CLICK HERE

CONTENTS

Guide to Reading

Consider What You Know

The vast region of North Africa, Southwest Asia, and Central Asia spans portions of Africa and Asia. Considering this great expanse, what landforms would you expect to discover in the region?

Read to Find Out

- What land and water features dominate the region?
- Why are the region's major rivers important to its people?
- Why is much of the world economically dependent on the region?

Terms to Know

- alluvial soil
- wadi
- kum
- phosphate

Places to Locate

- Red Sea
- Arabian Peninsula
- Persian Gulf
- Sinai Peninsula
- Anatolia
- Dead Sea
- Caspian Sea
- Aral Sea
- Nile River
- Tigris River
- Euphrates River
- Atlas Mountains
- Caucasus Mountains

◀ Desert fort and oasis, Morocco

The Land

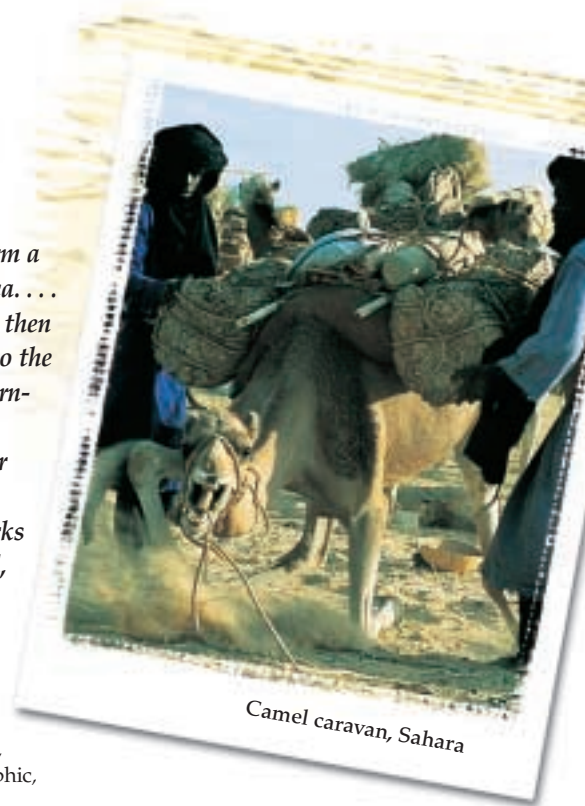
NATIONAL GEOGRAPHIC

A Geographic View

Timeless Travel

Men and boys of the caravan form a ragged rank, facing distant Mecca. . . . In unison the caravanners kneel, then bow, pressing their foreheads into the sand. In the cool shadows of morning they rejoin the line of beasts tethered head to tail and wait for a signal. . . . The madougou, or caravan boss, raises his staff, jerks the rope halter on his lead camel, and, to shouts and the clanging of pans and bowls, the half-mile-long train grudgingly lurches forward.

—Thomas J. Abercrombie, "Ibn Battuta, Prince of Travelers," National Geographic, December 1991



Camel caravan, Sahara

Joining a camel caravan in the Sahara, writer Thomas J. Abercrombie followed in the footsteps of the Muslim traveler Ibn Battuta, who crisscrossed the lands of North Africa, Southwest Asia, and Central Asia more than five centuries ago.

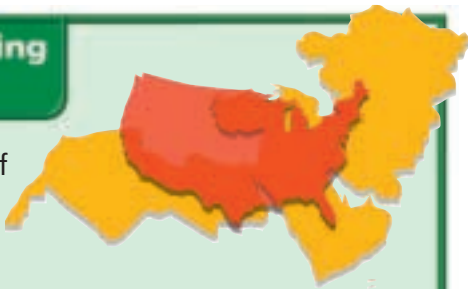
People, goods, and ideas have come together in this part of the world for thousands of years because of its location on or near the Mediterranean Sea. This section examines the varied landscape and the wealth of natural resources of the region where the continents of Europe, Africa, and Asia meet.

Seas and Peninsulas

North Africa, Southwest Asia, and Central Asia form an intricate jigsaw puzzle of seas and peninsulas. Edging the coast of North Africa as far as the Strait of Gibraltar, the Mediterranean Sea separates Africa and Europe.

Comparing Lands

The region of North Africa, Southwest Asia, and Central Asia is about twice the size of the continental United States.



To the east, the **Red Sea** and the Gulf of Aden separate Southwest Asia's **Arabian Peninsula** from Africa. The **Persian Gulf** frames this peninsula on the east, and the Arabian Sea borders it on the south. Northwest of the Arabian Peninsula, the Gulf of Suez and the Gulf of Aqaba flank the smallest piece in the puzzle, the **Sinai Peninsula**.

To the north the peninsula of **Anatolia** points west to the Aegean Sea. Two more seas—the Black Sea and the Mediterranean Sea—lie at the peninsula's north and south. The Dardanelles, the Sea of Marmara, and the Bosphorus strait, which together separate Europe and Asia, connect the Aegean and Black Seas.

Three landlocked bodies of salt water lie east of the Mediterranean Sea. The smallest of these, the **Dead Sea**, sits at the mouth of the Jordan River,

forming part of the Israeli-Jordanian border. It is a source of chemical products such as potash. In Central Asia, the **Caspian Sea** is the largest inland body of water on Earth. Stretching for almost 750 miles (1,207 km), this landlocked sea laps the shores of both Asia and Europe. As you read in Unit 4, evaporation and decreased flow from feeder rivers have resulted in the Caspian Sea's lower water levels. Irrigation and industry also cut the flow of other rivers flowing into the Caspian Sea, further reducing water levels.

