



Climate Program Office Review

May 24-26, 2022

Pre-Recorded Presentation

Activity Area 3

Communication, Education & Engagement

Subactivity: [Climate.gov](https://climate.gov) / Climate Literacy

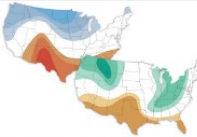
NOAA/OAR Climate Program Office

Rebecca Lindsey*, Climate.gov Managing Editor
Tom DiLiberto*, Meteorologist/Writer/Social Media

Frank Niepold**, Climate Education Coordinator
Mary Lindsey*, Data Visualization Coordinator

* Collabralink Technologies, contractor to CPO

** NOAA Climate Program Office



U.S. Climate outlook for January 2022

NOAA's forecast for January 2022 shows a mix of above-normal temperatures and below-normal precipitation across much of the country, with a higher, dry month ahead for the South. Elsewhere, there are even chances for big storms.

FEATURED

A conversation with blue carbon researcher Ariane Arias-Orta

2020 Arctic Report Card: Strong growing trend continues across Arctic tundra

2020 Arctic Report Card: Image highlights

NOAA, Census Bureau award EPA, NOAA to receive building data subsidies to climate crisis

Are you dreaming of a white Christmas?

November 2021 was seventh-warmest, eighth-driest November on record for U.S.



Our goals

- Establish NOAA as an authoritative source of climate information.
- Foster public climate literacy
- Provide easy access to frequently requested climate data, tools, and visualizations.

Global Climate Dashboard

Tracking climate change and natural variability over time

Sort by indicator: Climate Change View

Greenhouse Gases



Arctic Sea Ice



Carbon Dioxide



Mountain Glaciers



Ocean Heat



Sea Level



Spring Snow



Increasing Sunlight



Surface Temperature



[View all indicators >](#)

POPULAR CONTENT



Data Snapshot

Compare U.S. and global climate trends by publication and presentation.

[Browse Data Snapshots >](#)



Event Tracker

Stories and graphics exploring the climate impact of weather.

[Explore Event Tracker >](#)



Climate Explorer

Maps and graphics for historical and projected county-level climate data.

[Launch Climate Explorer >](#)



Principles of Climate Literacy

Education resources for climate principles and concepts.

[View Toolkit >](#)

SOURCE CLIMATE.ORG

POPULAR CONTENT

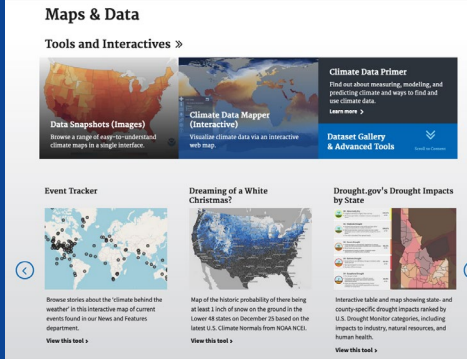
Follow Climate.gov





Target audiences

- News & Features for the climate-interested public
- Maps & Data for beginning data users
- Teaching Climate for formal and informal educators

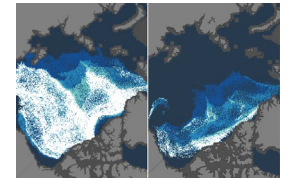
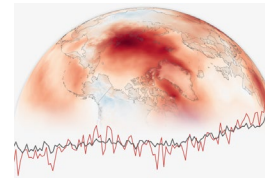
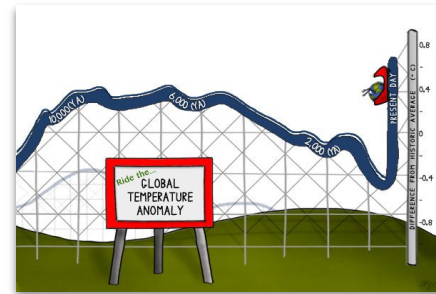
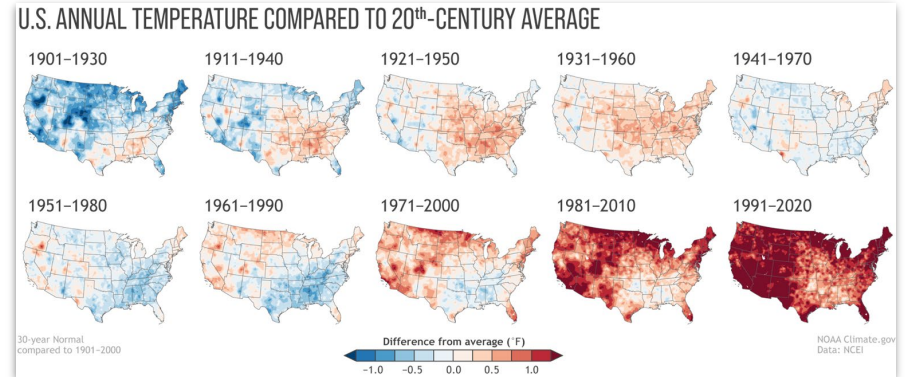


- **Mission**

- To promote climate literacy
- Brand NOAA as an authoritative source of climate information

- **What we do**

- Write & illustrate magazine-style features, Q&As, explainers, and blogs
- Provide graphics & video support to other programs and labs



Videos



Scientists and growers work together to help preserve a region's farming heritage

Department: Videos
Published: November 26, 2018

Farmers in southern Idaho pair up with NOAA-funded scientists to become more resilient to the basin's wide swings in snowpack, runoff, and groundwater recharge—today and in a warmer future.



Expanding on the Almanac: Farmer's Bet on Climate Forecast Pays Off

Department: Videos
Published: April 19, 2012

Alabama farmer Myron Johnson talks about how adding seasonal climate outlooks to his decisions about when to plant and harvest his cover crops helped produce a bumper cotton crop during the 2010 growing season.



