NOAA Climate.gov

A Guided Tour of Three Websites in One

David Herring, program manager

NOAA Climate Program Office

David.Herring@noaa.gov

Feb. 21, 2020

Overview

1. **The Who and the Why**
2. **Site information hierarchy**
3. **News & Features**
4. **Maps & Data**
5. **Teaching Climate**
6. **Success metrics**
7. **Lessons learned and planned next steps**

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science & information for a climate-smart nation

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Featured on Climate.gov 1 2 3 4 5

Climate & Chocolate

February 10, 2016

Filed in: News & Features

Over the next several decades, cacao-growing regions may grow warmer and drier, but with planning and adaptation, farmers can keep producing our favorite treat.

read more

Recent Topics

Introduction to CLEAN

February 5, 2020

Filed in: Teaching Climate

Toolbox for Teaching Climate & Energy

February 26, 2018

Filed in: Teaching Climate

A conversation with Danielle Claar: NOAA Postdoc, marine scientist, diver

February 4, 2020

Filed in: News & Features

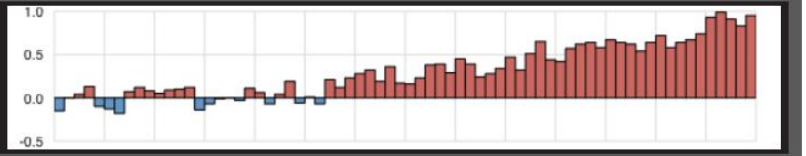
Global Climate Dashboard

Climate Change | Climate Variability | Climate Projections

Global Average Temperature (˚C)

The temperature near Earth's surface is rising: the bars show each year's average temperature compared to the 20th century average.

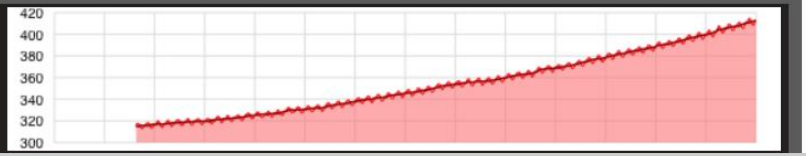
learn more >>



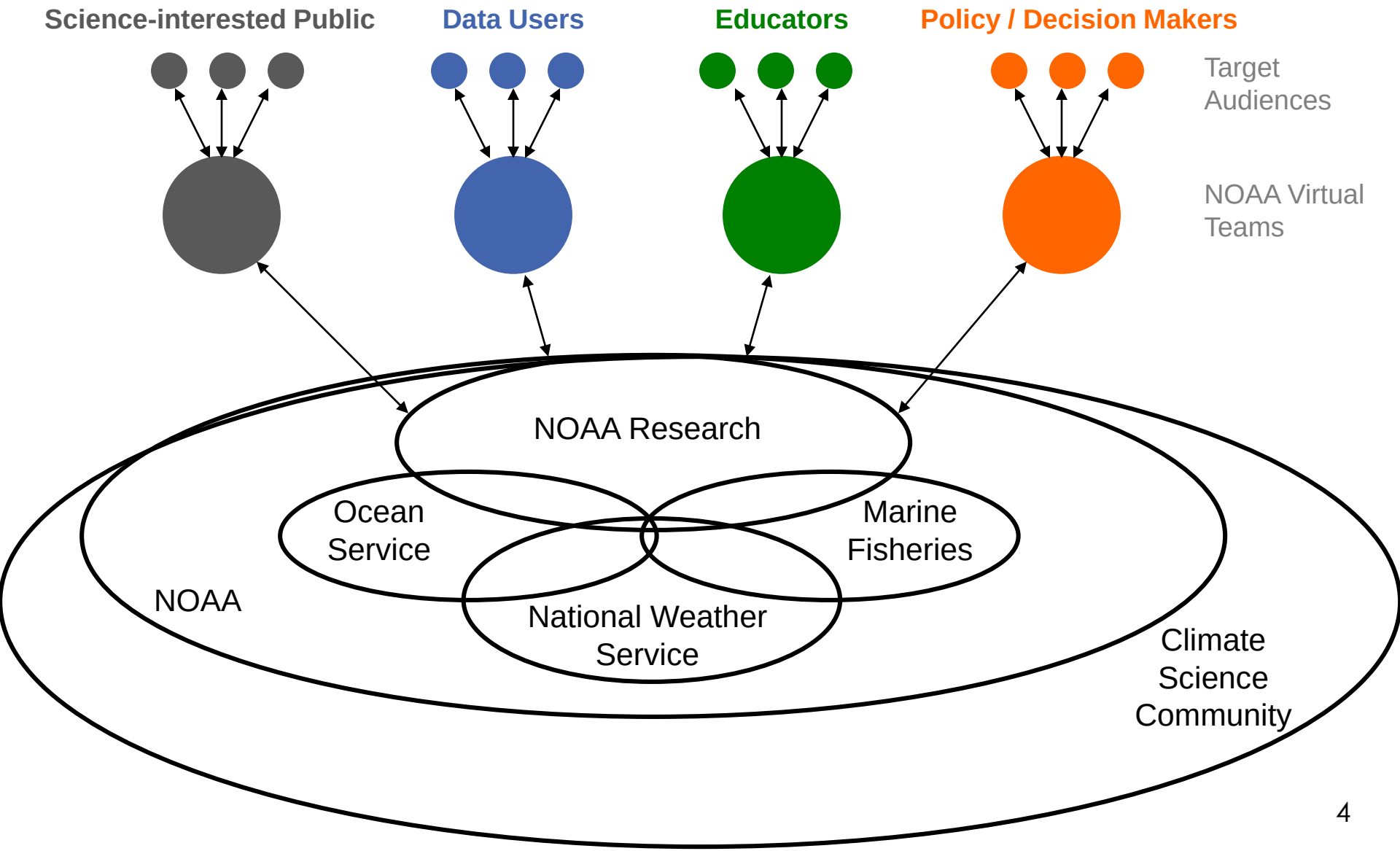
Carbon Dioxide (ppm)

The amount of carbon dioxide in the atmosphere has risen by 25% since 1958, and by about 40% since the Industrial Revolution.

learn more >>



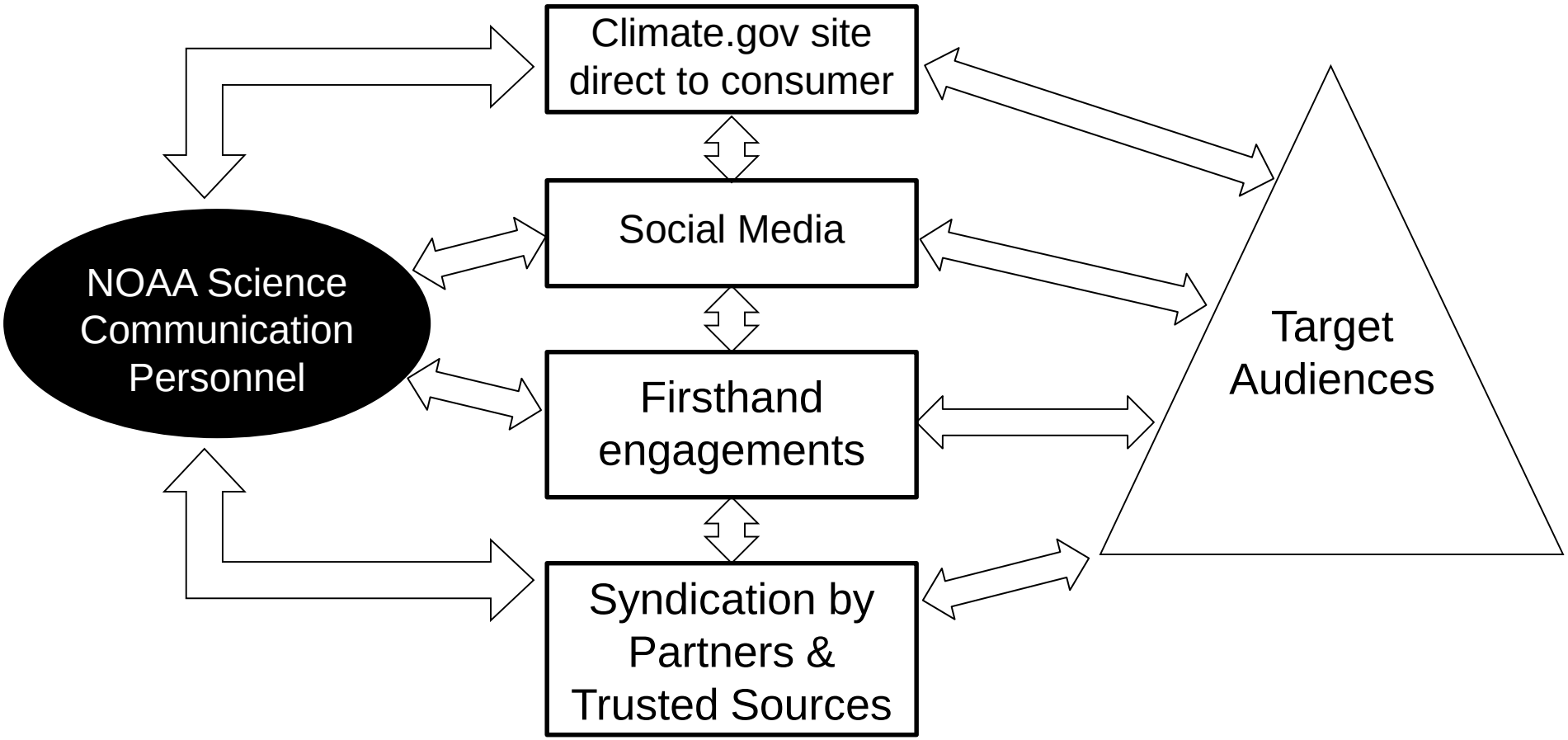
The Who: start at the audience interface and work backward into the agency



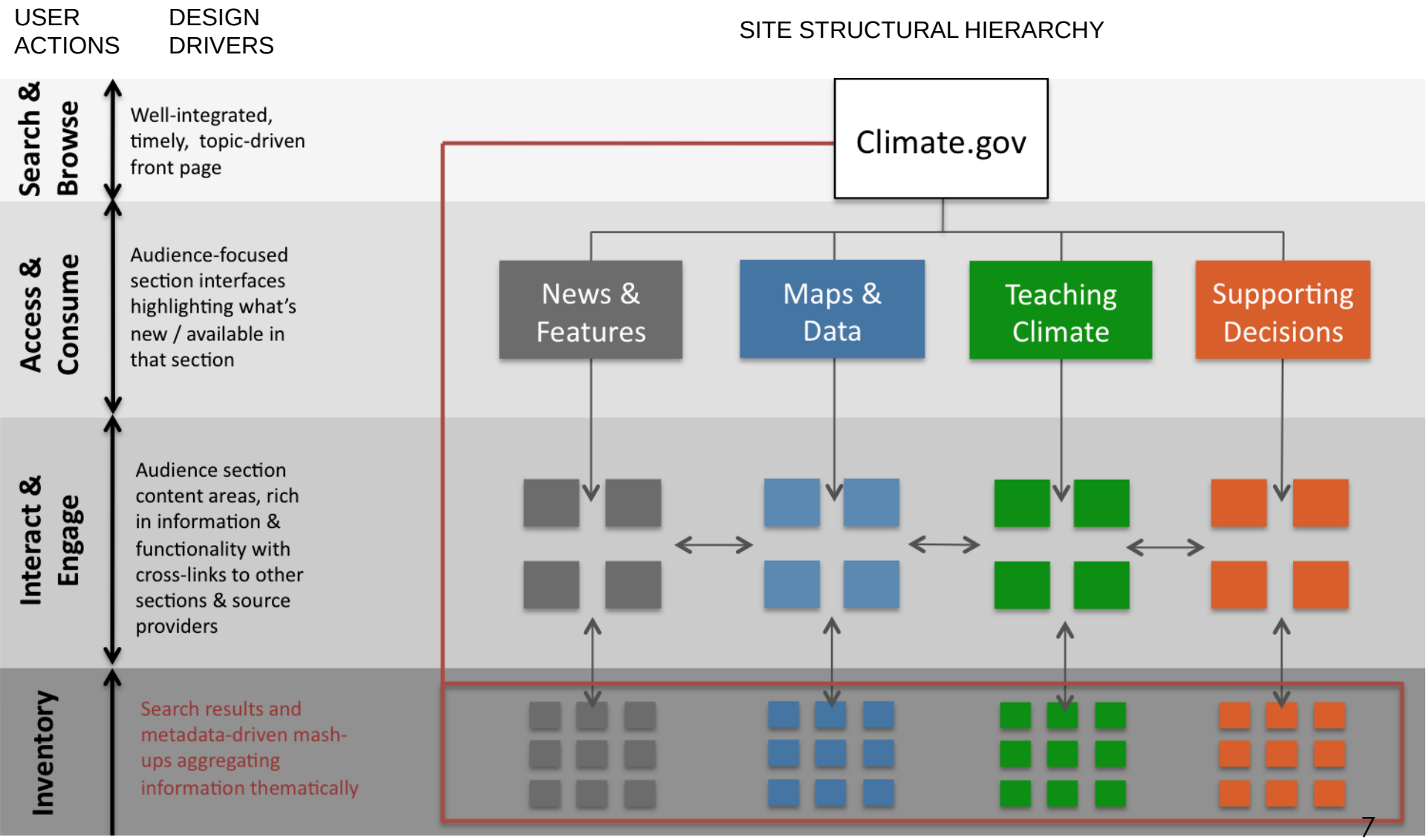
The Why: a function of audience & objective

