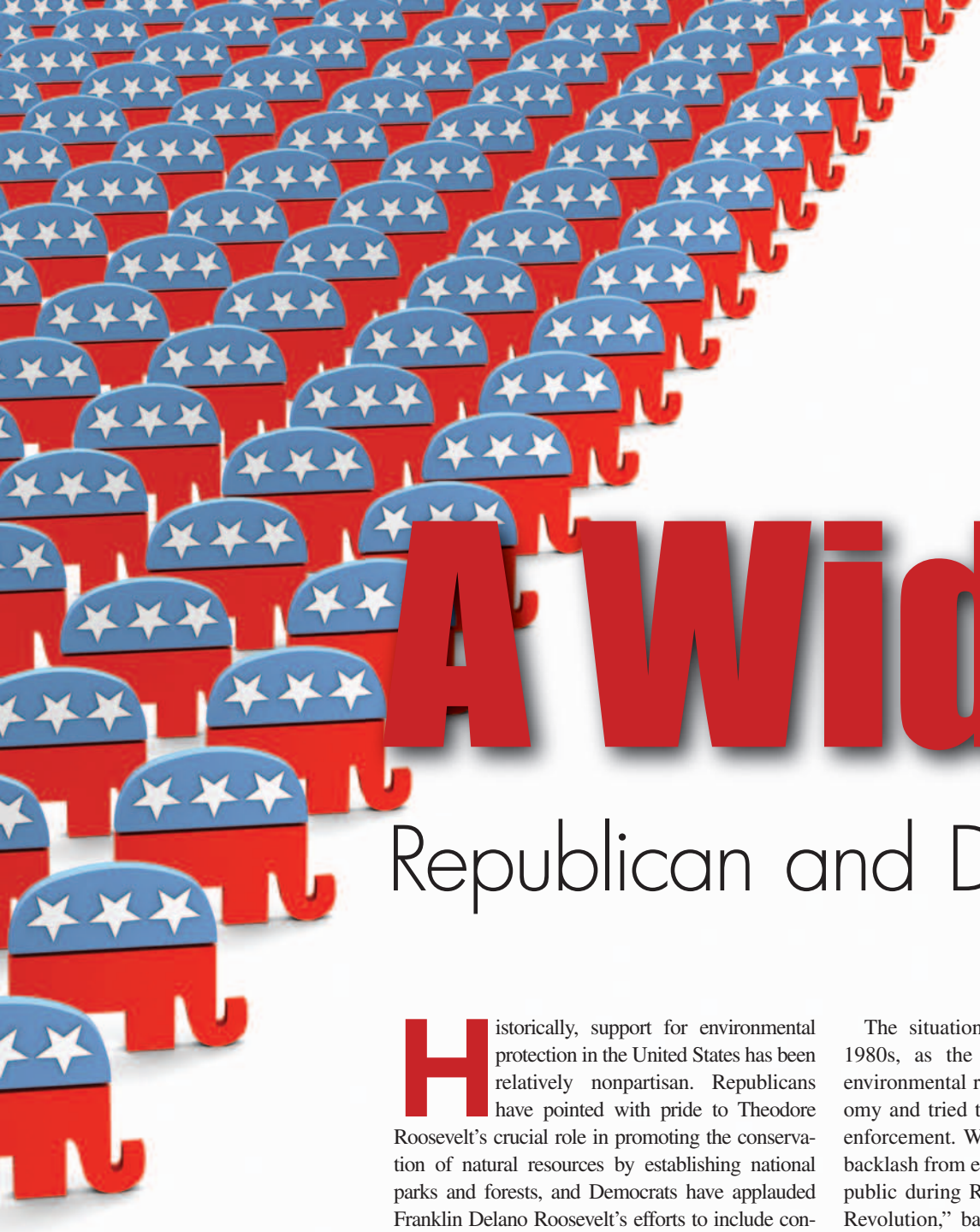
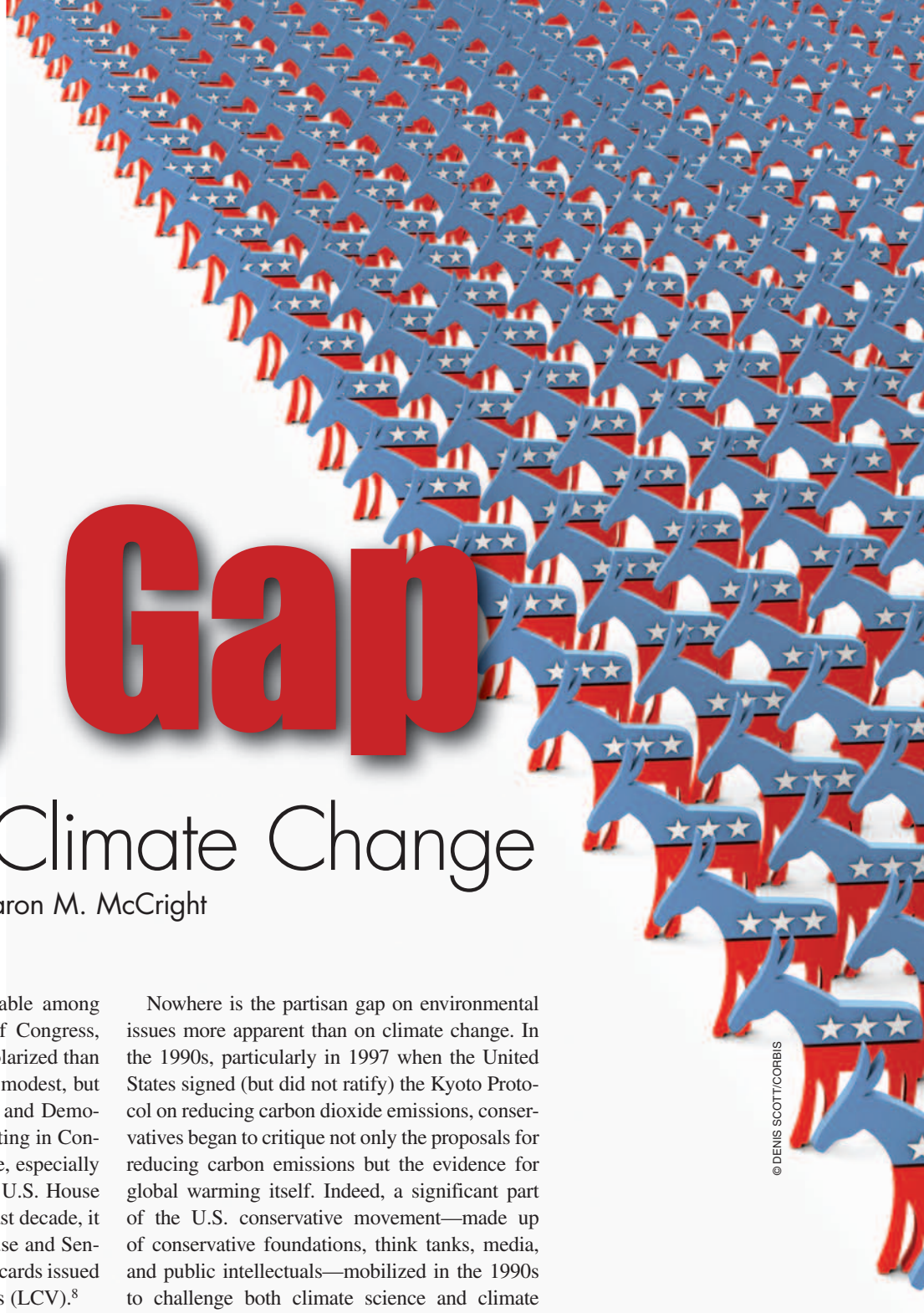