Leaving Leeville: Losing a Coastal Community

Department: Videos
Published: November 27, 2012

On this tour of the remains of Leeville, Louisiana, long-time resident Windell Carole explains how storms and rising sea level have forced people to retreat inland several times in the last century.

Climate Case Studies



Quinault Indian Nation plans for village relocation

Department: Climate Case Studies
Author: U.S. Climate Resilience Toolkit
Published: March 01, 2016

As the threats of tsunamis and sea level rise are joined by real and potential climate impacts, the Quinault community looks to move the lower village of Taholah to higher ground.



Built to Last: Climate Data Ensure Oil Supply Route in Gulf of Mexico

Department: Climate Case Studies
Author: Caitlyn Kennedy, LuAnn Dahلمان
Published: August 27, 2015

For three days in 2005, flooding from Hurricane Katrina cut off the only road to Port Fourchon. Officials had to decide: did the risk of future flooding justify the cost of raising the roadway out of the Gulf's rising waters?



Protecting People from Sweltering City Summers

Department: Climate Case Studies
Author: Jennifer Freeman
Published: August 11, 2015

NOAA is helping the CDC build a new heat-health information system to help protect Americans from sweltering summers.

Climate and ...

The connection between climate and everyday things



Climate & French fries

Department: Climate and ...
Author: Michon Scott
Published: November 19, 2020

Warmer conditions will pose new challenges producers of Americans' favorite side dish but advance knowledge and innovation will help potato growers prepare.



Climate & skiing

Department: Climate and ...
Author: Michon Scott
Published: November 19, 2018

From retreating snow elevations to rain-soak powder, warming due to human-caused climate change will radically transform U.S. skiing over remainder of the twenty-first century.



Climate & allergies

Department: Climate and ...
Author: Michon Scott
Published: June 07, 2018

Hay fever might leave you wanting to live north that Westeros Wall, but the farther north you lie the contiguous United States, the worse your allergies may get in a warming climate.



Climate & construction

Department: Climate and ...
Author: Jennifer Freeman
Published: September 27, 2017

Climate Q&A

Myths, misconceptions, and questions about climate



What's the hottest Earth's ever been?

Department: Climate Q&A
Author: Michon Scott, Rebecca Lindsey
Published: June 18, 2020

Earth's hottest periods occurred before humans existed. Those ancient climates would have been like nothing our species has ever seen.



If carbon dioxide hits a new high every year, why isn't every year hotter than the last?

Department: Climate Q&A
Author: Rebecca Lindsey
Published: February 12, 2020

Thanks to the global oceans, Earth's surface temperature doesn't react instantly to the full impact of a climate disturbance. That delayed reaction has pros and cons.



¿Cuál es la diferencia entre el calentamiento global y el cambio climático?

Department: Climate Q&A
Author: Caitlyn Kennedy, Rebecca Lindsey
Published: April 10, 2018

El calentamiento global es un síntoma del problema mucho más grande del cambio climático causado por los humanos.

- **Mission**

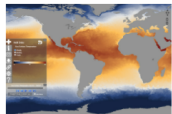
- Provide straightforward access to commonly used climate data and maps to help novice data users understand past, present, and future climate change.

- **How we do it**

- Highlight simple, easy to use data interfaces and tools.
- Provide a “climate data 101” primer that explains basic concepts.
- Offer a dashboard view of key global indicators of climate change and variability.
- Generate suites of visually appealing, shareable images of climate maps suitable for re-use in news articles, blogs, presentations, and reports.
- Enhance the discoverability, accessibility, and utility of commonly requested climate data through a context-rich visual catalog of datasets and portals.

● Tools and Interactives

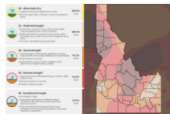
NOAA View Global Data Explorer



Over 100 climate and environmental variables from NOAA's vast archive presented in a map-based interface that allows you to see, query, capture, share, and download data.

[View this tool >](#)

Drought.gov's Drought Impacts by State



Interactive table and map showing state- and county-specific drought impacts ranked by U.S. Drought Monitor categories, including impacts to industry, natural resources, and human health.

[View this tool >](#)

Hottest summer days map layers



Map containing two layers: one showing the hottest maximum temperature recorded at a station during the summer, and the other showing the week when that station's record was set.

[View this tool >](#)

Earliest date of first snow



This map shows the earliest first day of snow recorded at thousands of locations in the U.S., based on Global Historical Climatology Network station data from NOAA NCEI.

[View this tool >](#)

● Global Climate Dashboard

Greenhouse Gases



In 2020, the combined heating influence of all human-produced greenhouse gases was 47 percent higher than it was in 1990.

[Learn more](#)

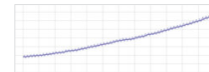
Arctic Sea Ice



Since the start of the satellite era in 1979, the extent of ice covering the Arctic Ocean at the end of summer has shrunk by more than 40 percent.

[Learn more](#)

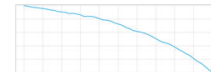
Carbon Dioxide



The amount of carbon dioxide in the atmosphere has risen more than 45 percent since people began burning fossil fuels for energy. It hit a new high of 412.5 parts per million in 2020.

[Learn more](#)

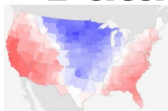
Mountain Glaciers



Since 1980, the cumulative ice loss from a reference network of mountain glaciers is equivalent to slicing an 87-foot-thick slab off each glacier. The rate of loss is roughly doubling each decade.

