

Monterey Bay Aquarium
Review of Public Opinion Surveys on Climate Change
8-4-08

Purpose of the Review

The Aquarium's Climate Change Working Group is charged with developing recommendations for a broad-based climate change initiative at the Aquarium, including an exhibit to open in 2010. The goal of this initiative is to create effective ways for the Aquarium to inspire action to address climate change. As part of the foundation for creating a successful initiative, the Working Group seeks to discover and communicate current attitudes and understanding of climate change among the Aquarium's current and potential audiences. The purpose of this review was to assist the Working Group by identifying and summarizing information from existing polling data to reveal current attitudes and understanding about climate change among these audiences. Specifically, this review focused on finding information to answer the following questions:

- What is the public's level of awareness about the issue of climate change? Do they think it's a problem? Do they know what the causes and impacts of climate change are?
- What are the public's knowledge and attitudes about the science of climate change? Do they think there is a debate within the scientific community about whether, and to what extent, climate change is occurring?
- What does the public know about what must be done to mitigate and adapt to climate change? How do they feel about behavioral actions and policy actions that must occur? Are they willing to take action, and at what level(s)?
- Who do the public believe to be credible sources of information about climate change? What types of messages about climate change resonate best?
- Does the public understand the links between climate change and the oceans? Does this (or would this) understanding increase the urgency of the issue?
- How does the issue of climate change compare with other issues important to the public?

When planning the Aquarium's Climate Change Initiative and the 2010 exhibit, the Climate Change Working Group will take these points into consideration and will take the next steps of surveying the Aquarium audience about unanswered questions and crafting messages and evaluating the best messages for reaching the Aquarium's audience.

Executive Summary

A majority of Americans and Californians believe that climate change¹ is happening. Climate change awareness among the general public in the United States and in California increased from 2006 to 2007.² In California, the perception of the seriousness of the problem is greater than in the country as a whole. About half of Californians understand that climate change will impact the state in many ways. Although it's a problem that worries a majority of Americans, most people still see the threat of the climate crisis as far away in time and space. Most people do not grasp the urgency of the climate crisis and do not understand that it will affect their lives.

¹ The terms "climate change" and "global warming" were used interchangeably in the polls and in this review.

² People, Places & Design Research, 2006. "Assessing the Public's Perceptions of Global Warming: Providing a Stimulus and Context for InMER's Northwest Passage Expedition."

A majority of Californians and Americans understand that human activities release carbon dioxide, which causes climate change. There has been a significant decline in the number of Americans who think that scientists disagree about whether global warming is actually occurring, and for the first time in a decade, that number is less than a majority.

When asked specifically if climate change requires action now, a large majority of Californians and a smaller majority of Americans say yes. Both groups support broad measures for limiting emissions. But they seem less willing, or don't understand the need, to make serious, often difficult and expensive changes to stop the climate crisis.

Californians seem ready to take action. They understand the connection between gasoline consumption, energy use and climate change. Nationwide polls show that some policies are easier than others for people to support. Some people express more resistance to policies that are likely to cost them money and require behavior change.

In open-ended questions about the importance of the problem of global warming compared to other issues of concern, global warming is very low on the list. It appears that the urgency of the climate change issue declines in the face of other pressing issues, like the economy, health care and crime. However, Americans rank climate change at the top of the list of important environmental issues.

OVERVIEW OF PUBLIC UNDERSTANDING

Sources

To answer the questions included in the “Purpose” section, we reviewed and synthesized public opinion data from various sources from 2006 to the present. These sources include research conducted nationally and in California. We also included data presented by Kevin Sweeney of the Alliance for Climate Protection at the Ocean and Climate Summit hosted by the Gulf of the Farallones National Marine Sanctuary in April 2008.

We reviewed and synthesized data from the following polls:

- Gallup United States Environment Poll, March 2008
- California Opinion Index, November 2007 (commissioned by Next 10)
- Roper Yale Survey on Action on Global Warming, September 2007
- California Public Policy Institute of California, July 2007
- Yale/Gallop/Clear Vision, July 2007
- Stanford/New Scientist, June 2007: Americans’ Evaluations of Policies to Reduce Greenhouse Gas Emissions
- California Field Poll, April 2007
- ABC/Washington/Stanford, April 2007

PRINCIPAL FINDINGS

We grouped our findings into three categories: general public awareness, knowledge and attitudes about science and causes of climate change, and addressing climate change personally, nationally, and globally.

Category 1. General Public Awareness

A. What do people know/believe about the causes of climate change?

Analysis: Many Americans believe climate change is caused by human activity; there are some who believe climate change results from natural causes; still others are not sure about the causes of climate change.

United States

- 68% of Americans believe that human activity is responsible for global warming.
- 29% believe global warming is caused mostly by natural changes in the environment.

California

- 70% of Californians believe that carbon dioxide and other gases released in the atmosphere contribute to global warming.

