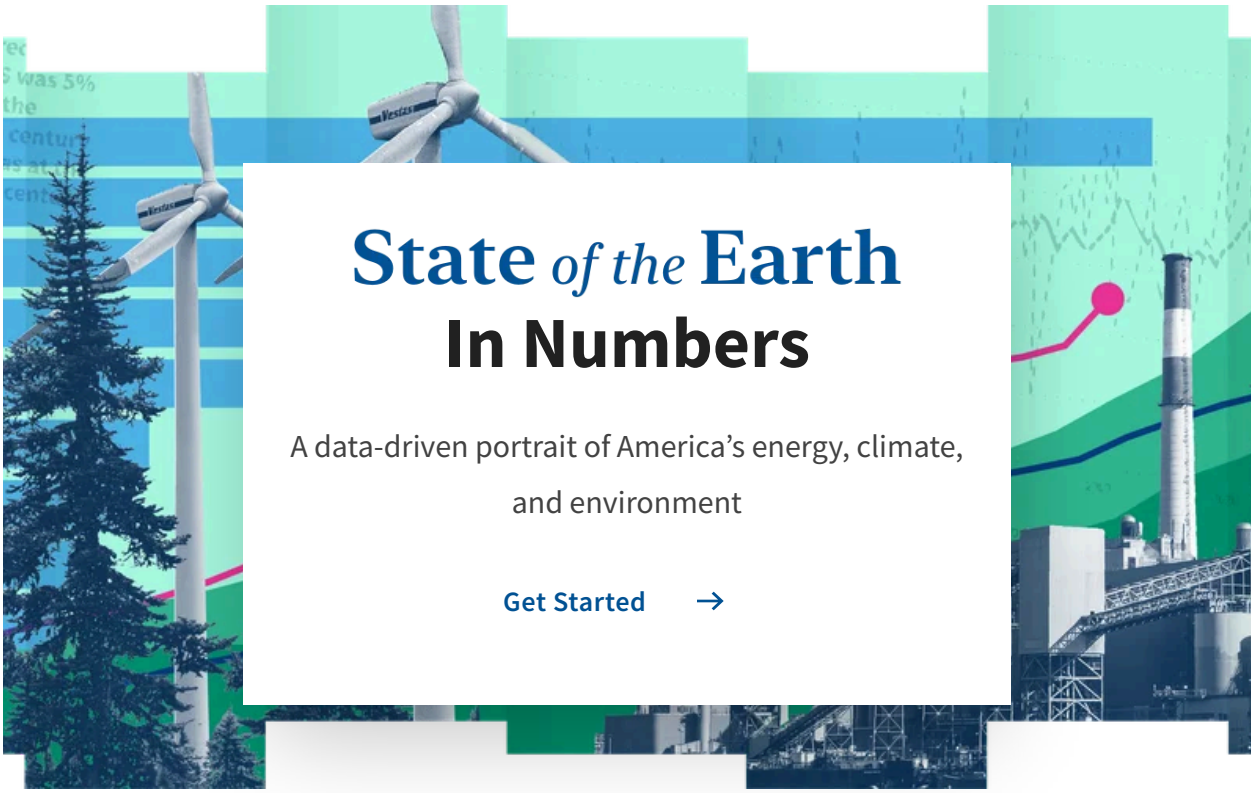


State *of the* Earth
In Numbers

A data-driven portrait of America's energy, climate, and environment

Get Started →

The United States has several government agencies responsible for measuring the nation's air, land and water conservation, and energy production. To celebrate Earth Day, USAFacts analyzed metrics from these agencies for a holistic look at the American environment. This data snapshot contains environmental numbers from 1895 to 2021.

These are historical metrics for perspective — whether they mark positive, negative, or neutral changes for land, energy, and air in the US is up to you.

Learn more about energy, environment, and natural resources in the US.

Published April 20, 2022

ENERGY & EMISSIONS

How do energy and emissions in the United States compare to the rest of the world?

— In 2021, 79% of US energy consumption was from fossil fuels, 8.4% was from nuclear, and 12.5% was from renewable sources. The share of energy consumption from nuclear and renewable sources combined has more than doubled since 1980. →

— Forty percent of US renewable and nuclear energy consumption is from nuclear sources, followed by 23.8% from biomass like wood and biofuels. →

— In 2019, the US ranked fifth among the world's 10 largest economies for its proportion of energy consumption from renewable and nuclear energy. →

— In 2019, 55.1% of New Hampshire's energy consumption was from renewable and nuclear, the highest nationwide. South Carolina was second, with 45.8%. →

— The US emitted about 5.1 billion metric tons of carbon dioxide in 2019, making up 14.5% of the world's emissions. →

— Transportation was the largest source of US emissions in 2020. It surpassed electricity generation emissions in 2017. →

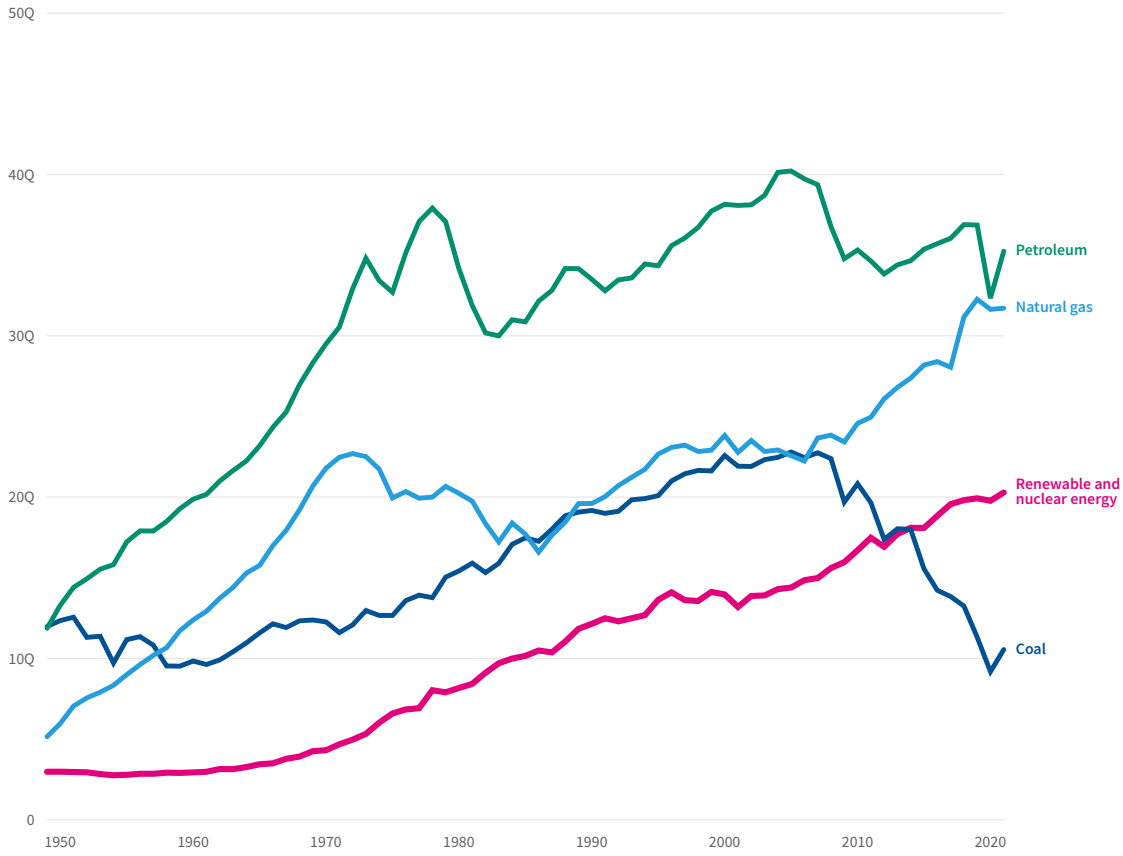
— The US emitted about 15.6 metric tons of carbon dioxide per person in 2019, ranking fourth among the world's top 15 gross emitters. →

— Energy-related carbon dioxide emissions were 6.4% higher in 2021 than 2020, after decreasing the previous year. →

— The average American generated 4.9 lbs. of solid trash (food waste, paper, etc.) daily in 2018, up from 3.7 lbs. in 1980. →

Energy & Emissions →

Energy consumption by source (BTU)



Sources: **Energy Information Administration.** *see more*

ENVIRONMENT & CLIMATE

What is the state of the environment and climate?

