Delaware Residents' Opinions on Climate Change and Sea Level Rise

2019 Survey

Full Report of Results

Prepared by

Paul Brewer
University of Delaware's Center for Political Communication

for the

Delaware Department of Natural Resources and Environmental Control
Division of Climate, Coastal, & Energy

March 2020

ABOUT THE DIVISION OF CLIMATE, COASTAL, & ENERGY

The Division of Climate, Coastal, & Energy, housed within the Delaware Department of Natural Resources and Environmental Control, uses an integrated approach of applied science, education, policy development, and incentives to address Delaware's climate, energy, and coastal challenges. With a mission of providing leadership towards sustainable communities and environments now and for future generations, the Division works towards fostering clean energy, sustainable coasts, and a livable climate for all Delawareans.

ABOUT THE UNIVERSITY OF DELAWARE'S CENTER FOR POLITICAL COMMUNICATION

The University of Delaware's (UD) Center for Political Communication (CPC) is a nonpartisan, interdisciplinary initiative that is committed to the emerging field of political communication.

- The CPC supports collaborative, interdisciplinary teams of social scientists, who examine issues related to voting, civil rights and liberties, media effects, and intergroup relations.
- The CPC's events and programs inspire public participation in politics, engaging the next generation of public service leaders, in the United States and abroad.
- University of Delaware students expand their knowledge about political communication by minoring in political communication as undergraduates.
- The CPC supports University of Delaware students and UD departments who conduct their own initiatives to support political communication, especially research and public events.

PROJECT TEAM

Principal Author:
Paul Brewer, University of Delaware's Center for Political Communication

Contributors and Reviewers:
Jennifer de Mooy, DNREC Division of Climate, Coastal, & Energy
Jim Lee, DNREC Division of Climate, Coastal, & Energy
Susan Love, DNREC Division of Climate, Coastal, & Energy
Danielle Swallow, Delaware Sea Grant
Kelly Valencik, DNREC Division of Climate, Coastal, & Energy
Ian Yue, DNREC Division of Climate, Coastal, & Energy

FUNDING

INTRODUCTION

Attitudes, perceptions, and knowledge about climate change and sea level rise are rapidly evolving. Climate change stories are in the headlines almost daily, politicians are increasingly discussing the need to act, and events like sunny-day flooding have brought the impacts of climate change home to many here in Delaware. Given this changing landscape, it is important for decision-makers, educators, and others to have locally based and up-to-date information on public attitudes and perceptions about climate change so that plans, projects, and decisions can be specific and tailored for Delaware.

Recognizing the need to understand the public's attitudes about climate change, the Delaware Department of Natural Resources and Environmental Control (DNREC) Division of Climate, Coastal, & Energy commissioned a 2019 survey aimed at gauging how Delawareans perceive climate change and sea level rise and how strongly they support implementing actions to reduce climate change and address sea level rise in Delaware. The survey was supervised by Dr. Paul Brewer, Research Director for the University of Delaware's Center for Political Communication.

The 2019 survey is the third of its kind. In 2009, DNREC's Delaware Coastal Programs section conducted a baseline survey, drawing on phone interviews of 1,505 Delaware residents, to test respondents' knowledge of the causes and consequences of climate change (with a particular focus on sea level rise) and their support for taking climate action. A five-year update was conducted in 2014 by Delaware Coastal Programs, the then-DNREC Division of Energy & Climate, and Delaware Sea Grant. The 2014 survey used the same methodology as the 2009 survey and was largely based upon the same set of questions; 1,508 residents were surveyed by telephone (including cell phones). Results from these two surveys can be found on DNREC's website at de.gov/climatesurvey.

In the last five years, conversations surrounding climate change have expanded in the public sphere, particularly as extreme storms have become more common and states across the nation have made commitments towards reducing their greenhouse gas emissions. Moreover, the way people communicate with each other has changed, with online and mobile communications on the rise. As such, DNREC determined a need to update both the survey methodology and content for the third iteration (and second five-year update) of its statewide climate perceptions survey.

Notably, in terms of methodology, the 2019 survey introduced a mixed mode survey technique, eliciting responses from 1,126 registered Delaware voters using both phone interviews (including cell phones) and an online platform (online respondents were recruited using SMS to cell phones). In terms of content, while many of the questions on the 2019 survey were carried over from the 2014 survey, new questions examined respondent support for specific actions to reduce climate change and support for increased research on how climate change will impact

Delaware's economy, health, and communities. The 2019 survey also looked at respondents' views on the effectiveness of actions to reduce climate change and address sea level rise.

Overall, the results indicate that most Delawareans believe climate change and sea level rise are happening. Majorities also say that the state should act now to reduce the impacts of climate change and sea level rise. Furthermore, Delaware residents support a range of key strategies to reduce climate change and address sea level rise.

Results among demographic subgroups show that perceptions of climate change and sea level rise differ across gender, age, education level, and county of residence. Comparisons to national survey results reveal that Delawareans' opinions about climate change parallel views held by the broader U.S. public.

METHODOLOGY

This survey was conducted by Standage Market Research from November 17 to December 1, 2019, under a sub-contract agreement with the University of Delaware's Center for Political Communication. A representative sample of 1,126 registered Delaware voters were interviewed for the study either by telephone (601 respondents) or online (525 respondents). Interviewees were selected through random sampling.

Statistical results are weighted by demographic factors to reflect the general population of Delaware. The margin of sampling error for the complete set of weighted data is ± 2.9 percentage points. Margins of error are higher for subsamples.

While Standage Market Research fielded the survey and weighted the results, the University of Delaware's Center for Political Communication prepared all written summaries of the survey results in this report.

A report on the survey methods is included in the appendix, as are the survey questionnaire, results for the full sample, and results among demographic subgroups.

DELAWARE RESIDENTS' PERCEPTIONS

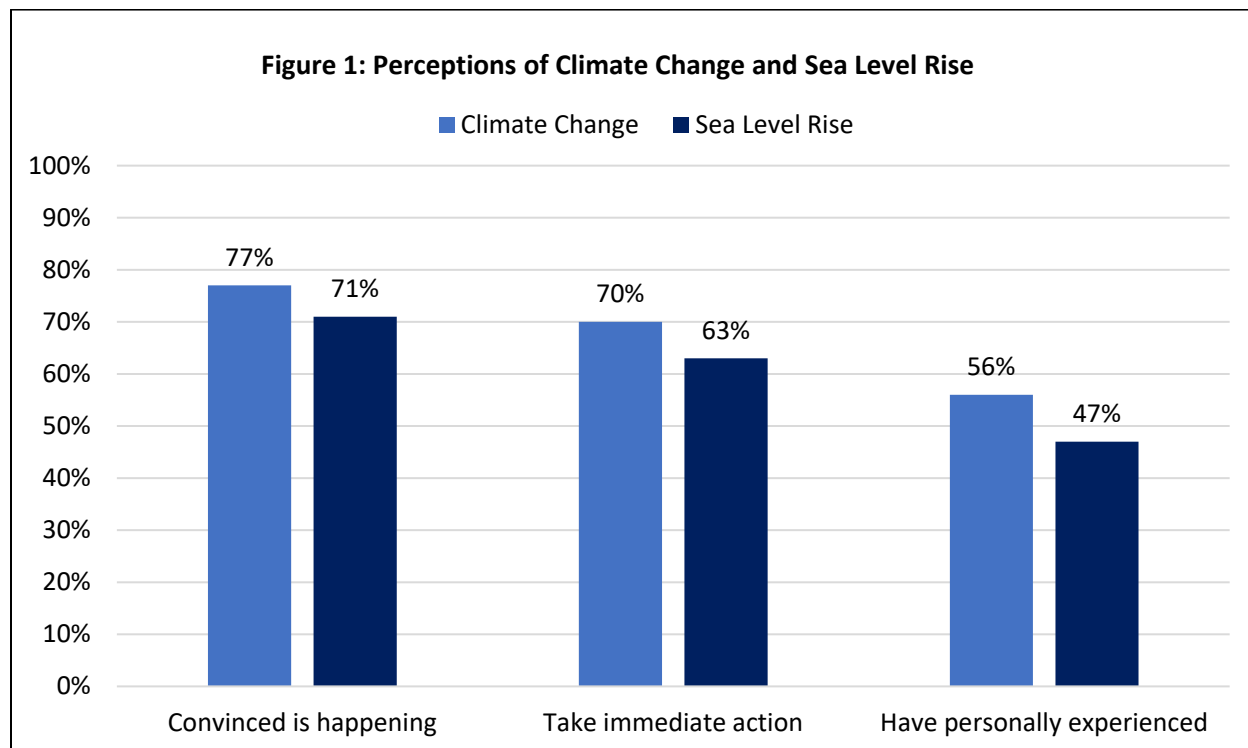### PERCEPTIONS OF CLIMATE CHANGE AND SEA LEVEL RISE

The survey found that about three-fourths (77%) of Delawareans are completely or mostly convinced that climate change is happening, and almost as many (71%) are completely or mostly convinced that sea level rise is happening. Fully 70% agree that we should take immediate action to reduce the impacts of climate change, and 64% say they can personally

take action to do so. Almost two-thirds (63%) also say that we should take immediate action to reduce the impacts of sea level rise.

A majority (56%) of Delawareans say they have personally experienced or observed local impacts of climate change. This figure is close to the one found in the 2014 survey sponsored by DNREC (53%). However, a growing proportion of Delawareans now say they have personally experienced sea level rise. The percentage reporting such experiences is 47% in the 2019 survey, a 19-point increase from 2014 (28%) and a 25-point increase from 2009 (22%).

Figure 1: Perceptions of Climate Change and Sea Level Rise

OPINIONS ABOUT STRATEGIES FOR RESPONDING TO CLIMATE CHANGE AND SEA LEVEL RISE

Delawareans support multiple strategies for reducing climate change. More than four-fifths (83%) favor increasing conservation of forested and agricultural lands. Large majorities also support requiring stronger air pollution controls on business and industry (80%), requiring that an increasing percentage of electricity used in Delaware come from renewable sources (74%), and requiring stronger energy efficiency standards on household appliances (73%). Fewer Delawareans favor requiring that an increasing percentage of vehicles sold in Delaware be powered by electricity, but a majority still support this strategy (53%).

Furthermore, Delawareans see all these strategies as effective at reducing climate change. Fully 85% say that increased conservation of forested and agricultural lands will be very or somewhat effective. Majorities say the same for requiring stronger air pollution controls on business and

industry (84%), requiring that an increasing percentage of electricity used in Delaware come from renewable sources (77%), requiring stronger energy efficiency standards on household appliances (74%), and requiring that an increasing percentage of vehicles sold in Delaware be powered by electricity (63%).

Figure 2: Opinions about Strategies to Reduce Climate Change

Support / Effective by strategy:
- Increase conservation: Support 83%, Effective 85%
- Stronger air pollution control: Support 80%, Effective 84%
- Electricity from renewable: Support 74%, Effective 77%
- Energy efficiency standards: Support 73%, Effective 74%
- Increase electric vehicles: Support 53%, Effective 63%
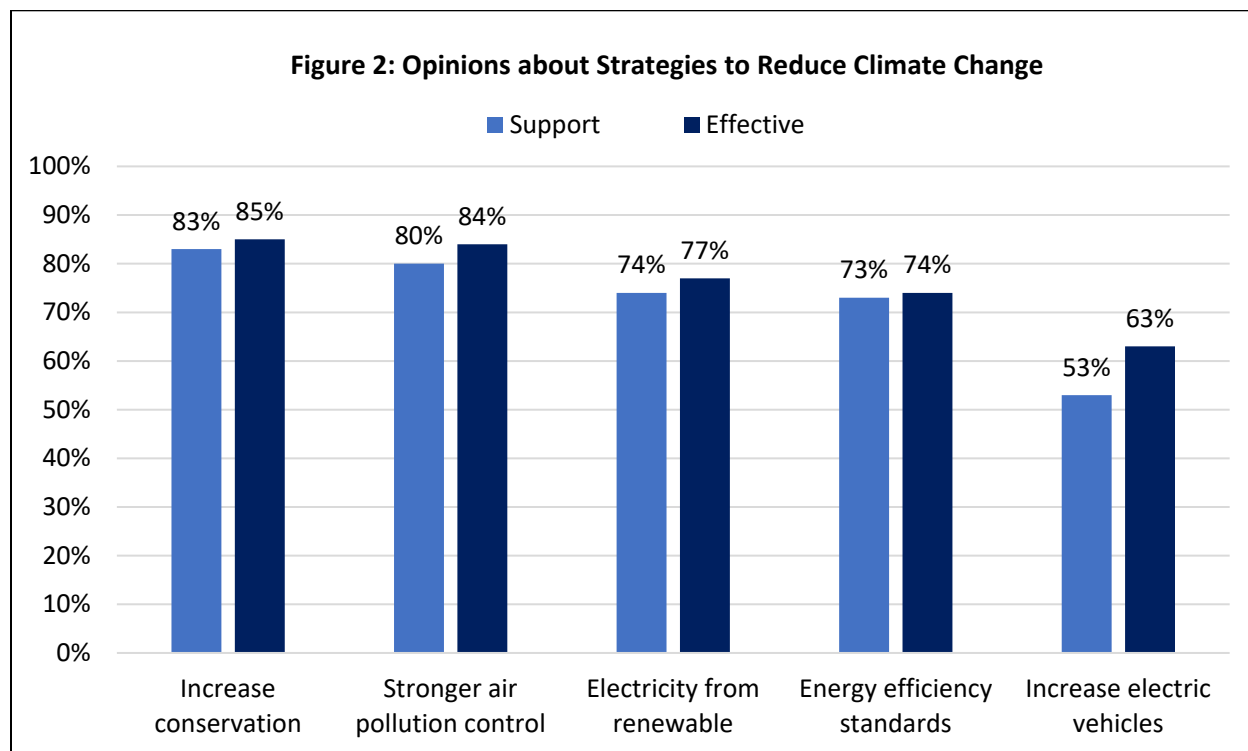
Most Delaware residents also support key strategies for addressing sea level rise. These include preserving undeveloped land and natural features to allow for sea level rise to occur (favored by 82%), changing building codes and regulations to reduce risk in flood prone areas (79%), avoiding building new structures in areas at risk from sea level rise (77%), avoiding construction of new roads and infrastructure in areas at risk from sea level rise (74%), and elevating buildings in areas of risk using private funds (64%).