A Widen

Republican and Democratic

Historically, support for environmental protection in the United States has been relatively nonpartisan. Republicans have pointed with pride to Theodore Roosevelt's crucial role in promoting the conservation of natural resources by establishing national parks and forests, and Democrats have applauded Franklin Delano Roosevelt's efforts to include conservation as part of the New Deal via the Soil Conservation Service and related programs. Especially notable was how Richard Nixon collaborated with a Democratic Congress by signing several of the United States' most important pieces of environmental legislation into law in the late 1960s and early 1970s.[1]

The situation began to change in the early 1980s, as the Reagan administration labeled environmental regulations a burden on the economy and tried to weaken them and reduce their enforcement. While this stimulated a temporary backlash from environmentalists and much of the public during Reagan's first term,[2] the "Reagan Revolution," based on the theme that "government is the problem, not the solution," provided electoral success for the Republican Party for a quarter century.[3] The antienvironmental orientation of the Republican Party became salient again following the Newt Gingrich–led Republican takeover of Congress in 1994, sparking a modest negative reaction from the public,[4] and has been greatly amplified during the George W. Bush administration[5] but with little discernible political cost—probably because the war on terror and the Iraq war have until recently dominated the policy agenda.[6] A consequence of these trends has been a growing divide along party lines over environmental protection, among other government programs.



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ing Gap

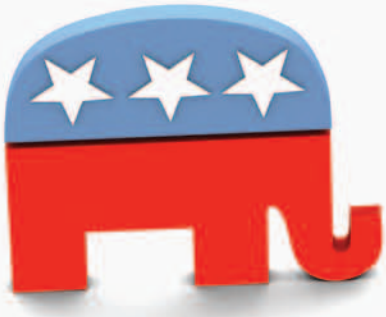
Views on Climate Change

by Riley E. Dunlap and Aaron M. McCright

The divide has been most noticeable among political elites, such as members of Congress, who tend to be more ideologically polarized than the general public. What had been a modest, but significant, difference in Republican and Democratic levels of pro-environmental voting in Congress since 1970 has grown over time, especially after the Republican takeover of the U.S. House of Representatives in 1994.[7] In the past decade, it has become a chasm in both the House and Senate, as reflected in recent voting scorecards issued by the League of Conservation Voters (LCV).[8]

Nonetheless, partisan differences in support for environmental protection among the general public remained relatively modest until recently. For example, from the early 1970s until the mid-1990s, support for increased spending on environmental protection by self-identified Democrats was typically only around 10 percent higher than for self-identified Republicans.[9] The gap began to widen in the late 1990s, likely reflecting voters' tendency to follow cues from party leaders and political pundits.

Nowhere is the partisan gap on environmental issues more apparent than on climate change. In the 1990s, particularly in 1997 when the United States signed (but did not ratify) the Kyoto Protocol on reducing carbon dioxide emissions, conservatives began to critique not only the proposals for reducing carbon emissions but the evidence for global warming itself. Indeed, a significant part of the U.S. conservative movement—made up of conservative foundations, think tanks, media, and public intellectuals—mobilized in the 1990s to challenge both climate science and climate policy.[10] Conservative activists wrote hundreds of documents (including policy briefs, books,



press releases, and op-eds), held numerous policy forums and press conferences, appeared regularly on television and radio programs, and testified at congressional hearings on global warming.[11] It would appear that the vigorous conservative campaign against climate science (particularly the findings of the Intergovernmental Panel on Climate Change (IPCC)) and climate change advocates (especially Al Gore) has contributed to leaders of the Republican Party adopting a highly skeptical view of global warming.

Gallup Poll results on global warming spanning a decade, including results from Gallup's 2008 Environment Poll conducted 6–9 March,[12] suggest that this skepticism among Republican and conservative elites (particularly leading conservative media figures)[13] has led rank-and-file Republicans in the electorate to follow suit. Currently a very large gap exists between self-identified Republicans and Democrats in terms of perceptions of global warming.[14]

Is Global Warming Occurring?

Perhaps the most basic issue is whether the public believes that global warming is occurring, which the IPCC asserts to be the case with considerable confidence in its 2001 report and with even more confidence in its 2007 report.[15] Asked in the 2008 Gallup poll when the effects of global warming will begin to happen, 61 percent of respondents said, "they have already begun."[16] This is a moderate increase from 1997, when only 48 percent gave this response, but represents a significant shift from a large minority to a solid majority of the public. However, as shown in Figure 1 on this page, while more than three-fourths of Democrats (76 percent) believe global warming is already happening, only 42 percent of Republicans share that view in 2008.

The resulting 34 percent gap stands in stark contrast to 1997, when nearly identical percentages of Republicans and Democrats (48 and 52 percent, respectively) indicated that global warming was already happening. Thus, despite all the attention given to global warming in the media, including coverage of IPCC reports, Republicans have become somewhat less likely over the past decade to believe that global warming is already occurring (from 48 to 42 percent), while Democrats have become much more likely to hold this belief (from 52 to 76 percent).

Is Media Coverage Exaggerated?