[Learn more](#)

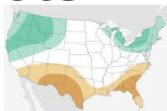
● Data Snapshots



Temperature



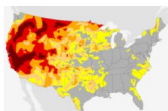
Precipitation



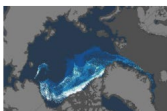
Outlooks



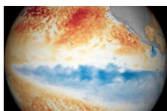
Projections



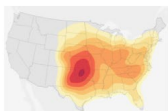
Drought



Ice & Snow



Oceans



Severe Weather

● Datasets and Portals Gallery

Future Climate Projections – Graphs & Maps
[Explore this Dataset](#)

Drought.gov – Maps, Graphs, and More
[Explore this Dataset](#)

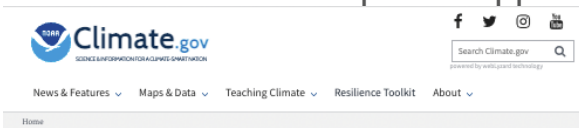
Monthly Climate Conditions – Interactive Map
[Explore this Dataset](#)

Climate.gov: Teaching Climate

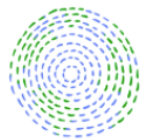


● Purpose

- Support states and school districts across the nation to increase the nations climate literacy by developing and providing easy access to rigorously reviewed digital and free learning activities, curriculum materials, multimedia resources, guidance, and professional development opportunities.



Teaching Climate



global weirding
with Katharine Hayhoe

FEATURED

The Essential Principles of Climate Literacy

FEBRUARY 3, 2022

Climate Wisconsin Adaptation-Mitigation

FEBRUARY 3, 2022

Climate Change at the Doorstep

FEBRUARY 3, 2022

Next Generation Climate Lesson 5 - In what ways can the repercussions of climate change be minimized?

FEBRUARY 3, 2022

Thermal Expansion of Water

FEBRUARY 3, 2022

See All Teaching Climate >

I Live in the Eastern US - Does Climate Change Matter to Me? | Global Weirding

FEBRUARY 3, 2022

This video discusses impacts that the Eastern US is experiencing due to climate change. It describes the seasonal shifts that may affect tourism in New England, extreme heat in the Southeast, how rising sea level affects coastal areas, changes in hurricane intensity, the spread of invasive species and disease, as well as other topics.

Collection of Climate and Energy Educational Resources (CLEAN)

A collection of 700+ free ready-to-use rigorously reviewed by educators and scientists. Suitable for secondary through higher education classrooms.

Search the Collection

Guides for Teaching Climate and Energy Science

Climate and energy are complex topics with rapidly developing science and technology and the potential for controversy. See the following pages for relevant principles concepts teaching materials and pedagogic approaches for each grade level.

Partnership with the Clean collection.

Teaching Climate

Teaching Energy

Toolbox for Teaching Climate & Energy

Trends in Our Changing Climate

"Earth's climate is now changing faster than at any point in the history of modern civilization, primarily as a result of human activities. The impacts of global climate change are already being felt in the United States and are projected to intensify in the future but the severity of future impacts will depend largely on actions taken to reduce greenhouse gas emissions and to adapt to the changes that will occur." NCA, 2018

Global Climate Dashboard

Tracking climate change and natural variability over time

Sort by Indicator: Climate Change Apply

Greenhouse Gases



Arctic Sea Ice



Carbon Dioxide



Mountain Glaciers



Ocean Heat



Sea Level



Spring Snow



Incoming Sunlight



Surface Temperature



Climate.gov: Teaching Climate



Reviewed Educational Resources

- All
- Demos & Experiments
- Interactive Tools
- Learning Activities**
- Multimedia
- Teaching Climate
- Teaching Energy
- Toolbox for Teaching Climate & Energy

Learning Activities

1-10 of 293 results

Sort by **Relevance**



Thermal Expansion of Water

Summary: This is a short experiment to demonstrate the concept of thermal expansion of water when heated, as an analogy to thermal expansion of oceans due to global warming.

This is a short experiment to demonstrate the concept of thermal expansion of water when heated, as an analogy to thermal expansion of oceans due to global warming.

Guides for Teaching Climate & Energy

Teaching Climate

What is Climate Science Literacy?

- Humans can take action
- 1. The Sun Provides Energy
- 2. Climate is Complex
- 3. Climate and Life
- 4. Climate is Variable
- 5. Understanding Climate
- 6. Humans Affect Climate
- 7. Climate Change has Consequences

Teaching Energy

Toolbox for Teaching Climate & Energy

Partnership with CLEAN

The Essential Principles of Climate Literacy



Climate Literacy: The Essential Principles of Climate Science presents information that is deemed important for individuals and communities to know and understand about Earth's climate, impacts of climate change, and approaches to adaptation or mitigation. Principles in the guide can serve as discussion starters or launching points for scientific inquiry. The guide aims to promote greater climate science literacy by providing this educational framework of principles and

NCA4 Teaching Resources



Search Go

Explore the Collection Teaching Climate and Energy Get Involved

CLEAN

- Climate and Energy Educational Resources
- Teaching Climate and Energy
- Teaching Climate
- Teaching Energy
- Teaching Climate (Spanish Translation)
- Teaching Energy (Spanish Translation)
- Guidance in Elementary Teaching About Climate and Energy
- Culturally Relevant Climate Teaching

National Climate Assessment (NCA) Teaching Resources

The **National Climate Assessment** offers a wealth of actionable science about the causes, effects, risks and possible responses to human-caused climate change. NOAA, the **NCAnet Education Affinity Group**, and members of the **CLEAN Network** have developed a series of guides for educators that focus on the regional chapters of the Assessment Report, helping to unpack the key messages of each region and point to related, high-quality online resources.

View related webinar: CLEAN and the National Climate Assessment

Report Findings: The National Climate Assessment summarizes the impacts of climate change on the United States, now and in the future. The 4th National Climate Assessment (NCA4) had two parts: **Part I** was an update on the scientific findings from the 2014 National Climate Assessment and was finalized in 2017. **Part II**, released in 2018, focused on the impacts, risks, and how the US is adapting to climate change.

