

POWERED

by Earth Resources



HYDRO

LANDSAT - HOOVER DAM, NEVADA AND ARIZONA



OIL & GAS

LANDSAT - WEST TEXAS



COAL

LANDSAT - POWDER RIVER BASIN, WYOMING



NUCLEAR

LANDSAT - THREE MILE ISLAND, PENNSYLVANIA



BIOMASS

LANDSAT - TONGASS NATIONAL FOREST, ALASKA



@AmericaView

Material is based upon work supported by the U.S. Geological Survey under Grant/Cooperative Agreement No. G23AP00683

EXPLORING EARTH RESOURCES

Through Remote Sensing

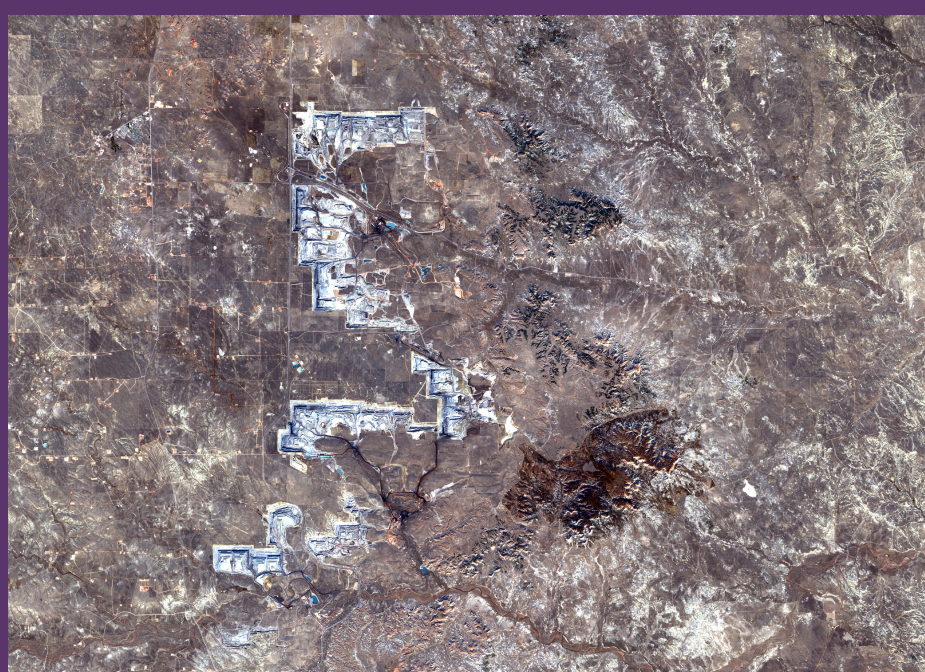
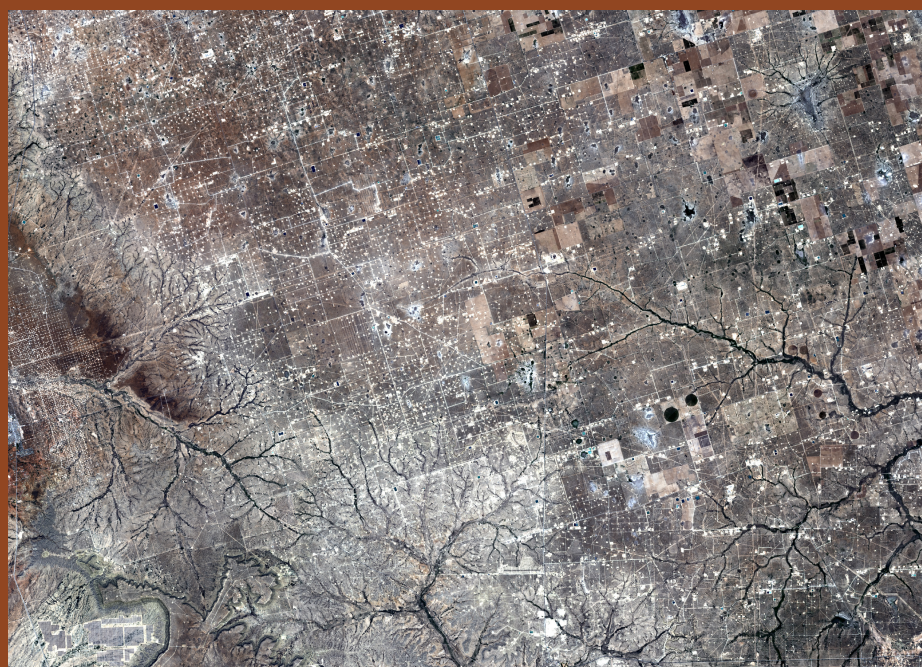


HYDROELECTRIC

Hydroelectric power is produced by moving water and this is why dams are built within rivers. This Landsat image shows the Hoover Dam, Lake Mead, the Colorado River, and a portion of the city of Las Vegas, Nevada. Behind the dam is the largest man-made lake in the United States, Lake Mead, which provides drinking water for the cities of Las Vegas, Los Angeles, San Diego, and Phoenix. This area is within the Mohave desert, an arid land that only receives an average of 4 inches of rain each year. The Hoover Dam and Lake Mead play an important role in providing electricity and water for the populated areas of the western United States. Read a story about a field trip to Hoover Dam, <https://bit.ly/eod-hoover-dam>.