East of the Caspian Sea, in the heart of Central Asia, is the **Aral Sea**. Until the 1960s the Aral Sea was the world's fourth-largest inland sea, and it supported a healthy fishing community. Now it is just a fraction of its former size and looks more like a desert than a sea. The Aral Sea began to dry up when the Soviet Union diverted huge amounts of water for irrigation from the major rivers flowing into the sea. Today the Aral Sea seems to be coming back. By building small dams in parts of the former sea, local people plan to create smaller freshwater basins with water from the rivers.

Rivers

Rivers are the lifeblood of North Africa, Southwest Asia, and Central Asia. Their lush and productive valleys have always welcomed travelers

 NATIONAL GEOGRAPHIC

World Explorer



Geography

Skills for Life

Gift of the Nile The fertile flood plain of the Nile has sustained Egyptian life for thousands of years. The ancient drawing (inset) depicts the wheat harvest. In the photograph (left), an Egyptian harvests sugarcane.

Place How are the Nile's waters controlled today?



◀ CONTENTS ▶



North Africa, Southwest Asia, and Central Asia: Physical-Political



Geography Skills for Life

1. **Interpreting Maps** Where are the Zagros Mountains located? The Atlas Mountains?

2. **Applying Geography Skills** Which country in the region is dominated by areas of elevations of more than 5,000 feet (1,500 meters)?

Find NGS online map resources @ www.nationalgeographic.com/maps

and provided food for local peoples. Egypt's Nile River is the world's longest river at 4,160 miles (6,695 km). The Tigris (TY•gruhs) and Euphrates (yu•FRAY•teez) Rivers, which flow mainly through Iraq, are also important to the region.

Culture

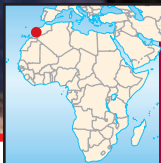
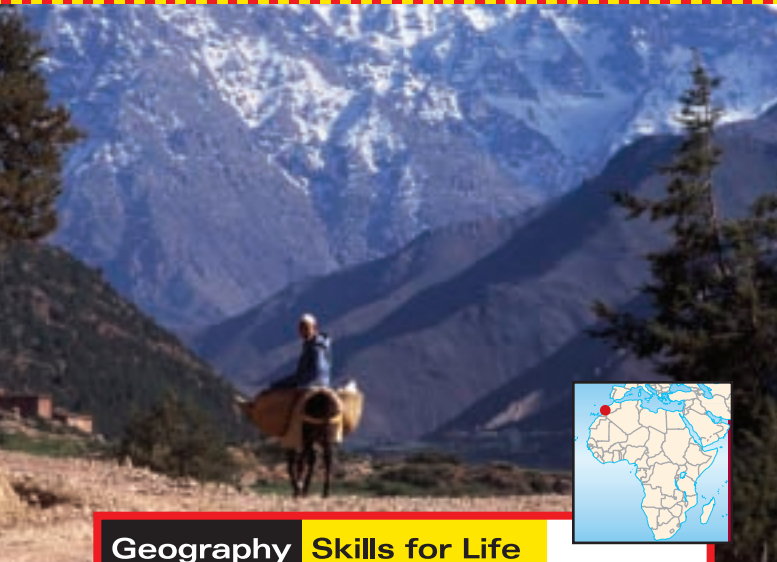
Major Rivers: Cradles of Civilization

The Nile Delta and the fertile land along the river's banks gave birth to one of the world's earliest civilizations. Today more than 90 percent of Egypt's people live in the Nile Delta or along the course of the river on only 3 percent of Egypt's land. The Aswan High Dam and other modern dams farther up the Nile now control the river's flow, reducing both flooding and deposits of

alluvial soil, rich soil made up of sand and mud deposited by moving water.

Early civilizations also thrived in the Tigris-Euphrates river valley, a fertile farming valley in Central Asia. Known by ancients as Mesopotamia, which is Greek for "land between two rivers," this valley owes its fertile character to the Tigris and Euphrates Rivers. A complex irrigation network has watered the valley and supported farming there for 7,000 years. Today the Tigris and Euphrates help irrigate farms throughout Syria, Turkey, and Iraq.

Originating only 50 miles (80 km) from each other in eastern Turkey, the Tigris and Euphrates Rivers join in Iraq to form the Shatt al Arab, which empties into the Persian Gulf. The Euphrates is the longer river, flowing 1,700 miles (2,736 km) toward the sea.



Geography Skills for Life

Snowy Desert Morocco's Atlas Mountains lie near the Sahara, but mountain travelers must be prepared for cold, snowy weather.

Place What are Morocco's most important economic activities?

The Tigris extends about 1,180 miles (1,899 km). Dams control the flow of both rivers.

Streambeds

Many streams in arid North Africa and Southwest Asia flow only intermittently, appearing suddenly and disappearing just as quickly. In the region's deserts, runoff from infrequent rainstorms creates **wadis** (WAH•dees)—streambeds that remain dry until a heavy rain. Irregular rainstorms often produce flash flooding. During a flash flood, wadis fill with so much sediment that they can rapidly become mud flows, or moving masses of wet soil, which are a danger to humans and animals.

Plains, Plateaus, and Mountains

A traveler in North Africa, Southwest Asia, and Central Asia could expect to see varied and dramatic landforms. Low plains extend to the horizon and sometimes rise to a plateau or mountains.

Study the map on page 423 to see elevation patterns within the region.

Coastal Plains

In a region dominated by deserts and mountains, lush coastal plains stand out. The region's agricultural base is rooted in fertile plains along the Mediterranean Sea, such as those stretching east to west along the Moroccan and Algerian coasts and those along the Caspian Sea and Persian Gulf.