As with the climate change reduction strategies, Delawareans perceive the sea level rise response strategies as effective. Large majorities see these approaches as very or somewhat effective: 84% for preserving undeveloped land and natural features to allow for sea level rise to occur, 83% for changing building codes and regulations to reduce risk in flood prone areas, 84% for avoiding building new structures in areas at risk from sea level rise, 82% for avoiding construction of new roads and infrastructure in areas at risk from sea level rise, and 72% for elevating buildings in areas of risk using private funds.

Figure 3: Opinions about Strategies to Respond to and Prepare for Sea Level Rise

■ Support ■ Effective

Strategy	Support	Effective
Preserve undeveloped land	82%	84%
Change building codes	79%	83%
Avoid new buildings	77%	84%
Avoid new roads, infrastructure	74%	82%
Elevate buildings in risk areas	64%	72%
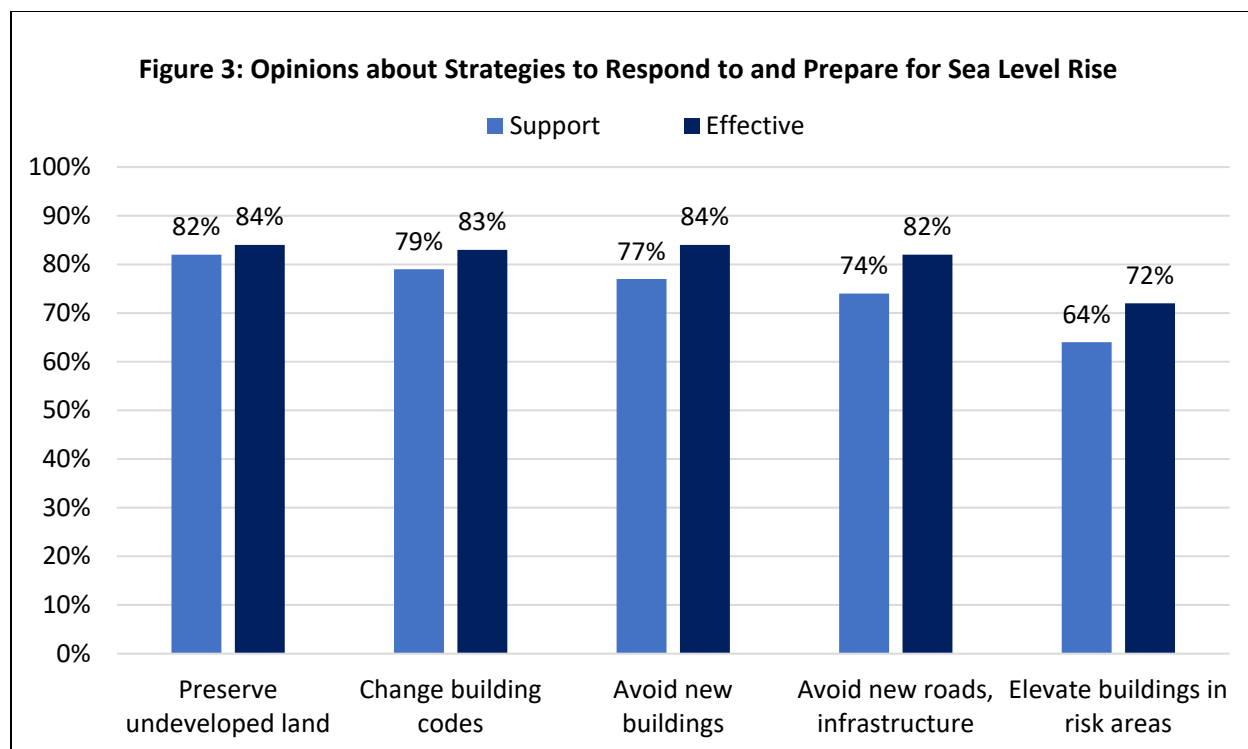
OPINIONS ABOUT RESEARCH ON THE IMPACT OF CLIMATE CHANGE AND SEA LEVEL RISE

The survey found that Delawareans support increasing research on the implications of climate change and sea level rise for the state and its residents. Fully 79% favor more research on how climate change will impact agriculture in Delaware. Almost as many (76%) support more research on how climate change will impact the health of Delawareans, and an identical percentage support additional research on how climate change will impact the Delaware economy. Similarly, 73% favor increasing research on how climate change will impact vulnerable communities, such as the elderly and low-income residents, and 71% support research on how sea level rise will impact property values in coastal Delaware.

OTHER OPINIONS ABOUT CLIMATE CHANGE

Most Delawareans (77%) see climate change as a very or somewhat serious threat. Moreover, most are worried about climate change (64%) and see it as an important issue (69%).

A majority (55%) of Delaware residents say that most scientists think climate change is happening. An almost identical percentage (54%) say that climate change is mostly caused by human activities. For reference, the Fourth National Climate Assessment, released by the federal government in 2018, concluded that "human activities, especially emissions of greenhouse gases from fossil fuel combustion, deforestation, and land-use change, are

primarily responsible for the climate changes observed in the industrial era, especially over the last six decades."

A combined 56% of Delawareans think climate change will personally harm them a great deal (21%) or a moderate amount (35%). A larger percentage of Delawareans (77%), however, think climate change will harm future generations a great deal (61%) or a moderate amount (16%).

Around a quarter of Delawareans (23%) follow news about climate change very closely, and half (50%) follow news about climate change somewhat closely. Only 16% say they know a great deal about climate change, while 55% say they know a moderate amount; the rest say they know a little or nothing.

DEMOGRAPHIC PATTERNS IN PERCEPTIONS

The results of the survey reveal gender gaps in Delawareans' perceptions of climate change and sea level rise, as well as differences in opinion across age, education, and county of residence.

GENDER AND PERCEPTIONS

Compared with men, women are more convinced that climate change is happening (82% versus 73%). Women are also more likely to say we should act now on climate change (78% versus 62%) and to say they have personally experienced or observed local impacts of climate change (62% versus 50%).

Figure 4: Perceptions of Climate Change, by Respondent Gender

■ Women   ■ Men

	Convinced is happening	Take immediate action	Have personally experienced
Women	82%	78%	62%
Men	73%	62%	50%
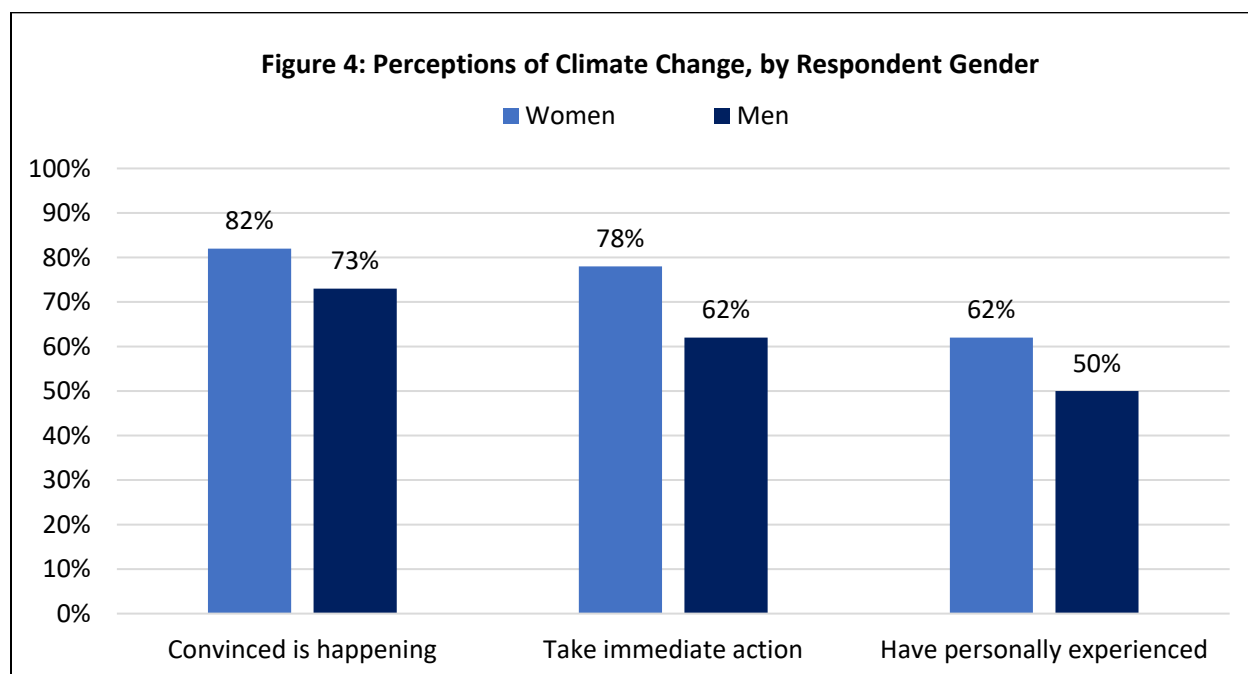
Opinions about sea level rise follow similar patterns. Women are more likely than men to be convinced that sea level rise is happening (77% versus 66%), to say we should take immediate action to reduce the impacts of sea level rise (71% versus 54%), and to say they have personally experienced or observed local impacts of sea level rise (52% versus 42%).

Figure 5. Perceptions of Sea Level Rise, by Respondent Gender
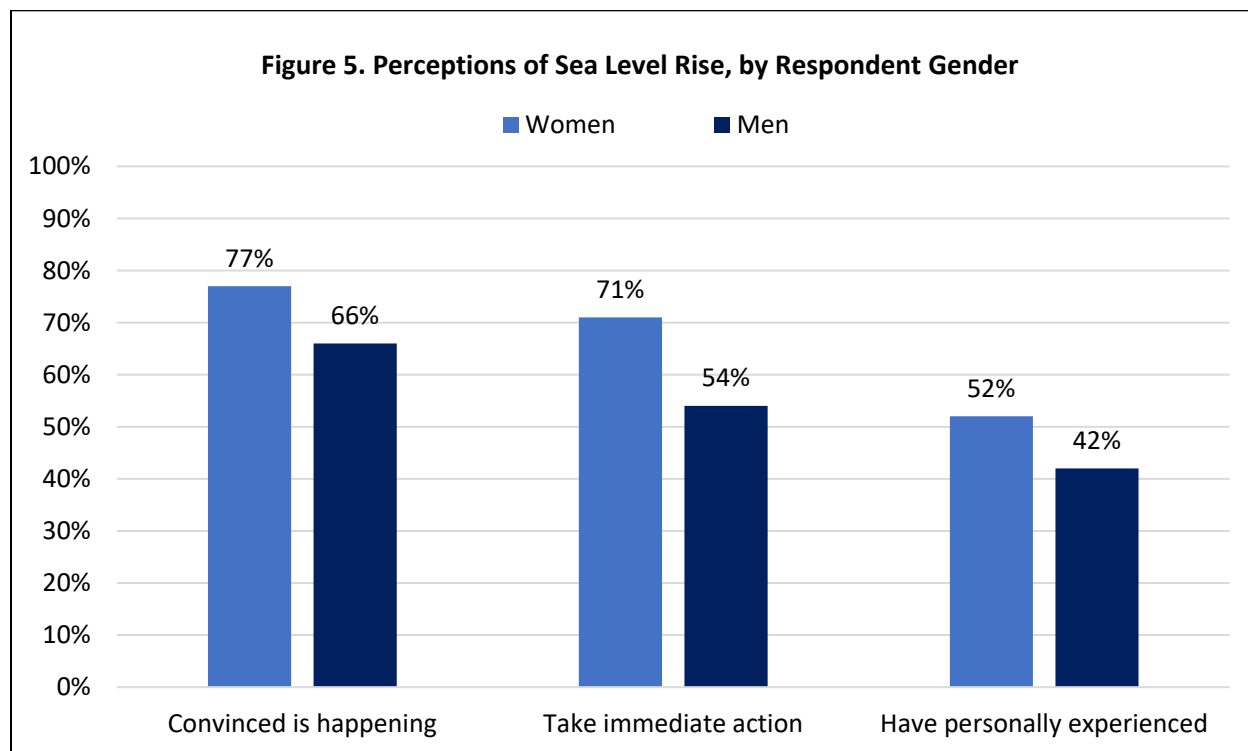
AGE AND PERCEPTIONS

Respondents under the age of 40 are more likely than those between the ages of 40 and 59 and those 60 years of age or older to be convinced that climate change is happening (86% versus 73% and 74%, respectively). Younger respondents are also more likely to favor acting now to reduce the impacts of climate change (78%, versus 64% and 69%, respectively). There are no significant age differences for having personally experienced or observed local impacts of climate change.