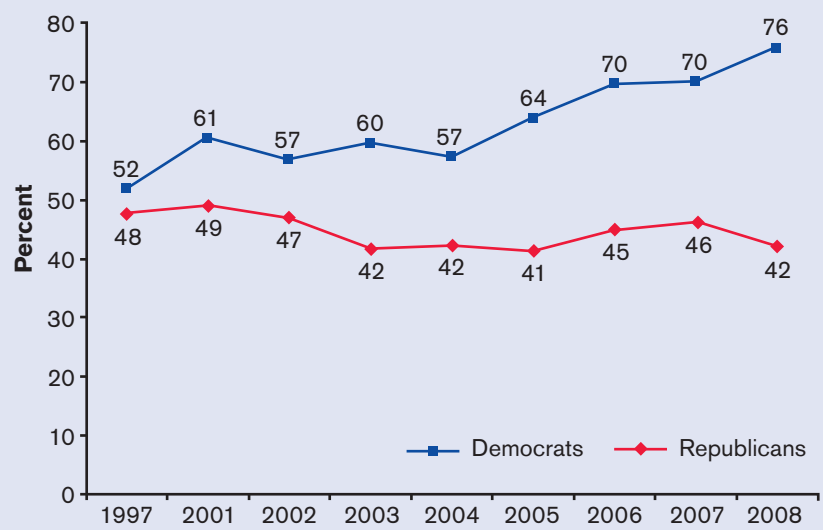
The average person obtains information on global warming from news media, and on the surface, it appears that public views concerning media coverage of global warming have been relatively stable over the past decade. The belief that the seriousness of global warming is generally exaggerated has increased very slightly since 1997, rising from 31 percent to 35 percent in 2008.[17] However, this stability masks very different trends among Democrats and Republicans, as shown in Figure 2 on page 29.

While the percentage of Democrats who view the news about global warming as being exaggerated has declined moderately, from 27 percent in 1997 to 17 percent in 2008 (the latter up a bit from recent years), the percentage of Republicans holding this view has increased significantly—from 37 percent to 59 percent—over the same time period. The result is a 42 percent difference between adherents of the two major parties in 2008. Growing skepticism about news coverage of global warming clearly goes hand-in-hand with Republicans' declining belief that it is already occurring and is likely a contributing factor to their growing skepticism.

Is There a Scientific Consensus?

Despite the growing consensus over climate change in the scientific community, as reflected in IPCC reports, Republican spokespersons and conservative commentators continue to challenge the scientific consensus on global warming by highlighting the views of a modest number of skeptic or "contrarian" scientists who question the IPCC's conclusions.[18] One result is that in their efforts to

Figure 1. Respondents saying that the effects of global warming have already begun, by party



provide "balanced coverage," U.S. media have given disproportionate attention to these skeptics, creating the impression of less scientific consensus on global warming than exists within the mainstream scientific community.[19] As a consequence, American newspapers' portrayal of global warming as a scientifically controversial issue differs significantly from the image presented by newspapers in other nations, where climate change is widely reported as scientifically established.[20]

Figure 2. Respondents saying that the seriousness of global warming is generally exaggerated in the news, by party

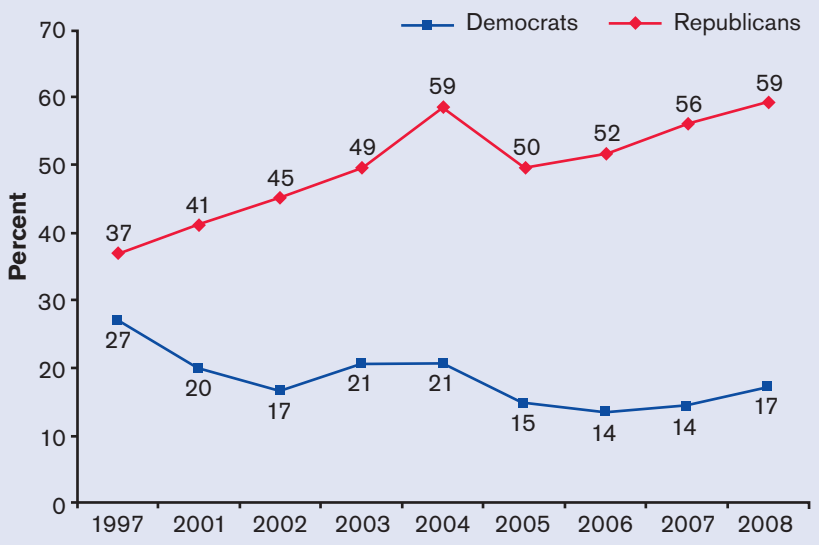
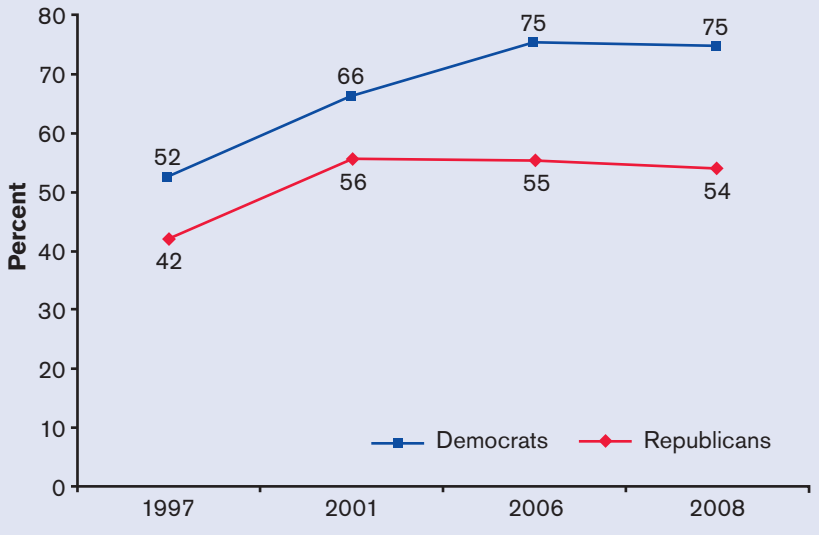


Figure 3. Respondents saying that most scientists believe global warming is occurring, by party



Nonetheless, a noticeable increase has occurred over the past decade in the percentage of Americans who agree that most scientists believe that global warming is occurring, from 48 percent in 1997 to 65 percent in 2008, as shown in Figure 3 on this page.[21] Not surprisingly (in view of the trends observed for the two prior questions), the belief that most scientists accept global warming as empirically established has increased more among Democrats (from 52 to 75 percent) than among Republicans (from 42 to 54 percent). The resulting difference of 21 percent in the 2008 poll is lower than for the prior questions but still substantial. Furthermore, it is striking that Republican recognition of the growing scientific consensus has stayed virtually flat (actually, showing a slight decline of 2 percent) during the past seven years.

Human-Caused or Natural Change?