Highlands

Africa's longest mountain range, the **Atlas Mountains**, reaches across Morocco and Algeria, in the westernmost part of the region. Enough precipitation falls on the northern side of these mountains to water the coastal regions and make them hospitable to settlement and farming. Despite Morocco's generally rugged terrain, for example, the fertile farmlands of the Atlas's northern slopes produce an abundance of crops typical of the Mediterranean climate. About 50 percent of Morocco's people engage in agriculture, producing barley, oats, and wheat. In years of drought, as in 1999, the economy suffers. With more rain predicted, the economy is expected to grow by about 6 percent per year. Fishing and raising livestock also play a large role in Morocco's economy.

In Southwest Asia, two mountain ranges, the Hejaz and the Asir, stretch along the western coast of the Arabian Peninsula. The taller Asir Mountains receive more rainfall than the Hejaz, accumulating up to 19 inches (48 cm) annually. This precipitation makes the Asir region the most agriculturally productive on the Arabian Peninsula. In contrast, the Central Plateau to the east of the Asir Mountains averages between 0 and 4 inches (0 and 10 cm) of rain per year, mainly because of the rain shadow effect.



Student Web Activity Visit the **Glencoe World Geography Web site** at tx.geography.glencoe.com and click on Student Web Activities—Chapter 17 for an activity about physical processes in North Africa, Southwest Asia, and Central Asia.



CLICK HERE



The Pontic Mountains and the Taurus Mountains rise from the Turkish landscape. Between these ranges, the Anatolian Plateau stands 2,000 to 5,000 feet (610 to 1,524 m) above sea level. East of the Pontic range, camel-backed Mount Ararat, at almost 17,000 feet (5,182 m), overlooks the Turkish-Iranian border.

As the map on page 423 shows, the **Caucasus Mountains** rise north of Mount Ararat between the Black Sea and Caspian Sea. The grandeur and beauty of this mountain range and surrounding country are captured in a journalist's words:

“To glimpse the landscape of the . . . Caucasus . . . is to imagine Eden. Beneath the icy summits of its mountain range, grapevines and pomegranate trees hang [heavy] with fruit.”

Mike Edwards, “The Fractured Caucasus,” *National Geographic*, February 1996

West of the Tian Shan range, the Turan Lowland provides some irrigated farmland. To the south,

dune-covered *kums* (KOOMZ), or deserts, offer a stark contrast to the cultivated fields of the lowland. The Garagum (Kara Kum), or black sand desert, covers most of Turkmenistan. The Qizilqum (Kyzyl Kum), or red sand desert, blankets half of Uzbekistan. Farther west, the Ustyurt Plateau has salt marshes, sinkholes, and caverns.

Earthquakes

The African, Arabian, and Eurasian plates come together in the lands of North Africa, Southwest Asia, and Central Asia. As the plates move, they build mountains, shift landmasses, and cause earthquakes. Tectonic movement built the Zagros Mountains of southern Iran and the Taurus Mountains of Turkey. The movement continues to shape the region. For example, the shifting of the African and Arabian plates causes the widening of the Red Sea.

Earthquakes rumble throughout the region regularly. Turkey, lying at the boundary of the Arabian and Eurasian plates, experienced a 1999 earthquake measuring 7.4 on the Richter scale. It toppled more than 76,000 buildings and killed nearly 20,000 people.

 NATIONAL GEOGRAPHIC

World Explorer



Geography Skills for Life

Nature's Wrath Survivors survey the destruction caused by an earthquake in Turkey.

Human-Environment Interaction What factor accounts for frequent earthquakes in this region?



▲ Working in the oil fields of Azerbaijan

Natural Resources

The lands of North Africa, Southwest Asia, and Central Asia contain many natural resources. Petroleum and natural gas, the region's most abundant resources, are important to the economies of countries around the world.

Economics

Oil and Natural Gas

Sixty-six percent of the world's known oil reserves and 33 percent of the world's known natural gas reserves lie beneath the region. Unmeasured

reserves include newly discovered gas fields in the Gaza Strip and Egypt and under the Caspian Sea.

Although North Africa, Southwest Asia, and Central Asia produced little oil before World War II, production increased dramatically after 1945. Petroleum exports have enriched the region, but heavy reliance on petroleum exports is risky. When oil prices fluctuate on world markets, as they did between 1997 and 1999, the region's economies suffer. By the time oil prices rose from a low of \$7 per barrel to about \$30 per barrel in early 2000, oil-exporting countries' economies had been damaged.

Minerals

Minerals also provide revenue for the region. Turkmenistan has the world's largest deposits of sulfate used in paperboard, glass, and detergents, and the largest deposits of sulfur. Morocco ranks second in the production of **phosphate**—a chemical used in fertilizers. Deposits of chromium, gold, lead, manganese, and zinc are sprinkled across the region. Discoveries of iron ore and copper deposits indicate that the region may contain up to 10 percent of the world's iron ore reserves.

Building Diverse Economies

Some countries in the region are diversifying their economies to decrease their reliance on oil and minerals exports. The United Arab Emirates, for example, is investing oil earnings in banking, information technology, and tourism. Libya, which relies on oil for 98 percent of its export income, is investing in infrastructure, agriculture, and fisheries.

TAKS Practice

SECTION 1 ASSESSMENT

Checking for Understanding

- 1. Define** alluvial soil, wadi, *kum*, phosphate.
- 2. Main Ideas** Complete the table by listing physical features found in this region. Then describe how the physical features of one part of the region influence people's lives.

Region	Physical Features
North Africa	

Critical Thinking

- 3. Comparing and Contrasting** How are the Caspian Sea and the Aral Sea alike? How are they different?
- 4. Predicting Consequences** How might development of oil fields in the Caspian Sea affect the region of North Africa, Southwest Asia, and Central Asia?
- 5. Analyzing Information** How has diversification affected the economies of countries in the region?

Analyzing Maps

- 6. Place** Study the physical-political map on page 423. What physical feature dominates western Iran?