Younger respondents and older ones hold largely similar views on whether sea level rise is happening and whether we should take immediate action to reduce its impacts. However, respondents under the age of 40 are less likely than those 60 or older to say they have personally experienced or observed local impacts of sea level rise (43% versus 51%).

Figure 6: Perceptions of Climate Change, by Respondent Age Cohort
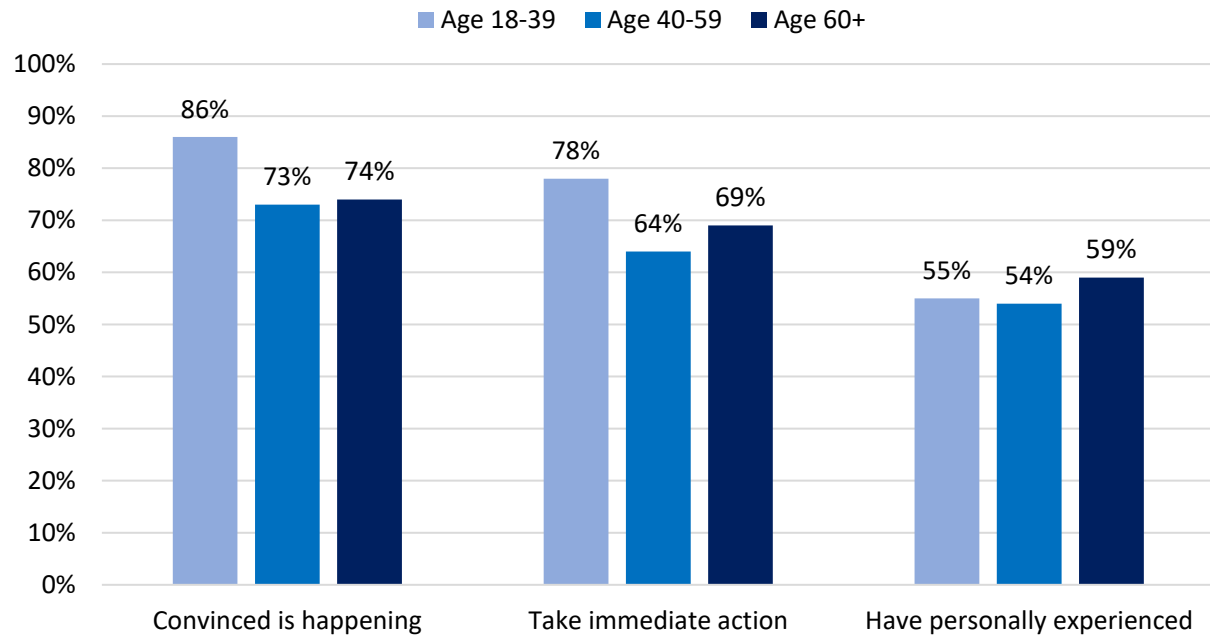
Figure 7: Perceptions of Sea Level Rise, by Respondent Age Cohort

Respondents with a college degree and those without one differ relatively little in their views on whether climate change is happening. At the same time, college-educated respondents are more likely to favor immediate action on the issue (74% versus 68%) and to say they have personally experienced or observed local impacts of climate change (62% versus 52%).

Figure 8: Perceptions of Climate Change, by Respondent Education
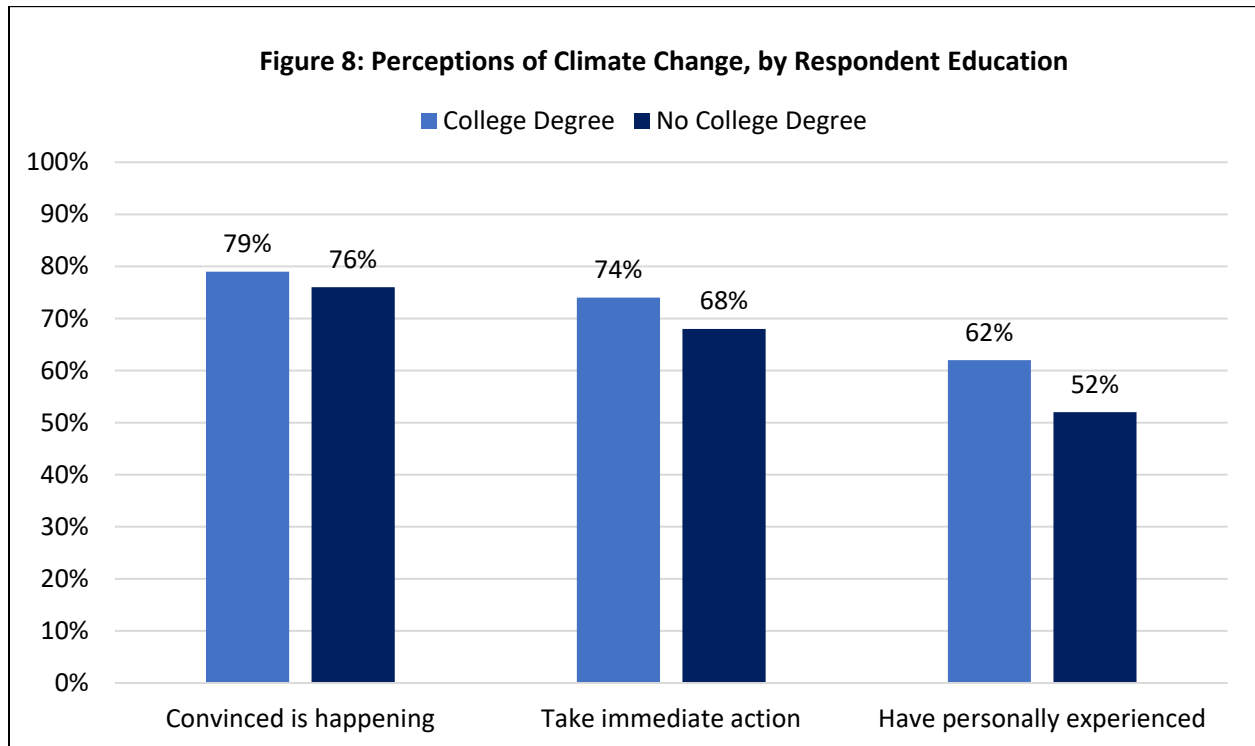
Opinions about sea level rise also differ across education levels. Respondents with a college degree are more likely than those without a degree to be convinced that sea level rise is happening (77% versus 67%), to say we should take action now to reduce its impacts (68% versus 60%), and to say they have personally experienced or observed local impacts (53% versus 43%).

Figure 9. Perceptions of Sea Level Rise, by Respondent Education
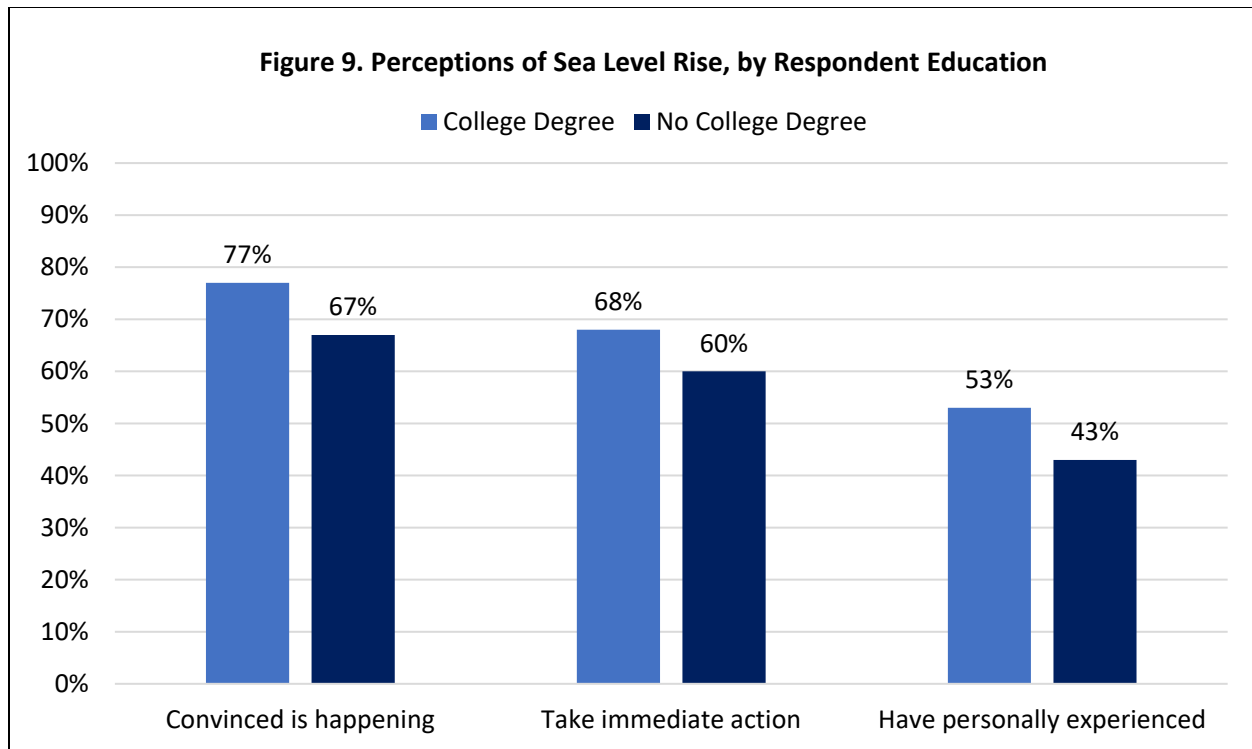
COUNTY OF RESIDENCE AND PERCEPTIONS

New Castle County residents are more likely than Kent and Sussex County residents to be convinced that climate change is happening (81% versus 71% and 70%, respectively) and to favor acting now on climate change (76% versus 68% and 58%, respectively). By contrast, the percentage of respondents who say they have personally experienced or observed local impacts of climate change is nearly identical in all three counties.

There are no significant differences, across counties, in opinions about whether sea level rise is happening or regarding personal experiences with (or observations of) local sea level rise impacts. However, New Castle County residents are more likely than residents of the other two counties to favor immediate action to reduce the impacts of sea level rise (67% versus 58% for Kent County and 57% for Sussex County).