- **News & Features** — a popular-style magazine for the science-interested public seeking "edutaining" and authoritative articles about climate science, adaptation, and mitigation.
- **Maps & Data** — an easy on-ramp for people seeking maps and datasets documenting climate-related conditions that they can use in their work. This section serves both experts and non-experts.
- **Teaching Climate** — a curated catalog of education resources for formal and informal educators who want to teach climate science in classrooms & free-choice venues.
- **Supporting Decisions** — a climate adaptation / resilience planning framework with resources for planners, policy leaders, and consultants (superseded by the "U.S. Climate Resilience Toolkit" at toolkit.climate.gov)

Our 4-pronged strategy for building relationships with target audiences



Climate.gov site structural hierarchy



News & Features

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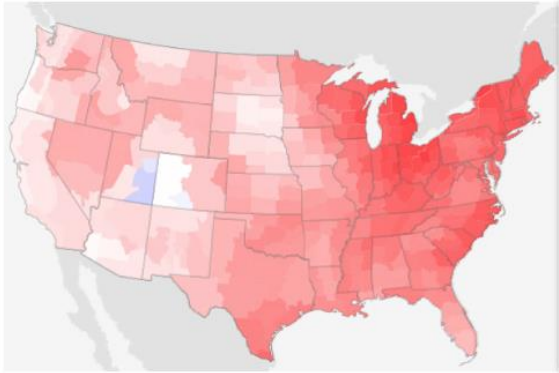
Climate news, stories, images, & video (ClimateWatch Magazine)

News | How the Climate System Works | Climate Change & Global Warming | Natural Climate Patterns | Climate Impacts | Observing & Predicting | Policy & Planning | Extreme Events

Featured Articles 1 2 3 4 5 6



Something the U.S. can (mostly) agree on: January 2020 was warmer than average

February 11, 2020

Although exact temperatures varied by latitude and elevation, January 2020 temperatures were above average for nearly every U.S. climate division of the Lower 48 states.

read more

Department

- All
- News & Research Highlights
- Images & Video
- Event Tracker
- Climate Q&A
- ENSO Blog
- Beyond the Data
- Climate Case Studies
- Climate Tech
- Climate and ...
- Decision Maker's Toolbox
- Features
- Understanding Climate
- Decision Makers Take 5

See all Event Tracker »

Catastrophic wildfires in southeastern Australia in 2019-20

January 3, 2020

Terrible wildfires raged through parts of southeastern Australia in the first days of 2020.

Read more

Flash drought engulfs the U.S. Southeast in September 2019

October 9, 2019

Much of the southeastern United States went from little drought to widespread severe drought in a matter of a few weeks thanks to little rain and hot and sunny days.

Read more

Europe's rogue heatwave melts Greenland

August 14, 2019

The July 2019 heatwave exited Europe

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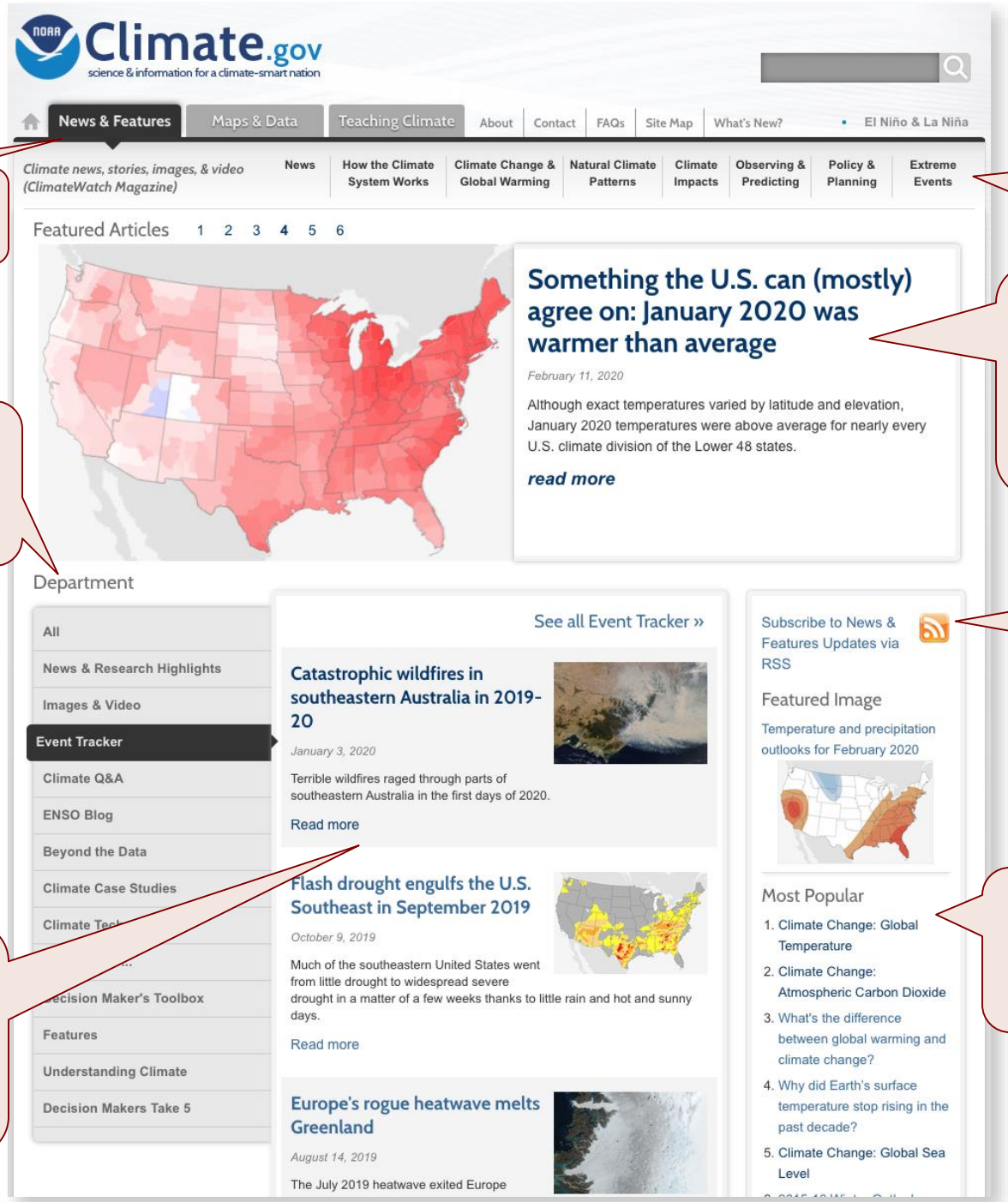
Featured Image

Temperature and precipitation outlooks for February 2020

Most Popular

1. Climate Change: Global Temperature
2. Climate Change: Atmospheric Carbon Dioxide
3. What's the difference between global warming and climate change?
4. Why did Earth's surface temperature stop rising in the past decade?
5. Climate Change: Global Sea Level



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Climate news, stories, images, & video (ClimateWatch Magazine)

News | How the Climate System Works | Climate Change & Global Warming | Natural Climate Patterns | Climate Impacts | Observing & Predicting | Policy & Planning | Extreme Events

Home » News & Features » Understanding Climate » Something the U.S. can (mostly) agree on: January 2020 was warmer than average

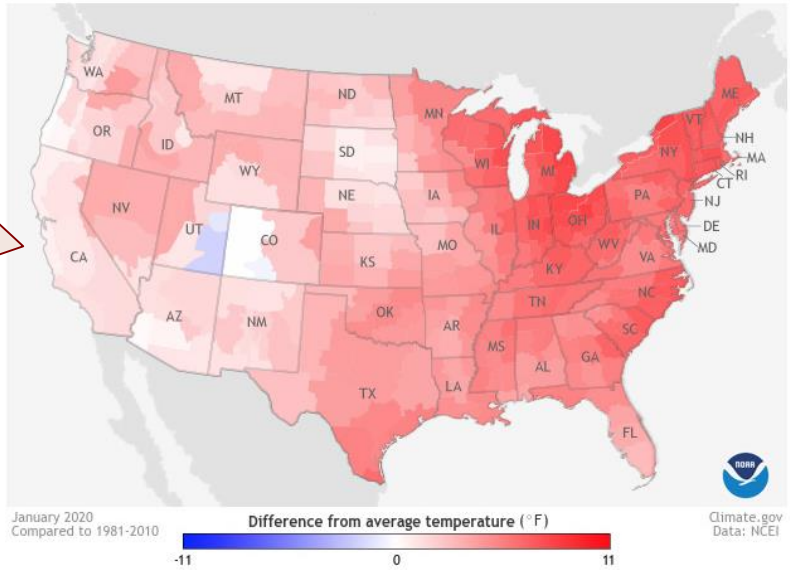
Something the U.S. can (mostly) agree on: January 2020 was warmer than average

Author: Rebecca Lindsey

February 11, 2020

Print

According to the latest monthly climate update for the United States, January 2020 was the fifth-warmest January on record for the Lower 48 (aka "the contiguous United States," or CONUS). The warmth wasn't record-breaking, but it was widespread.



This map shows where January 2020 temperatures were warmer (red) or cooler (blue) than the 1981-2010 average across the contiguous United States (see Alaska). NOAA Climate.gov map, based on NCEI data.

This kind of nation-wide warmth in January isn't unique, but it's rare. In the past twenty years, it's only happened two other times, in 2006 and 2012. The only climate divisions in the CONUS that were cooler than average were in eastern Utah and southern Colorado. Alaska, meanwhile, marched to its own January drum, with colder-than-average temperatures across most of the state.

January climate trivia: farewell to our nation's lone nationally frozen month?

Highlights:

- January 2020 was the fifth warmest January on record for the contiguous United States (CONUS).
- All but a small handful of CONUS climate divisions were warmer than average.
- Alaska was also an exception, with cooler-than-average temperatures across most of the state.
- January temperatures have warmed significantly in the past 30 years.