Applying Geography

- 7. Benefits of Rivers** Write a descriptive paragraph explaining how the major rivers of North Africa, Southwest Asia, and Central Asia benefit people in the region.

Guide to Reading

Consider What You Know

In much of North Africa, Southwest Asia, and Central Asia, rainfall averages 10 inches (25 cm) or less annually. How does lack of precipitation affect the growth of vegetation in this region?

Read to Find Out

- How do the climates of North Africa, Southwest Asia, and Central Asia differ?
- How have the needs of a growing population affected the natural vegetation of the region?

Terms to Know

- oasis
- pastoralism
- cereal

Places to Locate

- Sahara
- Rub' al Khali
- Garagum (Kara Kum)

Climate and Vegetation

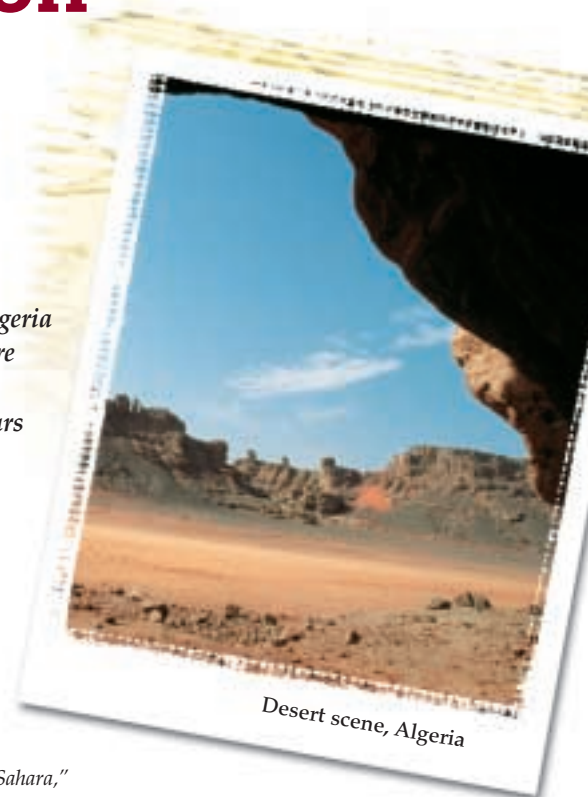
 NATIONAL GEOGRAPHIC

A Geographic View

Algeria's Desert Art

From the mouth of this cave Algeria stretches dry and desolate before me, but the paintings inside . . . tell of a time, perhaps 7,000 years ago, when this land was wet and green enough to support cattle and a community of herders. Today our only evidence of this rich life is an ancient artist's rendering of it. . . . Amazingly, even after thousands of years the colors are still vibrant.

—David Coulson, "Ancient Art of the Sahara,"
National Geographic, June 1999



The North African landscape is commonly associated with images of vast stretches of sand, huge dunes, and the occasional watering hole. However, as David Coulson suggests, ancient cave paintings tell us that this part of the African continent was once wet and green. This section explores how differences and changes in climate across the region affect vegetation and human activities in North Africa, Southwest Asia, and Central Asia today.

Water: A Precious Resource

Water scarcity defines the region's climates. Rainfall in some areas is plentiful. The southern edge of the Caspian Sea receives more than 78 inches (198 cm) of rainfall per year. Elsewhere, however, water evaporation rates far exceed rainfall, making water very precious. Desert predominates, although steppe, Mediterranean, and highlands climates are also present in North Africa, Southwest Asia, and Central Asia.



North Africa, Southwest Asia, and Central Asia: Climate Regions



Geography Skills for Life

1. **Interpreting Maps** Where are the Mediterranean climate regions located?

2. **Applying Geography Skills** How do mountain ranges along coastal areas in North Africa and Southwest Asia affect climate?

Find NGS online map resources @ www.nationalgeographic.com/maps

Desert Climate

In prehistoric times a grassy plain extended across North Africa, and the climate was moderate. Today the climate in the area is hot and dry. The **Sahara**, the largest desert in the world at about 3.5 million square miles (about 9.1 million sq. km), covers most of North Africa. How much of the entire region is desert? Scientists define a desert climate as one in which precipitation averages 10 inches (25 cm) or less per year. By that definition deserts encompass almost 50 percent of the lands in North Africa, Southwest Asia, and Central Asia. In recent decades, droughts have expanded the Sahara.

Weather patterns in the desert tend to be extreme. The deserts of Central Asia and northern parts of the Sahara and the Arabian Desert have relatively cold winters with freezing temperatures. Winters in the southern Sahara and the Arabian Desert are generally milder. Summers in all these desert regions are long and hot. In July, daytime temperatures in the Central Asian deserts sometimes exceed 120°F (49°C) in the shade. At night, however, temperatures drop significantly because of the air's lack of moisture.

A traveler crossing any of the region's deserts would probably see only a few *ergs*, or sandy, dune-covered areas. *Regs*, stony plains covered with





North Africa, Southwest Asia, and Central Asia: Natural Vegetation



Geography Skills for Life

1. **Interpreting Maps** What kind of vegetation is found along the Nile River?

2. **Applying Geography Skills** In what North African countries would you find oases?

Find NGS online map resources @ www.nationalgeographic.com/maps

rocky gravel called “desert pavement,” and an occasional *hamada*, or flat, sandstone plateau, would be more common. Sand covers less than 10 percent of the Sahara; desert pavement, mountains, and barren rock cover the rest.

The 250,000-square-mile (647,500-sq.-km) **Rub’ al Khali**, or Empty Quarter, has the largest area of sand in the region. One of several deserts on the Arabian Peninsula, the Rub’ al Khali covers almost the entire southern quarter of the peninsula.