The IPCC has not only asserted that global warming is occurring, but that to a considerable extent it is caused by human activities such as burning fossil fuels. Gallup has tracked Americans' views on this issue only since 2001, and the results have been relatively stable since then.[22] In 2008, 58 percent of the surveyed population sees global warming as due more to human activities than natural causes, slightly lower than the 61 percent giving this response in 2001.

Once again, this near-stability in the overall population hides differing trends among Republicans and Democrats, as shown in Figure 4 on page 30. While Republicans' belief in human-induced global warming has declined 13 percentage points from 2001 to 2008 (53 to 40 percent), Democrats' belief has risen slightly, from 70 to 72 percent. The result is a 32 percent gap between adherents of the two major parties in terms of agreeing with the IPCC that there is a high probability that observed warming has been caused, to a significant degree, by human activities.

Is Global Warming a Threat?

The last global warming question asks whether global warming poses a serious threat to the respondent or his or her way of life—an issue much discussed but treated judiciously in IPCC reports. The percentage of Americans viewing global warming as a serious threat to themselves or their way of life during their lifetimes has moderately increased, from 25 percent in 1997 to 40 percent in 2008.[23]

Unlike the results presented in Figures 1, 2, and 4 (where an increase in Republican skepticism was apparent), Figure 5 on page 31 shows modest growth among Republicans who view global warming as a serious threat—from 20 percent in 1997 to 26 percent in 2008. The increase among Democrats has been considerably greater, from 31 to 49 percent, resulting in a current gap of 23 percentage points between parties. Thus, while virtually half of Democrats currently view global warming as posing a serious threat within their lifetimes, only one-quarter of Republicans feel similarly.

Summarizing the Trends

Overall, the Gallup results suggest rather modest changes in Americans' views of global warming over the past decade.[24] The percentage of Americans who view global warming as already happening has moderately increased, as has the percentage who believe that a majority of scientists think global warming is occurring. As a result, a majority of Americans now endorse both views (61 and 65 percent, respectively, up from 48 percent for both items in 1997). The percentage saying that global warming will pose a serious threat within their lifetimes has also increased moderately, although it is still a minority position at 40 percent (up from 25 percent in 1997). In contrast, there has been a very slight increase in the percentage (from 31 to 35) saying that the seriousness of global warming has been exaggerated. Finally, the percentage agreeing that global warming is due more to human activities than natural changes has remained nearly unchanged since 2001 (from 61 to 58 percent).

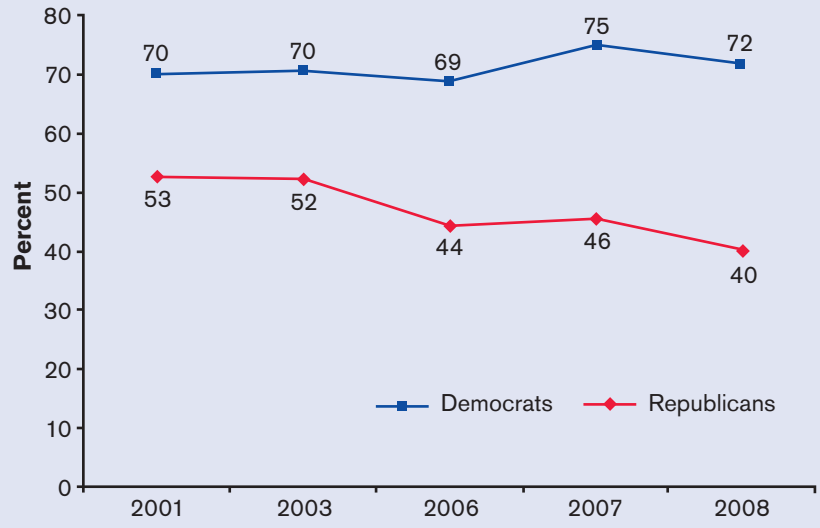
What these overall trends generally mask, however, are highly divergent trends among Republicans and Democrats. As noted above, the proportions of Democrats agreeing that global warming is already happening, that most scientists believe it is occurring, and that it poses a serious threat have increased substantially over the past decade. In contrast, the proportion of Republicans agreeing that global warming is already happening has declined a bit, while the proportions agreeing that most scientists believe global warming is occurring and that it poses a serious threat have both increased only modestly. The proportion of Republicans who believe news of global warming's seriousness is exaggerated has grown considerably over the past decade, while the proportion of Democrats expressing this view has declined. A similar pattern of diverging partisan views has also occurred on the issue of attributing global warming to human activities.

These trends have led to stark differences in Republicans and Democrats' current views of global warming. The claim that environmental protection would be a "motherhood" issue that would unite the nation, commonly made in the early 1970s, has clearly not come to pass—particularly when it comes to global warming.

Party Polarization and Cues from Elites

The above results for the multiple beliefs about global warming deserve explanation, and scholarly work on political polarization is helpful in this regard. While the bulk of the evidence suggests that the two political parties have become more ideologically polarized in recent decades, University of Maryland political scientist Geoffrey Layman and colleagues note that clarifying the causes amounts to a "chicken and egg problem." Some analysts see polarization as elite-driven and others as driven by partisan members of the public, but Layman and colleagues lean toward the former while noting that "party activists" as well as elites may play a crucial role.[25] Similarly, while skeptical about sweeping claims of culture

Figure 4. Respondents saying that the changes in the Earth's temperature over the last century are due more to human activities than natural changes, by party



wars, Morris Fiorina, a Stanford University professor and senior fellow at the Hoover Institution, and Samuel Abrams, a research fellow at Harvard University, see increased polarization having occurred between the two parties—which they term "party sorting" to refer to how groups of people in a population sort out in ways that heighten their partisan differences.[26] Like Layman and his colleagues, Fiorina and Abrams argue, "There seems to be general agreement that party sorting is largely a top-down process wherein the more visible and active members of a party, especially its elected officials and party activists, sort first and provide cues to voters that party positions are evolving."[27]

Stanford University professor Jon Krosnick and colleagues observed such party sorting on global warming in their study of the impacts of heightened attention to climate change in late 1997 stimulated by the White House Conference on Climate Change that October and the Clinton administration's endorsement of the Kyoto Accord. They found a modest but significant increase in the salience of global warming between their September and October 1997 national survey and their subsequent follow-up survey of December 1997 to February 1998, but only a limited change in overall attitudes.[28] The limited change, however, hid opposing trends between adherents of the two parties, as Krosnick and colleagues found that, "Democratic citizens moved toward the administration's point of view at the same time that Republican citizens moved away."[29] The scholars conclude, "This kind of polarization may be particularly likely for a politicized issue like global warming, in which the Democratic and Republican parties take clear sides."[30] Finally, and importantly, they found that party sorting was more pronounced among those who said they knew little about global warming, prompting the authors to reason that such individuals were the most likely to look to trusted leaders for cues.[31]

Evidence of Party Polarization

Results from the Gallup polls show that this general trend of party sorting vis-à-vis global warming beliefs first identified by Krosnick and colleagues has not only endured but has increased since 1997. In addition to the preceding figures, evidence comes from examining the correlations between party affiliation and beliefs about global warming. Increasing correlations over time provide strong evidence of party sorting, and that is exactly what we find.