Rating:

★★★★★

Average: 5 (2 votes)

Share This: 6

Topics:

Measurements and Observations

Category:

Climate Change & Global Warming

Observing & Predicting

Department:

Understanding Climate

Reviewer:

Deke Arndt

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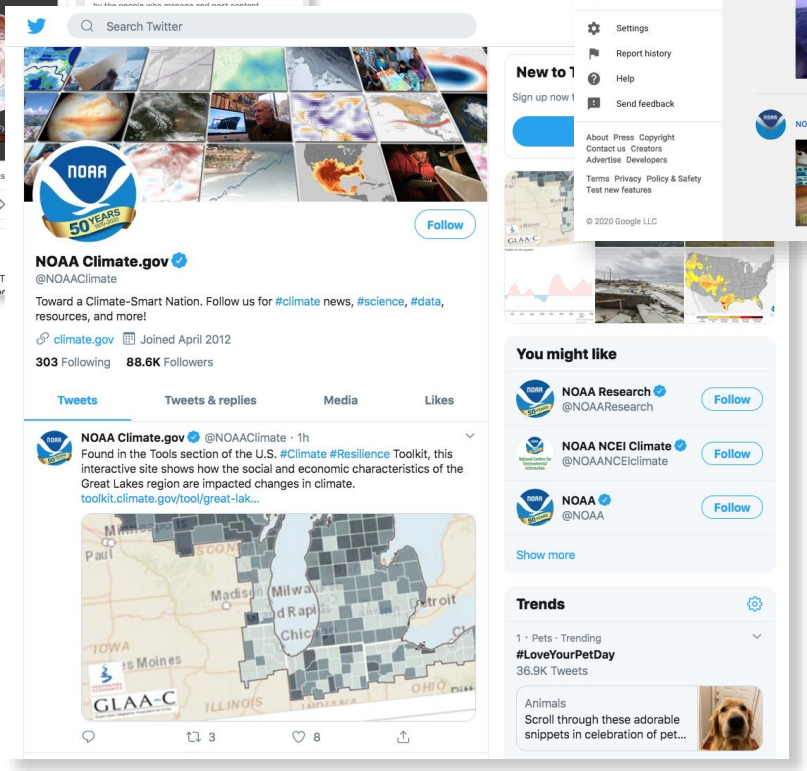
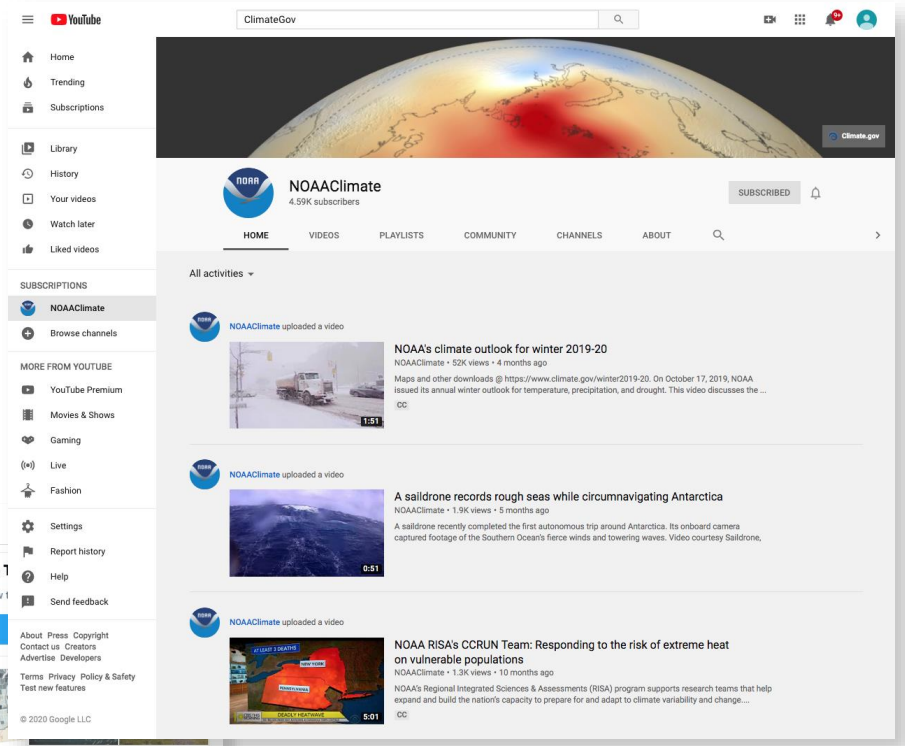


Twitter >



YouTube ^

(And also on **Instagram**)

Maps & Data

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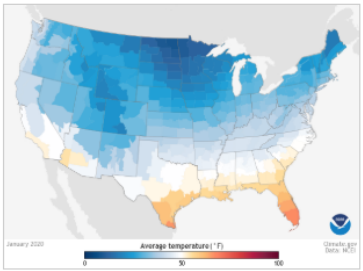
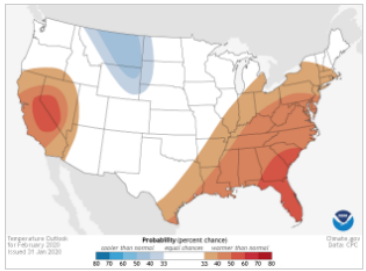
Easy access to climate data, products, and services

Data Snapshots | Dataset Gallery | Climate Data Primer | Climate Dashboard

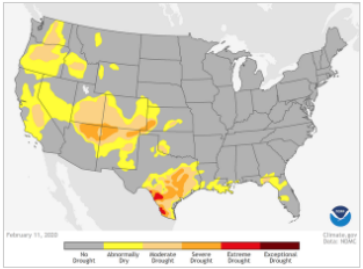
Data Snapshots: Reusable Climate Maps



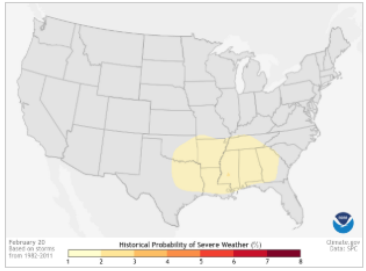
Average Monthly Temperature



Monthly Temperature Outlook



Drought Monitor



Probability of Severe Weather

Explore a range of easy-to-understand climate maps in a single interface. Featuring the work of NOAA scientists, each "snapshot" is a public-friendly version of an existing data product.

Launch Data Snapshots

Browse the Dataset Gallery

This visual catalog with convenient filtering options can help you find the climate data you need. How-to instructions can help you navigate data access tools.

Enter the Dataset Gallery

GIS Data Locator (Advanced Users)

Launch Map Application

Climate Data Primer

Ready to learn some of the basics about climate data? Find out about measuring, modeling, and predicting climate and ways to find and use climate data.

The Primer includes information on instruments used to measure weather and climate; how weather observations relate to climate products; how climate scientists check the quality of observations, and tools you can use for exploring climate data

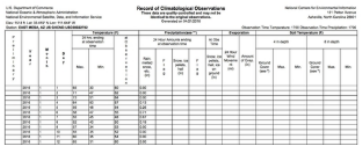
Open the Primer's table of contents

Recently Updated Datasets

- Worldwide Wind Roses - Graphics and Tabular Data
- El Niño-Southern Oscillation Indicators
- Past Weather by Zip Code - Data Table
- Record-setting weather - Charts and Maps