Despite their arid conditions, the Sahara and other deserts in the region support vegetation such as cacti and drought-resistant shrubs. Nomadic herds of

sheep, goats, and camels graze on brush in Central Asia’s **Garagum (Kara Kum)**. Small-scale farming is possible in an **oasis**, a place in the desert where underground water surfaces. Villages, towns, and cities have risen around many Saharan oases.

Steppe Climate

Steppe is the second-largest climate region in the lands of North Africa, Southwest Asia, and Central Asia. The steppe borders the Sahara to the north and snakes between other climate regions from Turkey to eastern Kazakhstan. Precipitation in this semi-arid climate region usually averages less than 14

inches (36 cm) annually. This amount is enough to support short grasses in the steppe climate, providing pasture for sheep, goats, and camels, as well as shrubs and some trees. **Pastoralism**, the raising and grazing of livestock, is a way of life for the steppe's people, such as bedouins.

Climatic Variations

In the Mediterranean climate zones, cool, rainy winters alternate with hot, dry summers. As the map on page 428 shows, this climate is common in the Tigris-Euphrates valley and in uplands areas as well as on the coastal plains of the Mediterranean Sea, the Black Sea, and the Caspian Sea.

Culture

Exports and Tourists

Morocco, Tunisia, Syria, and other countries having Mediterranean climates boost their economies by exporting citrus fruits, olives, and grapes to Europe and North America. Some of

these Mediterranean countries also benefit from tourism, as people from colder climates seek the sun and warmth. Morocco's city of Agadir, with 360 days of sunshine per year, attracts many of the country's 2 million tourists, who come mainly from Europe. Travelers in Morocco also visit the cultural attractions of ancient cities such as Fès, Marrakech, and Casablanca.

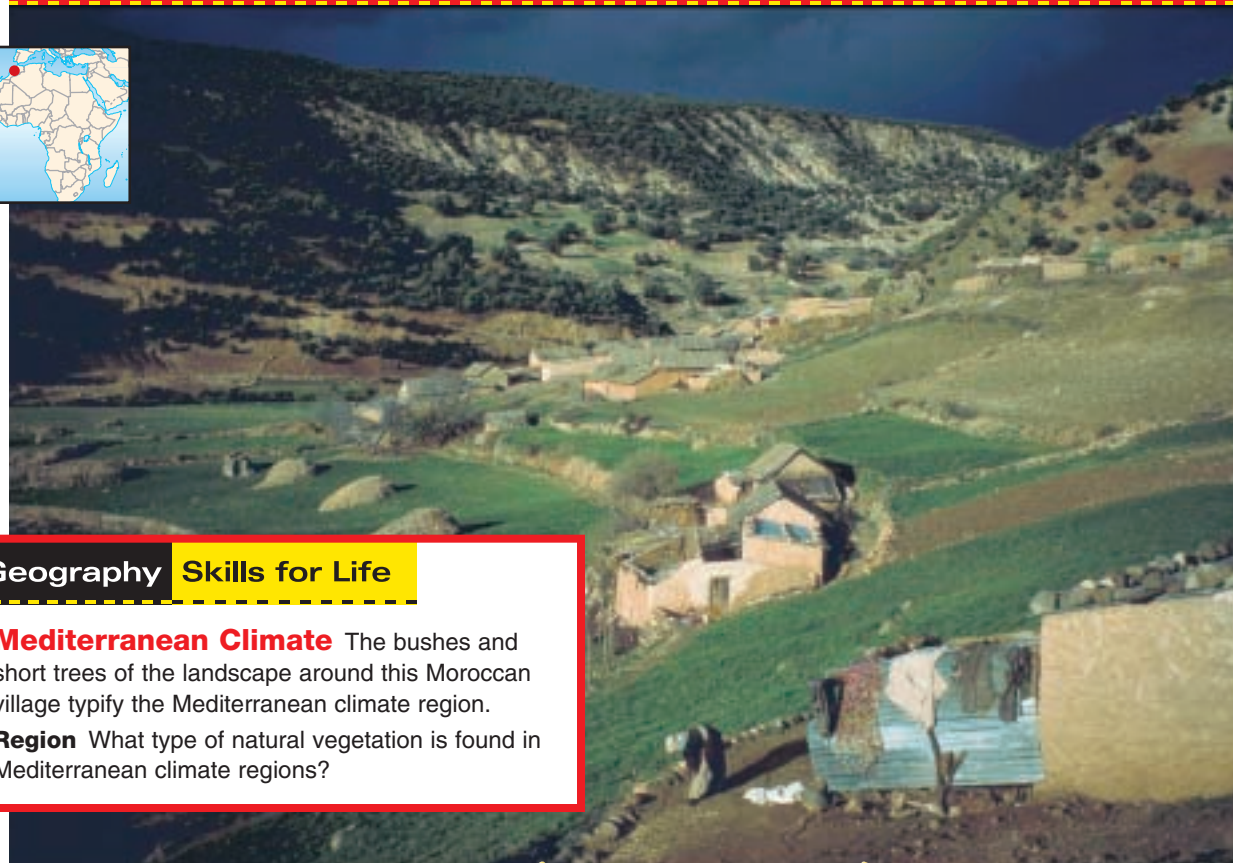
Higher areas, like the Caucasus Mountains, have a highlands climate, which is generally wetter and colder than other climates in the region. The highlands climate varies, however, with elevation and exposure to wind and sun.

Rainfall

Coastal and highlands areas near mountain ranges usually receive the most rainfall, as moist, warm air is driven off the sea by prevailing westerly winds. The North African coast near the Atlas Mountains, for example, averages more than 30 inches (76 cm) of rain each year, enough rain to support flourishing forests. More than twice that

NATIONAL
GEOGRAPHIC

World Explorer



Geography Skills for Life

Mediterranean Climate The bushes and short trees of the landscape around this Moroccan village typify the Mediterranean climate region.