— 2021 was the sixth-warmest year on record. →

— All states, and especially in the Northeast and upper Midwest, were warmer in 2021 than the 20th century average. →

— Average US rainfall for the last decade is 3.6% higher than the average rainfall for the previous decade. →

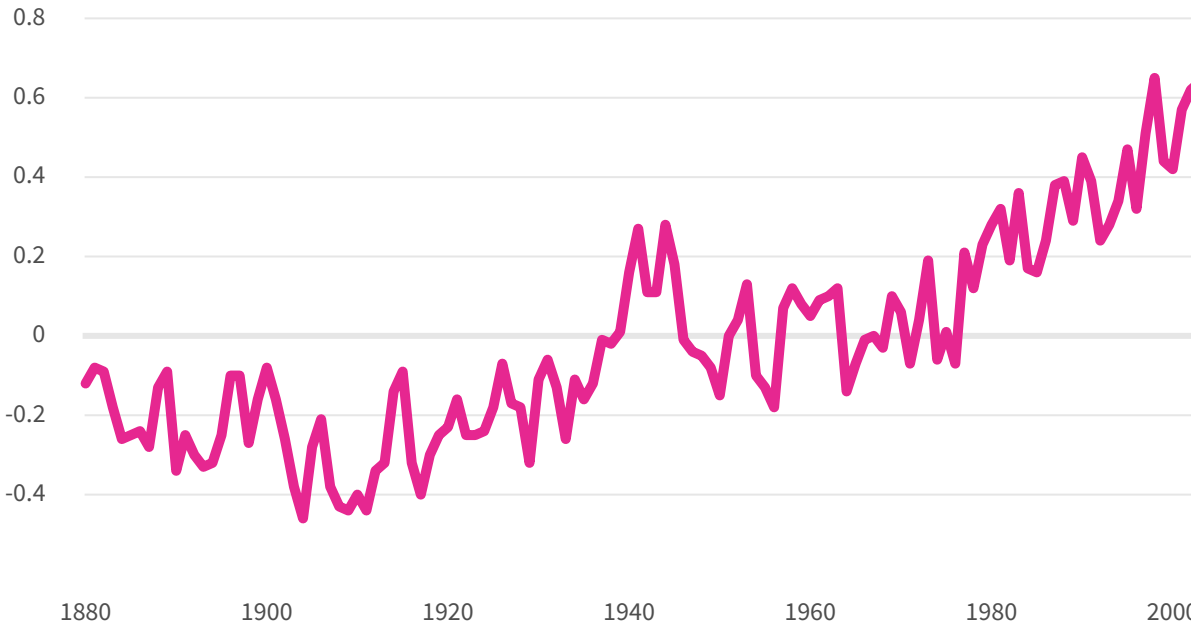
— In 2021, Mississippi and Massachusetts each had more than 10 inches of precipitation over their 20th century averages. →

Environment & Climate →

Global Temperature Difference from 20th Century Average

SELECT A LINE

Global temperature anomaly (Degrees Celsius)



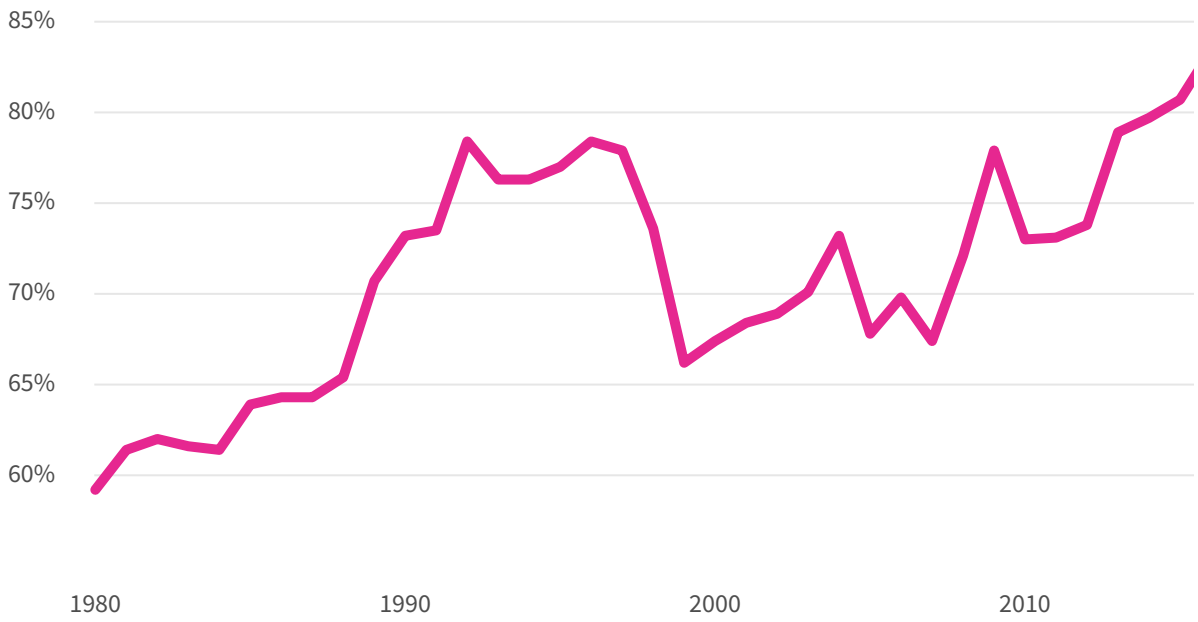
Source: National Oceanic and Atmospheric Administration.

Footnotes: The global temperature anomaly measures the differ... *see more*

AIR QUALITY

How has air quality changed across the United States?

Percent of days with good air quality in the average US county



Source: Environmental Protection Agency.

Footnotes: Percentage determined by taking averages of counti... *see more*

GOVERNMENT

What does the government do to manage the environment?

— There are 731 animal species listed as threatened or endangered, including 171 types of fish, 99 birds, and 96 mammals. →

— The federal government owned 28% of American land as of 2018, down about 5% since 1990. →

— The federal government collected $11.3 billion in revenue from energy and mineral extraction on its lands and waters in 2021, a 19% decrease from 2011, after adjusting for inflation. →

— There were 297 million visits to land managed by the National Park Service in 2021 (including national parks, historical sites, and national monuments), 25% greater than in 2020. →