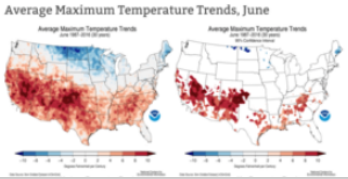
Go to the Dataset Gallery

Dataset Spotlight: Past Weather by Zip Code - Data Table



How much rain fell over the weekend? What

View trends in temperature and precipitation



You are here

M&D's four main sections

Climate-related maps for U.S. & globe

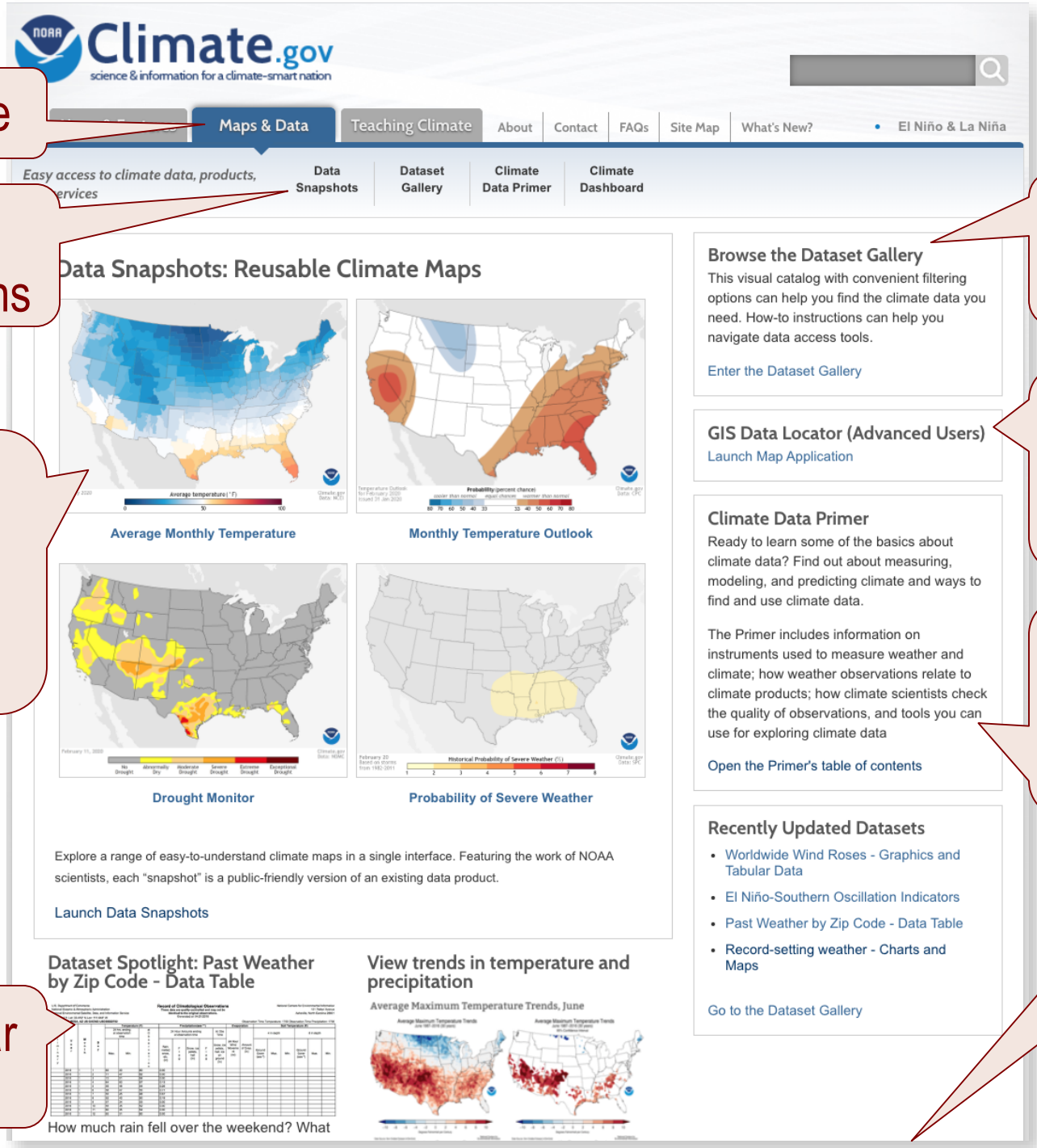
Most popular datasets

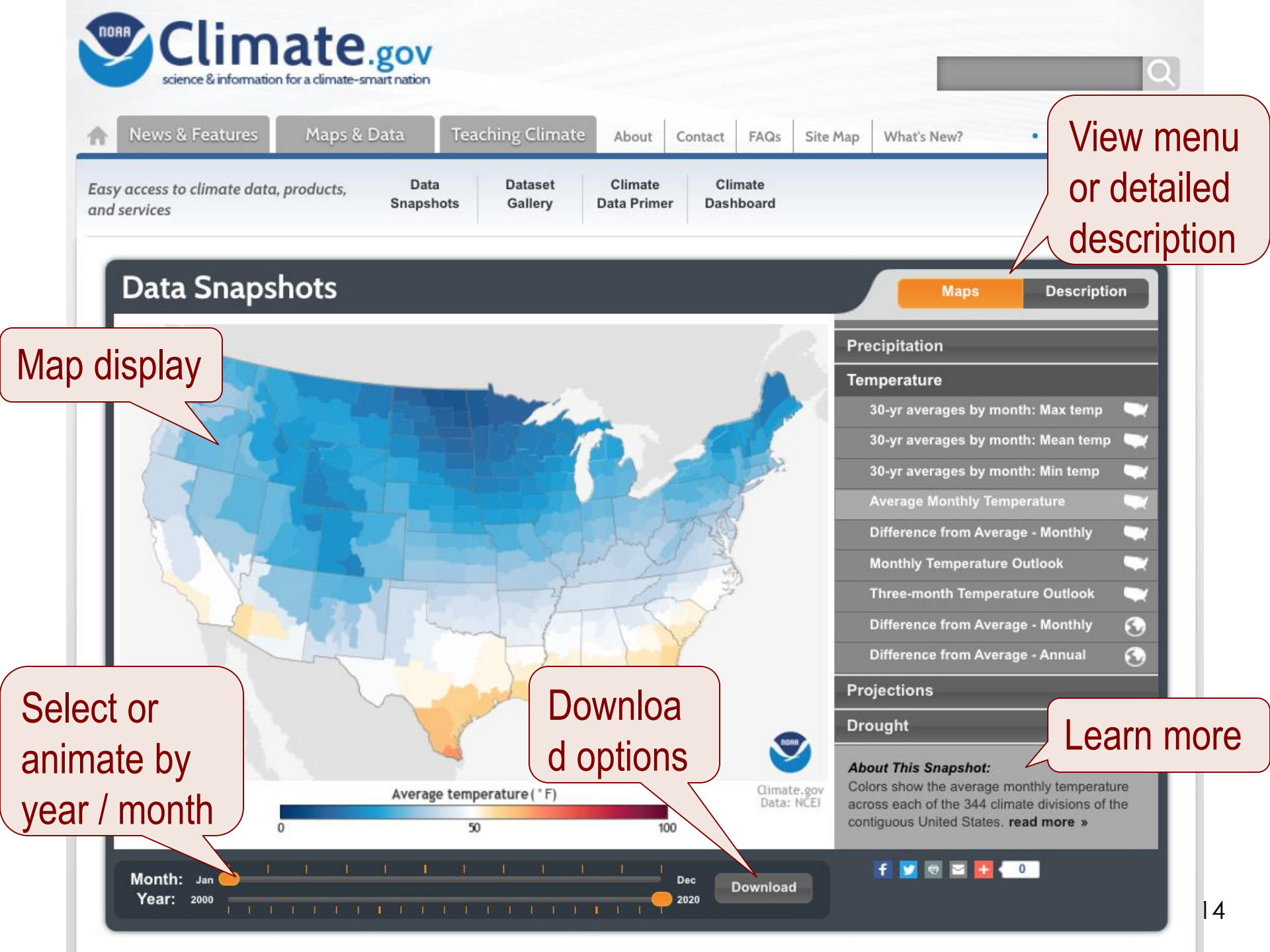
Full catalog of datasets

GIS data find/browse tool

Data Primer for first-timers

Global Climate Dashboard

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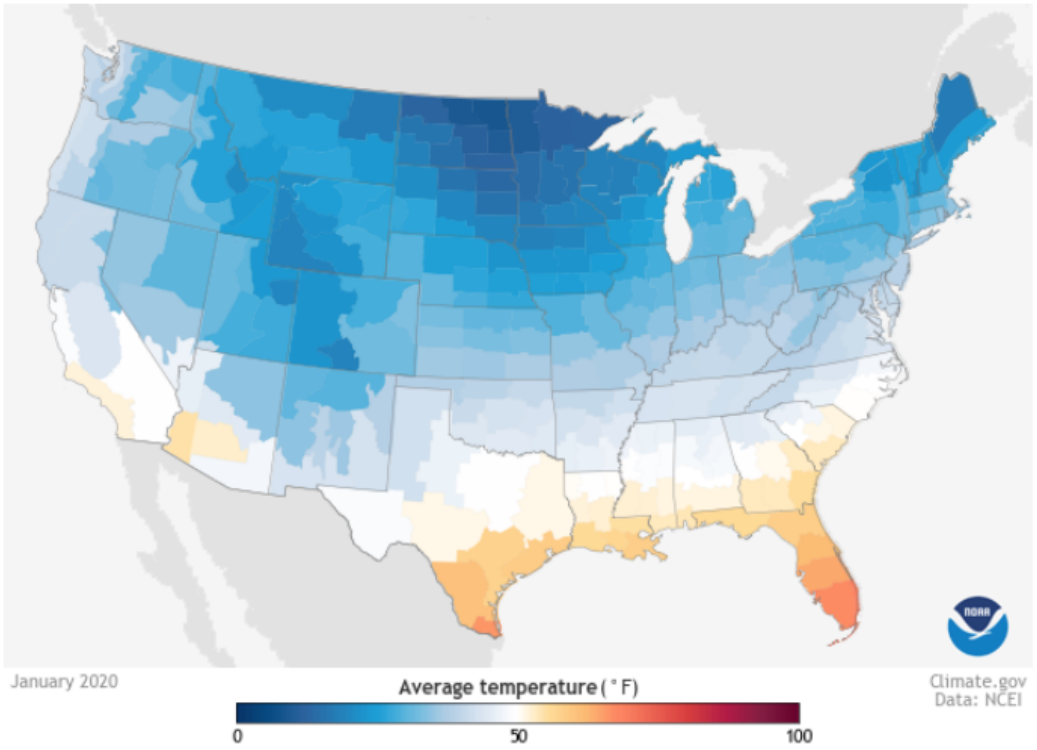
Climate Dashboard
View menu or detailed description
Data Snapshots
Maps
Description
Map display
Precipitation
Temperature
30-yr averages by month: Max temp
30-yr averages by month: Mean temp
30-yr averages by month: Min temp
Average Monthly Temperature
Difference from Average - Monthly
Monthly Temperature Outlook
Three-month Temperature Outlook
Difference from Average - Monthly
Difference from Average - Annual
Projections
Drought
Learn more
About This Snapshot:
Colors show the average monthly temperature across each of the 344 climate divisions of the contiguous United States. read more »
Average temperature (°F)
0
50
100
Climate.gov
Data: NCEI
Select or animate by year / month
Downloa d options
Month: Jan Dec
Year: 2000 2020
Download
0

Home » Average Monthly Temperature

Data Snapshot Details: Average Monthly Temperature

What was the average temperature?

Colors show the average monthly temperature across each of the 344 climate divisions of the contiguous United States. Climate divisions shown in white or very light colors had average temperatures near 50°F. Blue areas on the map were cooler than 50°F; the darker the blue, the cooler the average temperature. Orange to red areas were warmer than 50°F; the darker the shade, the warmer the monthly average temperature.



Where do these measurements come from?

...ature readings come from weather ...e Global Historical Climatology ...Scientists collect the highest and ...mperature of the day at each station for ...e month. After they check data quality, ...culate the station's monthly average and ... a gridded map. To fill the grid, a ...ter program applies a mathematical filter that accounts for the distribution of stations and the terrain. The monthly average temperature for each climate division is the average of all grid point values that fall within it.

What do the colors mean?

...ue show climate divisions that had monthly average temperatures below 50°F. The ...ade of blue, the lower the average temperature. Climate divisions shown in ...nge and red had average temperatures above 50°F. The darker the shade of ..., the higher the average temperature. White or very light colors show climate ...re the average temperature was near 50°F.

...e data matter?

Tracki... ...erage temperature in each of the 344 climate divisions of the contiguous United States gives ...cientists a way to monitor climate at a regional scale. Energy companies use this

Source Data Product:
Climate at a Glance

Data Provider:
National Centers for Environmental Information (NCEI) - Weather and Climate

Access to Source Data:
Climate Division Data (nClimDiv)

Reviewer:
Jake Crouch, National Centers for Environmental Information

Plain-language details

Metadata

References & links to sources

Breadcrumb

Filter functions

Set of all datasets

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...access to climate data, products, ...ervices | Data Snapshots | Dataset Gallery | Climate Data Primer | Climate Dashboard

Home » Maps & Data » Dataset Gallery

Dataset Gallery

To find datasets of interest, glance through the entries below, enter a search term to the left, or click terms under the filters to refine the list.

Refine by coverage:
- US (34)
- Global (16)
- Regional (2)

Refine by essential climate variables:
- + Atmospheric (32)
- + Terrestrial (10)
- + Oceanic (10)

Refine by data type:
- Land-based station (34)
- Marine / Ocean (10)
- Model (8)
- Satellite (8)
- Severe weather (7)
- Radar (2)
- Paleoclimate (1)

Refine by data format(s):
- txt (ascii) (20)
- csv (20)
- png (16)
- other (11)
- pdf (10)
- xml (8)
- json (6)
- shapefile (5)
- netcdf-3 (4)
- kml (3)
- netcdf-4 (3)
- geotiff (1)
- svg (1)

Past Weather by Zip Code - Data Table

Climate Data Online - Daily Summaries

How much rain fell over the weekend? What was the temperature over the last few weeks? Tables of daily weather observations can answer these common questions.

Average Annual and Monthly Numbers of Tornadoes by State - Maps

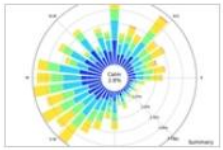
U.S. Tornado Climatology

Tornadoes can occur anyplace, but they are more likely in some locations than others. Check maps that show the average number of tornadoes in each of the United States over a year or by month, based on tornado observation

Weekly Drought Map

U.S. Drought Monitor

The U.S. Drought Monitor (USDM) is a weekly map—updated each Thursday—that shows the location and intensity of areas currently experiencing abnormal dryness or drought across the United States.



Worldwide Wind Roses - Graphics and Tabular Data

Iowa Environmental Mesonet: Wind Rose Plots

The Iowa Environmental Mesonet (IEM) lets you examine long-term records of wind speed and direction for many locations around the world.

Record High & Low Daily Temperatures in the U.S. - Graphs and Tabular Data

DayRec: United States Record-Maximum/Minimum Daily Temperatures

Record high and low temperatures generate tremendous interest, largely because of the potential for impacts on human health, the environment, and built infrastructure.

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Easy access to climate data, products, and services

Data Snapshots | Dataset Gallery | Climate Data Primer | Climate Dashboard

Home » Maps & Data » Dataset Gallery » Record High & Low Daily Temperatures in the U.S. - Graphs and Tabular Data

Record High & Low Daily Temperatures in the U.S. - Graphs and Tabular Data

DayRec: United States Record-Maximum/Minimum Daily Temperatures

General | How-To | Data Access | Related | Documentation

Record high and low temperatures generate tremendous interest, largely because of the potential for impacts on human health, the environment, and built infrastructure. Changes in the ratio of record high and low temperatures (extremes) are also indicator of climate change.

DayRec offers three kinds of prepared charts that characterize and provide context for record temperatures*:

- Scatter plots show the years that different types of records were set for each day of the year.
- Bar charts show the decadal frequency of record-setting Tmax's and Tmin's, and
- Graphs show record Hot Tmax and Cool Tmax values for each day of the year

Where do these data come from?

DayRec displays daily maximum temperature (Tmax) and minimum temperature (Tmin) observations from a subset of stations in the Global Historical Climatology Network (GHCN) - Daily database. Project developers started with a subset of the 1218 stations in the U.S. Historical Climatology Network (USHCN). Of these, 200 stations met their stringent requirements for very low percentages of missing data—these are categorized as Class 1 stations and marked in blue in the DayRec interface. Records from an additional 224 stations met slightly less stringent requirements—these are categorized as Class 2 stations and marked in green. Learn more about DayRec's Data and Methods page.

Direct link:
DayRec: An Interface for Exploring United States Record-Maximum/Minimum Daily Temperatures

Data type: Land-based station

Time period: 1 Jan 1911 to present

Coverage: US

Source:
Carbon Dioxide Information Analysis Center (CDIAC)

Dataset title

Site preview

Detailed metadata record

Direct link to source

Filter function

Home » Climate Data Primer » Climate Data Primer

Climate Data Primer

Are you new to climate data? Ready to learn or review some of the basics?

