

Mining

Mining is essential to meet rising global demand for minerals. Geoscientists locate mineral resources and figure out how to extract them economically while minimizing health and environmental impacts. The method of mining, as well as potential environmental impacts, depends on the type of resource being mined.

Basics



The mining process is used to separate rock or ore from surrounding rock. There are four main mining methods: underground, open surface (pit), placer, and in-situ mining. The method used depends on the type of mineral resource that is mined, its location beneath the surface, and whether the resource is worth enough money to justify extracting it. The potential environmental impacts of mining depend on the resource being mined, how it is mined, and local factors like climate. In the United States, these impacts are now closely regulated, and mine areas are often reclaimed for another purpose after mining is over. [Read more](#)

Frequently Asked Questions

What is biomining?

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What are tar sands?

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Which mineral commodities used in the United States need to be imported?

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What happens before, during, and after mining?

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How can metal mining impact the environment?

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Critical Minerals

Critical minerals are those that are essential to the economy and whose supply may be disrupted. Critical minerals also tend to be those on which a country is heavily import-reliant, so the minerals that are deemed critical will vary from country to country.

Demand for many of these minerals has skyrocketed in recent years with the spread of high-tech devices that use a wide variety of materials.



Industrial Minerals

Industrial minerals are non-metals including crushed rock, sand, and gravel. They are essential for construction of buildings and highways, and are used in many household products and industrial processes.



Metals

Metals are found in many different places around the world. Many natural Earth processes affect their distribution and abundance.

Metals are essential to our economy and lifestyle, and the global demand for metals continues to rise.



Mineral Resources

Global demand is rising for mineral resources of all kinds, including metals, industrial minerals, and solid fuels like coal. Mineral resources are unequally distributed around the globe, reflecting the vast differences in geology of different parts of the Earth.

Geoscientists play an essential role in locating mineral resources and designing processes for their safe extraction.

Maps & Visualizations



Interactive visualization of United States coal data
U.S. Energy Information Administration

The U.S. Energy Information Administration’s Coal Data Browser provides a variety of state-specific and nationwide visualizations for their coal reports and data sets. The annual data sets go back to 2008 and can be displayed as a time series graph, bar graph, U.S. map, or coal basin map. Data set...

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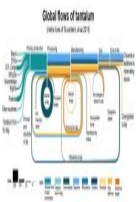


Heavy Oil

Introduction Naturally occurring crude oil comes in many forms. The most familiar to many people is light crude oil, which is less dense than water and flows easily at room temperature. Heavy oil and bitumen are forms of crude oil that are more viscous (thicker) and dense. The largest crude oil...

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Tracking the Global Supply of Critical Materials

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