Region What type of natural vegetation is found in Mediterranean climate regions?

CONTENTS

amount falls each year at the foot of the Elburz Mountains. Batumi, in the Republic of Georgia, one of the region's wettest places, receives more than 100 inches (254 cm) of rain a year. In areas where more than 14 inches (36 cm) of rain falls yearly, farmers can raise **cereals**—food grains such as barley, oats, and wheat—without irrigation.

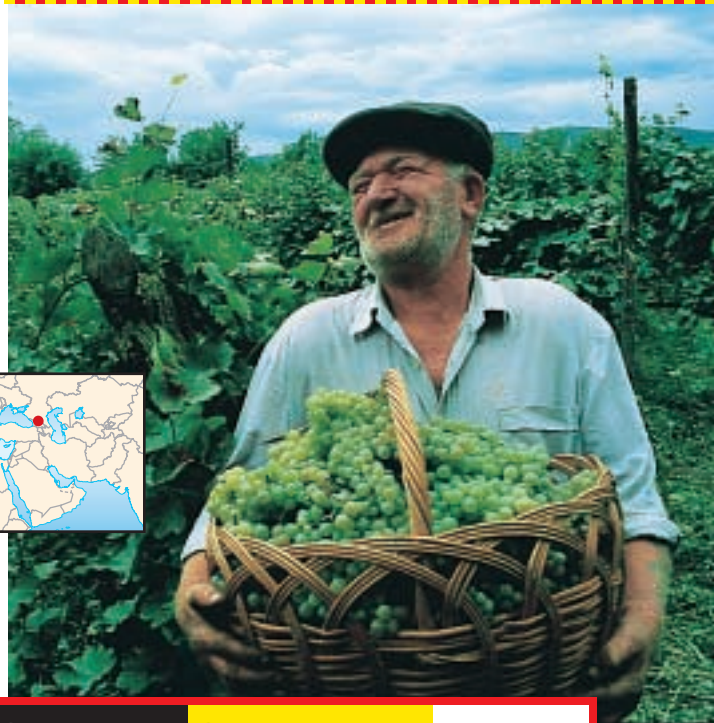
A Sign of Things to Come?

Landscapes can change with variations in climate and with people's activities. Under the pressure of climate changes, grassy plains in the region turned into desert, as explorer Thor Heyerdahl observed:

“The desert, encroaching upon the spring-green marshes from all sides, has swallowed up the former Sumerian homeland [in Mesopotamia] and all that it contained. . . . The landscape which once throbbed with life is today as silent and lifeless as the North Pole.”

Thor Heyerdahl, *The Tigris Expedition*, 1981

Will other fertile lands give way to the desert as the grasslands of North Africa and Mesopotamia did? Will pollution threaten other bodies of water as it has the Aral and Caspian Seas? The answers depend on future world climate changes and the interactions of people with their environments.



Geography Skills for Life

Grape Harvest Grape vineyards, such as this one in Georgia, have been cultivated for food and wine for 8,000 years.

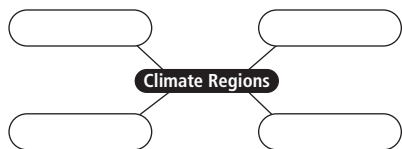
Human-Environment Interaction In what areas can farmers raise cereals without irrigation?

TAKS Practice

SECTION 2 ASSESSMENT

Checking for Understanding

- Define** oasis, pastoralism, cereal.
- Main Ideas** On a web diagram, fill in the climate regions found in North Africa, Southwest Asia, and Central Asia. Then describe the characteristics of one region.



Critical Thinking

- Comparing and Contrasting** Compare and contrast agriculture in steppe climate regions with that of Mediterranean climate regions.
- Analyzing Cause and Effect** Why has natural vegetation declined in areas of North Africa, Southwest Asia, and Central Asia?
- Drawing Conclusions** How did climate changes in the Sahara centuries ago affect its people?

Analyzing Maps

- Region** Study the map of climate regions on page 428 and the map of natural vegetation on page 429. What kind of natural vegetation thrives in Mediterranean climates?

Applying Geography

- Climate and Population** Write a paragraph explaining the possible effects of climate on settlement patterns in North Africa, Southwest Asia, and Central Asia.



**TAKS
Practice**

Learning the Skill

Climate greatly affects natural vegetation. For example, thick layers of plants that make up tropical forest vegetation grow only in tropical rain forest climates. Likewise, areas with less than 10 inches (25 cm) of rain support only desert scrub vegetation.

Elevation also affects vegetation. Forests grow at the bases of mountains. At higher elevations, grasses, small trees, and shrubs grow. Where elevation makes it too cold for trees and shrubs, only mosses thrive.

On a vegetation map, colors indicate different vegetation types. The map key explains the color code. To read a vegetation map:

- Identify the area covered on the map.
- Study the key to identify the vegetation types that the map depicts.
- Locate the regions covered by each vegetation type.
- Draw conclusions about the similarities and differences between the types of vegetation found in different areas of the map.

Practicing the Skill

Use the map showing the vegetation of Central Asia to answer the following questions.

1. What geographic area does this map show?

Reading a Vegetation Map

Geographers call the plant life that grows naturally in an area **natural vegetation**. Variations in vegetation can make areas of the same country look very different.



2. In which vegetation region is the capital of Kyrgyzstan located?
3. What kinds of vegetation are found along the coast of the Caspian Sea?
4. What factors would explain the distribution of vegetation throughout the region?
5. Of the areas shown on the vegetation map, where do you think irrigation is used for cultivating crops?

Applying the Skill

Look at the vegetation map on page 429. Compare the vegetation types of North Africa, Southwest Asia, and Central Asia with those of the United States and Canada, found on page 123. How are they similar? Different?