Figure 10: Perceptions of Climate Change, by County of Residence

■ New Castle ■ Kent ■ Sussex

Category	New Castle	Kent	Sussex
Convinced is happening	81%	71%	70%
Take immediate action	76%	68%	58%
Have personally experienced	56%	57%	55%

Figure 11: Perceptions of Sea Level Rise, by County of Residence

■ New Castle ■ Kent ■ Sussex

Category	New Castle	Kent	Sussex
Convinced is happening	73%	70%	70%
Take immediate action	67%	58%	57%
Have personally experienced	45%	47%	51%
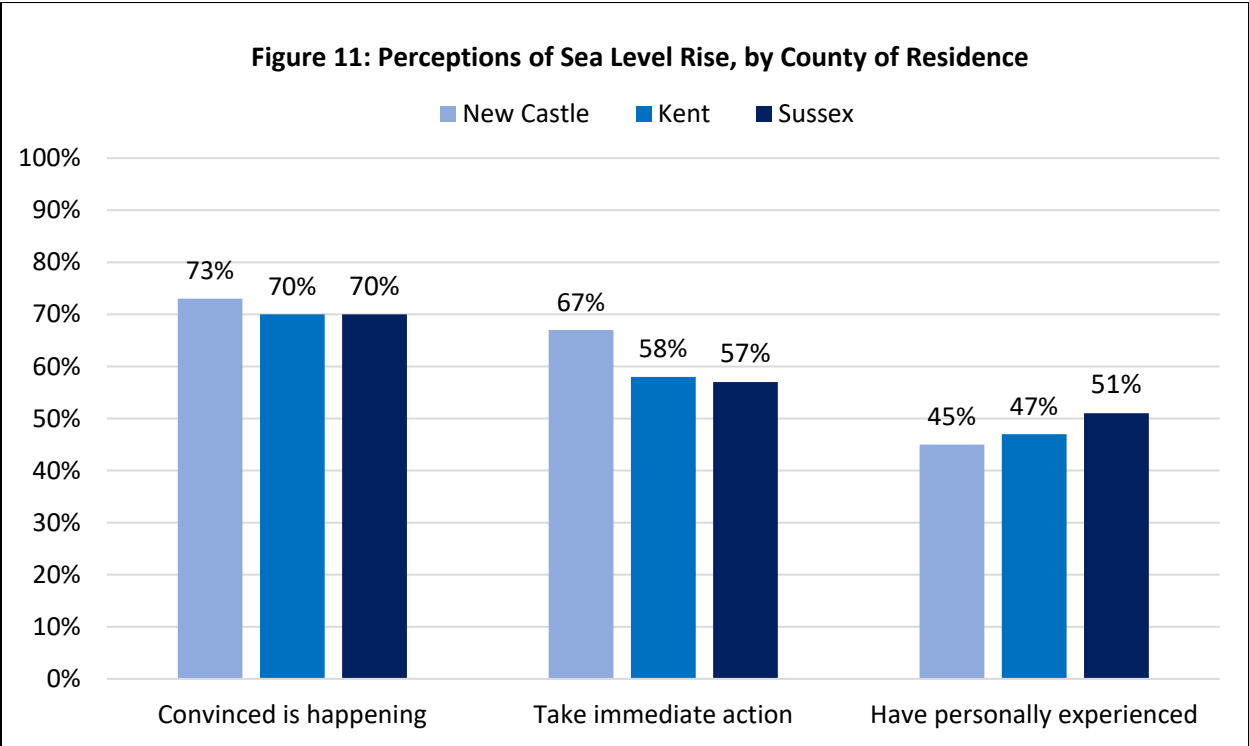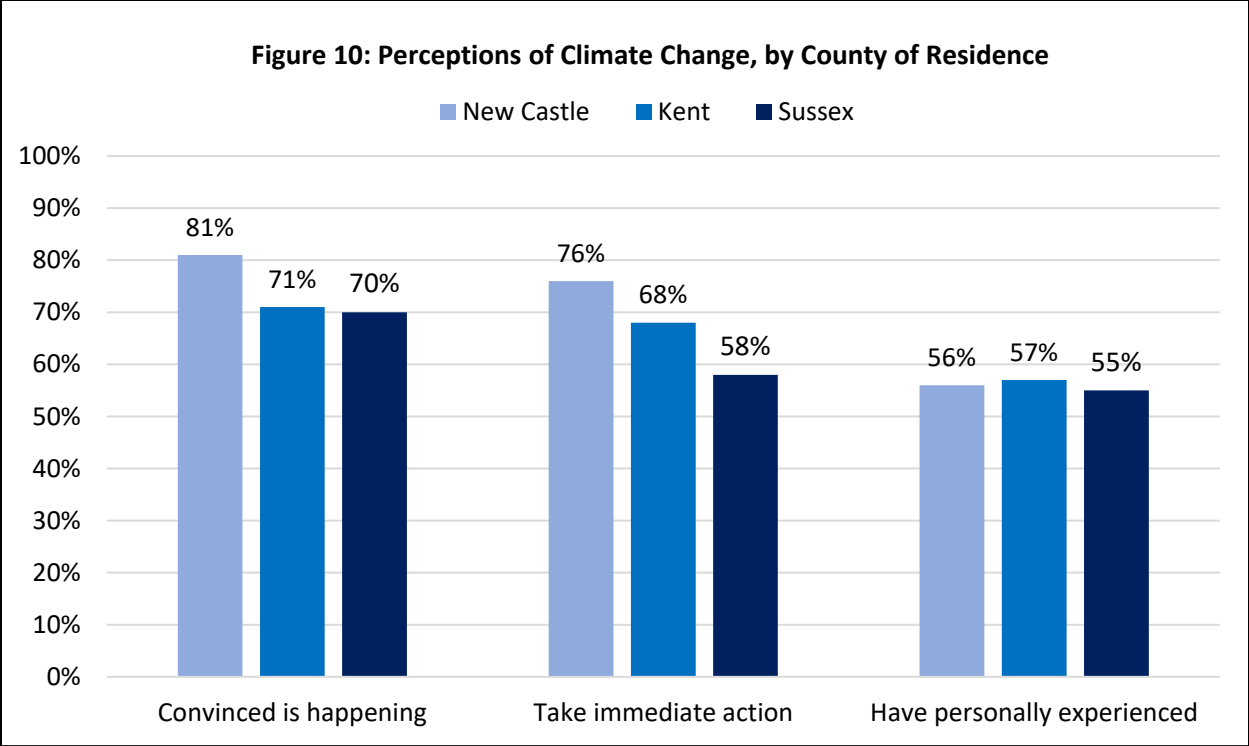
Comparisons between the results of the Delaware survey and a national survey conducted at around the same time show largely similar results on key questions about climate change. The national survey was conducted on November 8-20, 2019, by the Yale Program on Climate Change Communication and the George Mason University Center for Climate Change Communication.

DELAWAREANS COMPARED TO THE U.S. PUBLIC

The national survey found that 69% of Americans see climate change as an important issue — a figure that matches the one in the Delaware survey. Slightly less than two-thirds of U.S. residents (64%) are worried about climate change, and the same is true of Delaware residents (62%). Identical majorities of respondents in the national survey and the Delaware survey (55%) say that most scientists think climate change is happening. Majorities in the national survey (59%) and the Delaware survey (54%) also say that climate change is mostly caused by human activities.

Figure 12: Climate Change Perceptions among Delawareans and the U.S. Public
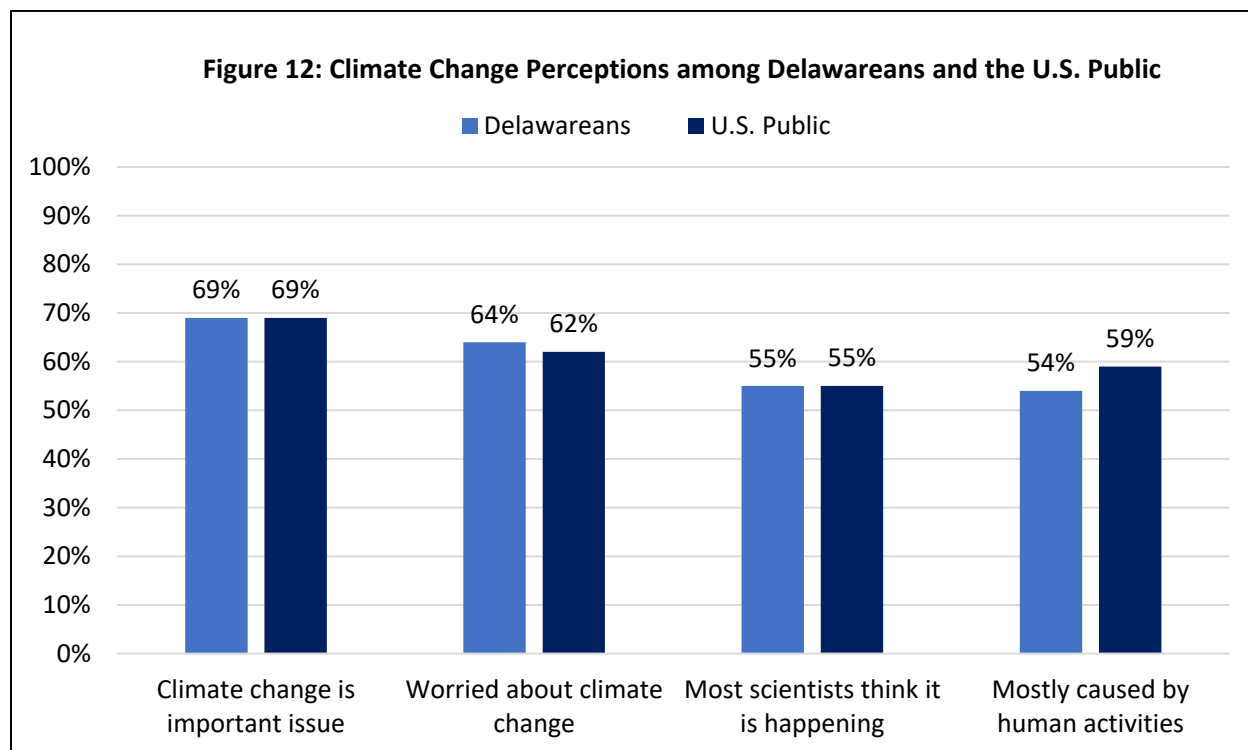
Note: U.S. figures are from Climate Change in the American Mind: November 2019 (Yale Program on Climate Change Communication)

The Yale Program on Climate Change Communication has identified six audiences for climate change communication among the U.S. public. These groups are based on answers to the Program's "Six Americas" survey questionnaire, which includes "in-depth measures of the public's climate change beliefs, attitudes, risk perceptions, motivations, values, policy preferences, behaviors, and underlying barriers to action."

Yale designates its six groups as *alarmed*, *concerned*, *cautious*, *disengaged*, *doubtful*, and *dismissive*. According to the Yale Program:

> The Alarmed are fully convinced of the reality and seriousness of climate change and are already taking individual, consumer, and political action to address it. The Concerned are also convinced that global warming is happening and a serious problem, but have not yet engaged the issue personally.

> Three other Americas – the Cautious, the Disengaged, and the Doubtful – represent different stages of understanding and acceptance of the problem, and none are actively involved. The final America – the Dismissive are very sure it is not happening and are actively involved as opponents of a national effort to reduce greenhouse gas emissions.

The organization's most recent survey, from November 2019, found that 31% of Americans are *alarmed* about climate change, 26% are *concerned* about it, and 16% are *cautious* about it. Meanwhile, 10% are *doubtful* about climate change and another 10% are *dismissive* of it. The remaining 7% of Americans are *disengaged* from the topic.

The Delaware survey integrated elements of the Six Americas questionnaire using the Six Americas Super Short Survey, a four-question survey that the Yale Program adapted from its original 36-question assessment. The four questions consider whether respondents see climate change as important, are worried about it, see it as harming them personally, and see it as harming future generations.

An analysis of results from the Delaware survey found mostly similar patterns to the Yale Program's most recent survey of the U.S. public. A majority of Delawareans are either alarmed (28%) or concerned (26%) about climate change. Another 20% are cautious, whereas 15% are doubtful and 11% are dismissive. Almost no Delaware respondents fall into the disengaged category (0%), though this likely reflects differences in question wording between the national survey (which listed "don't know" as an option for whether climate change will harm respondents personally and will harm future generations) and the Delaware survey (which did not list "don't know" as an option for these questions but allowed respondents to volunteer it as an answer).

Figure 13: Delawareans and the U.S. Public by Climate Change Perceptions
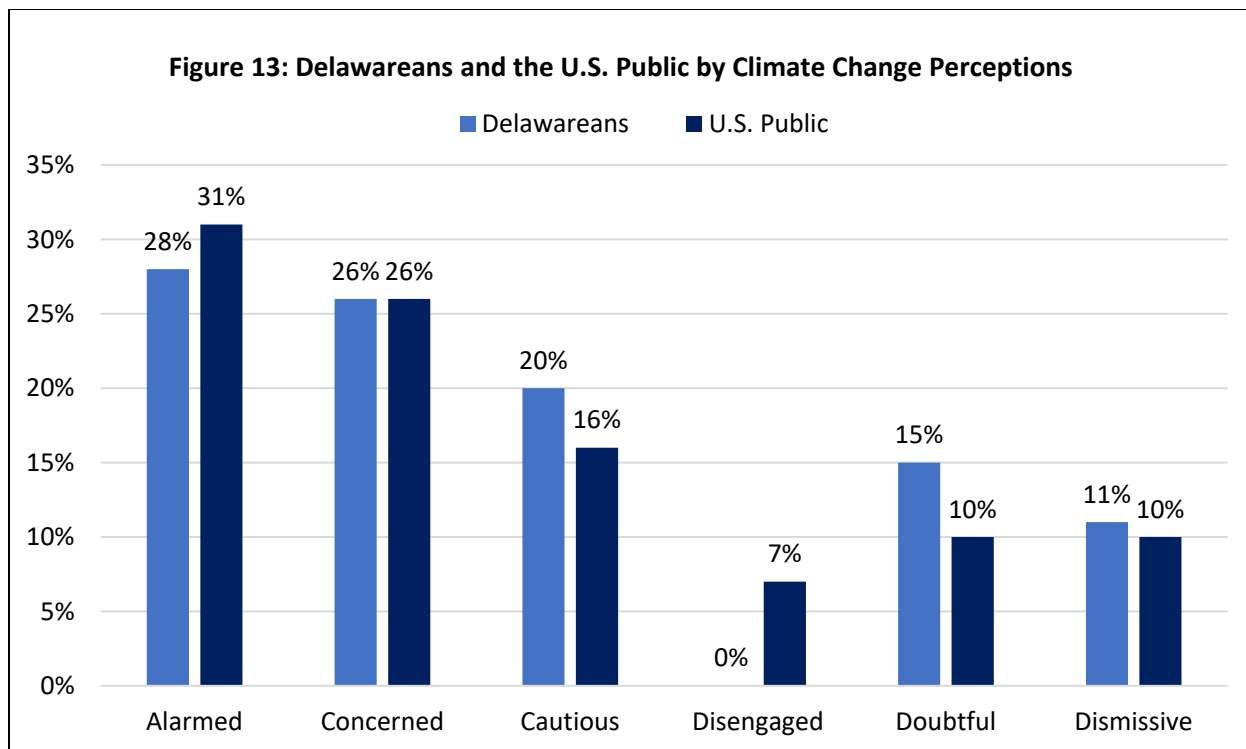
Note: Categories are from Global Warming's Six Americas (Yale Program on Climate Change Communication)

FOR MORE INFORMATION

Data and results from the 2009 and 2014 Delaware Residents' Opinions on Climate Change and Sea Level Rise surveys are available on DNREC's website at de.gov/climatesurvey.