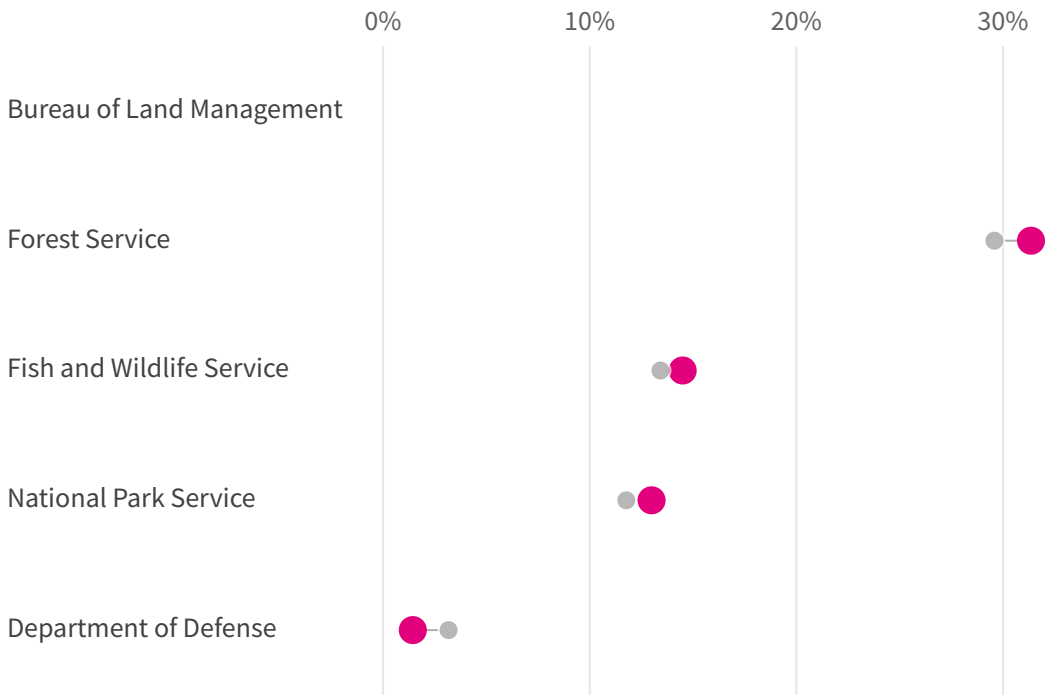
— The Great Smoky Mountains National Park had 14.2 million visits in 2021, remaining the country's most-visited national park. →

— The federal government spent $40.9 billion in 2020, or 0.6% of all federal expenditures, on the environment and natural resources (not including renewable energy spending). →

— State and local governments spent $67.7 billion on the environment and natural resources in 2019. →

— Combining bills that became public law, executive orders and presidential memoranda, and significant rulemaking by executive agencies, there were 81 federal actions on land, energy, and the environment in 2021. →

What does the government do to manage the environment? →



FEDERAL LAND OWNERSHIP BY AGENCY (% OF FEDERAL LANDS) **1990** VS **2018**

Sources: **Congressional Research Service.** *see more*

ENERGY & EMISSIONS

How do energy and emissions in the United States compare to the rest of the world?

— In 2021, 79% of US energy consumption was from fossil fuels, 8.4% was from nuclear, and 12.5% was from renewable sources. The share of energy consumption from nuclear and renewable sources combined has more than doubled since 1980. →

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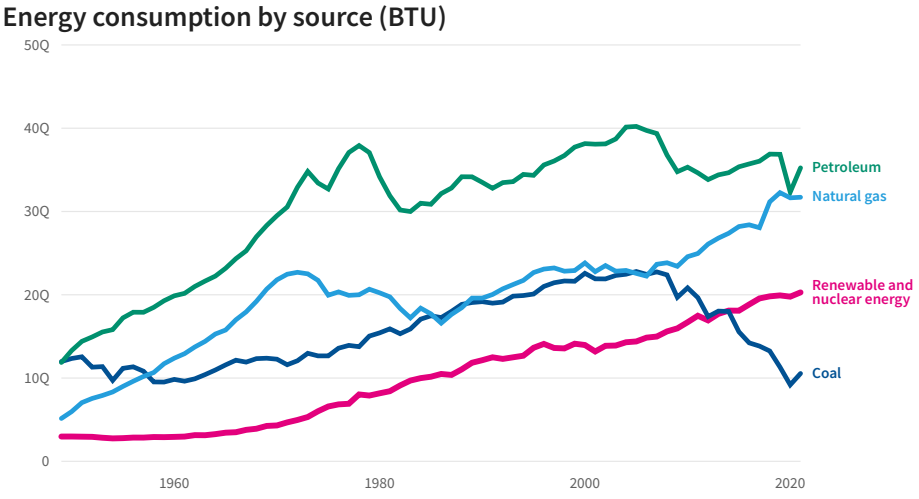
ENERGY & EMISSIONS

In 2021, 79% of US energy consumption was from fossil fuels, 8.4% was from nuclear, and 12.5% was from renewable sources. The share of energy consumption from nuclear and renewable sources combined has more than doubled since 1980.

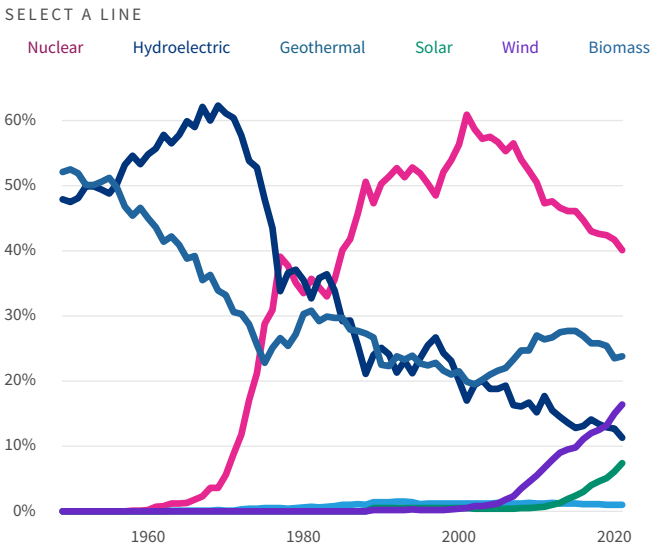
Coal provides a decreasing share of US energy, from about 20% of energy consumption in 1980 to about 11% in 2021. Natural gas, which produces half as much carbon dioxide per unit of energy as coal, is a growing fossil fuel energy source, about 32% of US energy consumption in 2021.



Sources: **Energy Information Administration.** *see more*

Forty percent of US renewable and nuclear energy consumption is from nuclear sources, followed by 23.8% from biomass like wood and biofuels.

Wind and solar energy grew over the past decade and are a combined 23.8% of renewable and nuclear energy consumption.



Source: Energy Information Administration.

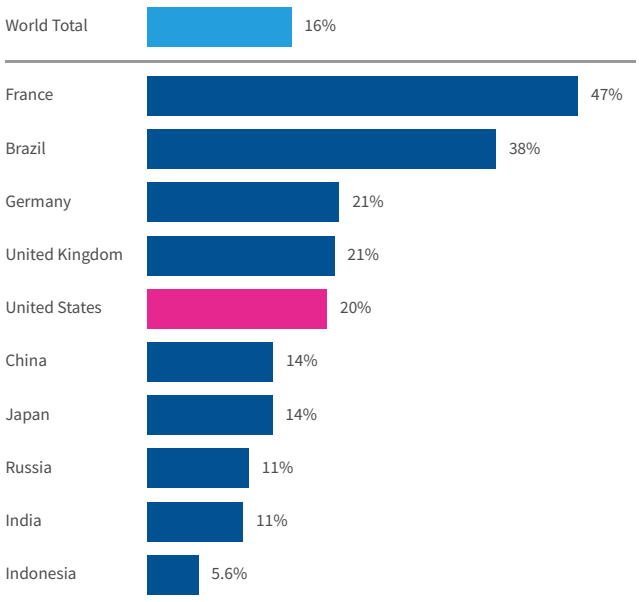
Footnotes: Data up-to-date as of April 14, 2022 *see more*

ENERGY & EMISSIONS

In 2019, the US ranked fifth among the world's 10 largest economies for its proportion of energy consumption from renewable and nuclear energy.

In 11 countries, renewable and nuclear sources comprised more than half of energy consumed, including Bhutan (84%), Iceland (79%), and Paraguay (74%).

