



PUBLIC PERCEPTIONS OF NASA'S  
RESEARCH AND REACTIONS TO THE  
CLIMATE.NASA.GOV WEBSITE



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George Mason University  
Center for Climate Change Communication

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Investigators: Teresa Myers, PhD, Edward Maibach, MPH, PhD, Connie Roser-Renouf, PhD, Ashley Anderson, PhD, & Neil Stenhouse, PhD student, Anthony Leiserowitz, PhD.

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This report contains results from a nationally representative survey of American adults conducted in April and May 2012. The survey examined public beliefs about federal agencies that are engaged in climate change research, and assessed which agencies the public looks to for answers to their questions on the issue. Furthermore, participants visited NASA's climate change website: [climate.nasa.gov](http://climate.nasa.gov). See the methods section for a complete description of the study design.

*Picture on cover is credited to NASA's Visible Earth (<http://visibleearth.nasa.gov/>)*

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## SELECTED KEY FINDINGS

### NASA'S SCIENTIFIC RESEARCH IS SEEN AS COMPETENT AND TRUSTWORTHY

Overall, the public perceives NASA as conducting a significant amount of credible research. Average responses to questions about NASA's general and climate science research were all above the mid-point of the scale (2.5), indicating positive perceptions.

	Scientific Research <i>[4 = Highest Ranking]</i>		Climate Science Research <i>[4 = Highest Ranking]</i>	
	NASA	Average of Agencies	NASA	Average of Agencies
How much research does NASA conduct?	3.70	3.51	3.27	3.10
How competent are the research scientists at NASA?	3.73	3.50	3.39	3.24
How much do you trust the research conducted at NASA?	3.25	3.05	2.99	2.82
To what degree do you believe NASA will use the findings from its research in ways that will benefit the United States?	3.42	3.31	3.09	3.01

*Note: Entries are mean responses to questions with four-point scales; higher scores indicate higher levels of research, competency, trust, and belief. The order of these questions within the survey was varied, with half of the respondents asked about scientific research first and climate science research second, and half asked about climate science research first. Values are shown only for respondents asked about scientific research first (N=788), and respondents asked about climate science research first (N=722; see Methods for details).*

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## MANY PARTICIPANTS WANT TO LEARN MORE FROM NASA

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Most Americans have many questions about global warming, and we asked participants: “If you had the opportunity, which of the following questions would you like to ask an expert on climate change? (Check up to three questions)” Then, taking the questions they chose, we asked participants if they wanted the answer to their top questions from each of the agencies included in the survey. A majority of respondents indicated they would turn to NASA for 14 out of 16 questions, and preferred NASA to the average of other agencies on 13 out of 16 questions.

Question	Top Three Questions	Desire NASA’s Answer	Average of Agencies	Margin of NASA Preference
How do you know that climate change is caused mostly by human activities, not natural changes in the environment?	39%	62%	53%	9%
What kind of research are you conducting on climate change?	28%	70%	43%	27%
How do you know that climate change is happening?	20%	63%	61%	2%
Is there still time to reduce climate change, or is it too late?	20%	63%	43%	20%
Is climate change really happening?	19%	61%	62%	-1%
On the whole, will climate change be more harmful or beneficial?	17%	62%	46%	16%
What can the nations of the world do to reduce climate change?	16%	69%	36%	33%
What harm will climate change cause?	15%	62%	43%	19%
What can the United States do to reduce climate change?	14%	68%	37%	31%
What causes climate change?	14%	65%	46%	19%
When will climate change begin to harm people?	12%	47%	51%	-4%
What can I do to reduce climate change?	11%	57%	43%	14%
Will climate change harm people?	9%	46%	57%	-11%
What benefit will climate change cause?	7%	73%	39%	34%
How much would it cost the United States to reduce climate change?	7%	57%	45%	11%

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After participants perused and answered a series of questions about the website, they were asked whether they would be interested in signing up for NASA’s climate change newsletter. When asked, approximately 13% of all participants signed up for NASA’s climate change newsletter; when broken down by *Global Warming’s Six Americas*<sup>1</sup> – 28% of Alarmed, and approximately 15% of the Concerned and Doubtful signed up for the newsletter.

