

Acceptance of Global Warming Among Americans Moderately Increases in Late 2014

a report from the National Surveys on Energy and Environment

Introduction

The fall 2014 version of the National Surveys on Energy and Environment (NSEE) finds 60% of Americans believe that there is solid evidence of increasing temperatures on Earth. These findings represent a moderate rebound from the three-year low posted in the spring of 2014, when 55% of Americans held this position. The 5% increase over those six months brings the overall acceptance rate close to the seven-year NSEE average of 62%, but is still far below the high (72%) posted in fall 2008.

Key Findings:

1. The percentage of Americans that think there is solid evidence of global warming rose by 5% between the spring and fall of 2014, with a simultaneous 9% decrease in the number of Americans who do not believe there is evidence of increasing temperatures on Earth.
2. The longstanding partisan divide regarding the acceptance of global warming remains strong with Democrats 24% more likely than Republicans to state that there is solid evidence of increasing temperatures on the planet.
3. Almost 6 out of 10 Americans indicate that they have seen significant changes in the weather patterns in their area in the past few years.
4. An increasing number of Americans attribute their acceptance of global warming to severe droughts in the United States, with residents of the western states most likely to report that droughts had a very large effect on their belief that the Earth is getting warmer.
5. A growing percentage of individuals who do not think there is evidence of global warming attribute their position to a belief in perceived scientific evidence disproving the existence of global warming.

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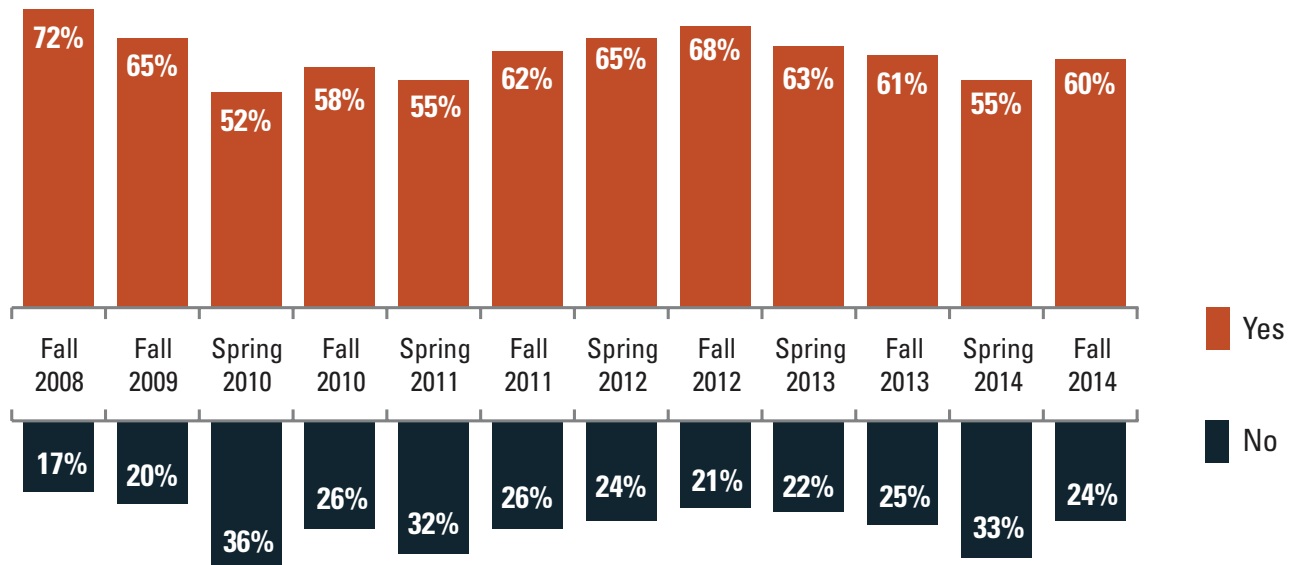
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Public Acceptance of Global Warming Increases in 2014

After a moderate decline in the number of Americans that believe there is solid evidence of global warming was found in the spring of 2014, the latest version of the NSEE indicates an increasing percentage of Americans believe global warming is occurring. This rebound comes as the National Aeronautic and Space Administration (NASA) and the National Oceanographic and Atmospheric Administration (NOAA) recently reported that 2014 was the warmest year since records began to be kept in 1880.¹ The fall 2014 NSEE finds 60% percent of Americans believe there is solid evidence of increasing global temperatures over the last four decades, marking a five percent increase since the fielding of the spring 2014 NSEE (see *Figure 1*). The latest NSEE results find an even greater change in the number of Americans who do not see solid evidence of global warming, with the percentage holding these views dropping by 9 points (33% to 24%) between the spring and fall of 2014. The overall belief levels in the latest round of the NSEE are consistent with the average of all NSEE iterations between 2008 and 2014: 62% of Americans believe global warming is occurring, while 25% do not.