The **Glencoe Skillbuilder Interactive Workbook, Level 2** provides instruction and practice in key social studies skills.



SECTION 1

The Land (pp. 421–426)

Terms to Know

- alluvial soil
- wadi
- *kum*
- phosphate

Key Points

- North Africa, Southwest Asia, and Central Asia are located at the crossroads of Asia, Africa, and Europe.
- The region is a jigsaw puzzle of peninsulas and seas.
- Rivers feed the inland seas and supply irrigation to parched lands. Their alluvial soil deposits enrich the land, especially in the Nile River Valley and delta.
- The movement of tectonic plates forms mountains, moves landforms, and causes earthquakes in the region.
- The region contains much of the world's oil and natural gas reserves.

Organizing Your Notes

Use a table like the one below to help you organize the notes for this section. Complete the table by listing and describing the location of the region's important physical features.

Feature	Location
Sahara	
Atlas Mountains	
Nile River	

SECTION 2

Climate and Vegetation (pp. 427–431)

Terms to Know

- oasis
- pastoralism
- cereal

Key Points

- Rainfall in North Africa, Southwest Asia, and Central Asia varies widely. Most of the region contains arid areas.
- The four climate regions in North Africa, Southwest Asia, and Central Asia are desert, steppe, Mediterranean, and highlands.
- Natural vegetation in the region varies widely and is closely related to rainfall and irrigation patterns.

Organizing Your Notes

Create an outline using the format below to help you organize your notes for this section.

Climate and Vegetation
I. Water: A Precious Resource
A. Desert Climate
1. Sahara
2.
B. Steppe Climate



Mosque in
Afghanistan

Reviewing Key Terms

Write the key term that best completes each of the following sentences. Refer to the Terms to Know in the Summary & Study Guide on page 433.

1. In the Sahara, a place where underground water surfaces is a(n) _____.
2. Runoff from infrequent rainstorms creates _____, or dry streambeds.
3. _____, or the raising and grazing of livestock, is a way of life on the steppe.
4. Morocco produces _____, which is used in fertilizers.
5. Much of the region is covered by sandy deserts, or _____.
6. Barley is an example of a _____ grain.
7. _____ is rich soil deposited by running water.

Reviewing Facts

SECTION 1

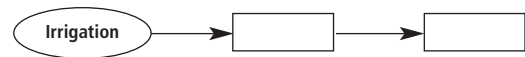
1. What physical features separate the Arabian Peninsula from the African continent?
2. What physical features separate Europe and Asia and connect the Aegean and Black Seas?
3. What desert covers most of Turkmenistan? What desert covers about half of Uzbekistan?

SECTION 2

4. About how much of North Africa, Southwest Asia, and Central Asia experience desert climate?
5. Describe the natural vegetation of steppe areas.
6. In what part of the region does tropical vegetation flourish? What climate factors allow this kind of vegetation to grow in that area?

Critical Thinking

1. **Drawing Conclusions** How do you think the region's resources affect the global economy?
2. **Analyzing Information** Compare the climate map on page 428 with the population density map on page 412. How does climate influence where people live in the region?
3. **Identifying Cause and Effect** On a sheet of paper, complete a chart like the one below to show how increased irrigation affected the region's inland seas.

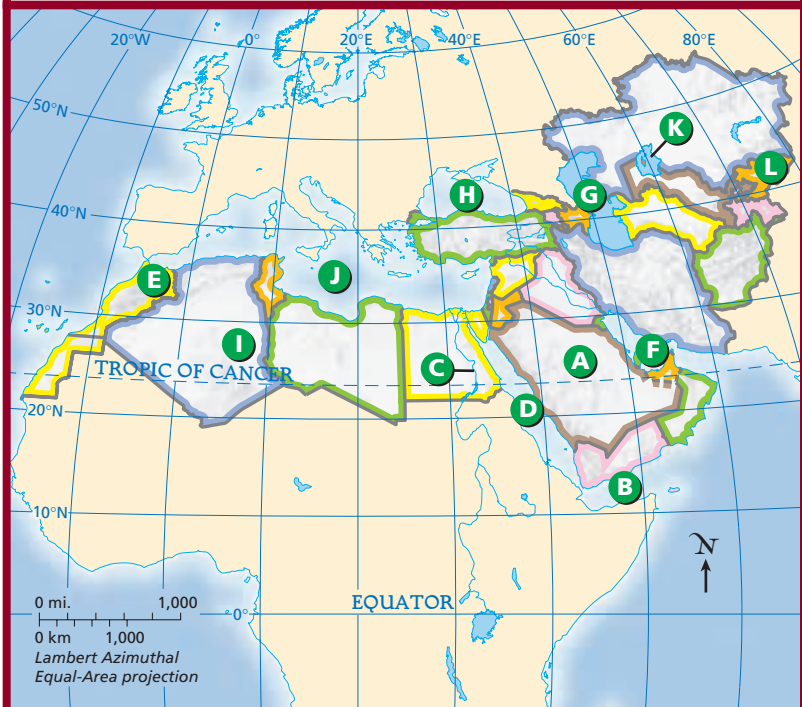


Locating Places

North Africa, Southwest Asia, and Central Asia: Physical Geography

Match the letters on the map with the physical features of North Africa, Southwest Asia, and Central Asia. Write your answers on a sheet of paper.

- | | | |
|----------------------|----------------------|------------------|
| 1. Arabian Peninsula | 5. Aral Sea | 9. Caspian Sea |
| 2. Sahara | 6. Red Sea | 10. Black Sea |
| 3. Atlas Mountains | 7. Persian Gulf | 11. Gulf of Aden |
| 4. Nile River | 8. Mediterranean Sea | 12. Tian Shan |





Self-Check Quiz Visit the **Glencoe World Geography** Web site at tx.geography.glencoe.com and click on Self-Check Quizzes—Chapter 17 to prepare for the Chapter Test.