Segment	% of Segment that Signed Up
<i>Total</i>	13%
Alarmed	28%
Concerned	15%
Cautious	8%
Disengaged	3%
Doubtful	15%
Dismissive	7%

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<sup>1</sup> The American public can be divided into six distinct audience segments that vary according to their certainty that global warming is occurring, their concern about the issue, and their engagement with it. The Alarmed are the most convinced and concerned, and the most supportive of action to reduce the threat; the Dismissive are the least convinced and least supportive of action. For a complete description of the groups, please see: Maibach E, Leiserowitz A, Roser-Renouf C, Mertz CK. (2011). *Identifying Like-Minded Audiences for Global Warming Public Engagement Campaigns: An Audience Segmentation Analysis and Tool Development*. PLoS ONE, 6: e17571.

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## OVERALL, PARTICIPANTS LIKED CLIMATE.NASA.GOV

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After perusing the website, respondents were asked three open-ended questions, requesting that they report their overall impressions of the site, what they found interesting, and what they found confusing.

When asked about their general impression of the website, approximately 70% of the comments were positive, while 16% were negative. Abundance of information was frequently praised, although a few participants thought that the amount of scientific information was overwhelming.

About 1/3<sup>rd</sup> of comments mentioned visuals and illustrations as the most interesting part of the website – specifically, respondents found the State of Flux and climate change images to be interesting, while few of the other specific interactive sections were mentioned. Many people mentioned that they enjoyed the amount of information available, although approximately 12% replied that they didn't find anything interesting, or made some other generally negative comment.

A substantial 40% of participants found nothing confusing about the website. Of those who did mention anything as confusing, about 10% of comments were about the technical layout; while about 7% indicated there was too much information. This latter finding should be contrasted with the results from the other two open-ended questions: While some found the amount of information to be confusing, many enjoyed the abundance of information.

Summaries of the open-ended responses are shown below.

Q. What are your overall impressions of the website? [Open-ended question]

Category	% of total comments
<b>Personal Thoughts and Opinions</b>	<b>39.6%</b>
<i>Positive</i>	<i>31.8%</i>
General praise	17.5%
Interesting	7.3%
Powerful, engaging, and impressive	3.9%
Clear and understandable information	2.5%
Helpful	0.4%
Important	0.1%
Straight to the point	0.1%
<i>Negative</i>	<i>6.1%</i>
Ok/no opinion	3.3%
General negative opinion	0.7%
Boring/lost interest	0.6%
Not impressive	0.6%
Costs too much	0.3%
Don't care	0.3%
Not effective/disconnected from life	0.3%
<i>Other</i>	<i>1.68%</i>
Surprising that NASA has a website like this	0.9%
Surprising information	0.7%
Not aware of the issue before	0.1%
<b>Content</b>	<b>33.6%</b>
<i>Positive</i>	<i>23.7%</i>
Plentiful information (positive), educational, comprehensive and thorough	20.3%
Scientific (positive), lots of evidence	0.9%
Provided different perspectives and was unbiased, trustworthy	0.9%
Convincing and compelling	0.6%
Nice "Climate Kids" part/Children's part of the site	0.3%
Authoritative and knowledgeable	0.3%
Positive (e.g., supports mitigation or adaptation)	0.2%
Concise	0.2%
<i>Negative</i>	<i>8.7%</i>
Biased, subjective, political, propaganda, swayed, fraudulent, government secrets	2.4%
Too much information (negative), overwhelming, screen too busy	1.9%