Renewable and nuclear energy as a percent of energy consumption 2019



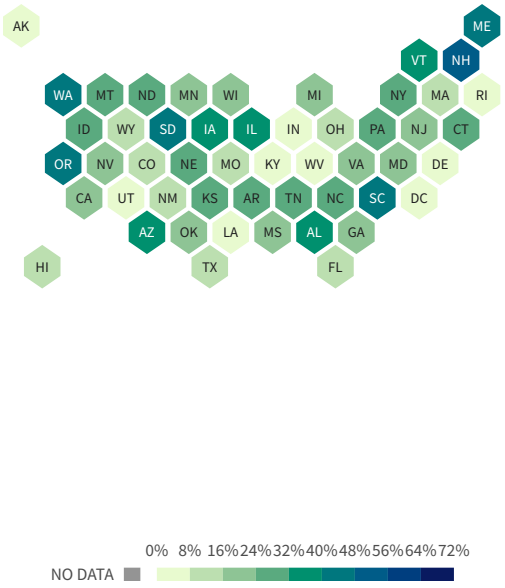
Sources: **Energy Information Administration.** *see more*

ENERGY & EMISSIONS

In 2019, 55.1% of New Hampshire's energy consumption was from renewable and nuclear, the highest nationwide. South Carolina was second, with 45.8%.

The median state, Michigan, consumes 20.4% of its energy from renewable or nuclear sources. Wyoming and Louisiana consume the most total energy per person, at 942.5 million and 919.3 million BTU per 1,000 residents, respectively.

Renewable and nuclear energy as a percent of energy consumption 2019



Source: Energy Information Administration.

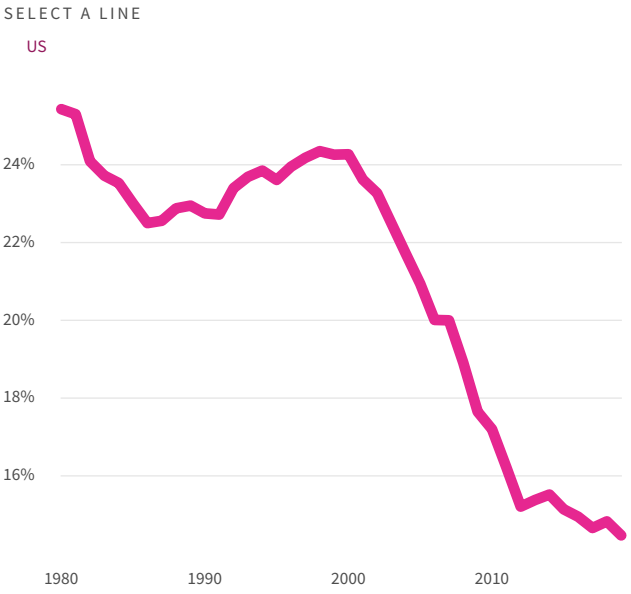
Carbon dioxide was 80% of greenhouse gas emissions in 2019. Other gases including methane, nitrous oxide, and fluorinated gases comprised the rest.

ENERGY & EMISSIONS

The US emitted about 5.1 billion metric tons of carbon dioxide in 2019, making up 14.5% of the world's emissions.

In 1980, the US emitted about 25% of global carbon dioxide emissions. It has produced about 20% of the world's total emissions since 1980.

US as a percentage of world emissions



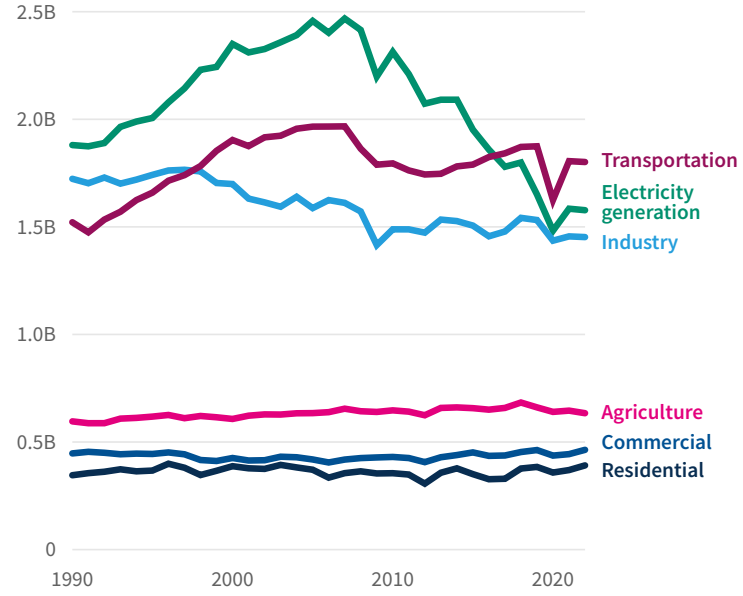
Source: Energy Information Administration.

ENERGY & EMISSIONS

Transportation was the largest source of US emissions in 2020. It surpassed electricity generation emissions in 2017.

Transportation and electricity generation combined create more than half of all US emissions, and almost entirely through carbon-dioxide-producing fossil fuel combustion. Industrial activity is about 24% of all emissions. Industrial activity contributes to emissions via fossil fuel combustion, natural gas, chemical production, and fluorinated gases.

Greenhouse gas emissions by sector (metric tons of CO2 equivalents)



Sources: **Environmental Protection Agency.** *see more*

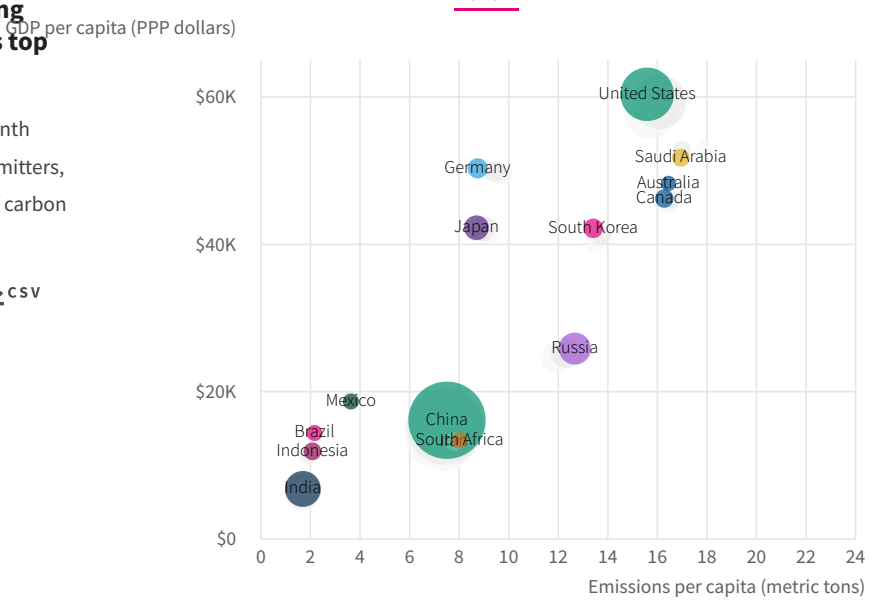
ENERGY & EMISSIONS

The US emitted about 15.6 metric tons of carbon dioxide per person in 2019, ranking fourth among the world's top 15 gross emitters.

Adjusting for GDP, the US ranks ninth among the world's top 15 gross emitters, emitting about 258 metric tons of carbon dioxide per $1 million in GDP.