For additional questions or comments, please contact:

Paul Brewer
University of Delaware's Center for Political Communication
190A Graham Hall, 111 Academy Street
Newark, DE 19716
prbrewer@udel.edu
(302) 831-7771

Ian Yue
DNREC Division of Climate, Coastal, & Energy
Climate & Sustainability Programs
100 W. Water Street, Suite 10B
Dover, DE 19904
ian.yue@delaware.gov
(302) 735-3480

The survey was supervised by the University of Delaware's Center for Political Communication and conducted by Standage Market Research.

A sample for the survey was drawn from all registered voters in Delaware, a universe of 593,281 voters. A simple random sample was drawn from this universe for the landline, SMS, and wireless telephone interviewing modes (described below). The sample of telephone numbers for the survey was purchased from L2 Data Solutions (https://www.L2political.com).

TELEPHONE INTERVIEWING

Telephone interviewing was conducted from Sunday, November 17, 2019, to Sunday, December 1, 2019 (there was a hiatus for Thanksgiving with no calls made November 27-30). During this time, interviews were conducted 5 p.m. to 9 p.m. on Monday to Thursday and 10 a.m. to 9 p.m. on Saturday and Sunday. Standage Market Research used CallHub Computer-Assisted Telephone Interviewing software to administer the survey for landline numbers, and hand-dialed all wireless numbers. All interviews were conducted by a staff of professionally trained, live interviewers working in the United States.

Interviewers attempted to reach respondents with working phone numbers a maximum of five times. Only Delaware adults — residents aged 18 years or older — were eligible to participate, which was confirmed with screening questions. Forty-three percent of the telephone interviews were conducted on a wireless phone and 57 percent were conducted on a landline. Telephone interviews for this survey were completed with 601 Delaware adults.

ONLINE INTERVIEWING

Online interviewing was conducted by using an SMS broadcast system to send a text invitation to a sample of wireless numbers; the text message had an embedded link to the survey which was programmed on SurveyGizmo. All text invitations and online surveys were completed between November 20 and November 25, 2019. Twenty-five thousand (25,000) texts were sent and 993 people clicked the link that took them to the survey. Those 993 respondents break down as follows:

525 Completed the survey
327 Partially completed the survey
141 Were disqualified by the screening questions (confirming 18 or older and Delaware residency)

WEIGHTING, SAMPLING ERROR, AND RESPONSE RATE

It is standard practice in public polling for raw (i.e., observed) survey results to be weighted before they are finalized. Weighting is the process of adjusting how much each survey respondent "counts" toward the final, reported results so that the demographics of the survey sample match those of the population as a whole (in this case, the population of Delaware, as reflected in U.S. Census data).

The 1,126 complete responses for this survey were weighted on age, education, and gender.

For a sample size of 1,126, there is a 95 percent probability the survey results have a plus or minus 2.9 percentage point sampling error from the actual Delaware population distribution for any given survey question. Margins of error are higher for subsamples of survey responses (e.g., age, education, county).

In addition to sampling error, all surveys are subject to sources of non-sampling error, including question wording effects (i.e., how question phrasing may affect the way respondents answer), question order effects (i.e., how question sequence may affect the way respondents answer), and non-response bias (i.e., patterns in which survey respondents are unwilling or unable to participate in the survey or answer specific questions).

Using the AAPOR Response Rate 4 (a standardized response rate measurement created by the American Association for Public Opinion Research), the response rate for online interviews was 0.042. Using the AAPOR Response Rate 4, the response rate for telephone interviews was 0.012.

Delaware Residents' Opinions on Climate Change and Sea Level Rise
Delaware Department of Natural Resources and Environmental Control and
University of Delaware Center for Political Communication
November 17 – December 1, 2019
N = 1,126

Results are weighted by demographic factors to reflect the general population of Delaware. Not all percentages sum to 100%, due to rounding. In addition, not all results sum to the total percentage values included in the text of this report, due to rounding.

There is a 95 percent probability the survey results have a plus or minus 2.9 percentage point sampling error from the actual Delaware population distribution for any given survey question.

Question responses below with the tag "(volunteered)" indicate that the response was volunteered by the respondent without prompting by the survey or interviewer.

Q1.   Overall, how closely do you follow news about climate change: very closely, somewhat closely, not very closely, or not at all?

Very	23%
Somewhat	50%
Not very	16%
Not at all	11%
Don't know (volunteered)	0%

Q2.   How much would you say you know about climate change: a great deal, a moderate amount, a little, or nothing?

A great deal	16%
A moderate amount	55%
A little	26%
Nothing	4%
Don't know (volunteered)	0%

Q3.   (Read) For the purposes of this survey, "climate change" is defined as changes in global and regional climate characteristics, including temperature, sea level, humidity, rainfall, wind, and severe weather events.

Q4.   How serious a threat do you think climate change is: very serious, somewhat serious, not very serious, or not at all serious?

Very	50%
Somewhat	27%
Not very	15%
Not at all	7%
Don't know (volunteered)	1%

Q5.   How worried are you about climate change: very worried, somewhat worried, not very worried, or not at all worried?

Very	33%
Somewhat	31%
Not very	20%
Not at all	16%
Don't know (volunteered)	0%

Q6.   How important is the issue of climate change to you personally: very important, somewhat important, not very important, or not at all important?

Very	36%
Somewhat	33%
Not very	19%
Not at all	13%
Don't know (volunteered)	0%

Q7.   How convinced are you that climate change is happening? Would you say you are completely convinced, mostly convinced, not so convinced, or not at all convinced?

Completely	53%
Mostly	24%
Not so	14%
Not at all	8%
Don't know (volunteered)	1%

Q8.   Which of the following statements best describes your own view of climate change?
(READ LIST; ROTATE ORDER OF STATEMENTS)

Most scientists think climate change is happening	55%
Most scientists think climate change is NOT happening	3%
There is a lot of disagreement among scientists about whether or not climate change is happening	30%
I don't feel I know enough to say	12%

Q9.   Please tell me which comes closer to your own view: If climate change is happening, do you think it is...? (READ FIRST TWO STATEMENTS ONLY; ROTATE ORDER OF STATEMENTS)

Caused mostly by human activities	54%
Caused mostly by natural changes in the environment	30%
Caused about equally by human activities and natural changes in the environment (volunteered)	13%
Other (volunteered)	1%
None of these because climate change isn't happening (volunteered)	1%
Don't know (volunteered)	1%

Q10.   How much do you think climate change will harm you personally: a great deal, a moderate amount, only a little, or not at all?

A great deal	21%
A moderate amount	35%
Only a little	25%
Not at all	18%
Don't know (volunteered)	1%

Q11.   How much do you think climate change will harm future generations of people: a great deal, a moderate amount, only a little, or not at all?

A great deal	61%
A moderate amount	16%
Only a little	13%
Not at all	9%
Don't know (volunteered)	1%

Q12. Now, please tell me how strongly you AGREE or DISAGREE with each of the following statements. The first one is: (INSERT ITEM) - do you strongly agree, somewhat agree, neither agree nor disagree, somewhat DISagree, or strongly DISagree with this statement? (NEXT ITEM; IF NECESSARY: Do you strongly agree, somewhat agree, neither agree nor disagree, somewhat DISagree, or strongly DISagree?)

a. I have personally experienced or observed local impacts of climate change.

Strongly agree	24%
Moderately agree	32%
Neither agree nor disagree	17%
Moderately disagree	12%
Strongly disagree	15%
Don't know (volunteered)	1%

b. We should take immediate action to reduce the impacts of climate change.

Strongly agree	51%
Moderately agree	19%
Neither agree nor disagree	9%
Moderately disagree	8%
Strongly disagree	12%
Don't know (volunteered)	1%

c. I can personally take actions that will help reduce climate change.

Strongly agree	34%
Moderately agree	30%
Neither agree nor disagree	13%
Moderately disagree	8%
Strongly disagree	14%
Don't know (volunteered)	1%

(RANDOMIZE ORDER OF Q13A AND Q13B)

Q13A. Next, I am going to read a list of potential actions that could be taken to reduce climate change, and I would like for you to tell me if you support or oppose each one. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this? (NEXT ITEM; IF NECESSARY: strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this?)

    a. Require that an increasing percentage of electricity used in Delaware come from renewable sources

Strongly support	48%
Moderately support	26%
Neither support nor oppose	10%
Moderately oppose	6%
Strongly oppose	9%
Don't know (volunteered)	2%

    b. Require that an increasing percentage of vehicles sold in Delaware be powered by electricity

Strongly support	25%
Moderately support	29%
Neither support nor oppose	13%
Moderately oppose	12%
Strongly oppose	21%
Don't know (volunteered)	1%

    c. Require stronger energy efficiency standards on household appliances

Strongly support	41%
Moderately support	32%
Neither support nor oppose	11%
Moderately oppose	6%
Strongly oppose	9%
Don't know (volunteered)	0%

d. Require stronger air pollution control on business and industry

Strongly support	58%
Moderately support	22%
Neither support nor oppose	6%
Moderately oppose	5%
Strongly oppose	9%
Don't know (volunteered)	0%

e. Increase conservation of forested and agricultural lands

Strongly support	62%
Moderately support	21%
Neither support nor oppose	7%
Moderately oppose	4%
Strongly oppose	5%
Don't know (volunteered)	1%

Q13B. For the next set of questions, I am going to read a list of potential actions that could be taken to reduce climate change. I would like for you to tell me how effective you believe each action will be in reducing climate change. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you believe this action will be very effective, somewhat effective, not very effective, or not at all effective? (NEXT ITEM; IF NECESSARY: very effective, somewhat effective, not very effective, or not at all effective?)

a. Require that an increasing percentage of electricity used in Delaware come from renewable sources

Very effective	44%
Somewhat effective	33%
Not very effective	11%
Not at all effective	10%
Don't know (volunteered)	2%

b. Require that an increasing percentage of vehicles sold in Delaware be powered by electricity

Very effective	27%
Somewhat effective	36%
Not very effective	17%
Not at all effective	19%
Don't know (volunteered)	2%

c. Require stronger energy efficiency standards on household appliances

Very effective	29%
Somewhat effective	45%
Not very effective	14%
Not at all effective	12%
Don't know (volunteered)	0%

d. Require stronger air pollution control on business and industry

Very effective	59%
Somewhat effective	25%
Not very effective	7%
Not at all effective	9%
Don't know (volunteered)	0%

e. Increase conservation of forested and agricultural lands

Very effective	53%
Somewhat effective	32%
Not very effective	7%
Not at all effective	6%
Don't know (volunteered)	2%

Q14. (Read) For the purposes of this survey, "sea level rise" is defined as an increase in the average height of high tide and low tide.

Q15. How convinced are you that sea levels are rising? Would you say you are completely convinced, mostly convinced, not so convinced, or not at all convinced?

Completely	46%
Mostly	25%
Not so	16%
Not at all	10%
Don't know (volunteered)	3%

Q16. Please tell me how strongly you AGREE or DISAGREE with each of the following statements. The first one is: (INSERT ITEM) - do you strongly agree, somewhat agree, neither agree nor disagree, somewhat DISagree, or strongly DISagree with this statement? (NEXT ITEM; IF NECESSARY: Do you strongly agree, somewhat agree, neither agree nor disagree, somewhat DISagree, or strongly DISagree?)

a. I have personally experienced or observed local impacts of sea level rise.