Too scientific (negative), hard to understand and complicated; commenter got lost	1.8%
Not enough detail in the explanations, or depth in the discussions	0.8%
Not convincing	0.7%
Didn't answer the questions about climate change	0.3%
Commenter believes the real cause is not yet determined	0.2%
Negative (e.g., commenter was suspicious of activities to address climate change)	0.2%
Slick	0.2%
No real conclusion	0.1%
<i>Other</i>	<i>1.3%</i>
Fearful/scary	0.4%
Commenter asserted the climate is changing	0.3%
Website contained multi-media explanations	0.3%
Website will make people panic	0.1%
Commenter summarized the content of the website	0.1%
<hr/> <b>Layout</b>	<b>17.5%</b>
<i>Positive</i>	<i>14.4%</i>
Well designed, with good structure and presentation	6.2%
Accessible site, easy to navigate, read and use	5.2%
Visually appealing	1.1%
Looks professional	0.9%
Interactive	0.7%
Colorful	0.3%
<i>Pictures and Photographs</i>	<i>2.1%</i>
Nice/interesting pictures and graphics	1.6%
A lot of pictures and graphics	0.3%
General comment about pictures	0.2%
<i>Negative</i>	<i>0.9%</i>
Hard to navigate	0.6%
Layout just OK	0.1%
<hr/> <b>Technical Problems</b>	<b>1.6%</b>
Wouldn't open	0.9%
Took too much time to load the pages	0.5%
General technical comment	0.3%
<hr/> <b>Irrelevant/other</b>	<b>7.4%</b>

Note: Bolded or italicized entries are the sum of that category, including any comments that were coded as the general category.

*Q. What was the most interesting part of your visit to this website?*

Category	% of total comments
<b>Visuals/Illustrations</b>	<b>32.0%</b>
<i>Visual statistics, graphs, and charts</i>	<i>13.5%</i>
Changes over time (including State of Flux and climate change images)	7.7%
Top of front page that shows change	3.0%
<i>General</i>	<i>4.6%</i>
Videos	1.5%
Maps and/or evidentiary value of the pictures	1.0%
Views of Earth from space	0.8%
Colorful	0.8%
Aesthetic/artistic aspect of pictures	0.2%
Earth wallpaper	0.2%
Animations/cartoon versions of global warming	0.2%
<i>Interactive graphics</i>	<i>3.8%</i>
Eyes on Earth 3-D	0.8%
Climate Time Machine	0.6%
Sea Level Viewer	0.4%
Quizzes	0.3%
Global Ice Viewer	0.0%
How Hot is Earth	0.0%
The Water Cycle	0.0%
Orbiting Outpost	0.0%
Head in Clouds	0.0%
<b>General</b>	<b>25.4%</b>
<i>Positive</i>	<i>13.8%</i>
Abundant information, lots of knowledge	9.8%
Everything, general praise	3.9%
Balanced and unbiased	0.2%
<i>Negative</i>	<i>11.6%</i>
Nothing was interesting, or other generally negative comment	5.8%
No opinion, don't care	3.3%
Propaganda	1.1%
Use of taxpayer money	0.8%
Couldn't see website	0.6%
<b>Specific Content</b>	<b>23.0%</b>
<i>Specific Topics</i>	<i>16.8%</i>
General information about change	3.6%

General amount of data and statistics	2.2%
About ice	2.0%
About satellites	1.9%
Practical applications to reduce/prevent climate change (including Energy Innovations)	1.7%
Article or news story; specific area or major weather event	1.5%
About temperature	1.3%
About CO <sub>2</sub>	1.0%
About sea level	1.0%
About water	0.6%
<i>NASA</i>	<i>5.3%</i>
NASA's role in earth and climate science	3.3%
History of NASA	1.1%
Didn't know NASA's website existed	0.6%
<i>Links and Resources to Other Sites</i>	<i>0.9%</i>
To universities/departments	0.2%
Sharing on social media	0.2%
<b>Section or Category from the Website</b>	<b>13.7%</b>
Effects section or information and projections about climate change	4.4%
Causes section or information	3.7%
Evidence section or information (including "key indicators")	2.7%
Climate kids	1.0%
Uncertainties section or information	0.8%
Learning how scientists and NASA investigate weather and climate	0.4%
Educators section	0.2%
Earth day	0.2%
The planet blog	0.2%
<b>Accessibility</b>	<b>3.9%</b>
Easy to understand, non-scientific language	1.7%
Easy to navigate	1.0%
Web design and layout	0.8%
<b>Irrelevant/other</b>	<b>2.2%</b>

Note: Bolded or italicized entries are the sum of that category, including any comments that were coded as the general category.