Image Credit: noaa.gov

Plain language explanations & questions to guide beginners

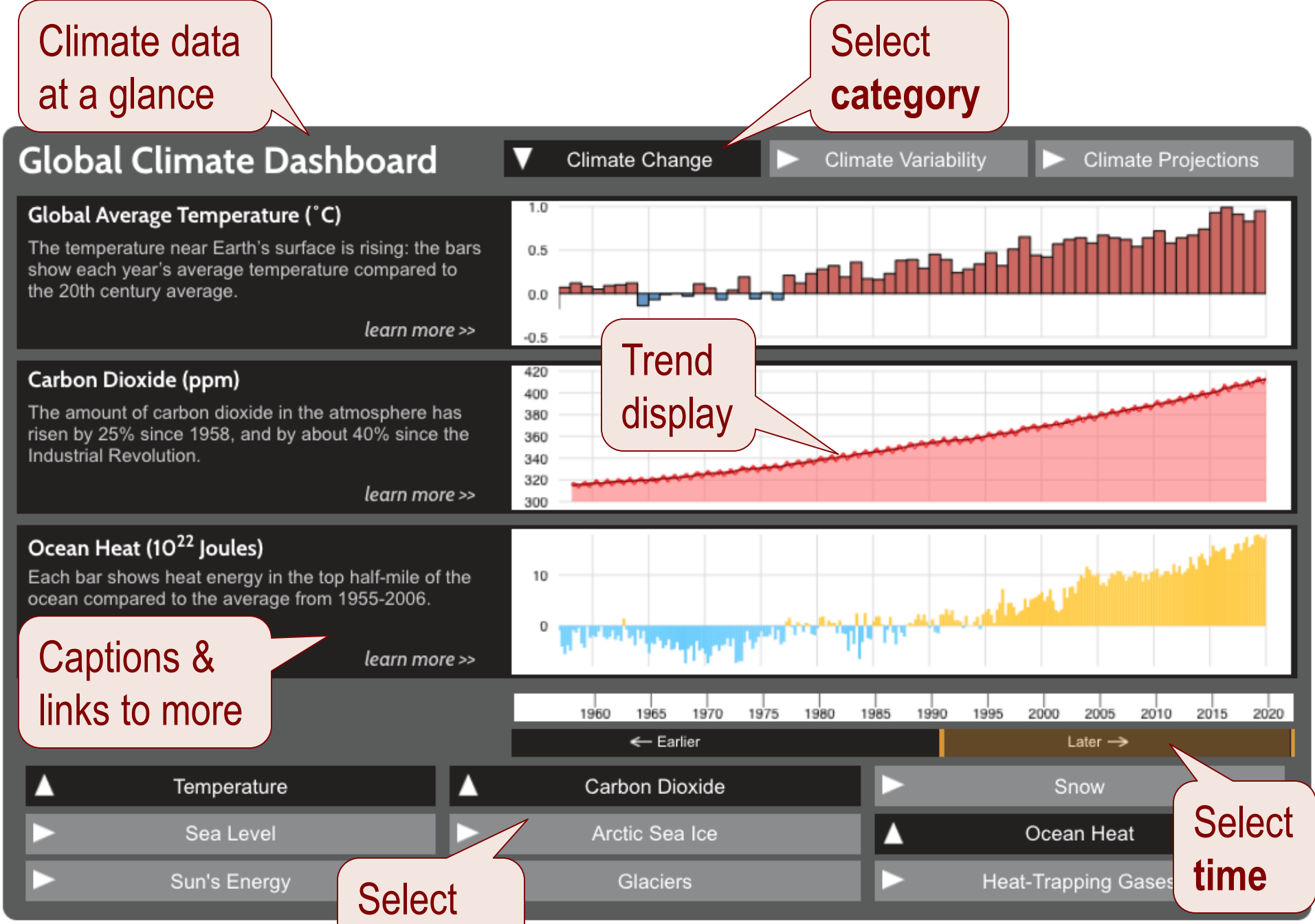
This site will walk you through some of the basics to help you understand and explore climate data. In the table of contents on the left, you'll find information on:

- instruments used to measure weather and climate
- how weather observations relate to climate products
- how climate scientists check the quality of observations
- tools you can use for exploring climate data

Why does climate data matter? Lots of people check climate data to find information or help them make decisions. For example:

- Folks who are planning outdoor events check **climate normals** data to help them choose a date when they can expect pleasant weather.
- Ranchers, farmers, and outdoor-recreation businesses regularly monitor **drought** conditions to see if the environment has sufficient water for plants and animals.
- Weather enthusiasts like to explore **extreme** storms and record-setting events.
- People who live near the coast consider how **sea level rise** might affect them.
- Students often consider the relationship between **global temperature** and **greenhouse** gases.
- Water companies check **precipitation** and **river** levels to monitor water supplies.

To get started, click any page title on the left.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Select category
Global Climate Dashboard
Climate Change
Climate Variability
Climate Projections
Global Average Temperature (˚C)
The temperature near Earth's surface is rising: the bars show each year's average temperature compared to the 20th century average.
learn more >>
1.0
0.5
0.0
-0.5
Trend display
Carbon Dioxide (ppm)
The amount of carbon dioxide in the atmosphere has risen by 25% since 1958, and by about 40% since the Industrial Revolution.
learn more >>
420
400
380
360
340
320
300
Ocean Heat (10^22 Joules)
Each bar shows heat energy in the top half-mile of the ocean compared to the average from 1955-2006.
learn more >>
10
0
Captions & links to more
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
← Earlier
Later →
Temperature
Carbon Dioxide
Snow
Sea Level
Arctic Sea Ice
Ocean Heat
Sun's Energy
Glaciers
Heat-Trapping Gases
Select variable
Select time

Landing page title, author, & date

Plain-language narrative with embedded visuals.

Bottom of page: links to sources and related datasets

Summary of key points

Metadata

Home » News & Features » Understanding Climate » Climate Change: Atmospheric Carbon Dioxide

Climate Change: Atmospheric Carbon Dioxide

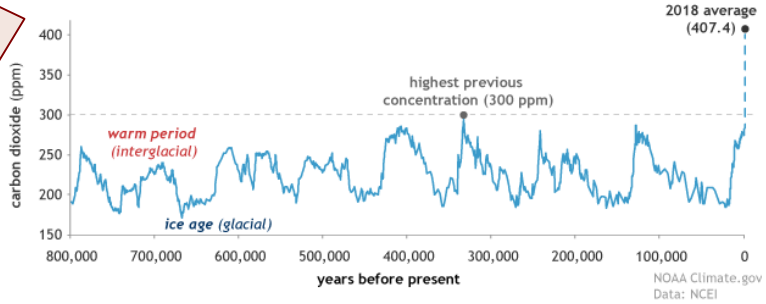
Author: Rebecca Lindsey

February 20, 2020

Print

The global average atmospheric carbon dioxide in 2018 was 407.4 parts per million (*ppm* for short), with a range of uncertainty of plus or minus 0.1 ppm. Carbon dioxide levels today are higher than at any point in at least the past 800,000 years.

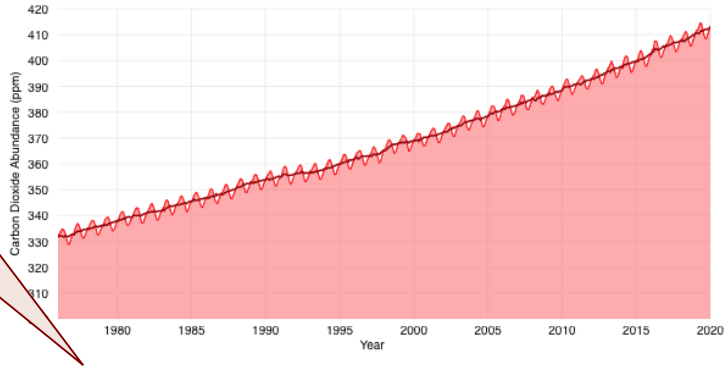
CO_2 during ice ages and warm periods for the past 800,000 years



Atmospheric carbon dioxide concentrations in parts per million (ppm) for the past 800,000 years, based on EPICA (ice core) data. The peaks and valleys in carbon dioxide levels track the coming and going of ice ages (low carbon dioxide) and warmer interglacials (higher levels). Throughout these cycles, atmospheric carbon dioxide was never higher than 300 ppm; in 2018, it reached 407.4 ppm (black dot). NOAA Climate.gov, based on EPICA Dome C data (Lüthi, D., et al., 2008) provided by NOAA NCEI Paleoclimatology Program.

In fact, the last time the atmospheric CO2 amounts were this high was more than 3 million years ago, when temperature was 2°–3°C (3.6°–5.4°F) higher than during the pre-industrial era, and sea level was 15–25 meters (50–80 feet) higher than today.

Carbon dioxide concentrations are rising mostly because of the fossil fuels that people are burning for energy. Fossil fuels like coal and oil contain carbon that plants pulled out of the atmosphere through photosynthesis over the span of many millions of years; we are returning that carbon to the atmosphere in just a few hundred years.



Highlights:

- Human activities have increased the natural concentration of carbon dioxide in our atmosphere, amplifying Earth's natural greenhouse effect.
- The global average amount of carbon dioxide hit a new record high in 2018: 407.4 parts per million.
- The annual rate of increase in atmospheric carbon dioxide over the past 60 years is about 100 times faster than previous natural increases, such as those that occurred at the end of the last ice age 11,000-17,000 years ago.
- The ocean has absorbed enough carbon dioxide to lower its pH by 0.1 units, a 30% increase in acidity.

Rating:

★★★★★

Average: 3.9 (295 votes)

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Tags:

carbon dioxide emissions

Topics:

Global Energy Balance
Atmospheric Composition
Greenhouse Effect
Greenhouse Gas Emissions
Land Use Changes

Category:

How the Climate System Works
Climate Change & Global Warming
Observing & Predicting

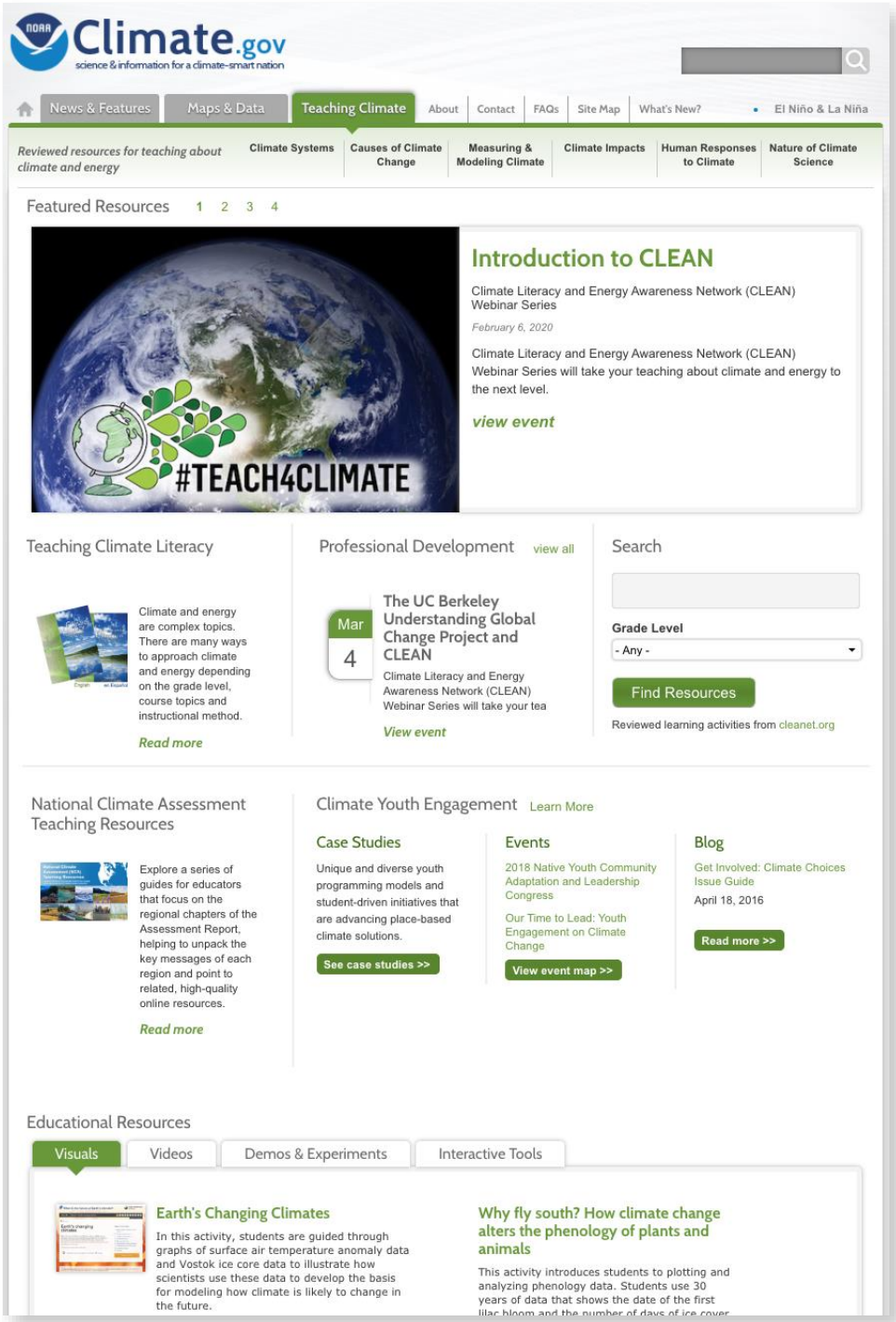
Department:

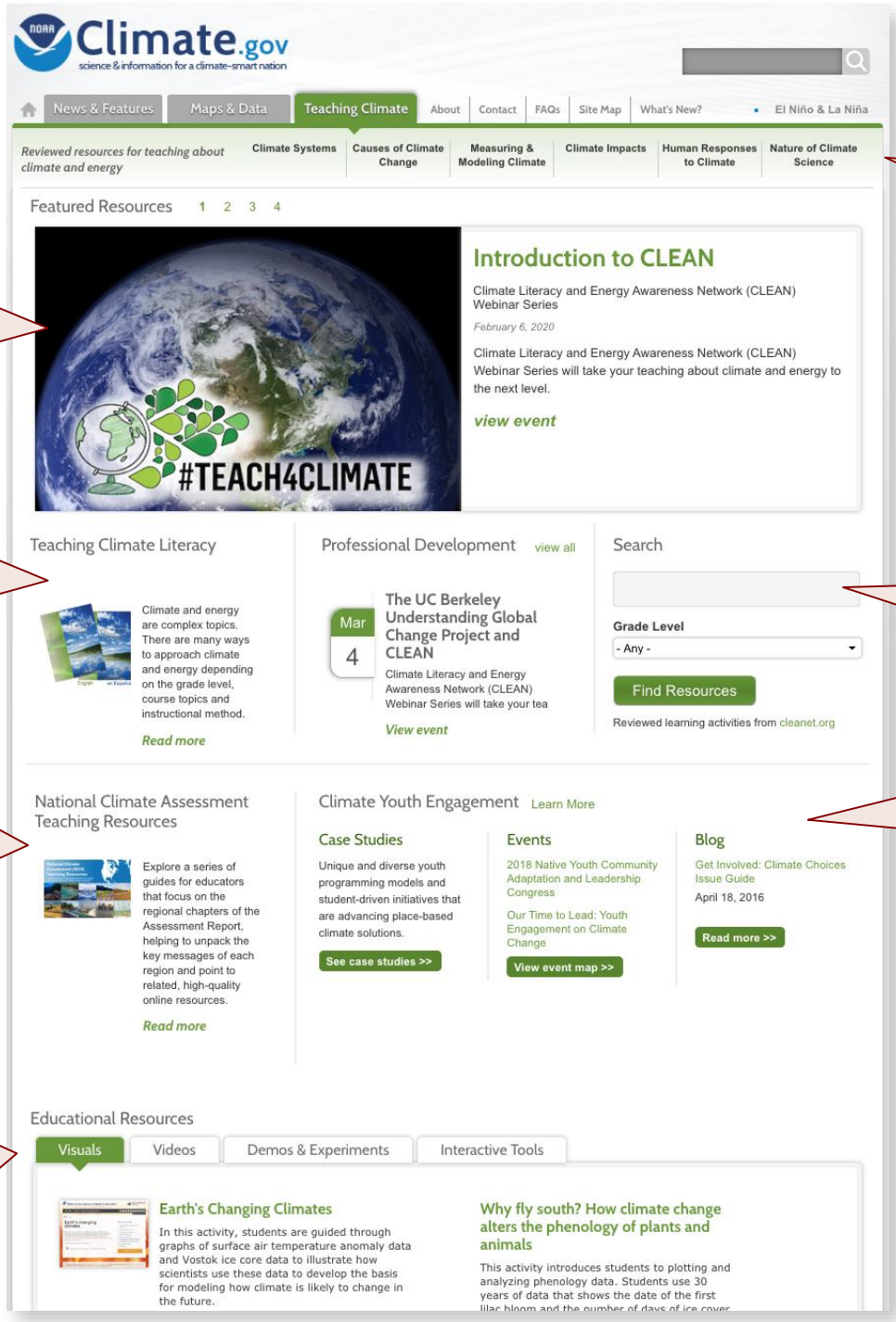
Understanding Climate

Reviewer:

Ed Dlugokencky

Teaching Climate





Timely / featured content

Climate Literacy Guide

Teaching climate based on NCA

Related education resources

Menu of **topics**

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Reviewed resources for teaching about climate and energy

Climate Systems | Causes of Climate Change | Measuring & Modeling Climate | Climate Impacts | Human Responses to Climate | Nature of Climate Science

Home » Teaching Climate » Resources and Tools

Educational Resources: Search the CLEAN Collection

Find and download scientifically and pedagogically reviewed digital resources for teaching about climate's influence on you and society and your influence on climate.

72 Results for

Carbon cycle Apply

Why is Carbon an Important Element?

Students explore the carbon cycle and the relationship between atmospheric carbon dioxide concentrations and temperature. Students create and compare graphs of carbon dioxide and temperature data from one local (Mauna Loa, Hawaii) meteorological station and one NASA global data set. These graphs, as well as a global vegetation map and an atmospheric wind circulation patterns diagram, are used as evidence to support the scientific claims they develop through their analysis and interpretation.

Scales and Processes of the Global Carbon Cycle

This static visualization shows that the global carbon cycle is determined by the interactions of climate, the environment, and Earth's living systems at many levels, from molecular to global.

Using the Carbon Cycle Interactive Game in the Classroom

In this activity, students learn how carbon cycles through the Earth system by playing an online game.

Capturing Carbon

This PBS video shows how Klaus Lackner, a geophysicist at Columbia University, is trying to tackle the problem of rising atmospheric CO2 levels by using an idea inspired by his daughter's 8th-grade science fair project. The video examines the idea of pulling CO2 out of the atmosphere via a passive chemical process.

Filter your results Clear all

Educational Resource Type

Multimedia (40)
Learning Activities (26)
Demos & Experiments (11)
Interactive Tools (5)

Climate Topics

Climate System (64)
Causes of Climate Change (22)
Measuring and Modeling Climate (20)
Climate Impacts (11)
Energy Use (6)
Human Responses to Climate (3)
Nature of Climate Science (3)

Grade Level

Intermediate (3-5) (6)
Middle (6-8) (54)
High School (9-12) (66)
College Lower (13-14) (39)
College Upper (15-16) (15)
Informal (6)

Climate Literacy Principles

Climate change has consequences (12)
Climate is complex (65)
Climate is variable (18)
Humans affect climate (16)
Humans can take action (8)
Life affects climate; climate affects life (22)
Our understanding of climate (19)
Sun is primary energy (6)

Using the Carbon Cycle Interactive Game in the Classroom

Website preview

In this activity, students learn how carbon cycles through the Earth system by playing an online game.

Go To:

http://www.windows.ucar.edu/tour/link=/teacher_resources/teach_carbongame.html

Direct link

Lisa Gardiner
Julia Genyuk
Windows to the Universe

Credits

Notes From Our Reviewers

The CLEAN collection is hand-picked and rigorously reviewed for scientific
effectiveness. Read what our review team had to say about this resource b
how CLEAN reviews teaching materials

Information to guide educators

Teaching Tips | *About the Science* | *About the Pedagogy* | *Technical Details*

Very simplified description of the carbon cycle, with concepts possibly being oversimplified. Numbers listed in the interactive should be checked by an expert, especially as the increase of CO2 is likely higher now.

Comment from expert scientist: The game provides a very nice and fun approach to understand all compartments of Earth where carbon is stored and cycled and how these parts interact with each other. The provided links give age-appropriate information to understand additional concepts.

Topics:

Sources and Sinks
Carbon Cycle

Grade Level:

Middle (6-8)
High School (9-12)
Intermediate (3-5)

Contextual metadata

A guidebook defining climate literacy for educators, in PDF format in English & Spanish

(see also the Energy Literacy Guide)

Climate.gov
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News & Features | Maps & Data | Teaching Climate | About | Contact | FAQs | Site Map | What's New? | El Niño & La Niña

Reviewed resources for teaching about climate and energy

Climate Systems | Causes of Climate Change | Measuring & Modeling Climate | Climate Impacts | Human Responses to Climate | Nature of Climate Science

Home » Teaching Climate » The Essential Principles of Climate Literacy

English en Español

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 concepts. The guide can also serve educators who teach climate science as a way to meet content standards in their science curricula.

Teaching Climate

Climate science and energy are complex topics, with rapidly developing science and technology and the potential for controversy. How can educators effectively bring these important subjects into their classrooms? There are many ways to approach climate and energy depending on the grade level, course topics and instructional method. Yet no matter the pedagogic setting, using a literacy-based approach can provide a sound foundation to build learners' understanding of these topics.

The Teaching Climate section will support the Next Generation Science Standards (NGSS) Implementation through an integrated Earth system science approach in K-12 education.

Teaching Climate Literacy

- The Essential Principles of Climate Literacy
- What is Climate Science Literacy?
- GP. Humans can take action
- 1. Sun is primary energy
- 2. Climate is complex
- 3. Life affects climate; climate affects life
- 4. Climate is variable
- 5. Our understanding of climate
- 6. Humans affect climate
- 7. Climate change has consequences
- Partnership with CLEAN collection
- Climate Youth Engagement

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Landing pages summarizing the essential principles & fundamental concepts of climate literacy

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News & Features | Maps & Data | Teaching Climate | About | Contact | FAQs | Site Map | What's New? | El Niño & La Niña

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Home » Teaching Climate » Climate Youth Engagement

Climate Youth Engagement

Society needs citizens who understand the climate system and know how to apply that knowledge in their careers and in their engagement as active members of their communities. (USGCRP Climate Literacy, 2009)

As part of the White House Climate Education and Literacy Initiative (CELI), launched in December 2014 to connect students and citizens with the best-available, science-based information about climate change new collaborations were formed focused on youth engagement on climate change. Youth and educators are asked to join the conversation at #Youth4Climate from November 12th to December 12th, 2015 as part of the COP21 conference in Paris. All major events can be found here.