Strongly agree	25%
Moderately agree	22%
Neither agree nor disagree	20%
Moderately disagree	12%
Strongly disagree	20%
Don't know (volunteered)	1%

b. We should take immediate action to reduce the impacts of sea level rise.

Strongly agree	44%
Moderately agree	19%
Neither agree nor disagree	13%
Moderately disagree	10%
Strongly disagree	12%
Don't know (volunteered)	2%

(RANDOMIZE ORDER OF Q17A AND Q17B)

Q17A. Next, I am going to read a list of potential actions that could be taken to address sea level rise in Delaware or reduce its impacts, and I would like for you to tell me if you support or oppose each one. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this? (NEXT ITEM; IF NECESSARY: strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this?)

    a. Change building codes to reduce risk of flood-related damage in flood prone areas

Strongly support	53%
Moderately support	26%
Neither support nor oppose	9%
Moderately oppose	5%
Strongly oppose	6%
Don't know (volunteered)	1%

    b. Elevate buildings in areas at risk from sea level rise using private funds

Strongly support	35%
Moderately support	29%
Neither support nor oppose	15%
Moderately oppose	9%
Strongly oppose	10%
Don't know (volunteered)	1%

    c. Avoid constructing new buildings in areas at risk from sea level rise

Strongly support	56%
Moderately support	21%
Neither support nor oppose	9%
Moderately oppose	6%
Strongly oppose	7%
Don't know (volunteered)	1%

d. Avoid constructing new roads and infrastructure in areas at risk from sea level rise

Strongly support	52%
Moderately support	22%
Neither support nor oppose	10%
Moderately oppose	7%
Strongly oppose	8%
Don't know (volunteered)	1%

e. Preserve undeveloped land and natural features to allow for sea level rise to occur

Strongly support	60%
Moderately support	22%
Neither support nor oppose	8%
Moderately oppose	3%
Strongly oppose	5%
Don't know (volunteered)	2%

Q17B. For the next set of questions, I am going to read a list of potential actions that could be taken to address sea level rise in Delaware or reduce its impacts. I would like for you to tell me how effective you believe each action will be in addressing sea level rise in Delaware or reducing its impacts. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you believe this action will be very effective, somewhat effective, not very effective, or not at all effective? (NEXT ITEM; IF NECESSARY: very effective, somewhat effective, not very effective, or not at all effective?)

a. Change building codes to reduce risk of flood-related damage in flood prone areas

Very effective	47%
Somewhat effective	37%
Not very effective	8%
Not at all effective	7%
Don't know (volunteered)	1%

b. Elevate buildings in areas at risk from sea level rise using private funds

Very effective   31%
Somewhat effective   42%
Not very effective   12%
Not at all effective   12%
Don't know (volunteered)   3%

c. Avoid constructing new buildings in areas at risk from sea level rise

Very effective   56%
Somewhat effective   28%
Not very effective   8%
Not at all effective   7%
Don't know (volunteered)   2%

d. Avoid constructing new roads and infrastructure in areas at risk from sea level rise

Very effective   52%
Somewhat effective   29%
Not very effective   10%
Not at all effective   7%
Don't know (volunteered)   1%

e. Preserve undeveloped land and natural features to allow for sea level rise to occur

Very effective   59%
Somewhat effective   24%
Not very effective   7%
Not at all effective   7%
Don't know (volunteered)   2%

Q18.   State and local decision-makers often consult research studies before recommending or carrying out a policy or action. I am going to read a list of research topics, and I would like for you to tell me if you support or oppose increasing research on each topic. The first one is: (INSERT ITEM; RANDOMIZE) - do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose increasing research on this topic? (NEXT ITEM; IF NECESSARY: Do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this?)

a.   Research on how climate change will impact the health of Delawareans

Strongly support	55%
Moderately support	21%
Neither support nor oppose	10%
Moderately oppose	5%
Strongly oppose	9%
Don't know (volunteered)	0%

b.   Research on how climate change will impact the Delaware economy

Strongly support	53%
Moderately support	23%
Neither support nor oppose	9%
Moderately oppose	6%
Strongly oppose	8%
Don't know (volunteered)	1%

c.   Research on how climate change will impact agriculture in Delaware

Strongly support	57%
Moderately support	22%
Neither support nor oppose	8%
Moderately oppose	4%
Strongly oppose	7%
Don't know (volunteered)	0%

d. Research on how climate change will impact vulnerable communities, such as the elderly and low-income residents

Strongly support   54%
Moderately support   19%
Neither support nor oppose   11%
Moderately oppose   5%
Strongly oppose   10%
Don't know (volunteered)   1%

e. Research on how sea level rise will impact property values in coastal Delaware

Strongly support   44%
Moderately support   27%
Neither support nor oppose   14%
Moderately oppose   6%
Strongly oppose   9%
Don't know (volunteered)   0%

READ TO ALL: Now, just a few questions for statistical purposes only.

SEX   What gender identity do you most identify with?

Male	47%
Female	51%
Other	1%
Refused (volunteered)	0%

ZIP   What is the zip code where you live?

IF ZIP IS DON'T KNOW/REFUSED, ASK:

COUNT What county do you live in?

New Castle	56%
Kent	18%
Sussex	26%
Don't know/refused (volunteered)	0%

COAST Do you consider your place of residence to be in a coastal or non-coastal area?

Coastal	25%
Non-coastal	75%
Don't know (volunteered)	1%
Refused (volunteered)	0%

OWN   Do you rent or own your current place of residence?

Rent	15%
Own	82%
Other (volunteered)	1%
Don't know/refused (volunteered)	1%

FLOOD Do you have flood insurance on your current place of residence?

Yes	20%
No	76%
Don't know (volunteered)	4%
Refused (volunteered)	1%

AGE   May I ask your age?

18-29	16%
30-39	13%
40-49	16%
50-59	15%
60-64	11%
65-69	9%
70 and older	15%
Refused (volunteered)	5%

YRDE   How many years have you lived in Delaware?

0-2	2%
3-5	5%
6-10	9%
Over 10	82%
Don't know (volunteered)	1%

EDU   What is the highest level of school you have completed? (Do not read options)

Less than high school (Grades 1-8 or no formal schooling)	2%
Some high school (Grades 9-11 or Grade 12 with NO diploma)	4%
High school graduate (Grade 12 with diploma or GED certificate)	17%
Some college, no degree (includes some community college)	23%
Two year associate degree from a college or university	13%
Four year college or university degree/Bachelor's degree	22%
Some postgraduate or professional schooling, no postgraduate degree	2%
Postgraduate or professional degree	16%
Don't know/refused (volunteered)	2%

RACE   What races or ethnic backgrounds do you consider yourself, and please mention all that apply.

White or Caucasian	77%
Black or African American	14%
Hispanic or Latino	3%
Asian or Pacific Islander	2%
Native American or American Indian	3%
Other	3%
Don't know/refused (volunteered)	2%

Delaware Residents' Opinions on Climate Change and Sea Level Rise
Delaware Department of Natural Resources and Environmental Control and
University of Delaware Center for Political Communication
November 17 – December 1, 2019
N = 1,126

Results are weighted by demographic factors to reflect the general population of Delaware. Not all percentages sum to 100%, due to rounding. In addition, not all results sum to the total percentage values included in the text of this report, due to rounding.

There is a 95 percent probability the survey results have a plus or minus 2.9 percentage point sampling error from the actual Delaware population distribution for any given survey question. Margins of error are higher for subsamples of survey responses (e.g., age, education, county).

Question responses below with the tag "(VOL)" indicate that the response was volunteered by the respondent without prompting by the survey or interviewer.

Q1.   Overall, how closely do you follow news about climate change: very closely, somewhat closely, not very closely, or not at all?

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very	23%	23%	16%	21%	32%
Somewhat	48%	51%	45%	53%	50%
Not very	16%	17%	19%	19%	11%
Not at all	13%	9%	20%	7%	7%
Don't know (VOL)	0%	0%	0%	0%	0%

	College	No college	New Castle	Kent	Sussex
Very	27%	20%	23%	20%	26%
Somewhat	51%	49%	52%	46%	47%
Not very	17%	16%	15%	22%	15%
Not at all	5%	15%	11%	11%	11%
Don't know (VOL)	0%	0%	0%	0%	0%

Q2.   How much would you say you know about climate change: a great deal, a moderate amount, a little, or nothing?

	Men	Women	Age 18-39	Age 40-59	Age 60+
A great deal	21%	10%	14%	15%	17%
A moderate amount	56%	55%	51%	55%	58%
A little	21%	30%	30%	26%	21%
Nothing	2%	5%	4%	4%	3%
Don't know (VOL)	0%	0%	0%	0%	0%

	College	No College	New Castle	Kent	Sussex
A great deal	15%	16%	15%	11%	19%
A moderate amount	62%	50%	56%	57%	51%
A little	22%	28%	25%	28%	26%
Nothing	1%	6%	4%	4%	4%
Don't know (VOL)	0%	0%	0%	0%	0%

Q3.   (Read) For the purposes of this survey, "climate change" is defined as changes in global and regional climate characteristics, including temperature, sea level, humidity, rainfall, wind, and severe weather events.

Q4.   How serious a threat do you think climate change is: very serious, somewhat serious, not very serious, or not at all serious?

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very	41%	59%	54%	47%	50%
Somewhat	29%	26%	28%	25%	28%
Not very	21%	9%	14%	17%	15%
Not at all	9%	4%	4%	10%	7%
Don't know (VOL)	1%	1%	0%	1%	1%

	College	No College	New Castle	Kent	Sussex
Very	54%	47%	55%	47%	42%
Somewhat	23%	30%	26%	28%	29%
Not very	16%	15%	12%	20%	17%
Not at all	7%	7%	7%	3%	11%
Don't know (VOL)	0%	1%	0%	1%	1%

Q5. How worried are you about climate change: very worried, somewhat worried, not very worried, or not at all worried?

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very	26%	39%	39%	28%	32%
Somewhat	27%	36%	28%	31%	33%
Not very	27%	13%	21%	21%	18%
Not at all	20%	11%	12%	19%	16%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Very	38%	30%	35%	33%	29%
Somewhat	30%	32%	32%	29%	30%
Not very	17%	21%	18%	22%	21%
Not at all	15%	17%	14%	17%	19%
Don't know (VOL)	0%	1%	1%	0%	0%

Q6. How important is the issue of climate change to you personally: very important, somewhat important, not very important, or not at all important?

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very	29%	42%	36%	31%	39%
Somewhat	29%	36%	32%	37%	30%
Not very	25%	13%	20%	18%	18%
Not at all	17%	8%	12%	14%	12%
Don't know (VOL)	0%	0%	0%	0%	0%

	College	No College	New Castle	Kent	Sussex
Very	38%	34%	37%	33%	34%
Somewhat	34%	32%	36%	32%	27%
Not very	15%	21%	15%	23%	22%
Not at all	13%	13%	11%	13%	16%
Don't know (VOL)	0%	0%	0%	0%	0%

Q7.   How convinced are you that climate change is happening? Would you say you are
        completely convinced, mostly convinced, not so convinced, or not at all convinced?

	Men	Women	Age 18-39	Age 40-59	Age 60+
Completely	49%	58%	62%	45%	53%
Mostly	24%	24%	24%	28%	21%
Not so	17%	11%	9%	14%	18%
Not at all	10%	6%	5%	12%	7%
Don't know (VOL)	0%	1%	0%	1%	1%

	College	No College	New Castle	Kent	Sussex
Completely	58%	50%	57%	50%	46%
Mostly	21%	26%	24%	21%	24%
Not so	14%	14%	10%	23%	17%
Not at all	7%	9%	8%	5%	11%
Don't know (VOL)	0%	1%	0%	1%	1%

Q8.   Which of the following statements best describes your own view of climate change?
(READ LIST; ROTATE ORDER OF STATEMENTS)

	Men	Women	Age 18-39	Age 40-59	Age 60+
Most scientists think climate change is happening.	56%	56%	61%	51%	54%
Most scientists think climate change is NOT happening.	3%	2%	1%	2%	3%
There is a lot of disagreement among scientists	35%	25%	25%	35%	30%
I don't feel I know enough to say	7%	17%	13%	12%	13%

	College	No College	New Castle	Kent	Sussex
Most scientists think climate change is happening.	63%	50%	60%	48%	49%
Most scientists think climate change is NOT happening.	2%	3%	2%	2%	4%
There is a lot of disagreement among scientists	27%	32%	27%	34%	34%
I don't feel I know enough to say	8%	15%	11%	16%	13%

Q9.   Please tell me which comes closer to your own view: If climate change is happening, do you think it is...? (READ FIRST TWO STATEMENTS ONLY; ROTATE ORDER OF STATEMENTS)

	Men	Women	Age 18-39	Age 40-59	Age 60+
Caused mostly by human activities	48%	60%	63%	51%	49%
Caused mostly by natural changes	35%	25%	19%	32%	37%
Caused about equally by human activities & natural changes (VOL)	15%	12%	16%	14%	12%
Other (VOL)	1%	0%	1%	1%	1%
None of these because climate change isn't happening (VOL)	1%	1%	1%	1%	0%
Don't know (VOL)	1%	1%	1%	1%	1%

	College	No College	New Castle	Kent	Sussex
Caused mostly by human activities	57%	52%	59%	49%	46%
Caused mostly by natural changes	27%	32%	26%	31%	38%
Caused about equally by human activities & natural changes (VOL)	14%	13%	12%	18%	14%
Other (VOL)	1%	1%	1%	1%	0%
None of these because climate change isn't happening (VOL)	1%	1%	1%	1%	1%
Don't know (VOL)	1%	1%	1%	1%	1%

Q10. How much do you think climate change will harm you personally: a great deal, a moderate amount, only a little, or not at all?