Figure 1
American Views on the Existence of Evidence of Global Warming
2008-2014

“Next, I would like to ask you a few questions on the issue of global warming. From what you’ve read and heard. Is there solid evidence that the average temperature on earth has been getting warmer over the past four decades?”



Note: responses for “don’t know” not shown

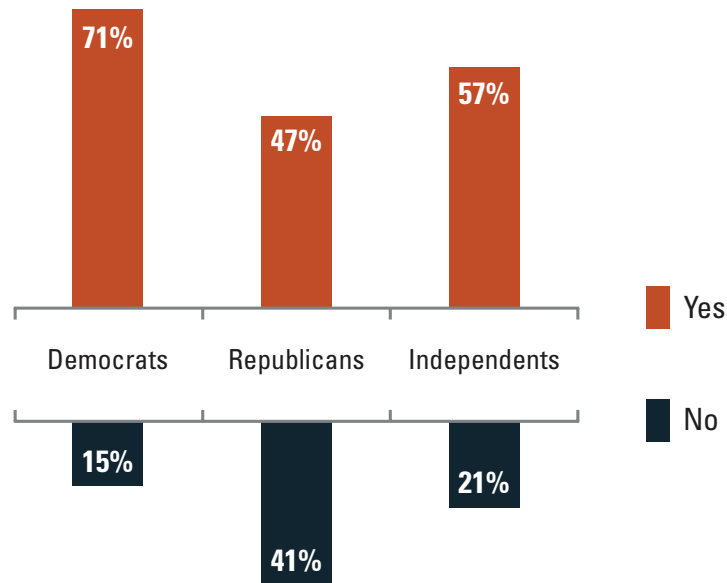


Partisan Divide on the Existence of Global Warming Remains Deep

The partisan affiliation of Americans has consistently been shown to be one of the most potent predictors of an individual’s view on the existence of global warming. The fall 2014 version of the NSEE finds further evidence that a major partisan divide exists regarding perceptions of global warming. The results show a 24 point difference between Democrats and Republicans in terms of their belief that there is solid evidence of global warming. While 71% of Democrats maintain the view that global warming is occurring, only 47% of Republicans share that view (see *Figure 2*). Americans who describe their party affiliation as independent hold views regarding global warming that are situated fairly evenly between their Democrat and Republican counterparts, with 57% of this group indicating that there is solid evidence of global warming.

Figure 2
Views on the Existence of Evidence of Global Warming, by Partisan Affiliation

“Next, I would like to ask you a few questions on the issue of global warming. From what you’ve read and heard. Is there solid evidence that the average temperature on earth has been getting warmer over the past four decades?”



Note: responses for “don’t know” not shown

Most Americans See Changes in Local Weather Patterns

The fall NSEE results indicate that a solid majority of Americans (58%) have personally seen significant changes in the weather patterns where they live, with 40% reporting that they have not seen such changes in local weather. Among the nearly 6 out of 10 Americans that have experienced significant weather changes in recent years, a number of changes were reported. As shown in *Table 1*, the most commonly reported changes in local weather were more extreme and varied weather and seasons (20%), hotter local temperatures (14%), colder and snowier seasons (13%), and stronger and increasing number of storms (10%).

Table 1
Types of Weather Changes Reported by Americans who have Seen Changes in Their Area

“Over the past few years have you personally seen any significant changes in weather patterns where you live? What changes have you seen personally?” [open end]

Type of Change Reported	Percent Responding
More extreme and varied weather and seasons	20%
Hotter local temperatures in general	14%
Seasons colder and snowier	13%
Stronger and increasing number of storms	10%
Seasons generally different	8%
Winters shorter and less snow	8%
Colder temperatures in general	7%
Floods and wetter conditions	6%
Drought and drier conditions	5%
Summers hotter and drier	4%
Other	5%
Not sure	2%



Drought Increasing as a Factor Influencing Acceptance of Global Warming

The results of the fall 2014 NSEE show that an increasing number of Americans who believe that global warming is occurring attribute that belief to a very large degree to severe droughts within the United States. For the first time since the NSEE began in 2008, half of the respondents who think global warming is happening state that severe droughts have had a very large effect on their view on this matter (see Table 2).

Table 2
Effect of Severe Droughts across the United States on a Respondent’s Belief that Global Warming is Occurring

“Next I would like to read you a list of factors that may or may not have had an effect on your view that the earth is getting warmer. For each factor that I mention, please indicate if it has had a very large, somewhat large, not too large, or no effect on your view that the earth is getting warmer. (Factor stated) Severe Droughts in Areas across the United States.”