Teaching Climate Literacy

The Essential Principles of Climate Literacy
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2. Climate is complex
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4. Climate is variable
5. Our understanding of climate
6. Humans affect climate
7. Climate change has consequences
Partnership with CLEAN collection
Climate Youth Engagement

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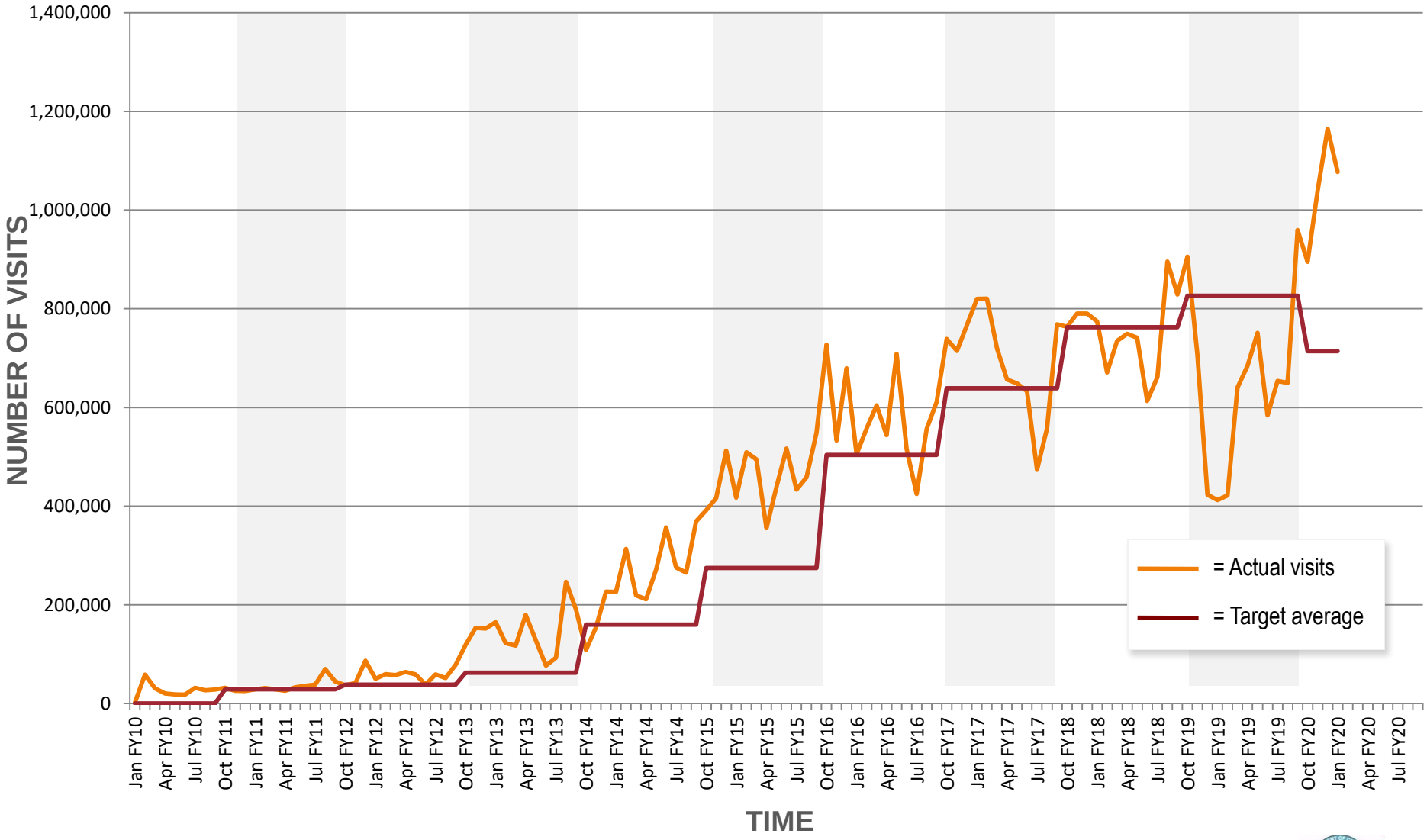
Success Metrics

Climate.gov growth in visits compared to target



Measuring ‘Quality of Relationship’ (QoR)

Awareness:

Do our target audiences know that NOAA Climate.gov exists and what climate science data, information, and services we provide?

Trust:

Our audiences’ perceptions of the site’s accuracy, credibility, and authority.

Satisfaction:

Our audiences’ perceptions of the site’s relevance, reliability, & completeness.

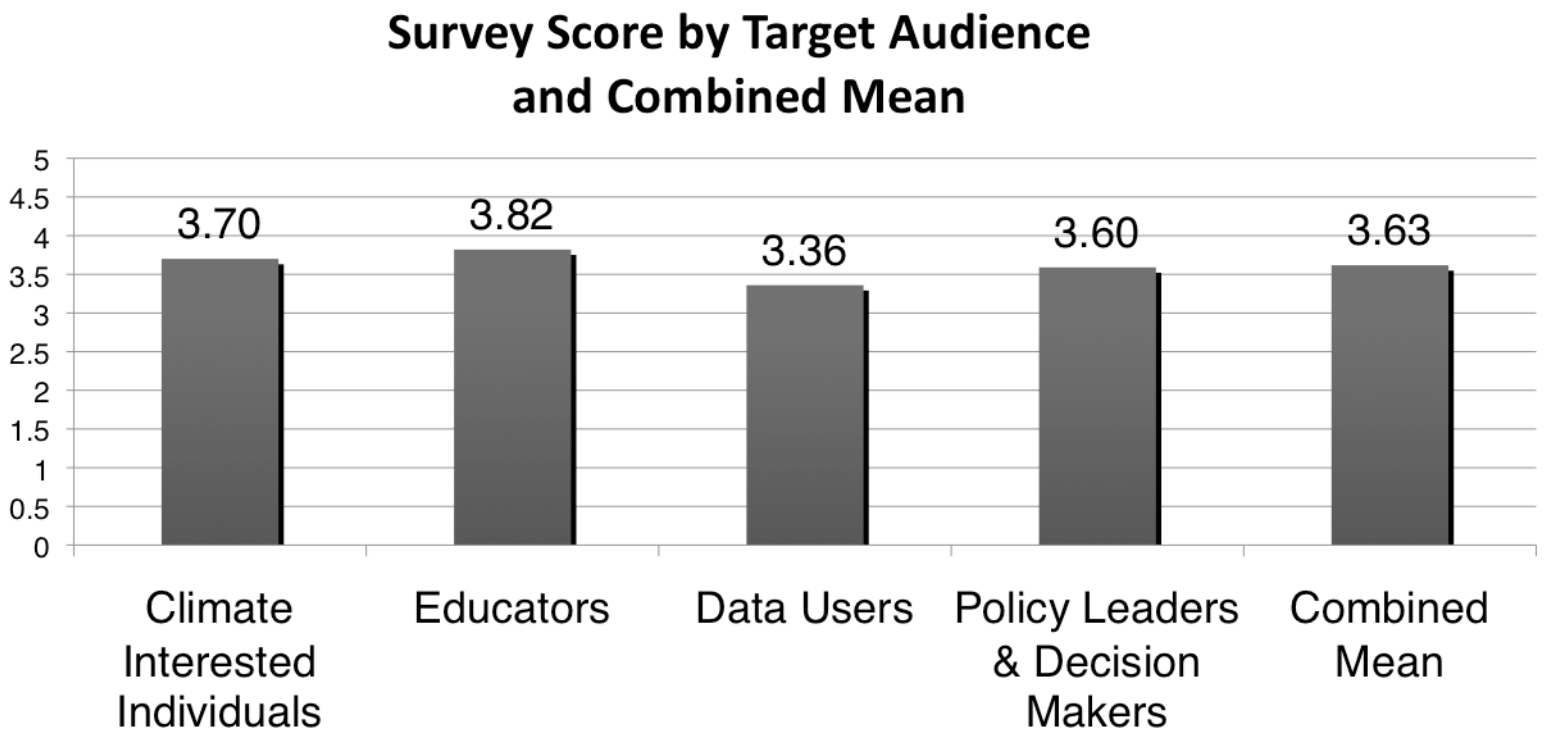
Usability & Use:

How easy is it to use Climate.gov? How useful are our resources? Are our resources being used? If not, why not? And, if so, how often / how widely?

Control Mutuality:

Do users perceive they can ask questions, offer criticisms, &/or recommendations and get a timely response? Do they perceive opportunities for 2-way interactions? Do they feel they can influence us as much as we influence them?

Our first QoR Score in 2011: 3.63* (72.6)



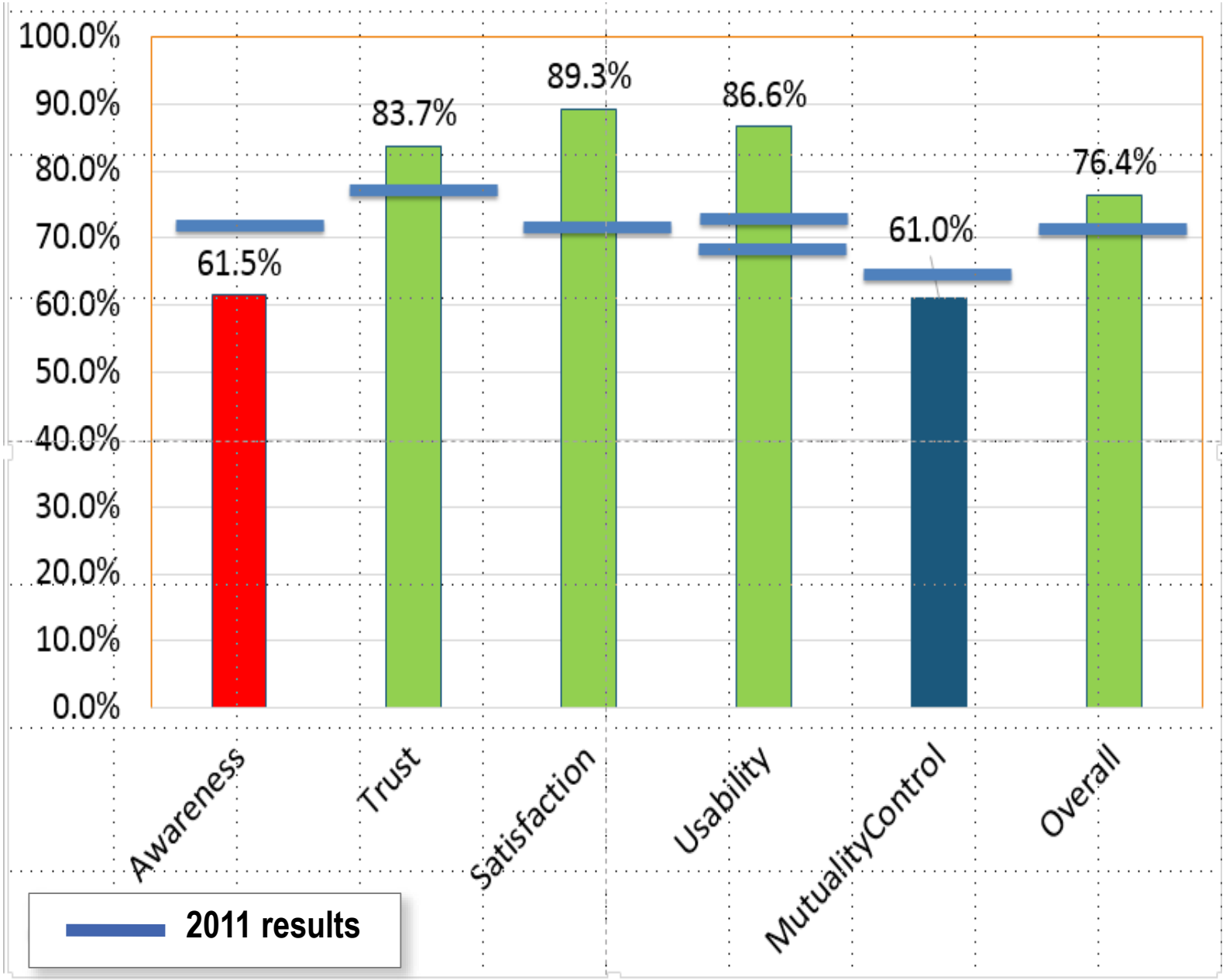
72.6

on 100-pt scale

*Scale of 1 to 5, n=525, based on five core questions common to all target audiences that measure functionality *and* quality of relationship. (71% survey completion rate)