Emissions per capita vs. GDP per capita among top 15 gross emitters in 2019

< 2019 > ▶



Sources: **Energy Information Administration.** *see more*

ENERGY & EMISSIONS

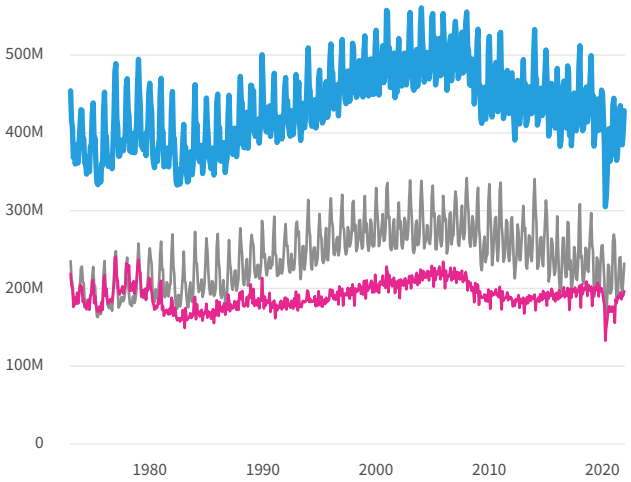
Energy-related carbon dioxide emissions were 6.4% higher in 2021 than 2020, after decreasing the previous year.

A 14.2% increase in coal emissions and a 27% increase in jet fuel emissions were responsible for about 57% of the increase in CO2 emissions.

Carbon Dioxide Emissions from Energy Consumption by Source (Metric Tons)

SELECT A LINE

Total Other Petroleum



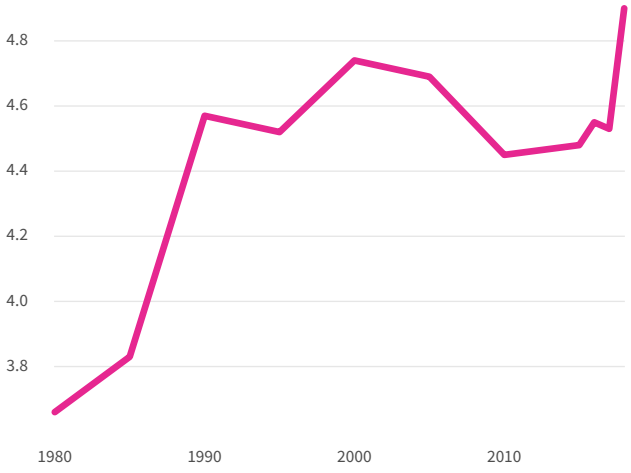
Source: Energy Information Administration.

ENERGY & EMISSIONS

The average American generated 4.9 lbs. of solid trash (food waste, paper, etc.) daily in 2018, up from 3.7 lbs. in 1980.

However, 32.1% of waste in 2018 was recycled or composted, up from 9.6% in 1980.

Trash generation (lbs per person per day)



Source: Environmental Protection Agency.

Footnotes: Trash generation rose considerably from 2017 to 20... see more

ENVIRONMENT & CLIMATE

What is the state of the environment and climate?

— 2021 was the sixth-warmest year on record.

— All states, and especially in the Northeast and upper Midwest, were warmer in 2021 than the 20th century average.

— Average US rainfall for the last decade is 3.6% higher than the average rainfall for the previous decade.

— In 2021, Mississippi and Massachusetts each had more than 10 inches of precipitation over their 20th century averages.

ENVIRONMENT & CLIMATE

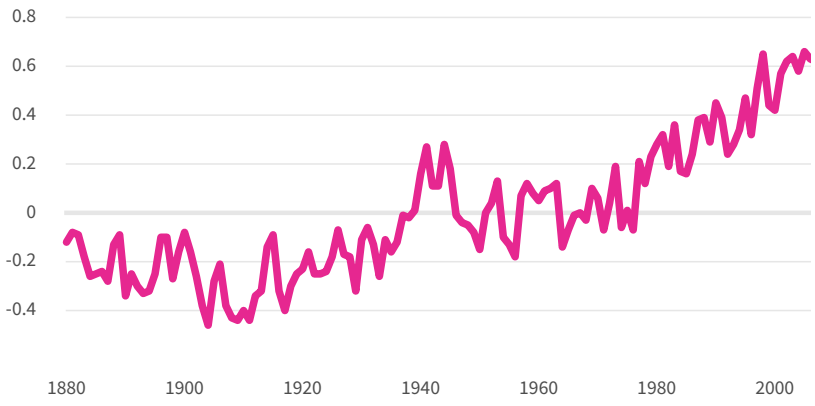
2021 was the sixth-warmest year on record.

The average global temperature was 0.84°C (1.51°F) above the 20th century average. It was also 0.15°C (0.27°F) below 2016, the warmest year on record.

Global Temperature Difference from 20th Century Average

SELECT A LINE

Global temperature anomaly (Degrees Celsius)



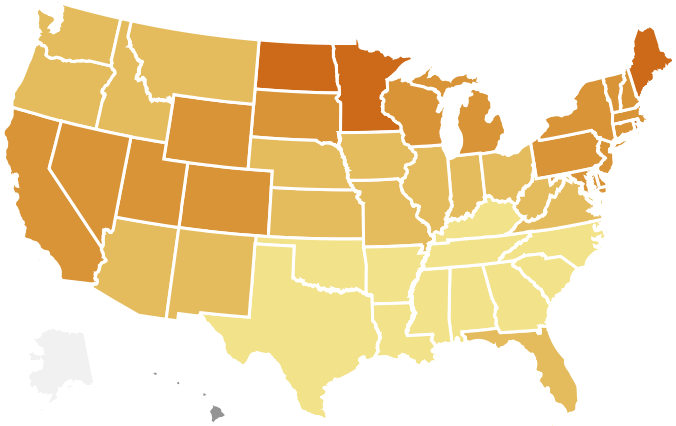
Source: National Oceanic and Atmospheric Administration.

Footnotes: The global temperature anomaly measures the differ... *see more*

ENVIRONMENT & CLIMATE

All states, and especially in the Northeast and upper Midwest, were warmer in 2021 than the 20th century average.

Annual temperature difference from 20th century average (°F) 2021



Source: National Oceanic and Atmospheric Administration.

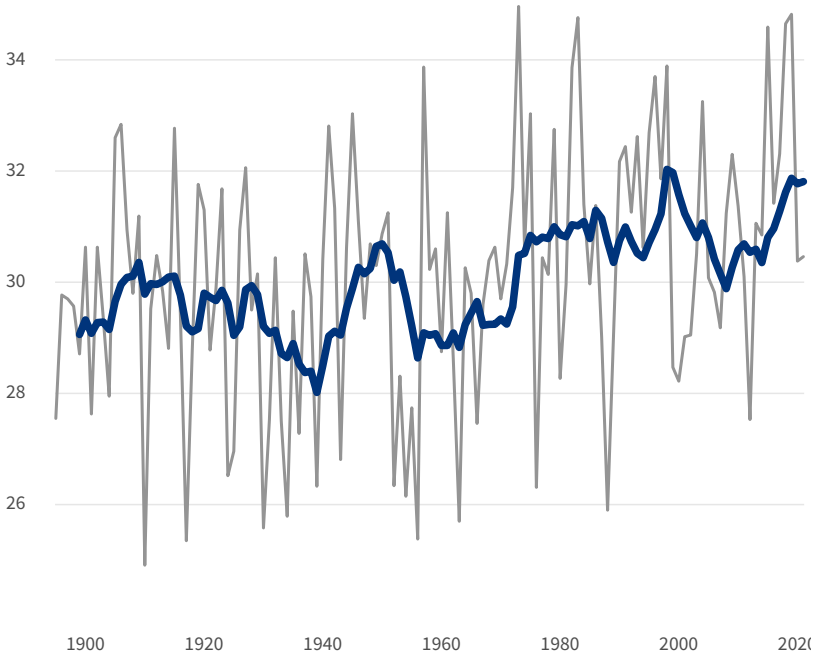
Footnotes: There is no data available for Hawaii. Alaska's av...

see more

ENVIRONMENT & CLIMATE

Average US rainfall for the last decade is 3.6% higher than the average rainfall for the previous decade.

