

Glencoe

World Geography



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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.

GEOGRAPHY

Online



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

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?

Reading Strategy

Organizing Complete a graphic organizer similar to the one below by filling in a description of each body of water listed.

Body of Water	Description
Dead Sea	
Caspian Sea	
Aral Sea	

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

The Land

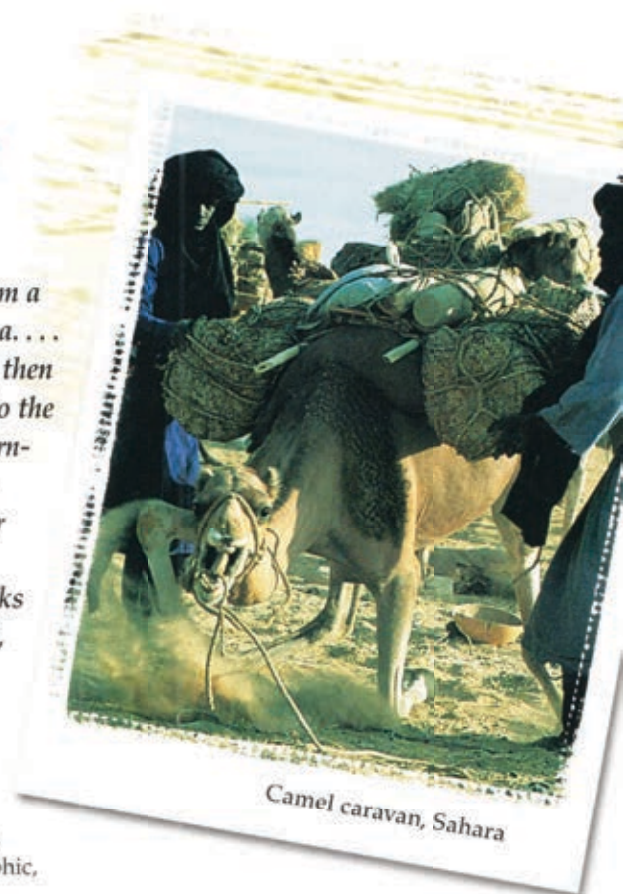


A Geographic View

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

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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?





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.

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

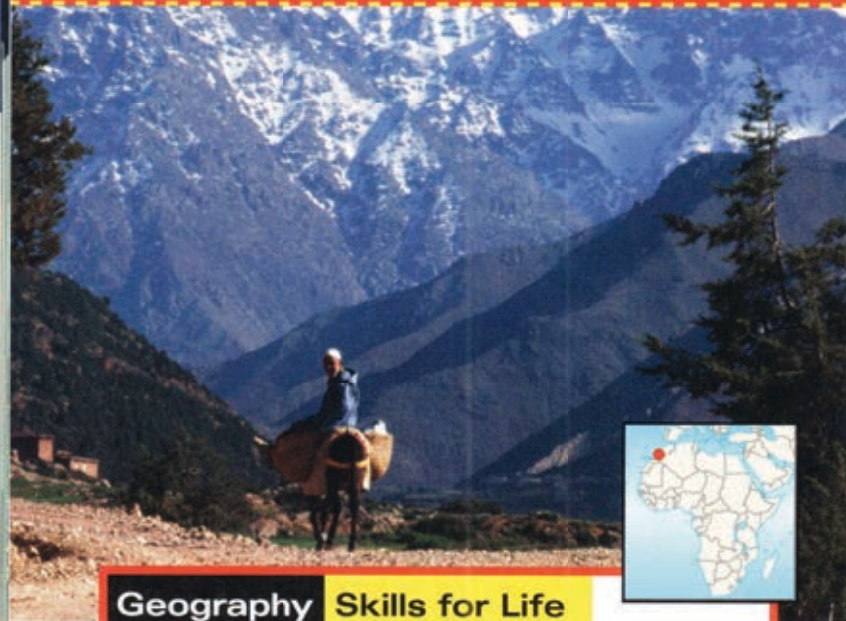
Coastal Plains

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.



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.



Student Web Activity Visit the **Glencoe World Geography** Web site at 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.

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.

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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

Seventy 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 third 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.

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.

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.

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

Reviewing Facts

SECTION 1

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

SECTION 2

- About how much of North Africa, Southwest Asia, and Central Asia experience desert climate?
- Describe the natural vegetation of steppe areas.
- 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

- Drawing Conclusions** How do you think the region's resources affect the global economy?
- 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?
- 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.



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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 |



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Unit 1 The World

- Chapter 1 How Geographers Look at the World
- Chapter 2 The Earth
- Chapter 3 Climates of the Earth
- Chapter 4 The Human World



Unit 2 The United States and Canada

- Chapter 5 The Physical Geography of the United States and Canada
- Chapter 6 The Cultural Geography of the United States and Canada
- Chapter 7 The United States and Canada Today



Unit 3 Latin America

- Chapter 8 The Physical Geography of Latin America
- Chapter 9 The Cultural Geography of Latin America
- Chapter 10 Latin America Today



Unit 4 Europe

- Chapter 11 The Physical Geography of Europe
- Chapter 12 The Cultural Geography of Europe
- Chapter 13 Europe Today



Unit 5 Russia

- Chapter 14 The Physical Geography of Russia
- Chapter 15 The Cultural Geography of Russia
- Chapter 16 Russia Today



Unit 6 North Africa, Southwest Asia, and Central Asia

- Chapter 17 The Physical Geography of North Africa, Southwest Asia, and Central Asia
- Chapter 18 The Cultural Geography of North Africa, Southwest Asia, and Central Asia
- Chapter 19 North Africa, Southwest Asia, and Central Asia Today



Unit 7 Africa South of the Sahara

- Chapter 20 The Physical Geography of Africa South of the Sahara
- Chapter 21 The Cultural Geography of Africa South of the Sahara
- Chapter 22 Africa South of the Sahara Today



Unit 8 South Asia

- Chapter 23 The Physical Geography of South Asia
- Chapter 24 The Cultural Geography of South Asia
- Chapter 25 South Asia Today



Unit 9 East Asia

- Chapter 26 The Physical Geography of East Asia
- Chapter 27 The Cultural Geography of East Asia
- Chapter 28 East Asia Today



Unit 10 Southeast Asia

- Chapter 29 The Physical Geography of Southeast Asia
- Chapter 30 The Cultural Geography of Southeast Asia
- Chapter 31 Southeast Asia Today



Unit 11 Australia, Oceania, and Antarctica

- Chapter 32 The Physical Geography of Australia, Oceania, and Antarctica
- Chapter 33 The Cultural Geography of Australia, Oceania, and Antarctica
- Chapter 34 Australia, Oceania, and Antarctica Today

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