	Men	Women	Age 18-39	Age 40-59	Age 60+
A great deal	15%	26%	23%	18%	21%
A moderate amount	30%	40%	34%	35%	35%
Only a little	28%	23%	29%	27%	22%
Not at all	26%	10%	14%	20%	20%
Don't know (VOL)	1%	1%	1%	0%	1%

	College	No College	New Castle	Kent	Sussex
A great deal	20%	21%	21%	19%	19%
A moderate amount	36%	34%	36%	34%	34%
Only a little	24%	27%	24%	29%	26%
Not at all	20%	17%	17%	17%	21%
Don't know (VOL)	0%	1%	1%	0%	0%

Q11. How much do you think climate change will harm future generations of people: a great deal, a moderate amount, only a little, or not at all?

	Men	Women	Age 18-39	Age 40-59	Age 60+
A great deal	52%	70%	70%	55%	60%
A moderate amount	17%	16%	12%	20%	16%
Only a little	18%	8%	15%	12%	13%
Not at all	11%	6%	2%	12%	10%
Don't know (VOL)	1%	0%	1%	1%	1%

	College	No College	New Castle	Kent	Sussex
A great deal	62%	61%	66%	58%	55%
A moderate amount	15%	17%	15%	18%	18%
Only a little	14%	12%	11%	18%	13%
Not at all	8%	9%	7%	6%	14%
Don't know (VOL)	1%	1%	1%	1%	1%

Q12. Now, please tell me how strongly you AGREE or DISAGREE with each of the following statements. The first one is: (INSERT ITEM) - do you strongly agree, somewhat agree, neither agree nor disagree, somewhat DISagree, or strongly DISagree with this statement?

a. I have personally experienced or observed local impacts of climate change.

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly agree	21%	28%	19%	24%	29%
Moderately agree	29%	34%	36%	30%	30%
Neither	17%	17%	19%	17%	15%
Moderately disagree	13%	11%	14%	12%	10%
Strongly disagree	18%	10%	11%	18%	14%
Don't know (VOL)	1%	1%	1%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly agree	30%	21%	25%	22%	25%
Moderately agree	32%	32%	31%	35%	30%
Neither	16%	17%	16%	23%	15%
Moderately disagree	9%	14%	13%	7%	14%
Strongly disagree	13%	16%	14%	13%	16%
Don't know (VOL)	0%	1%	1%	0%	0%

b. We should take immediate action to reduce the impacts of climate change.

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly agree	43%	58%	57%	44%	51%
Moderately agree	19%	19%	21%	19%	18%
Neither	12%	7%	10%	9%	8%
Moderately disagree	10%	6%	6%	10%	8%
Strongly disagree	16%	8%	5%	17%	14%
Don't know (VOL)	0%	1%	0%	1%	1%

	College	No College	New Castle	Kent	Sussex
Strongly agree	54%	48%	57%	48%	41%
Moderately agree	19%	19%	19%	20%	17%
Neither	7%	11%	6%	11%	15%
Moderately disagree	8%	8%	6%	11%	9%
Strongly disagree	12%	13%	11%	10%	16%
Don't know (VOL)	0%	1%	1%	1%	1%

c. I can personally take actions that will help reduce climate change.

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly agree	29%	40%	36%	39%	29%
Moderately agree	29%	31%	35%	27%	30%
Neither	12%	13%	8%	11%	18%
Moderately disagree	11%	6%	8%	9%	7%
Strongly disagree	18%	10%	13%	14%	15%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly agree	39%	31%	39%	22%	32%
Moderately agree	34%	28%	31%	39%	24%
Neither	9%	15%	10%	15%	17%
Moderately disagree	7%	9%	8%	8%	10%
Strongly disagree	11%	15%	12%	16%	16%
Don't know (VOL)	0%	1%	1%	0%	1%

(RANDOMIZE ORDER OF Q13A AND Q13B)

Q13A. Next, I am going to read a list of potential actions that could be taken to reduce climate change, and I would like for you to tell me if you support or oppose each one. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this?

a. Require that an increasing percentage of electricity used in Delaware come from renewable sources

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	46%	50%	56%	44%	43%
Moderately support	24%	29%	26%	27%	27%
Neither	8%	10%	8%	10%	10%
Moderately oppose	8%	4%	4%	8%	7%
Strongly oppose	12%	5%	5%	10%	10%
Don't know (VOL)	2%	2%	1%	1%	3%

	College	No College	New Castle	Kent	Sussex
Strongly support	51%	45%	52%	47%	39%
Moderately support	27%	27%	23%	25%	34%
Neither	8%	10%	10%	10%	9%
Moderately oppose	6%	7%	6%	9%	6%
Strongly oppose	8%	9%	8%	7%	11%
Don't know (VOL)	1%	2%	1%	3%	2%

b. Require that an increasing percentage of vehicles sold in Delaware be powered by electricity

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	23%	27%	33%	25%	19%
Moderately support	25%	33%	26%	30%	30%
Neither	13%	12%	14%	9%	15%
Moderately oppose	13%	11%	15%	9%	12%
Strongly oppose	25%	16%	13%	26%	21%
Don't know (VOL)	0%	2%	0%	0%	3%

	College	No College	New Castle	Kent	Sussex
Strongly support	27%	24%	28%	28%	18%
Moderately support	32%	27%	32%	22%	25%
Neither	11%	14%	11%	15%	14%
Moderately oppose	11%	13%	9%	12%	17%
Strongly oppose	19%	21%	18%	21%	25%
Don't know (VOL)	0%	2%	1%	2%	1%

c. Require stronger energy efficiency standards on household appliances

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	37%	45%	42%	40%	40%
Moderately support	31%	34%	35%	32%	32%
Neither	13%	10%	13%	10%	12%
Moderately oppose	8%	4%	3%	8%	5%
Strongly oppose	11%	7%	7%	11%	10%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	45%	37%	43%	39%	36%
Moderately support	31%	34%	34%	34%	29%
Neither	9%	13%	8%	14%	16%
Moderately oppose	6%	6%	5%	5%	9%
Strongly oppose	9%	9%	9%	9%	10%
Don't know (VOL)	0%	1%	1%	0%	0%

d. Require stronger air pollution control on business and industry

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	47%	69%	59%	55%	60%
Moderately support	28%	17%	25%	22%	20%
Neither	8%	5%	7%	6%	6%
Moderately oppose	6%	4%	2%	8%	5%
Strongly oppose	11%	5%	6%	10%	8%
Don't know (VOL)	0%	0%	0%	0%	0%

	College	No College	New Castle	Kent	Sussex
Strongly support	62%	56%	64%	49%	51%
Moderately support	21%	23%	20%	29%	23%
Neither	5%	7%	5%	7%	8%
Moderately oppose	5%	6%	3%	8%	7%
Strongly oppose	7%	9%	7%	8%	11%
Don't know (VOL)	0%	0%	0%	0%	0%

e. Increase conservation of forested and agricultural lands

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	59%	66%	67%	60%	61%
Moderately support	24%	19%	21%	23%	21%
Neither	8%	7%	8%	6%	8%
Moderately oppose	3%	4%	2%	5%	4%
Strongly oppose	6%	4%	3%	6%	5%
Don't know (VOL)	1%	1%	0%	1%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	67%	59%	64%	59%	59%
Moderately support	22%	22%	21%	24%	22%
Neither	5%	9%	8%	7%	6%
Moderately oppose	2%	4%	2%	2%	7%
Strongly oppose	4%	5%	5%	5%	5%
Don't know (VOL)	0%	1%	0%	3%	0%

Q13B. For the next set of questions, I am going to read a list of potential actions that could be taken to reduce climate change. I would like for you to tell me how effective you believe each action will be in reducing climate change. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you believe this action will be very effective, somewhat effective, not very effective, or not at all effective?

a. Require that an increasing percentage of electricity used in Delaware come from renewable sources

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	40%	49%	55%	41%	40%
Somewhat effective	31%	35%	29%	34%	36%
Not very effective	15%	7%	9%	11%	12%
Not at all effective	14%	7%	6%	13%	11%
Don't know (VOL)	1%	2%	1%	1%	2%

	College	No College	New Castle	Kent	Sussex
Very effective	45%	44%	47%	46%	38%
Somewhat effective	34%	32%	33%	29%	35%
Not very effective	11%	11%	9%	14%	12%
Not at all effective	10%	10%	9%	8%	13%
Don't know (VOL)	1%	2%	1%	2%	2%

b. Require that an increasing percentage of vehicles sold in Delaware be powered by electricity

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	24%	29%	33%	25%	22%
Somewhat effective	32%	40%	38%	35%	37%
Not very effective	20%	13%	17%	14%	18%
Not at all effective	23%	14%	12%	23%	20%
Don't know (VOL)	1%	3%	0%	3%	3%

	College	No College	New Castle	Kent	Sussex
Very effective	28%	26%	32%	28%	16%
Somewhat effective	39%	35%	36%	32%	40%
Not very effective	17%	16%	14%	19%	19%
Not at all effective	15%	20%	17%	18%	23%
Don't know (VOL)	1%	3%	2%	3%	2%

c. Require stronger energy efficiency standards on household appliances

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	24%	35%	34%	26%	29%
Somewhat effective	42%	48%	46%	46%	44%
Not very effective	18%	9%	11%	13%	17%
Not at all effective	15%	7%	9%	15%	9%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Very effective	32%	29%	34%	30%	20%
Somewhat effective	45%	45%	42%	45%	51%
Not very effective	13%	14%	12%	13%	16%
Not at all effective	11%	12%	11%	11%	13%
Don't know (VOL)	0%	1%	1%	1%	0%

d. Require stronger air pollution control on business and industry

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	49%	68%	67%	52%	59%
Somewhat effective	28%	23%	21%	27%	26%
Not very effective	11%	3%	3%	9%	8%
Not at all effective	12%	5%	8%	12%	6%
Don't know (VOL)	0%	0%	0%	0%	0%

	College	No College	New Castle	Kent	Sussex
Very effective	59%	58%	63%	49%	56%
Somewhat effective	26%	25%	23%	32%	26%
Not very effective	6%	8%	6%	10%	8%
Not at all effective	7%	9%	8%	9%	10%
Don't know (VOL)	0%	0%	0%	1%	0%

e. Increase conservation of forested and agricultural lands

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	45%	60%	55%	50%	54%
Somewhat effective	34%	30%	32%	33%	32%
Not very effective	10%	4%	5%	10%	7%
Not at all effective	8%	3%	5%	6%	5%
Don't know (VOL)	2%	2%	3%	1%	2%

	College	No College	New Castle	Kent	Sussex
Very effective	55%	51%	55%	47%	52%
Somewhat effective	33%	32%	31%	39%	31%
Not very effective	6%	7%	5%	9%	9%
Not at all effective	5%	6%	6%	3%	7%
Don't know (VOL)	1%	3%	3%	2%	1%

Q14.   (Read) For the purposes of this survey, "sea level rise" is defined as an increase in the average height of high tide and low tide.

Q15. How convinced are you that sea levels are rising? Would you say you are completely convinced, mostly convinced, not so convinced, or not at all convinced?

	Men	Women	Age 18-39	Age 40-59	Age 60+
Completely	41%	51%	50%	43%	46%
Mostly	25%	26%	24%	25%	26%
Not so	20%	13%	15%	18%	17%
Not at all	12%	7%	8%	12%	9%
Don't know (VOL)	2%	3%	3%	3%	2%

	College	No College	New Castle	Kent	Sussex
Completely	53%	41%	50%	41%	42%
Mostly	24%	26%	23%	29%	28%
Not so	14%	19%	15%	17%	18%
Not at all	8%	11%	9%	12%	11%
Don't know (VOL)	1%	3%	3%	1%	2%

Q16. Please tell me how strongly you AGREE or DISAGREE with each of the following statements. The first one is: (INSERT ITEM) - do you strongly agree, somewhat agree, neither agree nor disagree, somewhat DISagree, or strongly DISagree with this statement?

a. I have personally experienced or observed local impacts of sea level rise.