Contiguous US annual precipitation (in.)



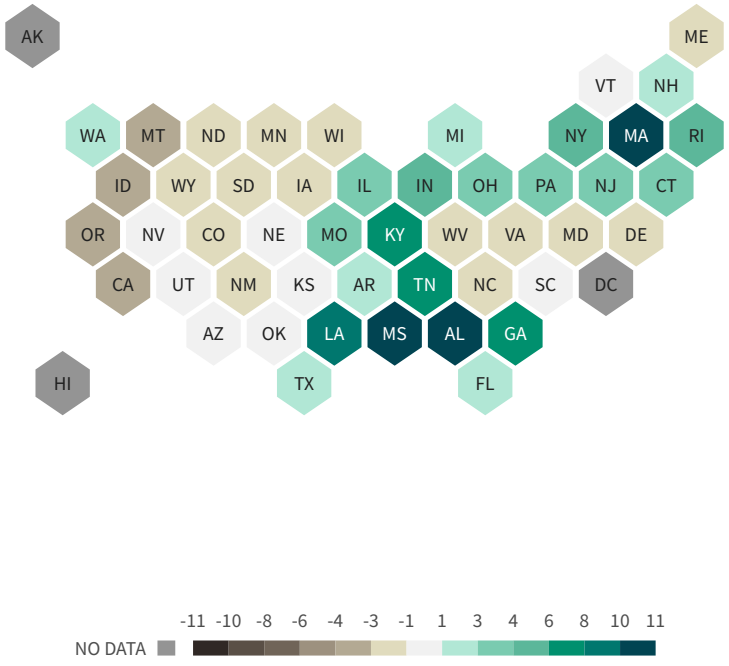
Source: National Oceanic and Atmospheric Administration.

ENVIRONMENT & CLIMATE

In 2021, Mississippi and Massachusetts each had more than 10 inches of precipitation over their 20th century averages.

Other states are becoming drier: Montana and Oregon had the greatest drops in average annual precipitation compared to their 20th century averages.

Difference in precipitation with 20th-century average (2021)



Source: National Oceanic and Atmospheric Administration.

AIR QUALITY

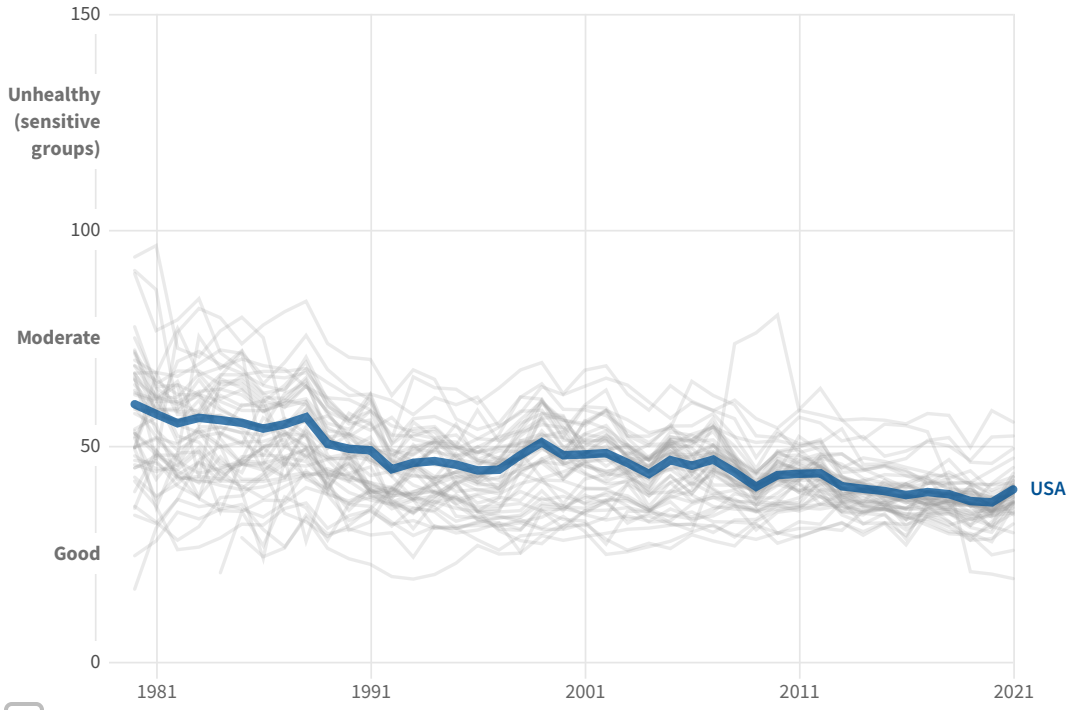
How has air quality changed across the United States?

On average, the nation's air quality is improving. However, improvement or decline depends on location. The Air Quality Index (AQI) measures the concentration of five key air pollutants regulated under the Clean Air Act. The scale values are divided into six categories which indicate varying degrees of health concern: good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, and hazardous. The Environmental Protection Agency defines "Good" air quality as an index level between 0 and 50. The higher the AQI value, the more polluted the air.

The blue line indicates the national average AQI, grey lines indicate the average AQI by state. Selectable metro areas are displayed in green.

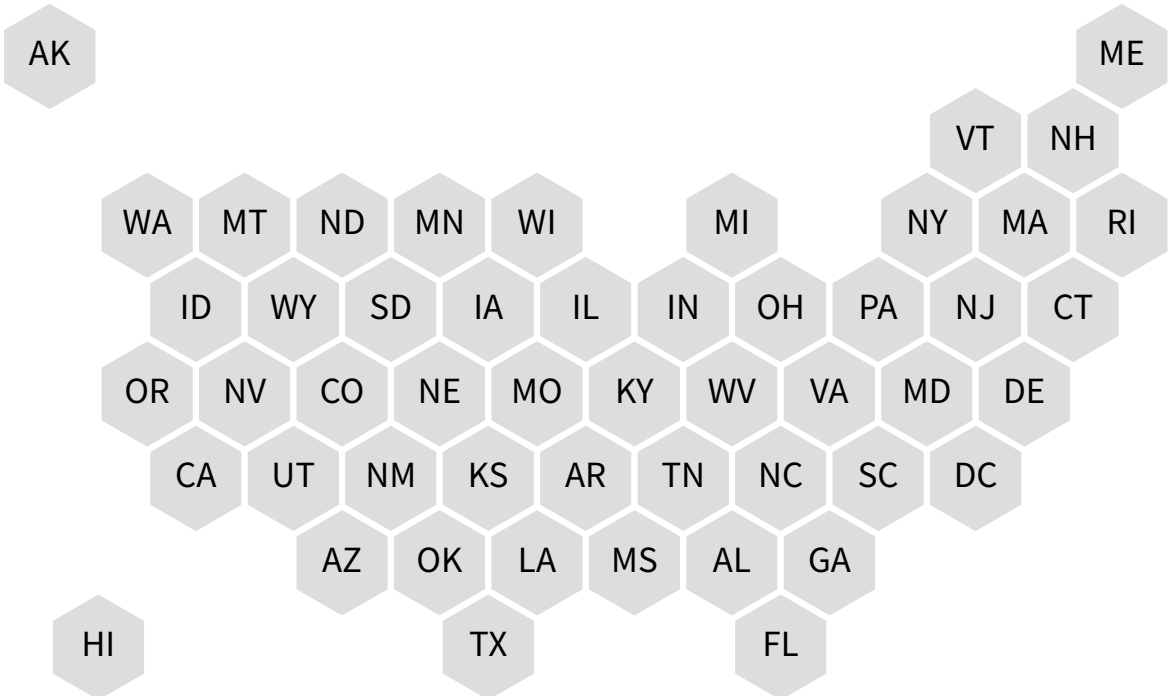
Learn more about **energy**, **environment, and natural resources in the US**.