*Q. What was the most confusing part of your visit to this website?*

Category	% of total comments
<b>Nothing</b>	<b>39.9%</b>
<b>Technical or layout</b>	<b>9.8%</b>
Hard to navigate, difficult to get back and forth to different content	2.8%
Cannot view the web page, pictures, video, or interactives	2.4%
Information was not tied together, no logical order	1.4%
Layout was cluttered	1.1%
Website is too slow	0.5%
No search engine	0.4%
Tabs on the left are hard to read, seem unrelated to content	0.2%
Did not accurately describe the information provided	0.2%
Visually dense with words	0.2%
Links are confusing	0.2%
<b>Too much information</b>	<b>7.63%</b>
Too many choices on the side menu	0.7%
Too many windows to open	0.4%
Too many (unrelated) links	0.3%
Too many pictures and graphs	0.2%
Too many small articles	0.1%
<b>General negative comments</b>	<b>6.5%</b>
All of it, don't believe information	3.5%
About NASA	0.4%
Contradicts the Bible	0.4%
<b>Cannot find information about my question or specific topic of interest</b>	<b>5.2%</b>
Solutions, what can be done to adapt or mitigate, how to get involved	2.1%
General	0.7%
How global warming is happening	0.7%
Why are humans changing the earth?	0.4%
Cost	0.4%
Scientists' credentials	0.2%
<b>Specific sections</b>	<b>5.6%</b>
Specific topics (e.g., solar spots, aerosols, dust, smoke and soot)	3.4%
Uncertainties section	0.5%
Extrapolating to the future, long term fluctuations	0.5%
Articles	0.4%
Why have a kids' section?	0.2%

Difference between "key indicators" and "evidence"	0.1%
Twitter section	0.1%
<b>Too much jargon</b>	<b>3.9%</b>
<b>Illustrations are hard to understand</b>	<b>3.5%</b>
Numbers, statistics, graphs	2.0%
Pictures, the image of change	0.9%
Map	0.2%
<b>Questionable conclusions</b>	<b>2.5%</b>
Bias, propaganda	1.9%
Explanations are hard to believe	0.6%
<b>Don't know</b>	<b>2.4%</b>
<b>Homepage</b>	<b>1.3%</b>
Don't know where to start, trying to pick where to go first	0.6%
Headlines and indicators could have given more information	0.3%
Missions	0.2%
<b>Confused about where the information and data comes from</b>	<b>1.2%</b>
<b>Irrelevant/other</b>	<b>11.8%</b>

Note: Bolded or italicized entries are the sum of that category, including any comments that were coded as the general category.

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**PARTICIPANTS WERE MODERATELY SATISFIED WITH INFORMATION ON CLIMATE.NASA.GOV RELEVANT TO THEIR QUESTIONS ABOUT CLIMATE CHANGE**

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On average, participants indicated that they found between “a little” and “a moderate amount” of information about their top question on climate change; furthermore, those that found information relevant to their question typically found it “somewhat useful” and that it “partially” answered their question. *[Results displayed are those of the half of respondents who were asked their top question prior to visiting the NASA website.]*

*How much information on NASA’s website did you find about your question: “[INSERT TOP QUESTION]”*

None (22%)	A Little (26%)	A Moderate Amount (32%)	A Lot (20%)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***If “None” was selected the following two questions were skipped.***

*How useful was the information on NASA’s website that you found about your question: “[INSERT TOP QUESTION]”*

Very Useless (2%)	Somewhat Useless (6%)	Neutral (29%)	Somewhat Useful (33%)	Very Useful (30%)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Did the information on NASA’s website that you found fully answer your question: [INSERT TOP QUESTION]”*

No, Not at All (14%)	Yes, Partially (42%)	Yes, Mostly (31%)	Yes, fully (13%)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Information satisfaction varied according to the respondents’ top question. The most frequently selected question for a climate expert concerned how scientists know that climate change is being caused by human activities. Those who asked about the causes of climate change and those who asked about the harm and benefit of climate change found the most information at the website on their questions. Those who asked about causes were most likely to highly rate the quality of information they found on the website and to say that the website fully answered their question.

Respondents who asked about the cost of reducing climate change found the least information for their question, and were the least likely to say the information they found fully answered their question. Those who asked whether there's still time to reduce climate change and what actions they could personally take were least likely to say they found the website information to be useful in answering their question – not surprising, given that developing solutions to climate change is not within NASA’s climate science mission.