Table 1 on page 32 shows Pearson correlation coefficients for the correlation of each available combination of party affiliation and belief about global warming between 1997 and 2008. The Pearson coefficient ranges from –1 (a perfect negative correlation) to +1 (a perfect positive correlation), with 0 indicating no relationship. The increasing values of the Pearson coefficients across each row are quantitative evidence for greater party sorting over time, and they statistically validate the growing polarization visually portrayed in Figures 1–5.

To strengthen the case for the existence of party sorting, it is important to demonstrate that these correlations between party affiliation and climate change beliefs hold up when statistically controlling for key demographic variables such as sex, age, race, income, and education. Doing so increases the confidence that the correlations are "real" relationships and not spurious ones, possibly caused by one or more characteristics that could influence both party identification and views of global warming.

Table 2 on page 32 displays the results of a series of regression analyses predicting each of five global warming beliefs that strengthen the case for the existence of party sorting. To simplify the presentation, only results using 2008 data have been reported.[32] For each of the five beliefs about global warming, two regression models were run. The first one (A) includes only party affiliation as a predictor of global warming beliefs, while the second one (B) includes party affiliation plus the five demographic variables. The entries in Table 2 are standardized regression coefficients. The magnitude of a standardized regression coefficient indicates the magnitude of that variable's effect on the variable being predicted (in

Figure 5. Respondents saying that global warming will pose a serious threat to them or their way of life in their lifetimes, by party

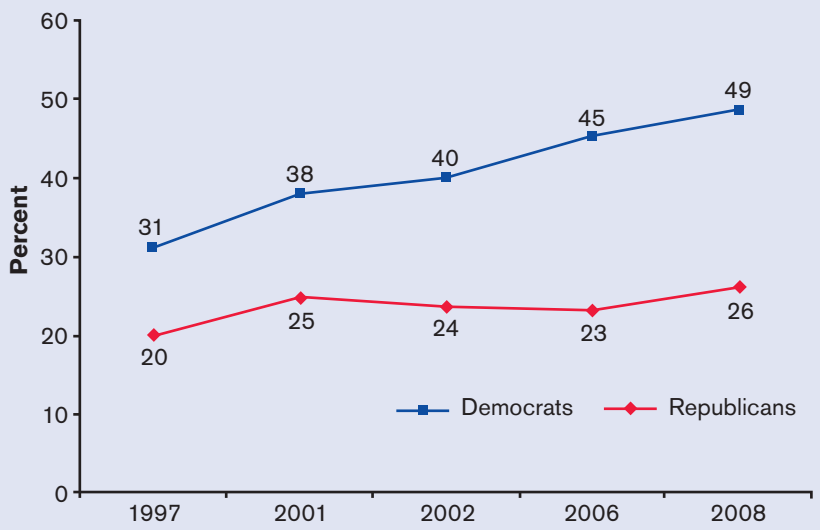


Table 1. Correlations between party affiliation and beliefs about global warming, 1997–2008

Global warming belief	1997	2001	2002	2003	2004	2005	2006	2007	2008
Timing of global warming	.092	.171	.177	.261	.258	.275	.313	.328	.392
Seriousness of global warming	.175	.262	.279	.310	.376	.343	.417	.401	.428
Scientists' beliefs about global warming	.103	.114					.220		.278
Cause of global warming		.203		.229			.288	.348	.344
Threat of global warming	.139	.147	.194				.251		.257

NOTE: Entries are Pearson correlation coefficients for the bivariate correlation between party affiliation and each global warming belief. The Pearson coefficient ranges from –1 (a perfect negative correlation) to +1 (a perfect positive correlation), with 0 indicating no relationship. All entries are statistically significant at $p<.05$.

Table 2. Ordinary least squares regression models predicting beliefs about global warming, March 2008

	Timing of global warming		Seriousness of global warming		Scientists' beliefs about global warming		Cause of global warming		Threat of global warming	
Independent variables	A	B	A	B	A	B	A	B	A	B
Party	.378***	.385***	.414***	.394***	.257***	.263***	.332***	.336***	.240***	.221***
Sex		.113***		.105***		.077*		.126***		.084**
Age		–.088**		–.051		–.097**		–.070*		–.191***
Race		–.047		.060*		–.056		–.070*		.066*
Income		.042		–.086**		.012		–.031		–.052
Education		.095**		.008		.049		.070*		.009
Adjusted R^2	.142	.172	.170	.192	.065	.080	.109	.133	.057	.103

NOTE: Entries are standardized regression coefficients. The magnitude of a standardized regression coefficient indicates the magnitude of the effect of an independent variable (in this case, party or the five demographics) on the dependent variable (in this case, beliefs about global warming). In Model A, where party is the only predictor variable, the standardized regression coefficient is equivalent to the bivariate correlation coefficient. In Model B, the coefficient for party represents the effect of party on the respective dependent variable when the effects of the other independent variables (the demographics) are held constant. Sample size equals 1,012.
*$p<.05$ **$p<.01$ ***$p<.001$ (two-tailed tests)

this case the respective global warming beliefs), taking into account the effects of the other predictor variables.

For each of the five global warming beliefs, the effect of party affiliation remains largely unchanged when controlling for the five demographic characteristics that might be expected to reduce the correlation between party affiliation and global warming beliefs. These results, which clearly suggest that the relationships between party affiliation and views of global warming are not spurious, strengthen the case for party sorting on global warming.

As noted above, Krosnick and colleagues found evidence of partisan polarization on global warming surrounding the Clinton administration's Conference on Climate Change and the Kyoto Conference. Further, they discovered that party sorting was more pronounced for those citizens who said they knew little about global warming than for those reporting more knowledge about global warming.[33]

In the ten Gallup Polls on global warming spanning the period 1997–2008, respondents were also asked how well they understood global warming.[34] Here, respondents are divided into two groups in each year's sample: those who report understanding global warming "not very well" or "not at all" and those who report understanding global warming "fairly well" or "very well."