Read more about the findings of these reports.

CLEAN Portal Partnership

Explore the Collection Teaching Climate and Energy Get Involved

CLEAN
Committed to Climate and Energy Education

Teaching about Climate and Energy?

Our team of educators and scientists has reviewed and categorized the best free teaching resources for K-12 through college.

Search the award-winning collection Go

Entire Collection Activities Videos Visualizations

Featured Resource

Green Careers for a Changing Climate

This idea showcases eight green STEM careers by interviewing people working in different sectors relating to areas climate change.

Get Started Teaching Climate and Energy

Easy-to-read explanations of science and policy, designed to step students through the key principles of climate and energy

- Suggested teaching approaches, selected for various grade levels
- Spanish-language versions
- Supporting materials from the CLEAN reviewed collection



Engagement for two-way communication

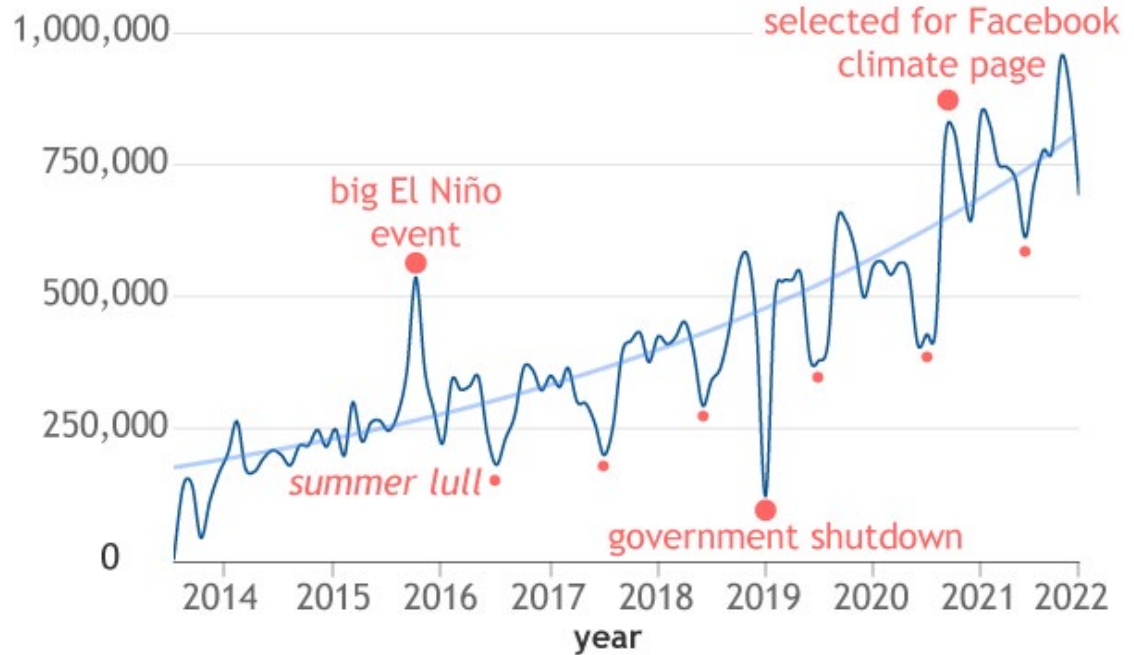
- Social media engagement - Facebook, Twitter, Instagram and Youtube
 - Followed by over 400,000 users, posts viewed on average 1-2 million times a month
 - Interact with our followers via comment sections and topic-focused Tweet chats.
- Live engagements let stakeholders inform us what type of content is desired, informing future Climate.gov stories/directions
 - Ex: Department of Commerce Climate 101 Brown Bag
 - Ex: NWS IPCC WG1 Briefing
 - Ex: COP26 US Center Master of Ceremony

Key Accomplishments (FY17-21)



- >130% increase in page views to 770k per month

Exponential growth in monthly page views



Key Accomplishments (FY17-21)



- >130% increase in page views to 770k per month
- Chosen by Facebook for their Climate Science Information Center

The screenshot shows the Facebook profile of the Climate Science Information Center. The profile picture is a green square with a white globe and a small green plant growing from the top. The name 'Climate Science Information Center' is displayed below the picture, along with a 'Follow' button and a share icon. Below the profile picture are two sections of content:

- Facts About Climate Change**: A section with an information icon (i) containing three facts:
 - Recent global warming is caused by humans, not natural events (with a thermometer icon).
 - Too much carbon dioxide in the atmosphere harms earth's plant life (with a plant icon).
 - Overall, polar bear populations are declining because of global warming (with a polar bear icon).A 'See All' button is located at the bottom of this section.
- Recognized Organizations**: A section with an information icon (i) listing three organizations:
 - NASA Climate Change (Government Organization)
 - NOAA Climate.Gov** (Government Organization) - This entry is highlighted with a red rectangular box.
 - IPCC (Nonprofit Organization)A 'See All' button is located at the bottom of this section.

Key Accomplishments (FY17-21)



- >130% increase in page views to 770k per month
- Chosen by Facebook for their Climate Science Information Center
- Global Warming FAQ adopted by NWS for meteorologist guidance

NOAA CLIMATE.GOV GLOBAL WARMING FAQ

Table of Contents

Global Warming Frequently Asked Questions

Basics

1. Is the globe warming?
2. Did global warming stop in 1998?
3. Can we trust NOAA's global temperature data record?
4. Are humans causing or contributing to global warming?
5. What is the difference between *global warming* and *climate change*?
6. What scientific evidence exists that Earth is warming and that humans are the main cause?
7. How do we know the build-up of carbon dioxide in the atmosphere is caused by humans?
8. Isn't there a lot of debate and disagreement among climate scientists about global warming?
9. What is the difference between weather and climate?
10. Why should I trust scientists' climate projections for 50-100 years from now when they can't accurately forecast the weather more than 2 weeks from now?