	<i>Top Question</i>	Quantity of Information (Range: 0 to 3)	Information Usefulness <sup>a</sup> (Range: -2 to +2)	Information Fully Answered Question <sup>a</sup> (Range: 0 to 3)
What causes climate change?	3%	1.96	1.50	1.93
What benefit will climate change cause?	1%	1.78	1.40	1.84
When will climate change begin to harm people?	5%	1.38	1.17	1.39
On the whole, will climate change be more harmful or beneficial?	7%	1.91	1.10	1.65
How much would it cost the United States to reduce climate change?	1%	.78	1.06	.65
What harm will climate change cause?	3%	2.03	.94	1.87
What can the nations of the world do to reduce climate change?	8%	1.50	.92	1.23
How do you know that climate change is caused mostly by human activities, not natural changes in the environment?	18%	1.65	.86	1.32
Will climate change harm people?	3%	1.36	.86	1.72
Is climate change really happening?	9%	1.72	.72	1.47
What kind of research are you conducting on climate change?	11%	1.63	.72	1.60
How do you know that climate change is happening?	6%	1.49	.71	1.54
What can the United States do to reduce climate change?	5%	1.48	.67	1.14
What can I do to reduce climate change?	4%	1.44	.63	1.61
Is there still time to reduce climate change, or is it too late?	10%	1.05	.59	1.15

*Note: Values are shown only for those asked their top question prior to visiting the website (see Methods for details).*

*<sup>a</sup>These questions asked only for those who responded that they found some information on the website about their question.*

*Response Options: Quantity of Information (0: None; 1: A Little; 2 = A Moderate Amount; 3 = A Lot); Information Usefulness: (-2: Very Useless; -1: Somewhat Useless; 0: Neutral; 1: Somewhat Useful; 2: Very Useful); Information Fully Answered Question: (0: No, Not at All; 1 = Yes, Partially; 2 = Yes, Mostly; 3 = Yes, Fully)*

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## MOST PARTICIPANTS FREQUENTED THE EVIDENCE AND CAUSES SECTIONS OF CLIMATE.NASA.GOV, ALTHOUGH THERE WERE DIFFERENCES BETWEEN AUDIENCE SEGMENTS

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Nearly half of participants visited evidence pages during the time they spent on climate.nasa.gov, and about a quarter of participants visited the causes section of the website. The Climate Kids, NASA Climate Day, and Educators sections had the fewest participants visit; pages about solutions also ranked low, likely as a result of relatively fewer pages addressing solutions and the fact that the Solutions page is not listed on the home page menu. It is likely that the order of presentation on the website's menu bar influenced the sections that participants visited: Key Indicators and Evidence are the top two sections on the website's side menu, followed by Causes, while the other sections were lower or not on the menu bar (see p. 19 for menu order, and also the information satisfaction section on p. 6 of this report, where many people who had questions about what can be done about climate changes said they could not find much information about those questions during their visit).

When breaking down the results by Six Americas segment (see Methods section for details), we see that some categories were visited approximately equally by each of the segments (e.g., causes and effects sections), while others tended to have certain segments more likely to visit that section or category. Specifically, the Uncertainties and Causes sections of the site were most often visited by the Dismissive and Doubtful, although the Alarmed and Concerned also often visited these sections. Furthermore, the Disengaged were the most likely segment to visit the images and videos sections, but the least likely to visit the evidence section. The Alarmed were the most likely to be interested in NASA's role, NASA's missions, and in solutions.

In the table on pages 17 and 18, we report the percentage of participants (total and within each segment) that visited each category on the website. Furthermore, we report the rank of the category within each segment (e.g., Evidence is ranked as the #1 page that the Alarmed segment visited), and the rank of the segment within each category (e.g., the Alarmed segment ranked 2<sup>nd</sup> in the percentage of people from that segment that visited the Evidence section).

