

# Read About Natural Resource Distribution

## WHAT IS NATURAL RESOURCE DISTRIBUTION?

Natural resources are anything humans use that are obtained from the Earth. Some natural resources have taken millions of years to form and will not last forever, like fossil fuels. Other natural resources have been around for billions of years and could be around for billions more, like sunlight.

*To better understand natural resource distribution...*

## LET'S BREAK IT DOWN!

### Renewable resources

Some natural resources are considered renewable; for example, humans produce electricity by harnessing the wind using wind turbines and collecting sunlight with solar panels. These renewable resources can be used continuously and have the potential to last for millions or even billions of years.



Many people are using renewable resources to power their homes. There are even pocket size solar panels you can use to charge things like your cell phone when there is no wall plug around. Scientists think these resources have been around the Earth was created and there is evidence that humans have used these resources for centuries.

## Non-renewable resources.

Some of Earth's resources are considered non-renewable, which means they cannot be replenished within a person's lifetime and include things like fossil fuels, precious metals, and groundwater aquifers. As humans use non-renewable resources, they need to consider alternative products to replace

these resources as they continue to be depleted. Currently, scientists are developing alternative ways to power cars, like electricity and hydrogen, to decrease their dependency on fossil fuels. There are other problems with using non-renewable resources such as when extraction damages the environment.



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## Earth can be divided up into "four spheres" that all contain natural resources.

Earth is made up of the geosphere, atmosphere, biosphere, and hydrosphere. Each of the four spheres contain resources that humans need. The geosphere contains soil, minerals, and metals. Gases that plants and animals need for survival, like oxygen and carbon dioxide, are part of the atmosphere.

The biosphere comprises all the living things on Earth. The hydrosphere makes up all water found on Earth, including water vapor, ice, and liquid water.



## Fossil fuels are made from ancient living things.

Fossil fuels are considered a non-renewable resource and include things like oil, natural gas, and coal. Fossil fuels were made from the decomposition of once-living things. As these dead organisms decomposed, they created huge deposits of these fossil fuels underground in certain parts of



Earth. For example, oil was created when large amounts of plankton, found in water, decomposed. This is why we find large amounts of oil buried under the sea floor and in regions that used to be covered in water. Since all living things contain carbon, fossil fuels emit carbons when they are burned, producing what we call carbon emissions.

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## Careers in Science: Conservation biologist

A conservation biologist studies how humans impact the environment when they are searching for and extracting natural resources from the Earth. These scientists keep track of the environment both before and after the activities to ensure that what humans are doing affect the natural environment as little as



possible. Many different kinds of things need to be considered before we take things from Earth, including making sure humans are not destroying the habitat of endangered species. Conservation biologists also make sure when accidents happen that the environment is restored as best as possible so the environment is not damaged beyond repair.

**NATURAL RESOURCE DISTRIBUTION VOCABULARY**

**Natural resources**

Are things humans use that occur naturally in nature.

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**Renewable resources**

Are things like the Sun, wind, and water that can be used indefinitely to provide humans with something they need.

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**Non-renewable resources**

Are things that will eventually run out that cannot be replaced within a person's lifetime, like fossil fuels (oil, coal, natural gas) and fresh water.

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**Geologic processes**

Earth's naturally occurring movements like plate tectonics, weathering, and erosion.

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**Gold**

Is a metal that is considered rare (not easily found). This natural resource along with platinum, silver, and some others are referred to as precious metals.

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**Fossil fuels**

Are deposits of substances many people use for energy. Oil, coal, and natural gas deposits are found underground in some parts of the world and were formed from decomposing organic matter.

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**NATURAL RESOURCE DISTRIBUTION DISCUSSION QUESTIONS**

**Give some examples of how we use natural resources.**

Fuel for cars, heating our homes, and industry; wood for building; sunlight and wind to generate electricity.

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**Where are natural resources found on Earth?**

Some natural resources like sunlight and wind are found everywhere, but other natural resources are unevenly distributed. Resources like oil, coal, and natural gas are only found where conditions were favorable to grow and preserve large quantities of animal or plant matter. Forests only grow in certain soils and temperature zones. Some countries have more groundwater than other countries.

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**Why would a job like a conservation biologist be important?**

Conservation biologists study the affect humans have on the environment to make sure humans are not hurting the ecosystem when they take natural resources. These scientists make sure when people are mining for coal or drilling for oil they are disturbing the environment as little as possible.

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**Explain how plate tectonics are responsible for where we find some of our natural resources.**

Metal ores are found near plate boundaries; magma that forms due to subduction can heat water in the ground. Hot water can dissolve minerals from one place and then carry and deposit

them somewhere else, usually in fractures in rock. Some people use water heated by magma to heat homes and to generate electricity.

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### **Where do fossil fuels come from and how were they made?**

Fossil fuels like gas and oil are formed from animal and plant matter deeply buried by sediments. The animal and plant matter decays and over millions of years form oil and gas; if conditions are right, the oil and gas remain trapped below Earth's surface. Coal forms from thick deposits of plant matter that accumulated in swampy areas. The decaying plants are under pressure from the thick layers of sediments that buried them; over time the plant matter forms coal.

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### **How could water be both a renewable and a non-renewable resource?**

Running water, like what can be found in a river, can be used to generate electricity; humans have built hydroelectric dams to harness the energy of running water. Freshwater stored as groundwater can be called a non-renewable resource because it is being used faster for drinking water and irrigation than it can be recharged.

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