AIR QUALITY INDEX



Population Weighted Average

SELECT A STATE



SELECT A GROUP OF STATES

West Midwest South Northeast

Low Density Medium Density High Density

SELECT A METRO

New York-Newark-Jersey City, NY-NJ-PA

Los Angeles-Long Beach-Anaheim, CA

Chicago-Naperville-Elgin, IL-IN-WI

Houston-The Woodlands-Sugar Land, TX

More Metro Areas...

Air quality is generally expected to be worse in more populated areas due to several factors including industrial facilities, vehicle emissions, and construction. By default, each line on the chart represents an average of the air quality across the counties: this provides an indication to the air quality in the average place. Weighting counties by their population makes it possible to see the air quality for the average person. The average person is worse off because that person is more likely to live in densely populated areas.

Use the tool to explore trends in states and large cities, to see where air quality is improving and where it isn't.

GOVERNMENT

What does the government do to manage the environment?

— There are 731 animal species listed as threatened or endangered, including 171 types of fish, 99 birds, and 96 mammals. →

— The federal government owned 28% of American land as of 2018, down about 5% since 1990. →

— The federal government collected $11.3 billion in revenue from energy and mineral extraction on its lands and waters in 2021, a 19% decrease from 2011, after adjusting for inflation. →

— There were 297 million visits to land managed by the National Park Service in 2021 (including national parks, historical sites, and national monuments), 25% greater than in 2020. →

— The Great Smoky Mountains National Park had 14.2 million visits in 2021, remaining the country's most-visited national park. →

— The federal government spent $40.9 billion in 2020, or 0.6% of all federal expenditures, on the environment and natural resources (not including renewable energy spending). →

— State and local governments spent $67.7 billion on the environment and natural resources in 2019. →

— Combining bills that became public law, executive orders and presidential memoranda, and significant rulemaking by executive agencies, there were 81 federal actions on land, energy, and the environment in 2021. →

GOVERNMENT

There are 731 animal species listed as threatened or endangered, including 171 types of fish, 99 birds, and 96 mammals.

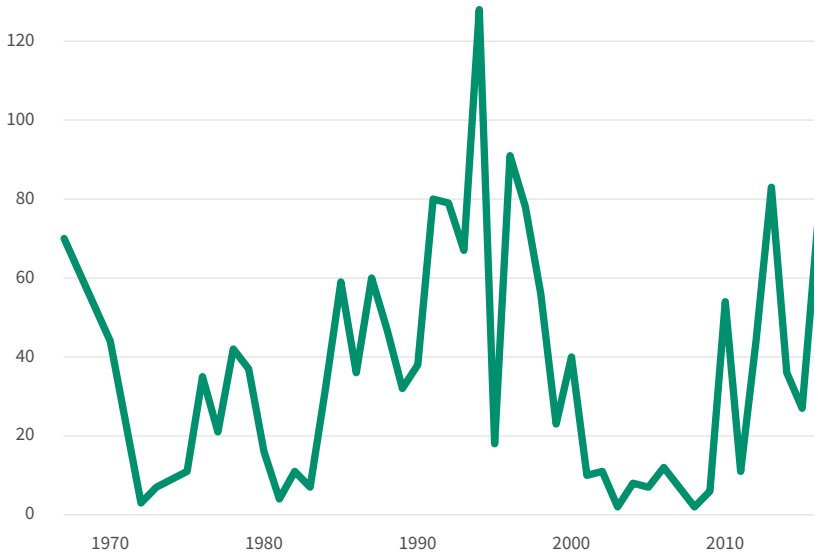
Since 1967, an average of 30 species have been added to the list annually. An average of about two species are removed from the list each year. A total of 11 removals have been due to extinction.

CSV

New endangered and threatened species added per year

SELECT A LINE

Species added

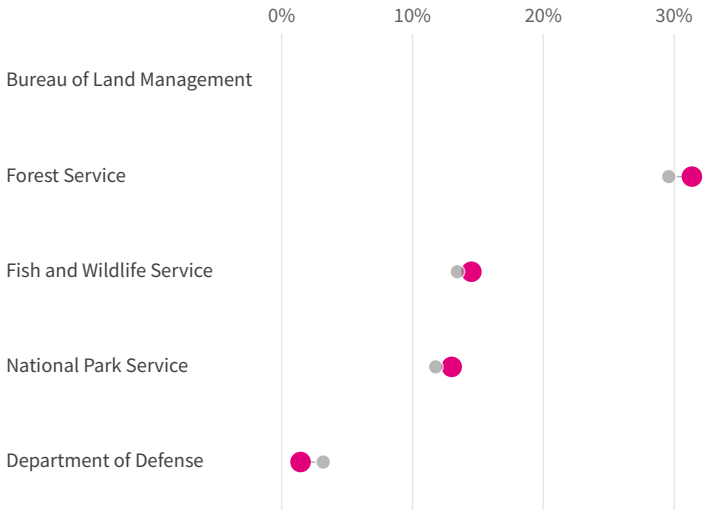


Source: US Fish & Wildlife Service.

GOVERNMENT

The federal government owned 28% of American land as of 2018, down about 5% since 1990.

Most federal land is either in Alaska (36.2% of all federal land) or concentrated in 11 Western states. The Bureau of Land Management and the Forest Service together operate 71% of federal lands. The National Park Service operates 13%.



FEDERAL LAND OWNERSHIP BY AGENCY (% OF FEDERAL LANDS)
1990 VS 2018

Sources: **Congressional Research Service.** *see more*

GOVERNMENT

The federal government collected $11.3 billion in revenue from energy and mineral extraction on its lands and waters in 2021, a 19% decrease from 2011, after adjusting for inflation.

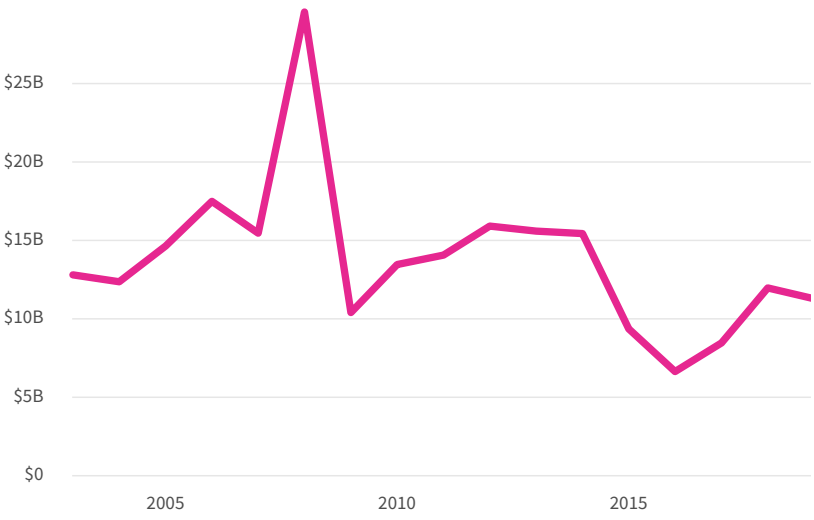
Most federal land extraction revenue is generated by oil and gas extraction, and the acreage leased for oil and gas extraction decreased 35% since FY 2011 to 24.9 million acres. Despite this, the number of producing oil and gas leases in the US rose by about 5% since FY 2011.