B. Do people think climate change is happening now?

Analysis: A majority of Americans and Californians believe that climate change is happening now.

United States

- 48% of Americans now believe that global warming is already having dangerous impacts on people (30%) or will have within the next ten years (18%).
- 84% think global warming has probably been happening.
- 82% say they know what climate change is and how it affects the environment.
- A majority (69%) believe that the earth is “heating up in a significant way.”

California

- 66% of California residents believe the effects of global warming have already begun. 11% say impacts will not happen within their lifetime but will affect future generations.

C. Where do people think climate change is having an effect?

Analysis: Americans think that climate change is occurring around the world, although specific areas were not cited in the polls.

United States

- Americans overall (61%) say global warming has already begun around the world, although specific areas were not cited in the polls.
- A majority (69%) believe that the earth is “heating up in a significant way.”

D. How does the issue of climate change compare with other issues important to the public?

Analysis: Americans rank climate change very low on the list of general issues they are concerned about. Issues that touch them personally, such as the economy and health care, rank higher.

United States

- Of 21 public policy issues, global warming ranks 20th.³
- Global warming is in the middle of a list of “problems facing the country” that Americans worry about. 40% say they worry “a great deal” about “the quality of the environment,” below the 60% who worry about the economy and the 58% who worry about the availability and affordability of health care.
- Climate change now places far ahead of any other environmental problem in the public’s mind; in an open-ended question, 33% now cite it as the world’s top environmental issue.

California

- 29% gave global warming as the answer to the open-ended question “What is the biggest environmental problem?”

³ Alliance for Climate Protection (January 2008)
Review of Climate Change Surveys

Category 2. Knowledge and attitudes about science and causes of climate change

A. Do people think climate change is a serious threat?

Analysis: There is a difference between California and the rest of the nation in attitudes about the threat of climate change.

United States

- Approximately 65% say climate change is an “urgent threat.”
- 52% of U.S. residents say climate change is “extremely” or “very” important to them.
- According to a recent Gallup Poll analysis, a majority of U.S. residents worry about climate change. And 65% of adults younger than 40 are more apt than their elders (52%) to think that global warming will be a very serious problem if left unchecked.
- 82% say they know what climate change is and how it affects the environment.

California

- 70%–80% say climate change is an “extremely or very important problem.”
- When asked, “What do you think is the most important environmental issue facing California today?” San Francisco Bay Area residents are the most likely to hold the perception that global warming is the most important environmental issue, followed by residents of Los Angeles.

B. Do Californians think climate change will have an effect on the state?

Analysis: Californians are concerned about how climate change will impact the state’s environmental and socioeconomic future.

California

- 82% of Californians believe global warming poses a serious threat to their overall quality of life in California.
- 63% think that climate change threatens the snowpack, which will cause water shortages; 66% think it will affect the health of people who live where air quality is poor; 53% think that climate change threatens farming communities and 51% think that it will threaten coastal communities.

C. Do people believe that scientists know what causes climate change?

Analysis: Even though there is consensus among scientists about the causes of climate change, half of Americans believe there is disagreement.

United States

- 48% of Americans believe that there is consensus among the scientific community that climate change is happening.⁴
- 56% still think there is substantial scientific disagreement about whether global warming is actually happening.⁵

⁴ Yale, July 2007

⁵ ABC/Washington Post/Stanford, April 2007

Category 3. Addressing climate change personally, nationally and globally

A. Do people think climate change requires immediate action?

Analysis: A large majority of Californians think that the problem of climate change requires action. Greater awareness about climate change among Californians seems to be linked to a stronger belief in the need for immediate action.⁶ Among Americans, a smaller majority think the problem requires action.

United States

- 34% think the problem requires immediate action, while 30% think some action is required.

California

- 81% think the problem requires action.
- In terms of demographics, younger Californians (59% between ages 18–49) are more likely than older Californians to think that at least some action to address global warming is needed; more women than men are more likely to think global warming is a serious issue. Support for action on global warming also increases with education and income.

B. Do people think solutions come from individual or government action or both?

Analysis: Results common to all cited research report that there are actions to reduce global warming that must come from both individuals and government at all levels. Major corporations, gas and electric utility companies, the general public and the U.S. government are all seen as having the potential to make a difference. Americans think that they, individually and collectively as a nation, can take action to help reduce global warming.

United States

- 82% agree that they could personally take actions to help reduce global warming.
- 3 in 4 Americans want their own city or local government to do more to reduce the heat-trapping gases that cause global warming.
- 70% agree that the action of a single person can make a difference in reducing global warming. More agree that the actions of a single country like the United States can make a difference in reducing global warming.

Californians

- 66% believe California should make its own global warming policies, separate from the federal government.
- 85% agree that California can reduce greenhouse gases that contribute to global warming, while expanding jobs and economic prosperity at the same time.
- 57% believe that the general public (“people like you”) can do a lot to reduce global warming, compared with 27% of Americans overall.