Six Americas Segment:		Alarmed		Concerned		Cautious		Disengaged		Doubtful		Dismissive		Total	
		% of Segment that Visited Category	Rank of Category within Segment	% of Segment that Visited Category	Rank of Category within Segment	% of Segment that Visited Category	Rank of Category within Segment	% of Segment that Visited Category	Rank of Category within Segment	% of Segment that Visited Category	Rank of Category within Segment	% of Segment that Visited Category	Rank of Category within Segment	% of Segment that Visited Category	Rank of Category within Segment
Evidence*	% of Segment that Visited Category	49.0%	1st	43.5%	1st	44.0%	1st	30.4%	1st	46.2%	1st	50.9%	1st	44.5%	1st
	Rank of Segment within Category	2nd		5th		4th		6th		3rd		1st		---	---
Causes	% of Segment that Visited Category	23.2%	3rd	23.9%	2nd	22.9%	2nd	20.0%	2nd	26.9%	2nd	30.2%	2nd	24.4%	2nd
	Rank of Segment within Category	4th		3rd		5th		6th		2nd		1st		---	---
Interactives*	% of Segment that Visited Category	22.2%	4th	23.6%	3rd	21.1%	3rd	10.4%	5th	18.3%	4th	17.8%	5th	20.2%	3rd
	Rank of Segment within Category	2nd		1st		3rd		6th		4th		5th		---	---
Uncertainties*	% of Segment that Visited Category	22.2%	5th	18.3%	4th	12.3%	6th	11.2%	4th	23.1%	3rd	24.3%	3rd	18.3%	4th
	Rank of Segment within Category	3rd		4th		5th		6th		2nd		1st		---	---
Effects	% of Segment that Visited Category	21.2%	6th	17.8%	5th	15.4%	5th	14.4%	3rd	15.4%	6th	18.9%	4th	17.2%	5th
	Rank of Segment within Category	1st		3rd		5th		6th		4th		2nd		---	---
NASA's role*	% of Segment that Visited Category	23.7%	2nd	15.3%	6th	16.0%	4th	9.6%	7th	17.3%	5th	13.6%	6th	16.2%	6 <sup>th</sup>
	Rank of Segment within Category	1st		4th		3rd		6th		2nd		5th		---	---

		Alarmed		Concerned		Cautious		Disengaged		Doubtful		Dismissive		Total	
<i>Missions</i> <sup>+</sup>	% of Segment that Visited Category	14.1%	7 <sup>th</sup>	10.1%	7 <sup>th</sup>	8.7%	7 <sup>th</sup>	4.0%	9 <sup>th</sup>	10.1%	7 <sup>th</sup>	11.2%	7 <sup>th</sup>	9.9%	7 <sup>th</sup>
	Rank of Segment within Category	1 <sup>st</sup>		4 <sup>th</sup>		5 <sup>th</sup>		6 <sup>th</sup>		3 <sup>rd</sup>		2 <sup>nd</sup>		---	---
Energy Innovations	% of Segment that Visited Category	10.6%	8 <sup>th</sup>	7.0%	8 <sup>th</sup>	5.4%	8 <sup>th</sup>	4.0%	10 <sup>th</sup>	4.8%	10 <sup>th</sup>	5.9%	9 <sup>th</sup>	6.4%	8 <sup>th</sup>
	Rank of Segment within Category	1 <sup>st</sup>		2 <sup>nd</sup>		4 <sup>th</sup>		6 <sup>th</sup>		5 <sup>th</sup>		3 <sup>rd</sup>		---	---
Images and Video	% of Segment that Visited Category	4.0%	10 <sup>th</sup>	5.5%	10 <sup>th</sup>	5.1%	9 <sup>th</sup>	10.4%	6 <sup>th</sup>	5.3%	8 <sup>th</sup>	7.1%	8 <sup>th</sup>	5.8%	9 <sup>th</sup>
	Rank of Segment within Category	6 <sup>th</sup>		3 <sup>rd</sup>		5 <sup>th</sup>		1 <sup>st</sup>		4 <sup>th</sup>		2 <sup>nd</sup>		---	---
Climate Kids	% of Segment that Visited Category	9.1%	9 <sup>th</sup>	6.0%	9 <sup>th</sup>	3.6%	11 <sup>th</sup>	5.6%	8 <sup>th</sup>	5.3%	9 <sup>th</sup>	5.9%	10 <sup>th</sup>	5.7%	10 <sup>th</sup>
	Rank of Segment within Category	1 <sup>st</sup>		2 <sup>nd</sup>		6 <sup>th</sup>		4 <sup>th</sup>		5 <sup>th</sup>		3 <sup>rd</sup>		---	---
NASA climate day	% of Segment that Visited Category	4.0%	11 <sup>th</sup>	2.5%	11 <sup>th</sup>	3.9%	10 <sup>th</sup>	3.2%	11 <sup>th</sup>	4.8%	11 <sup>th</sup>	4.1%	11 <sup>th</sup>	3.6%	11 <sup>th</sup>
	Rank of Segment within Category	3 <sup>rd</sup>		6 <sup>th</sup>		4 <sup>th</sup>		5 <sup>th</sup>		1 <sup>st</sup>		2 <sup>nd</sup>		---	---
Educators	% of Segment that Visited Category	1.5%	12 <sup>th</sup>	1.5%	12 <sup>th</sup>	1.5%	12 <sup>th</sup>	1.6%	12 <sup>th</sup>	2.4%	12 <sup>th</sup>	1.8%	12 <sup>th</sup>	1.7%	12 <sup>th</sup>
	Rank of Segment within Category	4 <sup>th</sup>		5 <sup>th</sup>		6 <sup>th</sup>		3 <sup>rd</sup>		1 <sup>st</sup>		2 <sup>nd</sup>		---	---
<i>Solutions</i> <sup>+</sup>	% of Segment that Visited Category	1.5%	13 <sup>th</sup>	0.8%	13 <sup>th</sup>	0.0%	13 <sup>th</sup>	0.4%	13 <sup>th</sup>						
	Rank of Segment within Category	1 <sup>st</sup>		2 <sup>nd</sup>		6 <sup>th</sup>		5 <sup>th</sup>		3 <sup>rd</sup>		4 <sup>th</sup>		---	---