Table 3 on page 33 shows the same correlations reported in Table 1, but separately for individuals reporting higher

Table 3. Correlations between party affiliation and beliefs about global warming, 1997–2008, by level of understanding

Global warming belief	1997	2001	2002	2003	2004	2005	2006	2007	2008
Individuals who report understanding global warming "Not very well" or "Not at all"									
Timing of global warming	–.115	.025	.043	.114	.098	.068	.095	.104	.128
Seriousness of global warming	**.151**	**.210**	**.256**	**.211**	**.268**	**.209**	**.281**	**.271**	**.145**
Scientists' beliefs about global warming		.024					**.129**		.033
Cause of global warming		.080		.098			.106	.036	.113
Threat of global warming	.048	.054	**.149**				**.149**		.042
Individuals who report understanding global warming "Fairly well" or "Very well"									
Timing of global Warming	**.185**	**.231**	**.244**	**.290**	**.319**	**.338**	**.364**	**.369**	**.452**
Seriousness of global warming	**.204**	**.303**	**.292**	**.354**	**.419**	**.391**	**.433**	**.415**	**.490**
Scientists' beliefs about global warming		**.168**					**.219**		**.332**
Cause of global warming		**.251**		**.272**			**.328**	**.418**	**.402**
Threat of global warming	**.217**	**.195**	**.232**				**.281**		**.304**

NOTE: Entries are Pearson correlation coefficients for the bivariate correlation between party affiliation and each global warming belief. Bold entries are statistically significant at $p<.05$.

and lower levels of understanding of global warming. For each correlation, the Pearson coefficient in the subsample of individuals who report understanding global warming "fairly well" or "very well" (shown in the lower half of the table) is greater than that in the subsample of individuals who report understanding global warming "not very well" or "not at all" (shown in the upper half of the table). In many cases, the differences between coefficients are quite large, and while all of the correlations are statistically significant for those reporting higher levels of understanding, only a minority is for those reporting lower levels of understanding.

In short, while Krosnick and colleagues found that party sorting was more pronounced among those who said they knew little about global warming, the Gallup data suggest otherwise. The analyses show that partisan polarization is more pronounced among those individuals reporting greater understanding of global warming, and this result is consistent across the five beliefs about global warming and throughout the last decade. In other words, Republicans and Democrats who believe they understand global warming reasonably well hold more divergent views compared with their presumably less-informed counterparts. The findings here coincide with Layman and colleagues' claim that party sorting is most likely to occur among individuals for whom the polarizing issue is salient,[35] at least if we assume that salience is higher for those reporting greater levels of understanding.

Potential Effects of the 2008 Presidential Election

We will soon reach the end of the George W. Bush administration, a political regime marked by a strong ideological politicization of global warming. Indeed, journalists,[36] physical scientists,[37] science advocacy organizations,[38] civil rights advocacy organizations,[39] federal whistleblowers,[40] and federal policymakers[41] have documented the Bush administration's hostility to climate policy and—perhaps more importantly—its misuse and abuse of climate science. Thus, it seems certain that regardless of who wins the upcoming presidential election, the United States will have a significantly different form of leadership on global warming than it has had under George W. Bush. How might a change in presidential leadership affect the polarization of rank-and-file Republicans and Democrats on global warming? This warrants a brief examination of Senators John McCain's (R-AZ) and Barack Obama's (D-IL) policymaking efforts and campaign positions on climate change.

A widely used measure to evaluate a congressional member's record on environmental issues is the LCV scorecard. The LCV scorecard is the annual percentage of pro-environment votes a senator or representative has cast out of the total number of environment-related votes considered that year, with absences treated as negative votes, and thus scores can range from a high of 100 to a low of 0. A lifetime LCV score is that person's career average for all years served in Congress. While McCain's lifetime LCV score is 26, Obama's is 86. Although McCain's public persona is a moderate conservative who often bucks the Republican party line (sometimes on environmental issues), LCV's analysis of his environmental policy voting record over his career reveals that it is less green than many believe. This has led to the LCV's recent endorsement of Obama.[42]

Yet there is no doubt that McCain has been a leader in the U.S. Senate in terms of recognizing the seriousness of global warming and proposing legislation (most notably the McCain-Lieberman Climate Stewardship Act) designed to reduce carbon emissions. Further, both candidates highlight the issue of global warming prominently on their official campaign Web sites. A side-by-side comparison of their policy positions on climate change reveals differences much smaller than one would expect given the polarization of the two parties over global warming. Indeed, McCain's policy positions are much closer to Obama's than they are to almost all of his Republican congressional colleagues. Both McCain and Obama support a mandatory cap on carbon emissions and a high percentage emissions reductions target by 2050 (though Obama's target is higher). Both support increasing fuel efficiency standards, though Obama has identified a specific miles-per-gallon target and a timetable for reaching it. They differ more on issues such as shifting to renewable energy sources and reducing energy consumption.[43]

The outcome of the upcoming presidential election will likely have a greater effect on the global warming beliefs of rank-and-file Republicans in the electorate than it will on the global warming beliefs of rank-and-file Democrats. An Obama presidency would, if anything, strengthen Democrats' commitment to the position that climate change is a serious problem and policies designed to reduce carbon emissions are necessary. With such an electoral outcome, we could see Republican trends toward increased skepticism continue for the next several years, especially if outspoken party leaders, right-wing television news, and right-wing talk radio commentators continue to portray climate change as a "hoax" and climate policymaking as a liberal plot to foster increased regulation of corporations.

A McCain presidency, in contrast, would represent a sea change among Republican Party leadership on the issue of climate change. Indeed, McCain is the first Republican presidential candidate to support a coherent climate policy that builds upon the international scientific consensus, even if the LCV judges it to be inferior to Obama's. If McCain becomes the next U.S. president, his views on climate change may lead to a shift in the views of some Republicans, but probably not those who have bought into the staunch skepticism of current party elites.

There is an obvious need for pollsters to monitor Americans' views of global warming carefully over the next few years, paying special attention to the possibility that the views of self-identified Republicans and Democrats may converge or continue on their divergent paths. Regardless of their paths, though, the results will have major implications for policymaking on climate change.

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The authors thank the Gallup Organization for making the data sets employed in this article available for analysis. The views expressed in this article are those of the authors and should not be attributed to the Gallup Organization.

NOTES

1. For an early statement of the nonpartisan nature of environmental issues, see D. Ogden, "The Future of Environmental Struggle," in R. Meek and J. Straayer, eds., *The Politics of Neglect: The Environmental Crisis* (Boston, MA: Houghton Mifflin, 1971).

2. R. E. Dunlap, "Public Opinion in the 1980s: Clear Consensus, Ambiguous Commitment," *Environment* 33 (October 1991): 10–15, 32–37.