OIL & GAS

Oil and natural gas are called fossil fuels because they are mixtures of hydrocarbons that formed from the remains of animals and plants that lived millions of years ago in oceans, lakes, and swamps before dinosaurs roamed the earth. The United States is one of the largest oil and gas producing countries in the world and the state of Texas produces the most oil and gas within the United States. This Landsat image is showing oilfields in west Texas near the town of Odessa. The landscape in this area is “dotted” by thousands of oil wells that are pumping oil from deep beneath the surface. Learn more about fossil fuels and their uses in our society, <https://bit.ly/eod-oil-gas>.

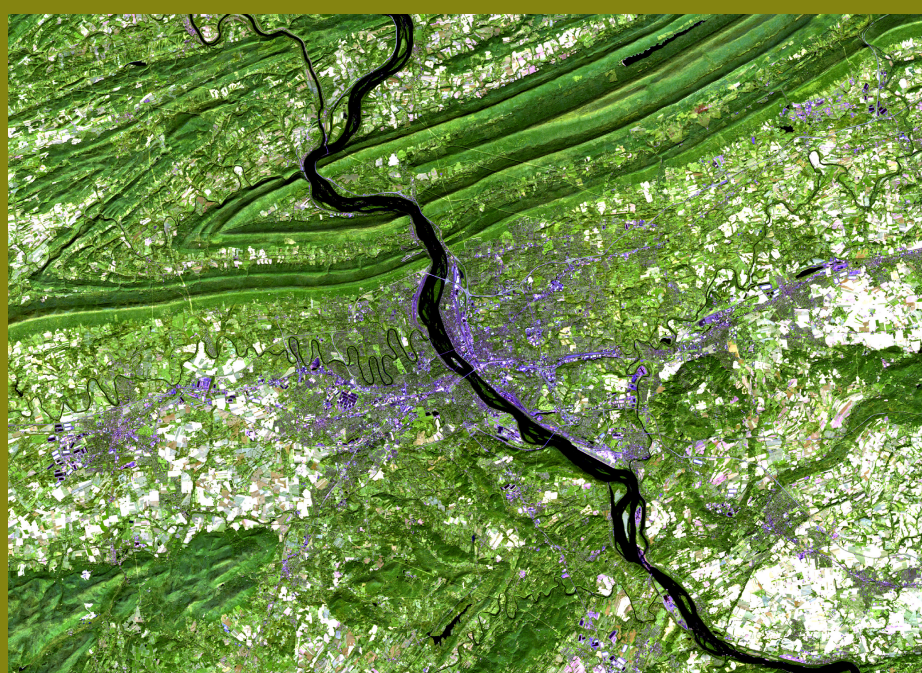


COAL

Coal is a combustible black or brownish-black sedimentary rock with a high amount of carbon and hydrocarbons and takes millions of years to form. Coal contains the energy stored by plants that lived hundreds of millions of years ago in swampy forests. This Landsat image shows the North Antelope Rochelle Mine in Campbell County, Wyoming, which is the largest coal mine in the world. The North Antelope Rochelle Mine uses surface mining to extract the coal. In surface mining, large machines remove the topsoil and layers of rock known as overburden to expose coal seams. Learn more about the different types of coal and how it is used, <https://bit.ly/eod-coal>.

NUCLEAR

Nuclear energy is energy that is within the core of an atom and the process of harvesting that energy is called nuclear fission. Nuclear fission occurs at nuclear power plants and uranium is the fuel most widely used for this process and uranium ore is mined in the western United States. Nuclear power plants use heat produced during nuclear fission to heat water that produces steam and the steam is used to spin large turbines that generate electricity. This Landsat image is showing the landscape surrounding Three Mile Island Nuclear Generating Station in Pennsylvania. Learn more about mining uranium and the process of harnessing nuclear energy, <https://bit.ly/eod-nuclear>.



BIOMASS

Biomass is renewable organic material that comes from plants and animals. Biomass contains stored chemical energy from the sun and is produced through photosynthesis. Biomass can be burned directly for heat or converted to renewable liquid and gaseous fuels through various processes. This Landsat image shows the Tongass National Forest in Southeast Alaska. The Tongass is the largest forest in the United States and it is also a temperate rain forest. Lumber that is harvested from forests is one source of biomass that is used to provide heat and electricity. Learn more about all of the different biomass materials that are used as energy sources, <https://bit.ly/eod-biomass>.

ADDITIONAL RESOURCES

- To explore freely available lessons, curriculum, games, and other resources associated with these topics, scan the QR code with your mobile device or visit <https://bit.ly/eod-resources>.
- Additional K-12 lessons can be found at <https://switchclassroom.org>.
- To learn more about the Landsat Program and how it has kept an eye on Earth for more than 50 years, visit <https://www.usgs.gov/landsat-missions>.
- Follow this link for USGS educational resources: <https://bit.ly/usgseudout>.



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