\* Indicates significant differences between segments in the percentage that visited that category; <sup>+</sup> indicates marginally significant differences between segments in the percentage that visited that category.

*Percentage of participants who visited sections of the website by order of menu.*

<b>Grouping in Report</b>	<b>Percent of Total Who Visited Section</b>	<b>Section Titles on Home Page Menu Included in Section Groupings</b>	<b>Order on Home Page Menu</b>
Evidence	44.5%	Key Indicators	1
		Evidence	2
Causes	24.4%	Causes	3
Interactive Graphics	20.2%	Interactive Graphics	10
Uncertainties	18.3%	Uncertainties	5
Effects	17.2%	Effects	4
NASA's Role	16.2%	NASA's Role	6
Missions	9.9%	Missions	7
Energy Innovations	6.4%	Energy Innovations	14
Images and Videos	5.8%	Images and Videos	11
Climate Kids	5.7%	Climate Kids	12
NASA climate day	3.6%	Earth Science Week	9
Educators	1.7%	For Educators	13
Solutions	0.04%	Solutions	<i>not listed</i>

\*The Key Websites menu selection was not included in this report.

## RECOMMENDATIONS

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Based on these findings, we propose several recommendations:

1. Include a pop-up prompt offering visitors the opportunity to sign up for NASA’s climate change newsletter; in our study 13% of visitors signed up for the newsletter when it was offered.
2. Create a “Basic Overview” box in each section of the website. Although many participants praised the amount of information available, a significant minority indicated that they thought there was too much information, or that the information was overwhelming. Still others noted that they weren’t sure where to begin. Creating a “basic overview” box might be a helpful resolution to the tension of providing more detailed information for those who desire, and a less intimidating entering point for others.
3. Tailor the content of the Causes and Uncertainties sections for the members of the Doubtful and Dismissive audience segments, as they are the most likely to visit those sections of the website and such tailored content creates an important opportunity to engage them. Many members of other audience segments will be interested in the information as well, even if (and perhaps especially if) tailored it to the unique concerns of people in the Doubtful and Dismissive segments.
4. Where necessary, develop additional content – and focus existing content – to clearly answer the climate change questions that large numbers of people would like NASA to answer; for example: “How do you know that climate change is caused mostly by human activities, not natural changes in the environment?” (see p. 7)

## METHODS

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In April and May 2012, we surveyed a nationally representative cohort sample of adult Americans who had participated in one of our prior surveys assessing their attitudes and beliefs about global warming. These previous surveys had been conducted 10/20/2011 – 11/16/2011; 04/22/2011 – 05/11/2011; 6/24/2010-7/22/2010; or 5/14/2010 – 6/1/2010.