Revenue from extraction on federal lands

Adjusted for inflation (2021 dollars)

SELECT A LINE

Revenue



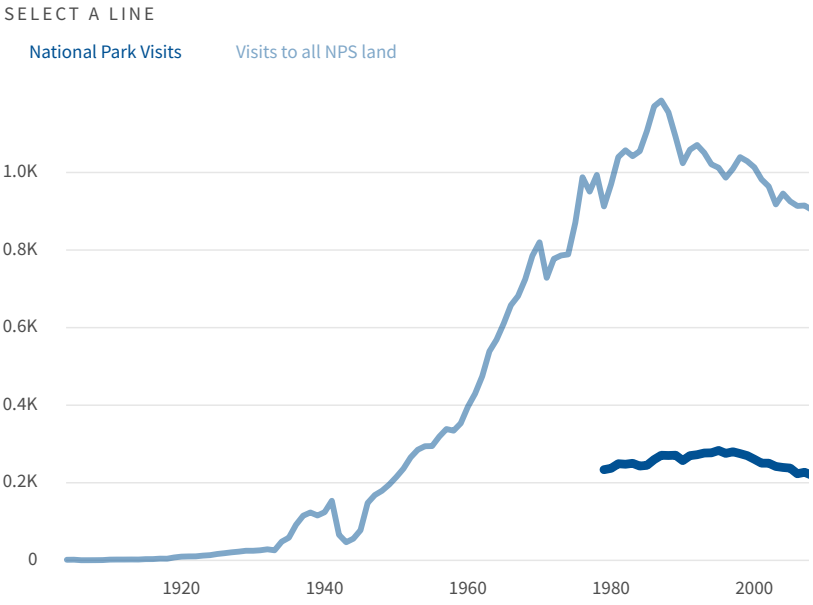
Source: Department of the Interior.

GOVERNMENT

There were 297 million visits to land managed by the National Park Service in 2021 (including national parks, historical sites, and national monuments), 25% greater than in 2020.

Visits were 9% lower than in 2019, before the COVID-19 pandemic.

National Park System visits per 1,000 people



Source: National Park Service.

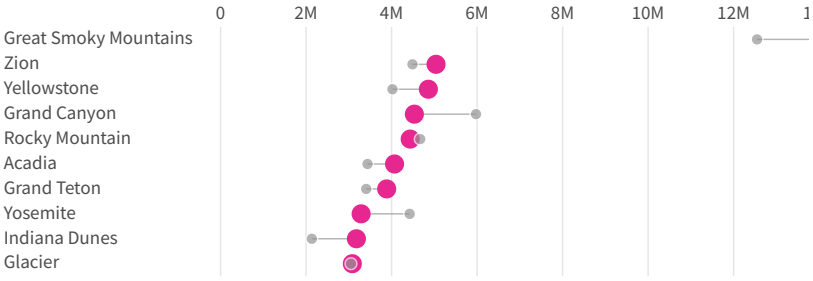
Footnotes: Total National Park System visits includes all the... *see more*

GOVERNMENT

The Great Smoky Mountains National Park had 14.2 million visits in 2021, remaining the country's most-visited national park.

Grand Canyon visits rose by 57% compared to 2020 and Yosemite visits increased by 28%, but visits to both remain below pre-pandemic levels.

Visits to top 10 most popular national parks 2019 vs 2021



Source: National Park Service.

GOVERNMENT

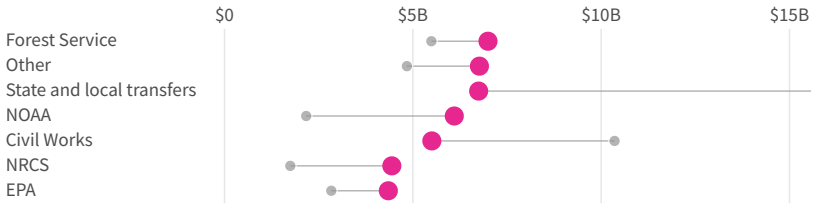
The federal government spent $40.9 billion in 2020, or 0.6% of all federal expenditures, on the environment and natural resources (not including renewable energy spending).

Most was on the Forest Service ($7 billion), transfers to state and local governments ($6.7 billion), and the National Oceanic and Atmospheric Administration ($6.1 billion).

CSV

Federal government environment expenditures 1980 vs 2020

Adjusted for inflation (2020 dollars)



Source: USAFacts analysis of Office of Management and Budg...

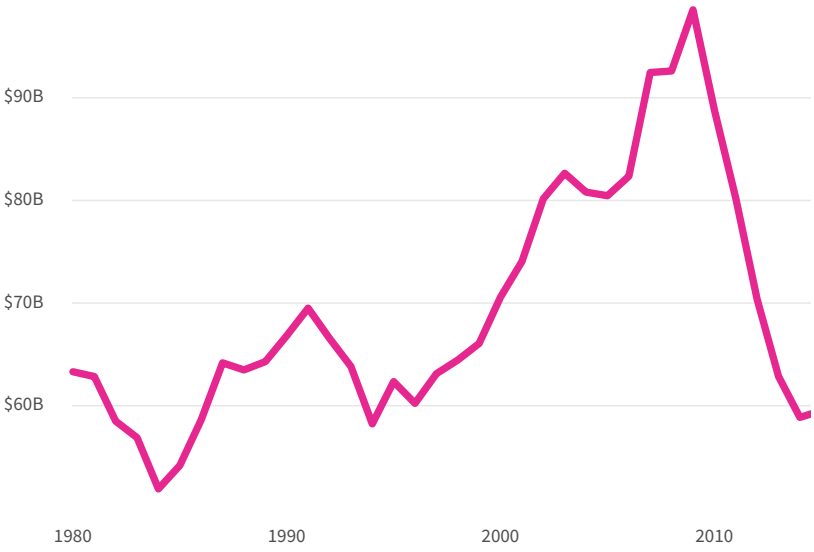
GOVERNMENT

State and local governments spent $67.7 billion on the environment and natural resources in 2019.

This was a 6.7% increase over 2018, but a 31.3% decrease compared to the 2009 peak.

CSV

State and local government environment expenditures

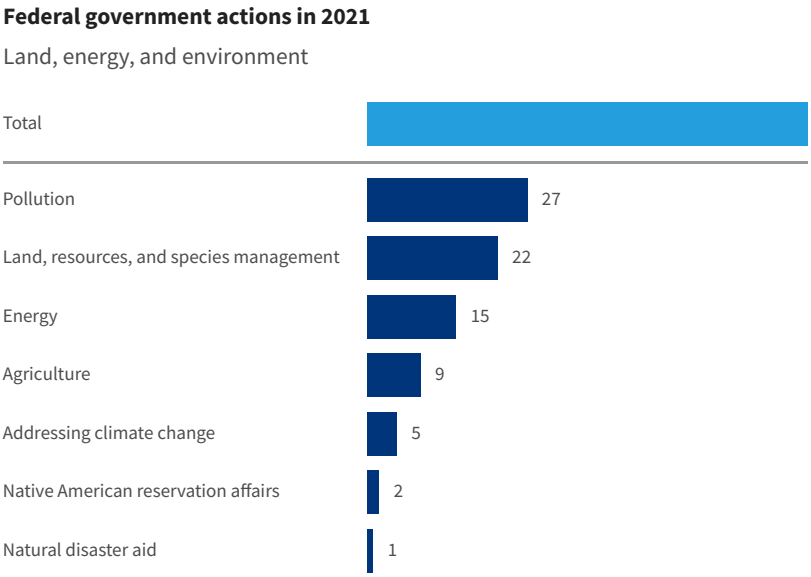


Source: USAFacts analysis of Office of Management and Budg...

GOVERNMENT

Combining bills that became public law, executive orders and presidential memoranda, and significant rulemaking by executive agencies, there were 81 federal actions on land, energy, and the environment in 2021.

More than half of these actions were on pollution (including 14 actions regulating hazardous materials use) or land, resource, and species management (including 15 that established regulations on how humans interact with animals).



Sources: **USAFacts calculations using data from the Federal ...** *see more*