3. See S. Wilentz, *The Age of Reagan: A History, 1974–2008* (New York: Harper, 2008) for a positive view of Reagan's long-term impact, and G. Anrig, *The Conservatives Have No Clothes: Why Right-Wing Ideas Keep Failing* (Hoboken, NJ: John Wiley & Sons, 2007) for a critical view of how conservatives' antigovernmental orientation has led to numerous current problems.

4. R. E. Dunlap, "An Enduring Concern: Light Stays Green for Environmental Protection," *Public Perspective* (September/October 2002): 10–14.

5. See, for example, C. Pope and P. Rauber, *Strategic Ignorance: Why the Bush Administration Is Recklessly Destroying a Century of Environmental Progress* (San Francisco, CA: Sierra Club Books, 2004).

6. S. R. Brechin and D. A. Freeman. "Public Support for Both the Environment and an Anti-Environmental President," *The Forum* 2, no. 1 (2004): article 6, http://www.bepress.com/forum/vol2/iss1/art6 (accessed 22 June 2006).

7. See C. R. Shipan and W. R. Lowry, "Environmental Policy and Party Divergence in Congress," *Political Research Quarterly* 54 (2001): 245–63; and R. E. Dunlap, C. Xiao, and A. M. McCright, "Politics and Environment in America: Partisan and Ideological Cleavages in Public Support for Environmentalism," *Environmental Politics* 10 (2001): 29.

8. League of Conservation Voters (LCV) scorecards are available at the LCV's Web site, http://www.lcv.org/scorecard.

9. Dunlap, Xiao, and McCright, note 7, page 31.

10. See A. M. McCright and R. E. Dunlap, "Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy," *Social Problems* 50 (2003): 348–73; Rep. G. E. Brown, Jr., "Environmental Science under Siege in the U.S. Congress," *Environment* 39, no. 2 (March 1997): 12–31; P. J. Jacques, R. E. Dunlap, and M. Freeman, "The Organization of Denial," *Environmental Politics* 17 (2008): 349–85; M. Lahsen, "Technocracy, Democracy, and U.S. Climate Politics," *Science, Technology & Human Values* 30 (2005): 137–69; A. M. McCright and R. E. Dunlap, "Challenging Global Warming as a Social Problem," *Social Problems* 47 (2000): 499–522; and S. Begley, "The Truth about Denial," *Newsweek* (13 August 2007): 20–29.

11. McCright and Dunlap (2003), Ibid., pages 356–58.

12. Each of the Gallup surveys used here is based on telephone interviews with nationally representative random samples of adults (age 18 years or older) in the United States. The sample size ranged from 1,000 to 1,060, and the interviews were conducted during March of each year. As is typical in most national surveys, the

Gallup Organization employs weighting procedures on the sample data to ensure that the samples are representative of the U.S. adult population. Data weights were not employed here when performing bivariate or multivariate analyses, because weighting can lead to inflated standard errors and misleading tests of significance.

13. For a recent examination of the anticlimate-change views of four leading conservative media figures, see P. Hart, "In Denial on Climate Change: Leading Pundits Reject Science on Global Warming," *Extra!* (May/June 2007), available on the Fairness & Accuracy in Reporting's Web site, http://www.fair.org/index.php?page=3418 (accessed 24 July 2008). For evidence that climate-change skepticism has clearly been adopted by a portion of the general public, see A. Leiserowitz, "American Risk Perceptions: Is Climate Change Dangerous?" *Risk Analysis* 25 (2005): 1433–42.

14. Gallup interviewers ask respondents a range of questions to ascertain their demographic, social, and political characteristics at the end of the telephone interviews. For political party identification, interviewers ask, "In politics, as of today, do you consider yourself a Republican, a Democrat, or an Independent?" For those respondents who answer "Independent," mention another party, or who do not answer the question, interviewers ask this follow-up question, "As of today, do you lean more to the Democratic Party or the Republican Party?" For Figures 1–5 "Republican" and "lean to Republican" responses and "Democrat" and "lean to Democratic" responses are combined for the sake of simplicity, but the statistical analyses in Tables 1–3 employ a five-category indicator of political partisanship: Republican = 1, lean to Republican = 2, Independent = 3, lean to Democratic = 4, and Democrat = 5 in order to maximize the variance on this variable and utilize the full sample. Across the nine years covered in the analyses, 1997 and 2001–2008, the samples of slightly more than 1,000 respondents average 337 Republicans, 328 Democrats, and 350 Independents. After the Independents are further classified into "lean to Republican" or "lean to Democratic," an average of only 96 respondents across the nine years remain as Independents.

In a preliminary version of this paper Dunlap reported the opinions of self-identified Republicans, Democrats, and Independents in response to the first question, not reclassifying leaners in response to the second question. The large category of Independents falls consistently between Republicans and Democrats in their views of global warming (typically closer to the Democrats). In this paper, the leaners are combined with Republicans and Democrats as noted above for the results reported in Figures 1–5 not only for the sake of simplicity, but because those who lean toward one party or the other are likely to vote for candidates of that party. The modest number of remaining Independents are also ignored because percentages based on such small numbers (typically under 100) are unreliable. Readers interested in how Republicans, Democrats, and Independents (including leaners) compare on the five items can find the results in R. E. Dunlap, *Partisan Gap on Global Warming Grows*, http://www.gallup.com/poll/107593/Partisan-Gap-Global-Warming-Grows.aspx (accessed 29 May 2008).

15. See Intergovernmental Panel on Climate Change, *IPCC Third Assessment Report*, http://www.ipcc.ch/pdf/climate-changes-2001/synthesis-spm/synthesis-spm-en.pdf (accessed 28 July 2008); and Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report*, http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf (accessed 15 July 2008).

16. Gallup uses this question, "Which of the following statements reflects your view of when the effects of global warming will begin to happen—they have already begun to happen, they will start happening within a few years, they will start happening within your lifetime, they will not happen within your lifetime, but they will affect future generations, (or) they will never happen?" In the 2008 poll, the percentages giving these five responses (in the order in which they were asked) were 61, 4, 10, 13, and 11 percent, with 1 percent having "no opinion."

17. Gallup uses this question, "Thinking about what is said in the news, in your view is the seriousness of global warming generally exaggerated, generally correct, or is it generally underestimated?" In the 2008 poll, the percentages giving these three responses were 35, 33, and 29 percent respectively, with 2 percent having "no opinion." This does not add to 100 percent due to rounding error.

