National Aeronautics and Space Administration
NASA
DISCOVER THE WORLD AROUND YOU
EARTH DAY
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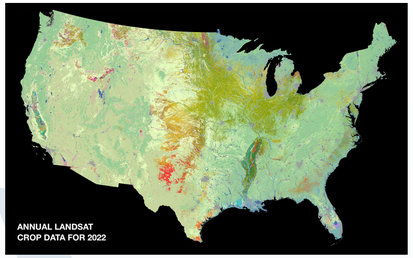
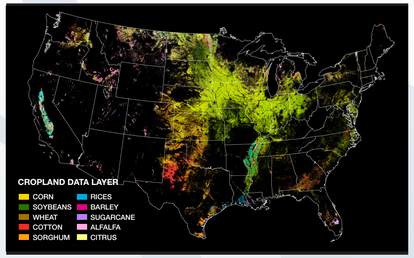
DISCOVER YOUR WORLD! | EARTH DAY

Since its inception, NASA has been studying the most important planet in the universe: Earth.

Our home planet is made up of a vibrant web of interconnected threads that grow up and out and weave together into a rich tapestry. Pull on one thread and it sends reverberations through the rest. Where it rains, or doesn't, affects the height of rivers, water supplies, and the health of crops. Smoke from fires a thousand miles away affects the air we breathe. Melting glaciers at the poles contribute to rising sea levels on coasts around the globe.

For more than 50 years, scientists at NASA have been using the view from space to discover our world and how air, rain, ice, land, and sea interact with each other. Through that process of discovery, scientists have developed a greater understanding of our planet's climate and how it is changing over time. While climate change is a global challenge, its effects are local and communities' experiences differ depending on where they are located. That is why NASA takes the next step and partners with communities around the world to put its Earth observations to work to address local environmental challenges.

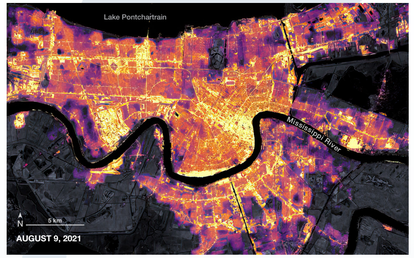




AGRICULTURE
Landsat Croplands Data Overview

Since 2009, the United States Department of Agriculture's National Agricultural Statistics Service, or NASS, has drawn on Landsat data to monitor dozens of crops in the lower 48 states as part of NASS's Cropland Data Layer program. The Cropland Data Layer uses Landsat and similar sensors to identify which crop is growing where in the country. Separately, NASS uses instruments aboard the Aqua and Terra satellites to monitor daily vegetation health and growth stage, all indicators of crop yield.

https://go.nasa.gov/3zfIZZJ



NIGHT LIGHTS
Power Outages in New Orleans

Three days after Hurricane Ida brought fierce wind, rain, and storm surges to Louisiana, large swaths of the state endured electric power blackouts. A team of scientists from NASA's Goddard Space Flight Center and the Universities Space Research Association (USRA) mapped the outages using satellite data. The images above show nighttime lights data acquired by the Suomi NPP satellite on August 9 (before the storm) and August 31 (after). The base maps make use of data collected by the Landsat 8 satellite.

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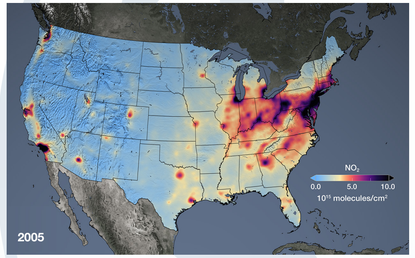

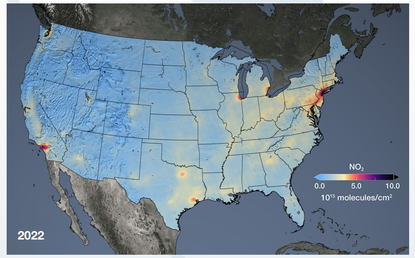

AIR QUALITY
Nitrogen Dioxide Over the United States

Nitrogen dioxide (NO_2) can impact the respiratory system, and it also contributes to the formation of other pollutants including ground-level ozone and particulates. Air pollution has decreased even though population and the number of cars on the roads have increased. The shift is the result of regulations, technology improvements, and economic changes, scientists say. The images above show concentrations of nitrogen dioxide as detected by NASA's Aura satellite, averaged yearly in 2005 and 2022.

https://go.nasa.gov/40NWL1y

The World Is Yours To Discover

Being able to measure something allows you to better understand it. When you understand it, you can do something about it.

This Earth Day, NASA celebrates the millions of people who use Earth observations. In turn, our researchers are working to make NASA data, science, and tools more accessible and easy to use, whether you are a scientist, student, farmer, water manager, mayor, or just interested in learning more about your world.

NASA invites everyone to join us on a journey of discovery through our Citizen Science programs. To learn more, scan the QR code below or visit *https://go.nasa.gov/40t9o26*.

NASA's Citizen Science Programs

Join us on our Journey of Discovery!