Causes

11. How do greenhouse gases such as carbon dioxide cause global warming?
12. Which greenhouse gas is most important to Earth's temperature: water vapor or carbon dioxide?
13. Hasn't Earth warmed and cooled naturally throughout history?
14. Doesn't carbon dioxide in the atmosphere come from natural sources?
15. Do volcanoes emit more carbon dioxide than humans?
16. Couldn't the Sun cause the globe to warm?
17. Do humans also exert a cooling influence on Earth's climate?
18. What role does the ocean play in global warming?

Impacts

19. Does global warming mean it's warming everywhere?
20. What is an "extreme event"?
21. Was this or that extreme weather or climate event caused by global warming?
22. If Earth has warmed and cooled naturally, why are scientists so concerned about today's global warming?
23. A global warming of 1.8°F (1°C) seems small, given that some locations experience temperature swings of 30°F or more in a single day. Why is this change in global temperature a concern?

Herring, D., and Lindsey, R. (2020). Global warming frequently asked question. NOAA Climate.gov website. <https://www.climate.gov/news-features/understanding-climate/global-warming-frequently-asked-questions>

NOAA CLIMATE.GOV GLOBAL WARMING FAQ

24. How will global warming harm human health and well-being in the United States?
 25. How will global warming harm natural and agricultural resources in the United States?
 26. How will global warming harm U.S. communities, infrastructure, and the economy?
 27. Are there benefits from global warming?
- ##### Action
28. Can we slow or stop human-caused global warming?
 29. What is NOAA's climate mission?
 30. What actions can we take to stop or slow global warming?
 31. What actions can we take to adapt to global warming?

References

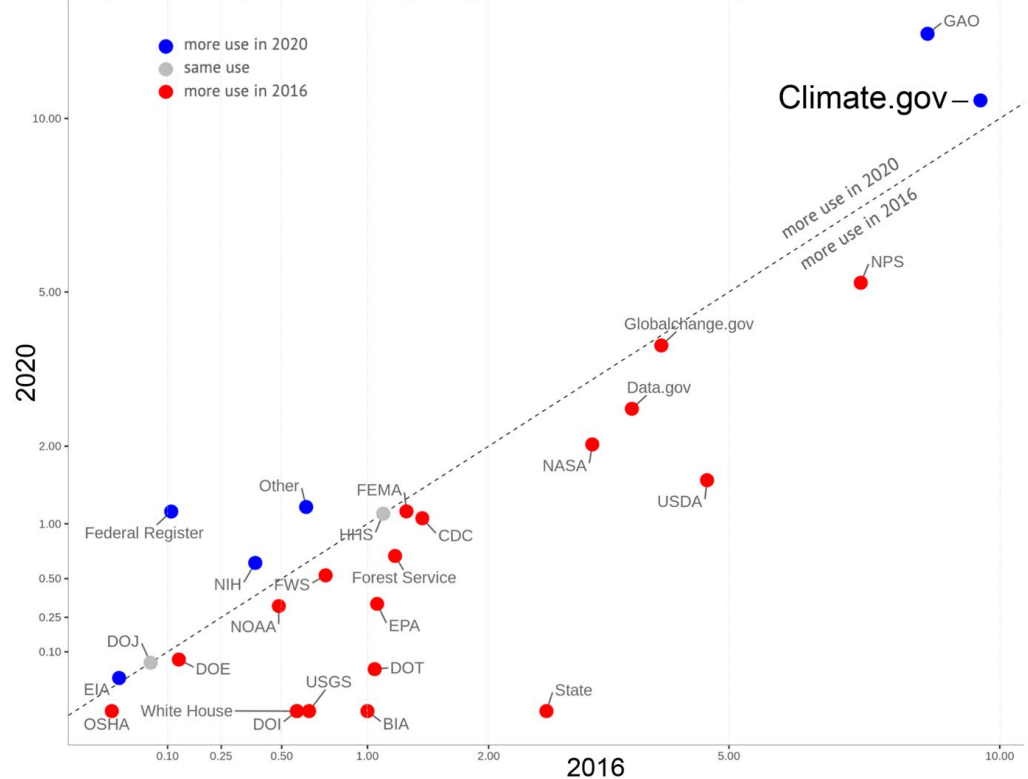
Herring, D., and Lindsey, R. (2020). Global warming frequently asked question. NOAA Climate.gov website. <https://www.climate.gov/news-features/understanding-climate/global-warming-frequently-asked-questions>

Key Accomplishments (FY17-21)



- >130% increase in page views to 770k per month
- Chosen by Facebook for their Climate Science Information Center
- Global Warming FAQ adopted by NWS for meteorologist guidance
- One of only three executive agency websites to increase per page use of “climate change” from 2016-2020.

Average per page use by agency of “climate change”



Key Accomplishments (FY17-21)



- High Google search result rankings.