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly agree	23%	27%	21%	26%	29%
Moderately agree	19%	25%	23%	22%	21%
Neither	20%	22%	22%	19%	20%
Moderately disagree	13%	11%	16%	11%	10%
Strongly disagree	26%	13%	20%	22%	18%
Don't know (VOL)	0%	2%	0%	0%	2%

	College	No College	New Castle	Kent	Sussex
Strongly agree	30%	22%	21%	29%	32%
Moderately agree	23%	21%	24%	18%	20%
Neither	19%	21%	21%	22%	18%
Moderately disagree	11%	13%	11%	17%	11%
Strongly disagree	17%	22%	22%	14%	19%
Don't know (VOL)	1%	1%	1%	1%	1%

b. We should take immediate action to reduce the impacts of sea level rise.

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly agree	37%	51%	47%	41%	45%
Moderately agree	17%	20%	20%	19%	18%
Neither	16%	11%	15%	12%	13%
Moderately disagree	12%	7%	10%	11%	8%
Strongly disagree	17%	7%	7%	15%	13%
Don't know (VOL)	1%	3%	1%	2%	3%

	College	No College	New Castle	Kent	Sussex
Strongly agree	49%	41%	48%	38%	40%
Moderately agree	19%	19%	19%	20%	17%
Neither	10%	16%	12%	16%	13%
Moderately disagree	8%	10%	7%	12%	14%
Strongly disagree	12%	12%	12%	11%	15%
Don't know (VOL)	2%	2%	2%	3%	1%

(RANDOMIZE ORDER OF Q17A AND Q17B)

Q17A. Next, I am going to read a list of potential actions that could be taken to address sea level rise in Delaware or reduce its impacts, and I would like for you to tell me if you support or oppose each one. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose this?

a. Change building codes to reduce risk of flood-related damage in flood prone areas

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	45%	61%	47%	53%	59%
Moderately support	29%	23%	30%	25%	24%
Neither	11%	7%	12%	8%	8%
Moderately oppose	6%	4%	6%	6%	4%
Strongly oppose	8%	4%	5%	8%	5%
Don't know (VOL)	1%	0%	1%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	54%	53%	55%	50%	53%
Moderately support	29%	24%	27%	27%	24%
Neither	8%	10%	9%	10%	8%
Moderately oppose	3%	6%	3%	5%	8%
Strongly oppose	4%	7%	6%	6%	7%
Don't know (VOL)	1%	1%	1%	1%	1%

b. Elevate buildings in areas at risk from sea level rise using private funds

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	32%	39%	33%	34%	39%
Moderately support	30%	29%	34%	27%	27%
Neither	15%	16%	18%	17%	12%
Moderately oppose	10%	6%	8%	9%	9%
Strongly oppose	13%	7%	8%	12%	11%
Don't know (VOL)	0%	2%	0%	1%	3%

	College	No College	New Castle	Kent	Sussex
Strongly support	39%	33%	34%	35%	39%
Moderately support	31%	28%	32%	27%	24%
Neither	17%	15%	16%	17%	14%
Moderately oppose	6%	10%	8%	7%	11%
Strongly oppose	6%	13%	9%	12%	11%
Don't know (VOL)	1%	2%	1%	2%	1%

c. Avoid constructing new buildings in areas at risk from sea level rise

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	50%	62%	52%	55%	60%
Moderately support	23%	20%	25%	19%	20%
Neither	11%	8%	9%	10%	8%
Moderately oppose	7%	4%	8%	7%	4%
Strongly oppose	9%	5%	7%	9%	6%
Don't know (VOL)	0%	1%	0%	0%	2%

	College	No College	New Castle	Kent	Sussex
Strongly support	60%	53%	57%	51%	57%
Moderately support	23%	20%	22%	24%	16%
Neither	8%	10%	8%	11%	11%
Moderately oppose	4%	7%	6%	7%	6%
Strongly oppose	4%	9%	7%	6%	9%
Don't know (VOL)	0%	1%	1%	1%	1%

d. Avoid constructing new roads and infrastructure in areas at risk from sea level rise

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	46%	58%	48%	52%	57%
Moderately support	23%	21%	25%	21%	20%
Neither	14%	7%	13%	10%	9%
Moderately oppose	8%	5%	10%	7%	5%
Strongly oppose	8%	7%	4%	11%	8%
Don't know (VOL)	0%	2%	0%	0%	2%

	College	No College	New Castle	Kent	Sussex
Strongly support	54%	51%	53%	54%	49%
Moderately support	26%	19%	22%	21%	20%
Neither	11%	10%	11%	9%	9%
Moderately oppose	4%	9%	5%	8%	11%
Strongly oppose	5%	9%	7%	6%	10%
Don't know (VOL)	1%	1%	1%	1%	1%

e. Preserve undeveloped land and natural features to allow for sea level rise to occur

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	55%	65%	60%	58%	61%
Moderately support	25%	20%	26%	21%	20%
Neither	9%	7%	7%	11%	7%
Moderately oppose	4%	2%	2%	4%	3%
Strongly oppose	6%	4%	4%	5%	6%
Don't know (VOL)	1%	2%	1%	1%	3%

	College	No College	New Castle	Kent	Sussex
Strongly support	63%	58%	61%	56%	59%
Moderately support	23%	22%	22%	24%	21%
Neither	6%	10%	7%	7%	10%
Moderately oppose	2%	4%	3%	4%	3%
Strongly oppose	5%	5%	5%	5%	6%
Don't know (VOL)	1%	2%	2%	3%	0%

Q17B. For the next set of questions, I am going to read a list of potential actions that could be taken to address sea level rise in Delaware or reduce its impacts. I would like for you to tell me how effective you believe each action will be in addressing sea level rise in Delaware or reducing its impacts. The first one is: (INSERT ITEM; RANDOMIZE ORDER) - do you believe this action will be very effective, somewhat effective, not very effective, or not at all effective?

a. Change building codes to reduce risk of flood-related damage in flood prone areas

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	41%	52%	41%	46%	53%
Somewhat effective	38%	36%	43%	35%	33%
Not very effective	10%	6%	8%	7%	7%
Not at all effective	10%	5%	7%	10%	5%
Don't know (VOL)	1%	2%	1%	1%	2%

	College	No College	New Castle	Kent	Sussex
Very effective	45%	48%	48%	44%	46%
Somewhat effective	38%	36%	37%	34%	38%
Not very effective	9%	7%	7%	10%	8%
Not at all effective	6%	8%	7%	9%	7%
Don't know (VOL)	1%	1%	1%	3%	0%

b. Elevate buildings in areas at risk from sea level rise using private funds

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	28%	34%	28%	30%	34%
Somewhat effective	42%	42%	46%	40%	40%
Not very effective	14%	10%	11%	15%	10%
Not at all effective	15%	8%	13%	13%	11%
Don't know (VOL)	1%	6%	2%	2%	5%

	College	No College	New Castle	Kent	Sussex
Very effective	34%	28%	31%	33%	30%
Somewhat effective	42%	42%	41%	40%	43%
Not very effective	12%	12%	11%	10%	15%
Not at all effective	9%	14%	13%	12%	11%
Don't know (VOL)	3%	4%	4%	4%	2%

c. Avoid constructing new buildings in areas at risk from sea level rise

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	50%	64%	52%	55%	62%
Somewhat effective	30%	26%	32%	28%	24%
Not very effective	11%	4%	9%	9%	6%
Not at all effective	9%	4%	5%	8%	6%
Don't know (VOL)	1%	2%	1%	1%	2%

	College	No College	New Castle	Kent	Sussex
Very effective	60%	54%	58%	53%	56%
Somewhat effective	29%	27%	27%	32%	24%
Not very effective	6%	9%	6%	7%	12%
Not at all effective	5%	7%	7%	5%	6%
Don't know (VOL)	1%	2%	2%	2%	1%

d. Avoid constructing new roads and infrastructure in areas at risk from sea level rise

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	45%	60%	50%	52%	55%
Somewhat effective	30%	28%	32%	29%	27%
Not very effective	14%	6%	10%	11%	9%
Not at all effective	10%	5%	8%	8%	7%
Don't know (VOL)	0%	1%	0%	0%	2%

	College	No College	New Castle	Kent	Sussex
Very effective	54%	51%	56%	49%	47%
Somewhat effective	31%	28%	27%	35%	30%
Not very effective	8%	12%	9%	9%	14%
Not at all effective	5%	9%	8%	5%	8%
Don't know (VOL)	1%	1%	1%	1%	1%

e. Preserve undeveloped land and natural features to allow for sea level rise to occur

	Men	Women	Age 18-39	Age 40-59	Age 60+
Very effective	52%	67%	58%	58%	63%
Somewhat effective	26%	23%	28%	25%	22%
Not very effective	11%	3%	7%	8%	6%
Not at all effective	9%	5%	6%	8%	6%
Don't know (VOL)	2%	2%	2%	1%	3%

	College	No College	New Castle	Kent	Sussex
Very effective	60%	59%	59%	60%	60%
Somewhat effective	28%	23%	25%	24%	23%
Not very effective	6%	8%	6%	10%	8%
Not at all effective	5%	8%	7%	4%	9%
Don't know (VOL)	1%	3%	2%	2%	1%

Q18. State and local decision-makers often consult research studies before recommending or carrying out a policy or action. I am going to read a list of research topics, and I would like for you to tell me if you support or oppose increasing research on each topic. The first one is: (INSERT ITEM; RANDOMIZE) - do you strongly support, moderately support, neither support nor oppose, moderately oppose, or strongly oppose increasing research on this topic?

a. Research on how climate change will impact the health of Delawareans

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	47%	64%	62%	52%	54%
Moderately support	22%	19%	22%	21%	19%
Neither	13%	7%	8%	9%	10%
Moderately oppose	6%	4%	2%	6%	7%
Strongly oppose	13%	5%	6%	12%	9%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	57%	54%	61%	53%	46%
Moderately support	24%	19%	19%	24%	22%
Neither	7%	11%	8%	10%	14%
Moderately oppose	4%	6%	5%	5%	6%
Strongly oppose	7%	10%	8%	9%	11%
Don't know (VOL)	0%	0%	1%	0%	0%

b. Research on how climate change will impact the Delaware economy

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	46%	60%	63%	47%	51%
Moderately support	25%	22%	23%	24%	24%
Neither	11%	7%	5%	11%	10%
Moderately oppose	6%	5%	4%	7%	6%
Strongly oppose	12%	5%	5%	11%	9%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	56%	51%	59%	46%	47%
Moderately support	24%	23%	21%	29%	24%
Neither	7%	10%	8%	9%	10%
Moderately oppose	5%	6%	4%	8%	9%
Strongly oppose	7%	9%	8%	7%	10%
Don't know (VOL)	0%	1%	0%	1%	1%

c. Research on how climate change will impact agriculture in Delaware

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	50%	64%	67%	53%	55%
Moderately support	25%	20%	20%	23%	23%
Neither	10%	7%	7%	8%	10%
Moderately oppose	4%	4%	1%	5%	5%
Strongly oppose	10%	4%	5%	11%	6%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	59%	56%	63%	50%	49%
Moderately support	25%	21%	19%	29%	25%
Neither	7%	10%	7%	9%	10%
Moderately oppose	3%	5%	3%	4%	7%
Strongly oppose	6%	8%	7%	6%	9%
Don't know (VOL)	0%	1%	0%	1%	1%

d. Research on how climate change will impact vulnerable communities, such as the elderly and low-income residents

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	46%	63%	65%	48%	53%
Moderately support	21%	18%	16%	21%	19%
Neither	12%	11%	7%	13%	12%
Moderately oppose	7%	4%	4%	6%	6%
Strongly oppose	14%	4%	7%	12%	9%
Don't know (VOL)	0%	1%	1%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	54%	55%	58%	55%	47%
Moderately support	23%	17%	18%	18%	21%
Neither	10%	13%	10%	13%	13%
Moderately oppose	6%	5%	5%	5%	8%
Strongly oppose	8%	10%	9%	9%	11%
Don't know (VOL)	0%	1%	1%	0%	1%

e. Research on how sea level rise will impact property values in coastal Delaware

	Men	Women	Age 18-39	Age 40-59	Age 60+
Strongly support	38%	50%	48%	42%	44%
Moderately support	26%	28%	31%	24%	27%
Neither	17%	11%	12%	14%	13%
Moderately oppose	6%	5%	3%	8%	7%
Strongly oppose	13%	5%	6%	12%	9%
Don't know (VOL)	0%	1%	0%	0%	1%

	College	No College	New Castle	Kent	Sussex
Strongly support	45%	43%	47%	41%	40%
Moderately support	31%	25%	26%	29%	27%
Neither	13%	14%	14%	15%	12%
Moderately oppose	4%	7%	5%	5%	8%
Strongly oppose	7%	10%	9%	9%	11%
Don't know (VOL)	0%	0%	0%	1%	1%