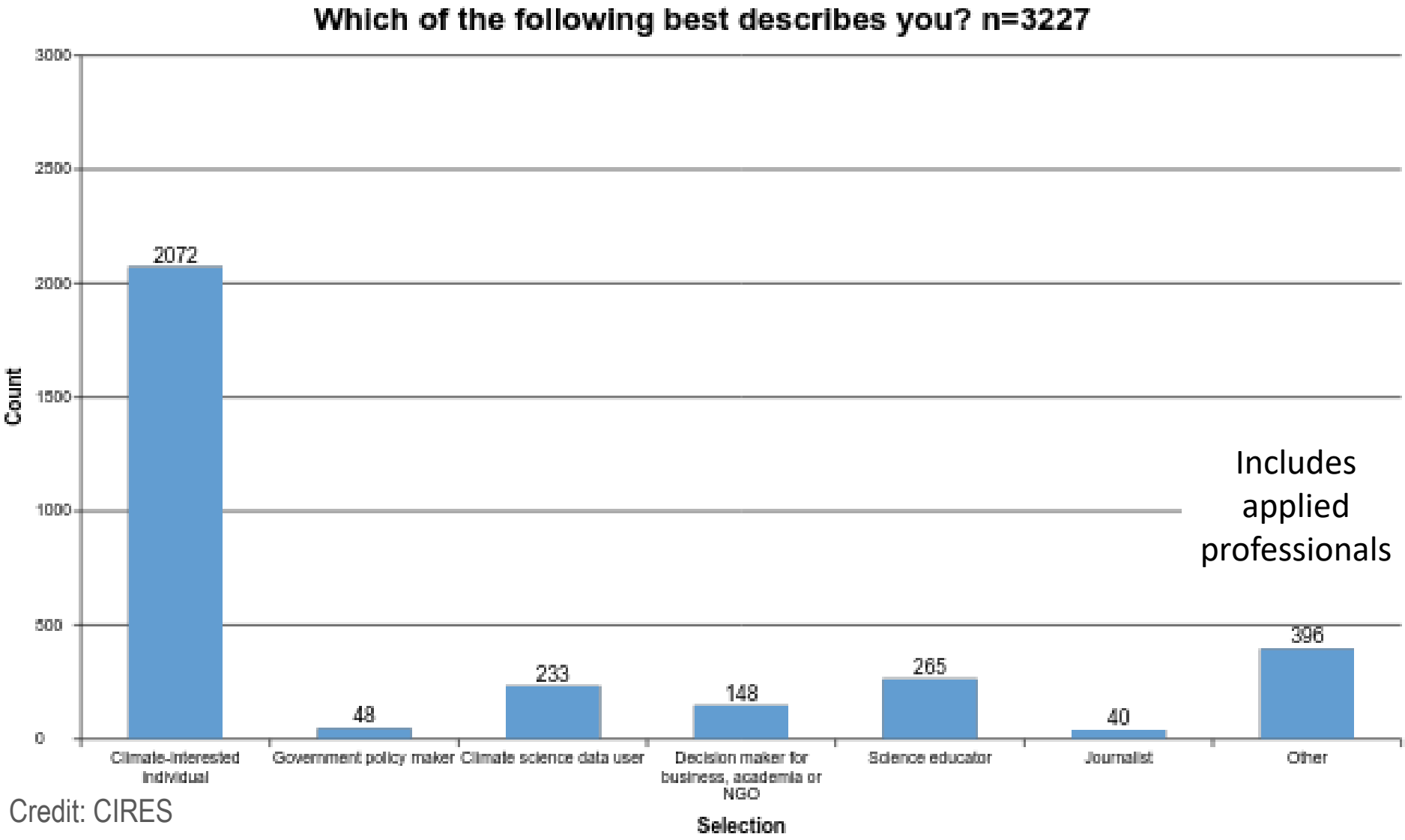
Survey conducted and published by Margaret Mooney & Jean Phillips, U. of Wisconsin-Madison, in 2011.

Our first QoR Score in 2015: 3.82 (76.4)



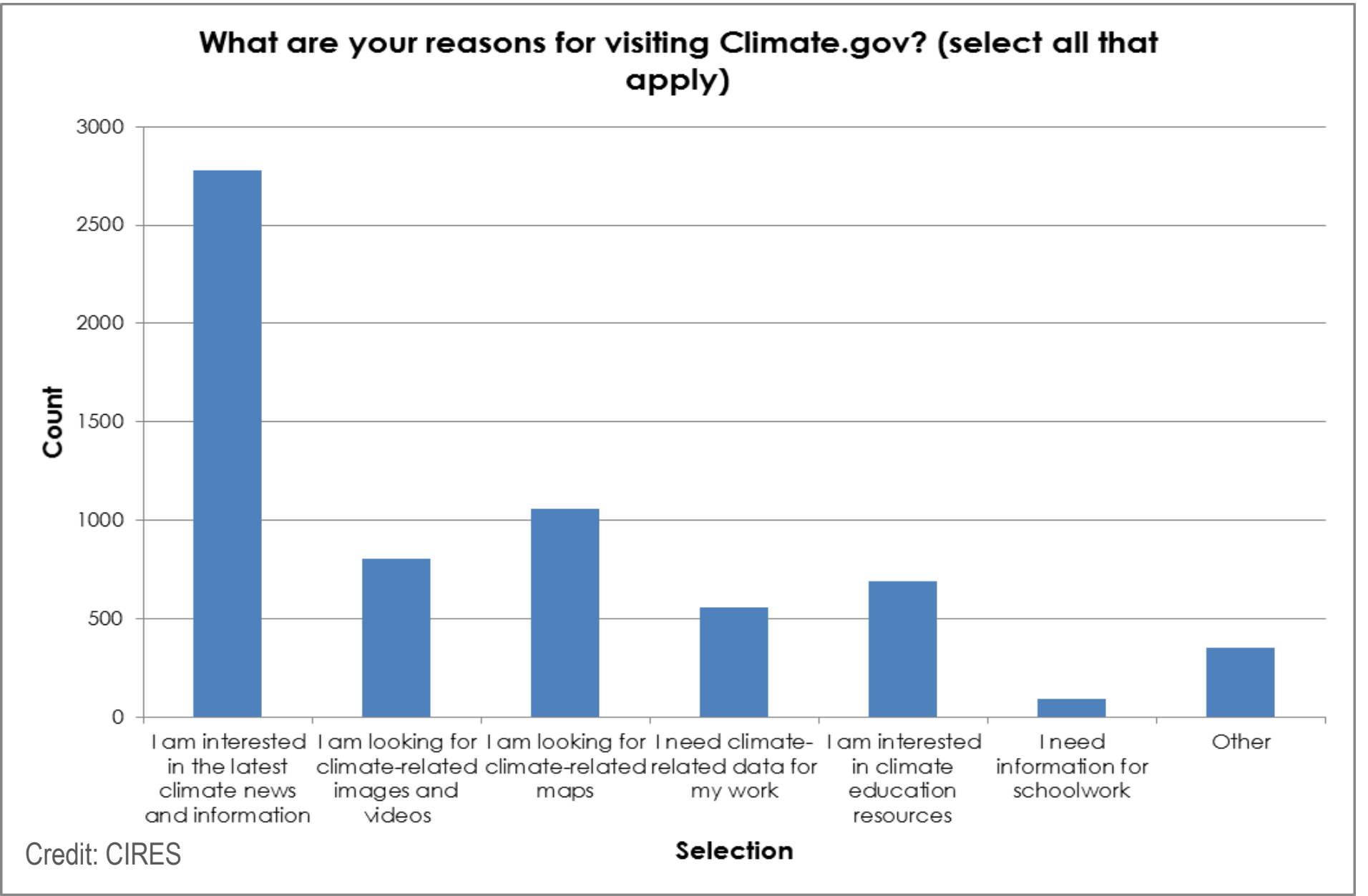
Credits: Susan Sullivan et al., CIRES
Cooperative Institute for Research in the environmental Sciences

The majority of visitors (64%) identify themselves as “climate-interested public”



Credit: CIRES

The majority of visitors seek News & Features



Credit: CIRES

Lessons Learned & Next Steps

Eight key lessons learned

1. **We must focus & streamline due to limited resources** — prioritize and align content and design better with our audiences' interests & motivations.

2. **Our current audience-focused design isn't optimal** — our current section bins and navigation pathways don't match well with most users' mental models, thus a design change is needed.

3. **The 'why' trumps the 'who'** — people are motivated seekers of information, focused more on why they came to the site than they are on their profession or identity. Similarly, other evidence suggests 'where' trumps 'what'.

4. **Most people come *initially* seeking timely & topical info** — a majority of our visitors are "climate-interested public" and so timely & topical content should be made most prominent.

Eight key lessons learned

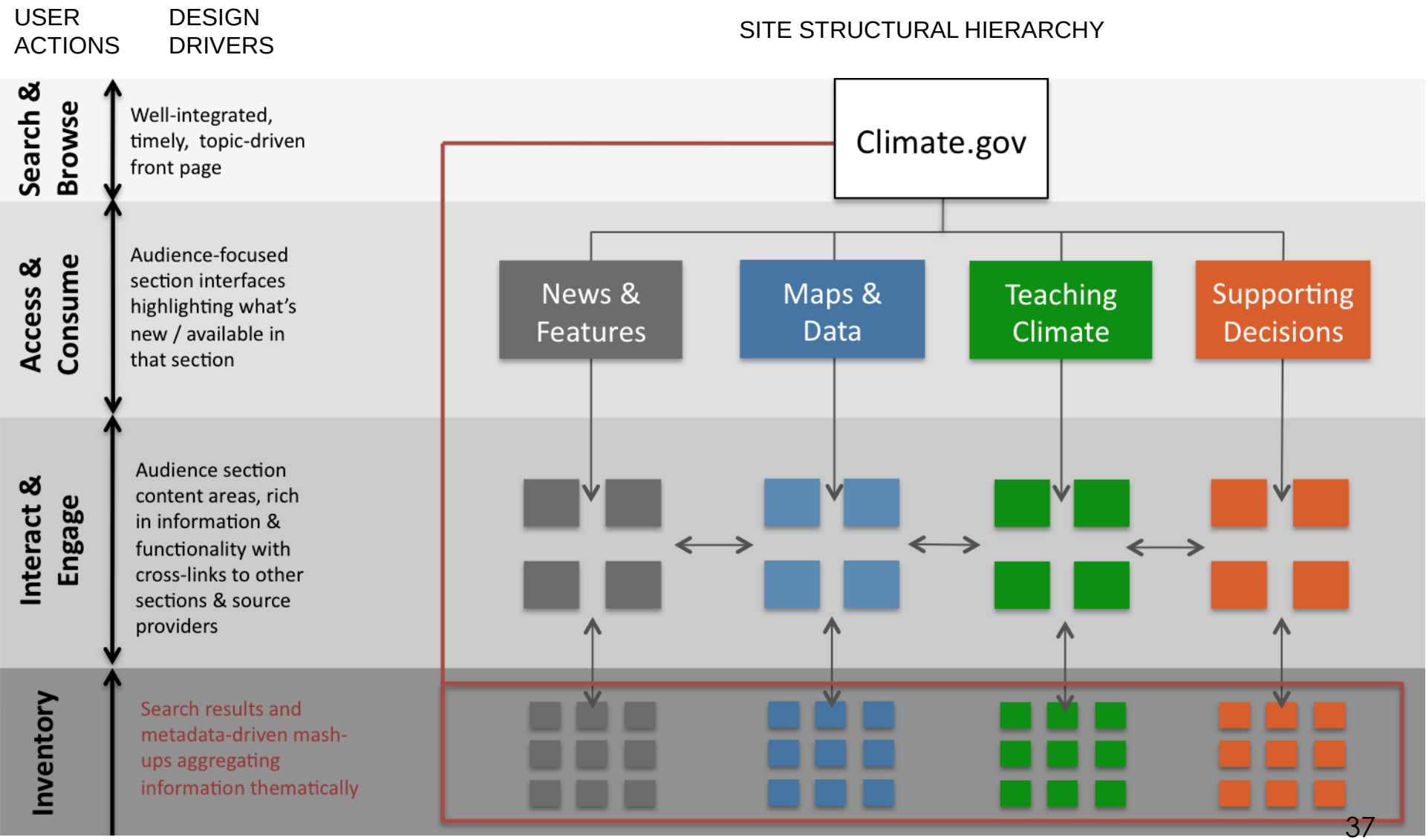
5. **Our audience-focused hypothesis wasn't entirely wrong** — people can be further characterized by particular facets of interest (where, what, who, & how), but it takes purposeful relationship building to increase dwell time and motivate deeper dives.

6. **Context and effective cross-linking are key** — people expect content to be grouped within the context of whatever topic page they're on, thus we need better cross-linking & integration.

7. **We must become mobile-device friendly** — Most web users today are on a mobile device; plus we lose status in popular search engines if we don't make this change.

8. **Site (re)design & development must become quick & nimble** — Massive, year-long projects are unwieldy & overwhelming. Expand our design and dev capacity so we can do small-scale draft-to-deployment sprints in 2- to 4-week "sprints".

Phase 2 Climate.gov site structural hierarchy



Phase 3 site structure & navigational hierarchy

DESCRIPTIVE INFO

SITE STRUCTURAL HIERARCHY