

Seas in Danger



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Disappearing Seas

Water covers almost three-quarters of Earth's surface. Of that, nearly 97 percent is saltwater, contained in Earth's oceans and seas. However, today some of this saltwater is disappearing. Several of the world's inland seas are drying up. This has had devastating consequences on plants, animals, humans, and the environment. The Aral Sea in Central Asia and the Dead Sea in the Middle East are the most unfortunate examples of these shrinking bodies of water. These two seas may even disappear completely.

WHAT MAKES SEAS DISAPPEAR?

For thousands of years, humans have been moving water around for agricultural use. In a process called irrigation, water is moved from its natural source through pipes or canals to feed crops. Ancient civilizations built canals to transport water to where it was needed most. For example, the ancient Egyptians used canals to divert, or move, water from the Nile River for their desert crops.

In general, irrigation is beneficial for people and doesn't cause much harm to the water source. However, changing the natural flow of Earth's water can sometimes have consequences that are not obvious for decades.

Water naturally flows from streams and rivers into bodies of water like seas. At times, though, humans have redirected rivers so that they no longer deposit most of their water into a sea. This decrease of water flowing into a sea may not be noticed right away. But over time, the shoreline will begin to recede, or move back.

As fresh water travels through streams and rivers, it gathers minerals, including salt. All of this water collects in the sea, where it evaporates and becomes saltier—that is, saltwater.

As water is diverted from seas, they dry up and their water also becomes saltier. The high salinity, or salt content, of this water, combined with the retreating shorelines, can result in an ecological disaster.

THE ARAL SEA

Only a half century ago, this inland sea, or saltwater lake, was the fourth-largest lake in the world. It was bigger than West Virginia! Today, the Aral Sea is a shadow of its former self.

The Aral Sea is situated in central Asia, between the countries of Kazakhstan and Uzbekistan. In the 1960s, large cotton plantations started springing up in the desert surrounding the Aral Sea. Farmers dug irrigation channels to divert two rivers that flowed into the sea. These rivers were almost completely redirected into the desert to water crops.

As a result, the Aral Sea began to shrink. By the late 1980s, the shrinking was obvious. Since then, it has gotten worse. Aerial pictures



▲ the Aral Sea in the 1980s

show that the sea's shorelines have shrunk even more rapidly since the late 1980s.

According to NASA, the sea is now 10 percent of its original size. *National Geographic* magazine reports that areas where the Aral Sea was once 30 meters (100 feet) deep are now bone-dry land. In fact, only a small portion of the original sea is left.

These aerial photos show how the Aral Sea has shrunk since the late 1980s. ►



Environmental Effects

The shrinking of the Aral Sea has had tragic effects on human, animal, and plant life.

The evaporation of the sea has left behind dangerous amounts of salt and other minerals in the soil. This means few plants can grow there.

With little plant life in the region, there is no natural barrier against wind erosion. Windstorms blow the soil around so much that the air becomes dangerous to breathe.

As a result, people living nearby suffer many health problems.

An environmental problem in one part of the world can have consequences for people all over the globe. According to the ECO Institute of Environmental Science and Technology, the shrinking Aral Sea has resulted in millions of tons of salty, toxic dust being blown into the atmosphere. Some of this dust has drifted as far away as Antarctica.

The Aral Sea used to cover the area where this boat is stranded.



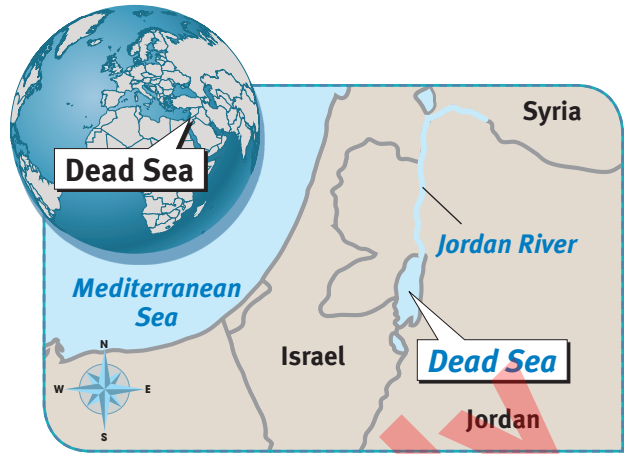
THE DEAD SEA

The Dead Sea is located in the Middle East, between the countries of Israel and Jordan. This sea has many distinctive physical features. According to *National Geographic*, the Dead Sea is the lowest point on Earth. It is 422 meters (1,385 feet) below sea level.

The Dead Sea has no outlet, or place for water to leave the sea. Though fed by the Jordan River, the only way that water leaves the Dead Sea is through evaporation. As a result, the salt content of the water is extremely high—about 33%. Worldwide, average seawater salt content is around 3.5%.

The Dead Sea's name comes from the fact that, because its salinity is so high, it can't sustain any marine life. No fish swim in its waters.

However, the salinity of the Dead Sea means that just about anything can



float in it. An object floats when it is less dense than the fluid surrounding it. Salt makes water denser. With its high salt content, the Dead Sea is so dense even a bowling ball can float in its waters.

Since ancient times, people have flocked to the Dead Sea to experience its unique properties. It remains a popular tourist attraction in both Israel and Jordan. However, many scientists believe that the Dead Sea is in danger of disappearing.

The Dead Sea is so dense that people can easily float in it. ▼



Tourists flock to the northern section of the Dead Sea.

The Northern Region

The Dead Sea is divided into two main regions. The northern section of the Dead Sea is known for its resorts. Spas in the area claim that soaking in the Dead Sea minerals has health benefits. Also, oxygen levels are higher at places closer to sea level than at elevations further up. Since the Dead Sea is one of the world's lowest locations, it has very high oxygen levels. Both of these facts help make spas in the northern region popular.

The Southern Region

The southern half of the Dead Sea is industrial because the minerals in the seawater are also used in manufacturing.

Huge industrial plants are located near the Dead Sea to process these minerals from the seawater. Shallow evaporation pools are set up alongside the sea. The water in these pools dries and evaporates quickly. The minerals are left behind to be harvested and processed.



evaporation pools alongside the Dead Sea