Details on the prior surveys are described here:

Leiserowitz, A., Maibach, E., Roser-Renouf, C., Smith, N. & Hmielowski, J. D. (2011) *Climate change in the American Mind: Americans' global warming beliefs and attitudes in November 2011*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication.  
<http://environment.yale.edu/climate/files/ClimateBeliefsNovember2011.pdf>

Leiserowitz, A., Maibach, E., Roser-Renouf, C., & Smith, N. (2011) *Climate change in the American Mind: Americans' global warming beliefs and attitudes in May 2011*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication.  
<http://environment.yale.edu/climate/files/ClimateBeliefsMay2011.pdf>

Leiserowitz, A., Maibach, E., Roser-Renouf, C., & Smith, N. (2010) *Climate change in the American Mind: Americans' global warming beliefs and attitudes in June 2010*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication.  
<http://environment.yale.edu/climate/files/ClimateBeliefsJune2010.pdf>

Leiserowitz, A., Smith, N. & Marlon, J.R. (2010) *Americans' Knowledge of Climate Change*. Yale University. New Haven, CT: Yale Project on Climate Change Communication.  
<http://environment.yale.edu/climate/files/ClimateChangeKnowledge2010.pdf>

Respondents to the prior surveys were classified into one of six audience segments, based on 36 questions assessing their beliefs about climate change, issue involvement, policy support, and conservation behaviors; latent class analysis was used to identify the six groups. The segments range from the Alarmed – who are certain climate change is real, dangerous and caused by human activities, and who support policies that would reduce future climate change – to the Dismissive – who are convinced climate change is not real and that no action should be taken. For a complete description of the segments, please see the 2009 report listed below; for the most recent data on the audience segments, see the 2012 report.

Maibach, Edward, Connie Roser-Renouf & Anthony Leiserowitz. (2009). *Global Warming's Six Americas 2009: An Audience Segmentation Analysis*. Report may be accessed at:  
<http://climate.change.gmu.edu>.

Leiserowitz, Anthony, Edward Maibach & Connie Roser-Renouf & Jay Hmielowski. (2012). *Global Warming's Six Americas in March 2012 and November 2011*. Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change. Report may be accessed at: <http://environment.yale.edu/climate/files/Six-Americas-March-2012.pdf>

The re-contact survey that supplied the data reported here was fielded from April 24th to May 25th, 2012; 1,510 adults, aged 18 and older, responded, for a completion rate of 68.4 percent, and a margin of sampling error of 2.5% with 95% confidence. The sample was weighted to correspond with US Census Bureau parameters for the United States.

All respondents were asked to assess NASA, as NASA was the sponsor of this research. For comparison purposes, ten other agencies that are part of the U.S. Global Change Research Program were also assessed. Each respondent was asked to assess four agencies – NASA and three other randomly assigned agencies. As all respondents were asked to assess NASA, while only subsets were asked about the other agencies, the number of respondents assessing NASA is substantially larger than for all other agencies.

Two order experiments were embedded within the survey. Half of respondents were asked about their views on scientific research first and about climate change research next. Conversely, the other half were asked about their views on climate change research first and about their views on scientific research next. We present here the results for the “first” set of questions, respectively. That is, results reported for the scientific research set of questions are for those half or respondents who saw that set first and, correspondingly, results for the climate science research set of questions are for those who saw the climate science set first.

Additionally, we asked half of respondents their top question about climate change *prior* to visiting the NASA climate science website ([climate.nasa.gov](http://climate.nasa.gov)) and prompted them to look for the answer to their question there. The other half of respondents was asked their top question about climate change only *after* visiting the NASA climate science website. As viewing the site influenced the top question, we report only the responses of those who were asked their top question first. Results from these order experiments will be presented in academic papers and are available upon request.

Furthermore, we were able to observe where the respondents went on [climate.nasa.gov](http://climate.nasa.gov). We coded each page that a respondent visited into one of 13 categories; specific page coding is available on request.