A screenshot of a Google search for "global temperature". The search bar shows the query "global temperature" with a search icon. Below the search bar, there are navigation options: "All", "News", "Images", "Videos", "Maps", and "More". The search results are displayed below, showing "About 1,150,000,000 results (0.51 seconds)". The first result is from "https://climate.nasa.gov" with the title "Global Temperature | Vital Signs - NASA Climate Change" and a snippet: "Earth's surface continues to significantly warm, with recent global temperatures being the hottest in the past 2,000-plus years." The second result is from "https://www.climate.gov" with the title "Climate Change: Global Temperature" and a snippet: "by R Lindsey · Cited by 107 — Earth's temperature has risen by 0.14° F (0.08° C) per decade since 1880, and the rate of warming over the past 40 years is more than twice that: 0.32° F (0.18° ...". This second result is highlighted with a red rectangular border. The third result is from "https://www.ncdc.noaa.gov" with the title "Global Climate Report - Annual 2021 - National Centers for ..." and a snippet: "Global Temperatures — Overall, the global annual temperature has increased at an average rate of 0.08°C (0.14°F) per decade since 1880 and over twice that ...". The fourth result is from "https://www.epa.gov" with the title "Climate Change Indicators: US and Global Temperature - US ..." and a snippet: "Jul 21, 2021 — Global average surface temperature has risen at an average rate of 0.17°F per decade since 1901 (see Figure 2), similar to the rate of warming ...". The fifth result is from "https://www.ipcc.ch" with the title "Chapter 1 — Global Warming of 1.5 °C - IPCC" and a snippet: ". Since 1970 the global average temperature has been rising at a rate of 1.7°C per century, compared to a long-term decline over the past 7,000 ...".

Key Accomplishments (FY17-21)



- High Google search result rankings.
- Widely and increasingly shared and re-used data visualizations, graphics and text content.

The collage displays a variety of news articles related to climate change and extreme weather events. Key headlines include:

- Forbes:** "Carbon Dioxide Levels Just Hit 417ppm, Highest In Human History" by Trevor Nace.
- PBSO News Hour:** "2019 Arctic Report Card warns of California-sized algal blooms and imperiled livelihoods".
- USA Today:** "Fact check: Scientific consensus says humans are dominant cause of climate change" by Rick Rowan.
- AP:** "Scientists expect spring floods to be milder than last year" by Christina Larson.
- Los Angeles Times:** "If a warm U.S. winter was 'a preview of global warming,' what part did a polar vortex play?".
- The Hill:** "Lessons from the front line — Florida's fight with sea level rise".
- Bloomberg:** "Green | Quick-Take: Ice, Fire, Floods: Extreme Weather and Climate Change".
- Chicago Tribune:** "Awaiting Chicago's 1st fall freeze and the return of La Niña. Here's what to expect this winter".
- Fox News:** "White Christmas in the forecast? Here's what history and forecasters say are the chances".
- Gizmodo:** "NOAA's New Climate Normals Show the U.S. Has Never Been Hotter".
- Newsweek:** "What Is La Niña Weather and What Does it Mean for Winter in the U.S.?".
- The Washington Post:** "One-third of the Lower 48 faces risk of flooding this spring, Weather Service says".
- The Guardian:** "Ice and fire: large blaze burns in Greenland for two weeks".
- Newsweek:** "New Flood Vent Can Reduce Flood Insurance Cost by Up to 85%".
- Chron:** "Climate disaster maps shows Texas is clearly the most apocalyptic state in the nation".

Key Accomplishments (FY17-21)



- High Google search result rankings.
- Widely and increasingly shared and re-used data visualizations, graphics and text content.
- Our CLEAN resources were the first added to a new Harvard-led, online teaching climate resource portal.

The screenshot displays the 'SUBJECT to CLIMATE' website interface. At the top, there is a navigation bar with links for Home, Resources, Community, Blog, About Us, and a Login button. A search bar is prominently featured with the text 'Know what you want? Search our resource collection here' and a sub-note: 'You can be assured that all resources have been reviewed by a climate scientist and a teacher. Read more about our resource curation process.' Below the search bar, it indicates 'Showing 1 to 15 of 37 results' and shows a pagination control with page numbers 1 through 72. On the left side, there is a sidebar with filters for Provider, Subjects, Grades, Regions, Types, and Standards. The Subjects list includes Science (37), Earth And Space Sciences (31), Biology (14), Geography (12), Climate Action (11), Chemistry (9), Physics (9), Social Studies (9), Economics (8), Civics (7), Health (5), History (5), Justice (5), and Art (2). The main content area shows three resource cards, each with a 'CLEAN' badge highlighted by a red box. The first card is 'The Ocean's Green Machines', a video resource about phytoplankton. The second is 'Glaciers Interactive Simulation', an interactive simulation about environmental science. The third is 'Temperature and Precipitation as Limiting Factors in Ecosystems', an activity involving reading graphs. A 'Feedback' button is visible on the right edge of the page.

Key Accomplishments (FY17-21)

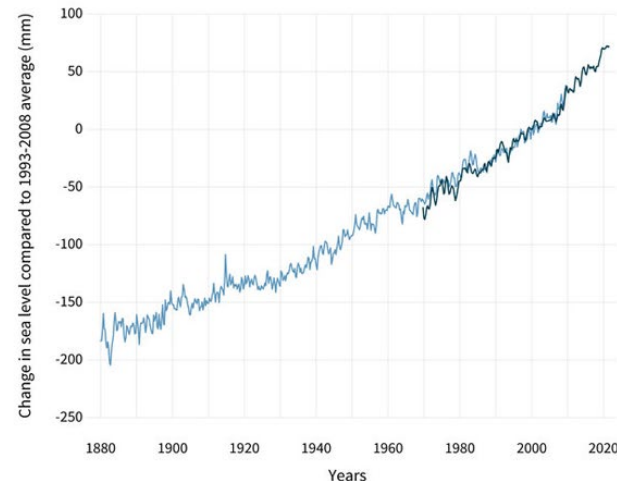


- High Google search result rankings.
- Widely and increasingly shared and re-used data visualizations, graphics and text content.
- Our CLEAN resources were the first added to a new Harvard-led, online teaching climate resource portal.
- Launched an updated and improved version of Climate.gov in 2021.