Using the Regional Atlas

Refer to the Regional Atlas on pages 410–413.

- 1. Region** In which area of the region is live-stock raising practiced? Subsistence farming?
- 2. Place** Compare the physical map on page 410 with the population density map on page 412. What do the gray areas on the population map represent? How does the physical map help explain the distribution of the population in these areas?

Thinking Like a Geographer

Think about the areas in North Africa, Southwest Asia, and Central Asia that do not have enough freshwater. As a geographer, where would you recommend desalination plants to be built? Consider population centers, energy needs, and water sources.

Problem-Solving Activity

Group Research Project As a group, choose an oil-producing country from this region and investigate possible ways the country could diversify its economy. Present your research in a written report that gives reasons for your recommendations. Be sure to include photos, maps, charts, or graphs to help illustrate your findings.

GeoJournal

Descriptive Writing Select three physical features in North Africa, Southwest Asia, or Central Asia. Then, using your GeoJournal data, describe and analyze in writing how these physical features shape the distribution of culture groups in the region.



Technology Activity Using the Internet for Research

Use the Internet to research the natural resources of one of the countries in this region. Identify factors affecting the location of the economic activities there. Create a bulletin board display about the country, including a list of its primary imports and exports.



TX TAKS Test Practice

Choose the best answer for the following multiple-choice questions. If you have trouble answering the questions, use the process of elimination to narrow your choices.

- 1. Part of Uzbekistan has a desert climate. What kind of vegetation can grow in a desert climate?**

- A No vegetation at all
- B Drought-resistant shrubs and cacti
- C Drought-resistant shrubs, cacti, and occasional small-scale farm crops in areas with underground water
- D Short grasses for grazing



Note that the directions ask you to choose the best answer to the question. The best answer will contain the most precise information for answering the question.

- 2. In part of the region of North Africa, Southwest Asia, and Central Asia, people earn their living by growing citrus fruits, olives, and grapes, as well as from the tourist trade. This region probably has a**

- F highlands climate.
- G steppe climate.
- H Mediterranean climate.
- J desert climate.



Think about the conditions needed to grow the specific crops. Desert climates are too dry, as are steppe climates. Highlands climates are wet but may be too cold. Eliminating wrong choices helps you choose the correct answer.

Geography Lab Activity

Desalination



▲ *Students distill salt water.*

In spite of the location of large river systems in North Africa, Southwest Asia, and Central Asia, most of the usable water comes from regional river basins such as the Jordan and the Nile and from aquifers. Aquifers are underground layers of porous rock, gravel, or sand that contain water. Although abundant, seawater is not usable because of its

salt content. Countries in the region are searching for new sources of water as well as increasing their use of desalination—the removal of salt from seawater. These countries produce about 75 percent of the world’s desalinated water. Worldwide, more than 2 billion gallons (7.5 billion liters) of freshwater were produced daily at desalination plants at the end of the twentieth century.

Distillation is the most widely used desalination method. The process of distillation purifies water by imitating the way ocean water evaporates into clouds, condenses, and falls back to Earth as precipitation. The distillation process varies little whether producing one cup or millions of gallons of freshwater. Salt water is heated until the water evaporates. The vapor condenses into freshwater in a second container, while the salt remains in the first container.

1 Materials

- Table salt
- Water
- 1 flask
- Rubber stopper
- Plastic tubing
- Rubber tubing
- Scissors
- Cardboard
- Metal washers (for weight)
- Beaker
- Ice
- Shallow pan
- Hot plate
- Measuring cup
- Thermal mitt

CAUTION: Be careful when using the hot plate. It should be cool before the flask is moved.

2 Procedures

In this activity, you will distill salt water to make drinking water.

1. In the flask, dissolve 2 teaspoons (10 ml) of salt in 1 cup (237 ml) of water. Swish the salt and water mixture around until no salt crystals remain.
2. Insert the plastic tubing into the rubber stopper, and then insert the stopper into the flask. Be sure the plastic tubing is above the surface of the saltwater solution.

3. Attach one end of the rubber tubing to the plastic tubing. Insert the other end of the rubber tubing through a small hole cut in the cardboard. The hole in the cardboard should be small enough that the tubing fits snugly.
4. Place the cardboard over the beaker. Add several washers to the cardboard to hold it in place.
5. Place the beaker in the shallow pan filled with ice water to speed up the condensation process.
6. Set the flask on the hot plate. Bring the saltwater solution to a boil, and continue boiling until the solution is almost boiled away. You will notice a salt residue forming as the boiling water evaporates.
7. Turn off the hot plate. After letting it cool, remove the flask.
8. Pour the water you collected in the beaker into a measuring cup.
9. Taste the water in the measuring cup. Does the water still taste salty?

3

Lab Report

1. What happened to the water in the flask as you boiled the solution?
2. What happened inside the beaker?
3. Why did the water, and not the salt, move from the flask to the beaker?
4. **Drawing Conclusions** How could this process be used to extract minerals from seawater?
5. **Predicting Consequences** Based on your observations, what do you think might be the biggest drawback to using this process?

4

Find Out More

Research where desalination is used in the United States. What other places in the country would benefit from desalination plants? Create a map showing existing plants and areas where you would propose building new plants.

Did You Know?

Today's desalination plants produce 15 times as much freshwater as they did 20 years ago. Saudi Arabia, a world leader in desalination projects, relies on about 30 desalination plants to change seawater to freshwater. One plant turns out 250 million gallons (950 million liters) of freshwater daily for human use!

◀ As stagnant water evaporated, it left behind a crust of salt in this field in southern Iraq.