	Fall 2008	Fall 2009	Spring 2010	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014
Very Large	47%	N/A	29%	41%	29%	35%	29%	39%	28%	37%	45%	50%
Somewhat Large	32%	N/A	38%	35%	39%	55%	41%	44%	54%	49%	40%	36%
Not Too Large	8%	N/A	14%	13%	17%	6%	18%	8%	11%	9%	8%	7%
No Effect	9%	N/A	14%	10%	14%	3%	9%	6%	5%	5%	5%	5%
Not Sure	3%	N/A	5%	2%	1%	2%	3%	3%	3%	1%	2%	2%

As might be expected given strikingly different drought conditions across the United States,² individuals living in drought stricken regions are significantly more likely to attribute their acceptance of global warming to the presence of severe droughts across the nation. As can be seen in Table 3, 61% of respondents from the drought ravaged west who believe global warming is occurring said that the severe droughts in the United States had a very large effect on their position on this issue. Comparatively, only 52% of residents of the northeast, 45% of those living in the south, and 44% of midwesterners who think global warming is occurring attribute their view in very large part to drought conditions across the nation.

Table 3
The Effect of Severe Droughts across the United States on a Respondent’s Belief that Global Warming is Occurring, by Region

“Next I would like to read you a list of factors that may or may not have had an effect on your view that the earth is getting warmer. For each factor that I mention, please indicate if it has had a very large, somewhat large, not too large, or no effect on your view that the earth is getting warmer. (Factor stated) Severe Droughts in Areas across the United States.”

	Very Large Effect	Somewhat Large Effect	Not Too Large Effect	No Effect	Not Sure
Northeast	52%	33%	10%	3%	2%
South	45%	44%	6%	5%	1%
Midwest	44%	37%	7%	9%	4%
West	61%	27%	7%	4%	2%

Those Expressing Doubt in Climate Change Increasingly Cite a Belief in Disproving Scientific Evidence

Among the nearly 1 in 4 Americans who do not think that global warming is happening, their opinions appear to be increasingly shaped by a belief that there is scientific evidence countering global warming. The fall 2014 NSEE results show that 25% of these respondents strongly attribute their view to a belief in perceived disproving scientific evidence. This is the highest level found since the question became part of the NSEE in the fall of 2010, and 12% higher than in the fall 2013 iteration of the survey (see *Table 4*).

Table 4
The Effect of Perceived Scientific Evidence Disproving the Existence of Global Warming on a Respondent’s Belief that Global Warming is Not Occurring

“I would like to read you a list of factors that may or may not have had an effect on your view that global warming is NOT occurring. For each factor that I mention, please indicate if it has had a very large, somewhat large, not too large, or no effect on your view that global warming is not occurring: (Factor stated) Scientific evidence that disproves the existence of global warming.”

	Fall 2010	Spring 2011	Fall 2011	Spring 2012	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014
Very Large	16%	N/A	13%	20%	18%	19%	13%	20%	25%
Somewhat Large	31%	N/A	40%	35%	23%	22%	31%	23%	22%
Not Too Large	20%	N/A	14%	8%	14%	14%	15%	18%	20%
No Effect	32%	N/A	29%	36%	44%	43%	40%	38%	31%
Not Sure	<1%	N/A	5%	2%	2%	2%	<1%	1%	2%



Methods

The following report contains the results of a telephone survey of 942 adult (age 18 or older) residents of the United States between October 6 and November 6, 2014. Respondents were interviewed in English on both landlines (519) and cell phones (423) by the staff of the Muhlenberg College Institute of Public Opinion (MCIPO) in Allentown, Pennsylvania on the Institute's Computer Aided Telephone Interviewing (CATI) system. Of the 423 cell phone respondents, 348 had no landlines in their household. Both the landline and cell phone samples were provided by the Marketing Systems Group (MSG), Horsham, Pennsylvania. Both landline and cell phones were chosen randomly from sampling frames of United States landline and cell numbers provided by MSG.

With a randomly selected sample of 942 respondents the margin of error for the surveys is +/- 3.5% at a 95% level of confidence. Margins of error for questions with smaller sample sizes will be larger. In addition to sampling error, one should consider that question wording and other fielding issues can introduce error or bias into survey results. The sample data has been weighted by age, race, educational attainment, income and gender to reflect 2013 population parameters for these factors provided by the United States Census Bureau. The calculation of sampling error takes into account design effects due to the weighting identified above. In order to reach a representative sample of adult Americans both landlines and cell phones are called up to 10 times. The response rate for this survey as calculated using the American Association of Public Opinion Research (AAPOR) RR3 formula is 15%. Due to rounding, the totals provided in tables may not equal 100. The full instrument will be available upon release of subsequent reports in spring 2015. The instrument was designed by Christopher Borick of Muhlenberg College, Barry Rabe of the University of Michigan, and Erick Lachapelle of the University of Montreal, with valuable input from Kirsten Engle of the University of Arizona. For more detailed information on the methods employed please contact the MCIPO at 484-664-3444 or email Dr. Borick at cborick@muhlenberg.edu.

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Notes

1. Cole, S. and Leslie McCarthy. (2015, January 16). 2014 warmest year in modern record. *NASA Global Climate Change*. Retrieved from <http://climate.nasa.gov/news/2221/>
2. Fuchs, B. (2015, January 27). U.S. Drought Monitor. The National Drought Mitigation Center. Retrieved from <http://droughtmonitor.unl.edu/>

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