HIGHLIGHTS

- Sea level has risen 8–9 inches (21–24 centimeters) since 1880.
- In 2020, global sea level set a new record high—91.3 mm (3.6 inches) above 1993 levels.
- The rate of sea level rise is accelerating: it has more than doubled from 0.06 inches (1.4 millimeters) per year throughout most of the twentieth century to 0.14 inches (3.6 millimeters) per year from 2006–2015.
- In many locations along the U.S. coastline, high-tide flooding is now 300% to more than 900% more frequent than it was 50 years ago.
- Even if the world follows a low greenhouse gas pathway, global sea level will likely rise at least 12 inches (0.3 meters) above 2000 levels by 2100.

GLOBAL SEA LEVEL



RELATED CONTENT

NEWS & FEATURES

[2013 State of the Climate: Sea level](#)

📅 07/12/2014

[Superstorm Sandy and Sea Level Rise](#)

📅 11/05/2012

[Explaining the NOAA Sea Level Rise Viewer](#)

📅 10/29/2013

MAPS & DATA

[Global Mean Sea Level - Graph](#)

📅 02/25/2015

[Ocean - Oceanic Climate Variables](#)

📅 01/20/2015

[SST - Sea Surface Temperature](#)

📅 03/05/2015

TEACHING CLIMATE

[Global Climate Change and Sea Level Rise](#)

📅 12/19/2012

[Global Climate: Estimating How Much Sea Level Changes When Continental Ice Sheets Form](#)

📅 09/08/2020

[Toolbox for Teaching Climate & Energy](#)

📅 02/26/2018

CLIMATE RESILIENCE TOOLKIT

[Sea Level Rise](#)

📅 09/19/2019

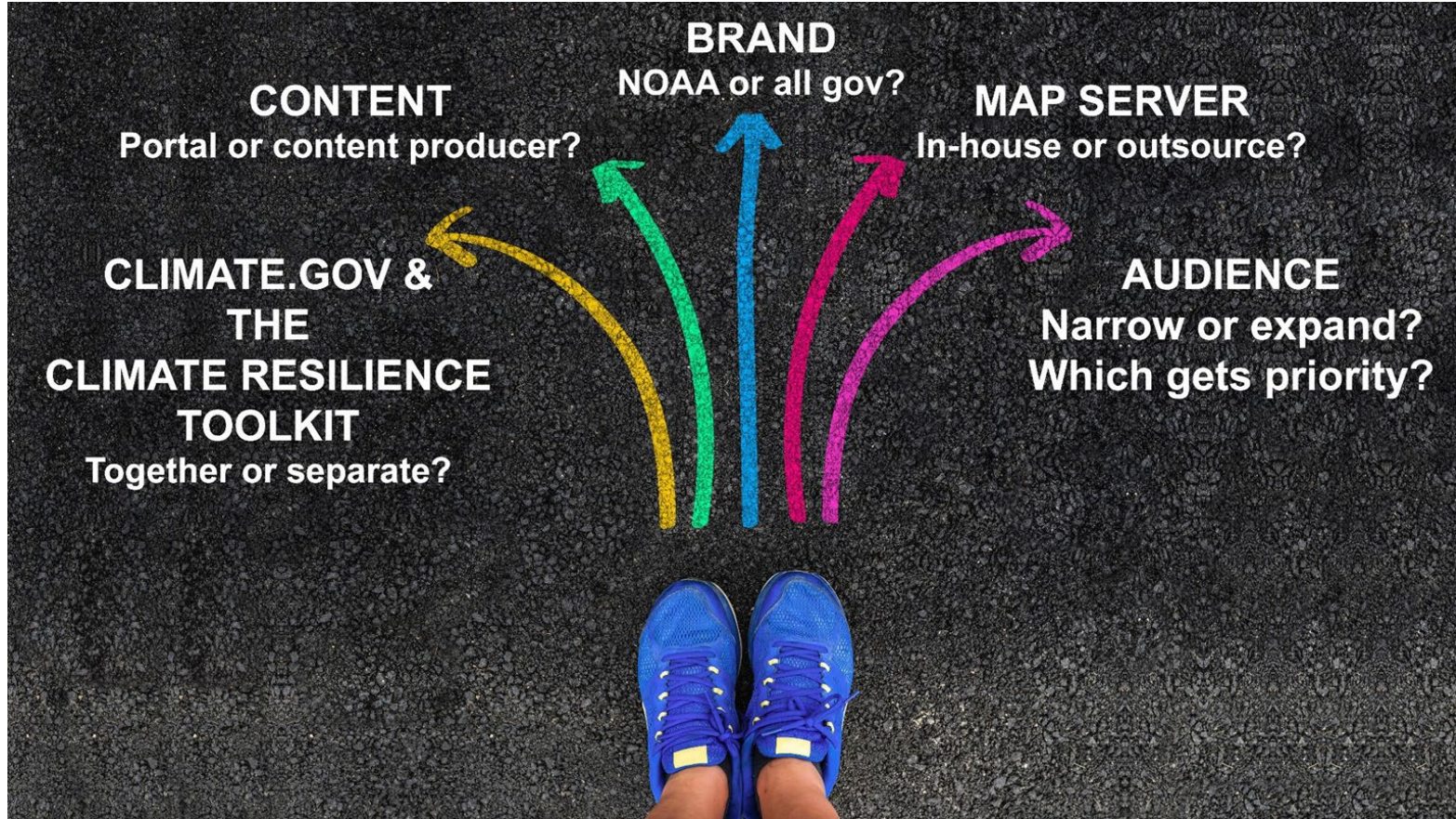
[Coastal Risk Screening Tool](#)

📅 05/26/2021

[Sea Level is Rising](#)