18. See all sources in notes 10 and 13.

19. See M. T. Boykoff and J. M. Boykoff, "Balance as Bias: Global Warming and the US Prestige Press," *Global Environmental Change* 24 (2004): 125–36. Recent evidence suggests that U.S. newspapers are beginning to provide more accurate portrayals of climate science, perhaps because of growing recognition of the marginal status of skeptics within the scientific community as exemplified by Begley's 2007 cover story for *Newsweek* (note 10). For evidence of the recent change in U.S. newspaper reporting, see M. T. Boykoff, "Flogging a Dead Norm? Newspaper Coverage of Anthropogenic Climate Change in the United States and United Kingdom from 2003 to 2006," *Area* 39 (2007): 470–81.

20. See, for example, J. M. Dispensa and R. J. Brulle, "Media's Social Construction of Environmental Issues: Focus on Global Warming—A Comparative Study," *International Journal of Sociology and Social Policy* 23 (2003): 74–105.

21. Gallup uses this question, "Just your impression, which one of the following statements do you think is most accurate—most scientists believe that global warming is occurring, most scientists believe that global warming is NOT occurring, or most scientists are unsure about whether global warming is occurring or not?" In the 2008 poll, the percentages giving these responses were 65, 7, and 26 respectively, with 3 percent having "no opinion." This does not add to 100 percent due to rounding error.

22. Gallup uses this question, "And from what you have heard or read, do you believe increases in the Earth's temperature over the last century are due more to—the effects of pollution from human activities OR natural changes in the environment that are not due to human activities?" In the 2008 poll, 58 percent gave the first response and 38 percent gave the second, with 5 percent having "no opinion."

23. Gallup uses this question, "Do you think that global warming will pose a serious threat to you or your way of life in your lifetime?" In the 2008 poll, 40 percent responded "yes," 58 percent responded "no," and 2 percent had "no opinion." It should be noted that in 1997 only half of the sample was given this question.

24. More noticeable increases have been reported for items asking respondents how much they have heard about global warming and for their self-assessed understanding of the issue. For a comprehensive overview of trends in all aspects of public opinion about global warming through 2007, see M. C. Nisbet and T. Meyers, "The Polls—Trends: Twenty Years of Public Opinion about Global Warming," *Public Opinion Quarterly* 71 (2007): 444–70.

25. G. C. Layman, T. M. Carsey, and J. M. Horowitz, "Party Polarization in American Politics: Characteristics, Causes, and Consequences," *Annual Review of Political Science* 9 (2006): 83–110.

26. See M. P. Fiorina and S. J. Abrams, "Political Polarization in the American Public," *Annual Review of Political Science* 11 (2008): 563–88.

27. Ibid., page 581.

28. See J. A. Krosnick, A. L. Holbrook, and P. S. Visser, "The Impact of the Fall 2007 Debate about Global Warming on American Public Opinion," *Public Understanding of Science* 9 (2000): 239–60.

29. Ibid., page 253.

30. Krosnick, Holbrook, and Visser, note 28, page 254.

31. Krosnick, Holbrook, and Visser, note 28; and J. A. Krosnick, P. S. Visser, and A. L. Holbrook, "American Opinion on Global Warming," *Resources* 133 (1998): 5–9.

32. Regression analyses with data from 1997 to 2007 produced similar results, though the values of the standardized regression coefficients for party affiliation were smaller for the earlier years, when the correlations between party affiliation and the five global warming items were weaker.

33. See, in particular, Krosnick, Visser, and Holbrook, note 31, pages 8–9.

34. Gallup uses this question, "Thinking about the issue of global warming, sometimes called the 'greenhouse effect,' how well do you feel you understand this issue—would you say very well, fairly well, not very well, or not at all?" The percentages responding "very well" or "fairly well" have gradually risen from 61 percent in 1997 to 80 percent in 2008. Results for this item were not reported earlier because it asks for self-assessed understanding rather than an opinion on global warming. Interestingly, the percentages reporting "very well" or "fairly well" for Republicans has slowly increased from 67 percent in 1997 to 79 percent in 2008, while for Democrats the increase has been from 56 percent to 80 percent. For all but two years the figures have been within five percent of one another. See note 12 for more information.

35. Layman, Carsey, and Horowitz, note 25, page 93.

36. See C. Mooney, *The Republican War on Science* (New York: Basic Books, 2005); C. Mooney, "An Inconvenient Assessment," *Bulletin of the Atomic Scientists* 63, no. 6 (2007): 40–47; and S. Shulman, *Undermining Science* (Berkeley, CA: University of California Press, 2006).

37. See M. Bowen, *Censoring Science* (New York: Dutton, 2008).

38. See Union of Concerned Scientists (UCS), *Scientific Integrity in Policymaking*, March report (Cambridge, MA: UCS, 2004); UCS, *Scientific Integrity in Policymaking*, July report (Cambridge, MA: UCS, 2004); UCS, *Federal Science and the Public Good* (Cambridge, MA: UCS, 2008); and UCS, *Interference at the EPA* (Cambridge, MA: UCS, 2008).

39. See T. Simoncelli and J. Stanley, *Science Under Siege* (New York: American Civil Liberties Union, 2005).

40. See R. S. Piltz, "Declaration of Rick S. Piltz in Support of Memorandum of *Amici Curiae* John F. Kerry and Jay Inslee," 7 February 2007, http://www.law.stanford.edu/program/clinics/environmental/brennan/Piltz_Declaration_Final.pdf (accessed 18 July 2008).

41. See U.S. House of Representatives Committee on Government Reform—Minority Staff, Special Investigations Division, *Politics and Science in the Bush Administration*, prepared for the Office of Representative Henry A. Waxman (Washington, DC: U.S. House of Representatives, 2003); U.S. House of Representatives Committee on Government Reform—Minority Staff, *The Administration's Assault on Climate Change Science*, prepared for the Offices of Representative Henry A. Waxman and Representative John W. Olver (Washington, DC: U.S. House of Representatives, 2005); and U.S. House of Representatives Committee on Oversight and Government Reform, *Political Interference with Climate Change Science Under the Bush Administration* (Washington, DC: U.S. House of Representatives, 2007).

42. LCV, "New Hope. New Energy: LCV Endorses Barack Obama," press release, 21 July 2008, available at http://www.lcv.org/newsroom/press-releases/new-hope-new-energy.html (accessed 22 July 2008).

43. See the LCV's comparison of Obama's and McCain's positions at www.lcv.org/obama/obama-facts.html and www.lcv.org/obama/mccain-facts.html. Visit the candidates' Web sites for their comprehensive platforms on climate change, http://www.barackobama.com and http://www.johnmccain.com/ (accessed 23 July 2008).

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