⁶ California Opinion Index, November 2007
Review of Climate Change Surveys

C. Have people made changes in their lives?

Analysis: Americans are willing to adjust their actions or take new actions to help negate the effects of climate change; however, there is still a significant proportion of people who don't know what to do.

United States

- A majority say they have made either major (55%) or minor changes (28%) in their lifestyles to help the environment, and that those changes are likely to be efforts to reduce energy consumption at home.
- 54% of those who consider themselves “active participants in the environmental movement” have significantly adjusted their lifestyle habits to aid the environment—more than double the percentage of those who do not consider themselves active environmentalists.
- 38% know global warming is an important issue but don't know how to think about it or what to do about it.

D. What kind of policies/laws do people support?

Analysis: The American public strongly supports a number of local and national policies to address climate change. The Stanford/New Scientist poll attempted to explore various policies and their probable costs, and then tested preferences. In response to a series of questions, the pollsters found that mandates are favored over both carbon taxes and cap-and-trade, even though all would result in some added costs. And they found that Americans are willing to take on some more costs for electricity, but not for the cost of gasoline. Other polls found support for many policies, but added costs are often a barrier. And, not surprisingly, taxes continue to be opposed. Californians seem to be behind most measures presented to them, but fewer favor any tax that would increase prices.

Taxes

- 64% of Americans oppose a 10-cent city or local fee added to each gallon of gasoline purchased, a measure designed to encourage people to use less gasoline. All revenues would fund local programs to address global warming.
- 71% of Americans strongly oppose (49%) or somewhat oppose (22%) electricity tax.
- 67% of Americans strongly oppose (48%) or somewhat oppose (19%) gas tax.
- In California, a slight majority (52%) favor tax credits for businesses and individuals that reduce greenhouse gases.
- 72% favor a carbon tax, but support declines to about half if the tax increases the prices of some goods and services.

Cap-and-Trade

- For Americans, cap-and-trade would have to be significantly cheaper to overcome public skepticism about the idea.
- 65% of Californians favor the idea of establishing a cap-and-trade system for businesses.

Subsidies

- 71% of Americans support a city or local subsidy to encourage homeowners to replace old furnaces, water heaters, air conditioners, light bulbs and insulation.
- 72% of Americans support a subsidy to encourage installation of solar panels to existing homes. Perhaps surprisingly, Americans seem willing to pay more in property taxes to support such a local program.

Mandates on automobile fuel and efficiency

- A majority of respondents in the Stanford/New Scientist Poll are against three vehicle fuel policies, which involve a blending of fuels that would result in lowering greenhouse gas emissions by varying amounts. The pollsters concluded that cost is the clear factor here since all the fuel policies they presented meant much higher prices for gasoline.
- 85% favor a 35-mpg standard on new cars.

Laws/Mandates

- California residents are highly supportive of measures that address global warming, including the tailpipe emissions law (84%) and the law to roll back greenhouse gas emissions to 1990 levels by 2020 (78%).
- Californians also strongly favor (75%) requiring automakers to improve the fuel efficiency of automobiles, even if it costs more.
- 74% of Americans support regulations to make new homes more energy efficient.

Alternative Energy

- 83% of Californians favor spending more government money on alternative fuels and energy development. In contrast, 37% of California adults support building more nuclear power plants, while 54% oppose the idea.
- The same percentage of Americans support policies that would require utilities to provide 20% renewables, even though it would likely cost the average household \$100 per year in utility bills.

Land-use policies

- 68% of Americans support regulations to reduce suburban sprawl and redevelop urban centers. They also support local policies to encourage mixed urban development.
- Despite their support for other zoning law changes, more than half of Americans (57%) indicate opposition to a policy changing their town's zoning rules to promote the construction of more apartment buildings than single-family homes.

International Laws

- 68% of Americans now favor an international treaty that goes far beyond the Kyoto Protocol, to require the United States to cut its emissions of carbon dioxide 90% by the year 2050.

Next Steps

After the analysis of the cited research, several of our questions remained unanswered:

- What does the public know about what must be done to adapt (as opposed to mitigate) to climate change?
- Are people feeling overwhelmed by the climate change issue?
- Are people unconvinced that climate change will affect them?
- Do they think all the impacts will occur in the future and will only impact other parts of the world?
- Do they think the problem is solvable?
- Would knowing about the connection between climate change and the oceans increase the urgency of the issue?

We recommend working with an evaluator to obtain the answers to these questions.

The research cited did not look at the most effective ways to communicate the urgency for action on climate change. This raises a question: What types of messages about climate change resonate best? We plan to review messaging projects and summaries of approaches, which are few since most are proprietary. Then we will decide which messages we would like to test in focus groups or by other evaluation means.