📅 11/30/2016

The future of Climate.gov





BONUS SLIDES

Content News & Features and Maps & Data

- **Full time**
 - Rebecca Lindsey: managing editor, News & Features lead (contractor)
 - Tom Di Liberto: science expert, writer, social media editor, on-camera/in-person talent (contractor)
 - Mary Lindsey: data visualization, Maps & Data lead (contractor)
 - Hunter Allen: data visualization, GIS (contractor)
 - Anna Eshelman: graphic artist (contractor)
- **Part time**
 - Michon Scott: writer, graphics support, liaison with science experts at NSIDC (1 day/week, contractor)
 - Ned Gardiner: video production (3-4 times per year)
 - Larry Belcher: data wrangling (50 hours/month contractor)
 - John Dos Passos Coggin: writer, newsletter (1-2 hours per week)

Content Teaching Climate

- **Full time**
 - Gina Fiorile (CIRES, University of Colorado, Boulder) professional development & web content (grantee)
- **Part time**
 - Frank Niepold, Education section lead (NOAA federal)
 - Anne Gold (CIRES, University of Colorado, Boulder) CLEAN team lead and monitoring (grantee)
 - Kathryn Boyd (CIRES, University of Colorado, Boulder), CLEAN Program Manager (grantee)

Web development

- **Full time contractor**
 - Michael Myers: back-end & user interface lead
- **Part time contractor**
 - Richard Glupker: front-end developer (half-time)
 - Ada Uzoma : front-end developer (half time)

- **News & Features**

- New blog partners; shareable climate glossary; offer partners new ways of being featured on Climate.gov; partner with other agencies to develop cross-cutting stories.

- **Maps & Data**

- Increased use of Google analytics and feedback forms to better understand what novice users want from 'climate data'; more data interactivity and new data formats; more datasets in existing sections; new blog based on reader questions.

- **Teaching Climate**

- CPO-CEE funds [CIRES](#) to develop and curate the [CLEAN Portal](#). In FY22, CEE will be syndicating more of the trusted and [rigorously reviewed](#) content from the CLEAN portal to Teaching Climate, develop a professional development strategy, and increasing marketing.

- **Climate.gov overall**


- This audience-focused model for Climate.gov could be expanded to an inter-agency effort and include the federal government's entire climate portfolio.




Governmental re-use of content



JRC TECHNICAL REPORT



National Park Service




Wrangell - St Elias National Park & Preserve Alaska



THE HAWAII OCEAN RESOURCES MANAGEMENT PLAN 2020


COLLABORATIVE COASTAL ZONE MANAGEMENT FROM MAUKA TO MAKAI



CITY OF URBANA

Section Links ▾

Stormwater Management Program



Analysis of Heat Waves and Urban Heat Island Effects in Central European Cities



USGS science for a changing world

NHDPlus High Resolution (NHDPlus HR)—A Hydrography Framework for the Nation



Refugio Beach Oil Spill Draft Damage Assessment and Restoration Plan/Environmental Assessment



HOME / PUBLIC WORKS / CLIMATE ACTION PLAN

CLIMATE ACTION PLAN



Copernicus Europe's eyes on Earth

Climate modelling and data sources



Confederated Tribes of Siletz Indians

2020 Tribal Multi-Hazard Mitigation Plan



Washington Department of FISH and WILDLIFE

Update on Environmental Conditions

CITY OF RANCHO SANTA MARGARITA LOCAL HAZARD MITIGATION PLAN



United States Environmental Protection Agency

Manage Flood Risk

California Public Employees' Retirement System CalPERS Approach to Addressing Climate Change Risk

Atascosa County - McMullen County Multi-jurisdictional Hazard Mitigation Action Plan 2020



ANSTO

12,000 year temperature record



Find a DAAC -

GES DISC Data in Action


Soil Moisture Data Shows What a "Flash Drought" Looks Like by: James Acker - Updated: Dec 23, 2019

Maryland's Plan to Adapt to Saltwater Intrusion and Salinization

Arkansas Division of Emergency Management

MODULE 1. INTRODUCTION TO SCIENCE OF DISASTER

Martin County ▾ RESILIENCE



RESILIENT MARTIN

RESILIENCE HOME PROJECTS KING TIDES ENGAGE




Library and curriculum re-use of content

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Year 11
Earth and Environmental Sciences

El Nino, La Nina and Walker Circulation

Walker Circulation



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Climate Change Education Solutions Network

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Meteorology

VANDERBILT UNIVERSITY

Research Guides

Public Policy Hot Topics [A-C]: Climate Change

HARVARD Kennedy School
SHORENSTEIN CENTER
on Media, Politics and Public Policy

Journalist's Resource


Research on today's news topics

SERC

the Science Education Resource Center
at Carleton College

Earth Exploration Toolbook

Step-by-Step Guides for Investigating Earth System Data



WARREN HUNTING SMITH LIBRARY

Hobart and William Smith Colleges / Warren Hunting Smith Library / Guides /

Climate Change

COLORADO STATE UNIVERSITY

General Info ▾ Colorado's Climate ▾ Data Access ▾

ENSO and Colorado

Milken Institute School
of Public Health
THE GEORGE WASHINGTON UNIVERSITY

54 Great Sources for Climate Change News

CT State Library
Preserving the Past. Informing the Future.

ABOUT

Connecticut State Library / LibGuides Home / Government Information / Weather /

Weather



ROANOKE CITY PUBLIC SCHOOLS

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Roanoke City Public Schools » News » What's New » Education Resources

Storybench

Exploring the future of digital storytelling from
Northeastern University's School of Journalism

University Libraries
UNIVERSITY OF COLORADO BOULDER

Geospatial Data: National

Home Get Started Local National International Cite



Use in scholarly journal articles and books

Climate.gov references in scholarly journal articles between Dec 2019 and June 2020

