

CLIMATE CHANGE
IN THE AMERICAN MIND

Public Perceptions of the Health Harms of Global Warming

FALL 2024

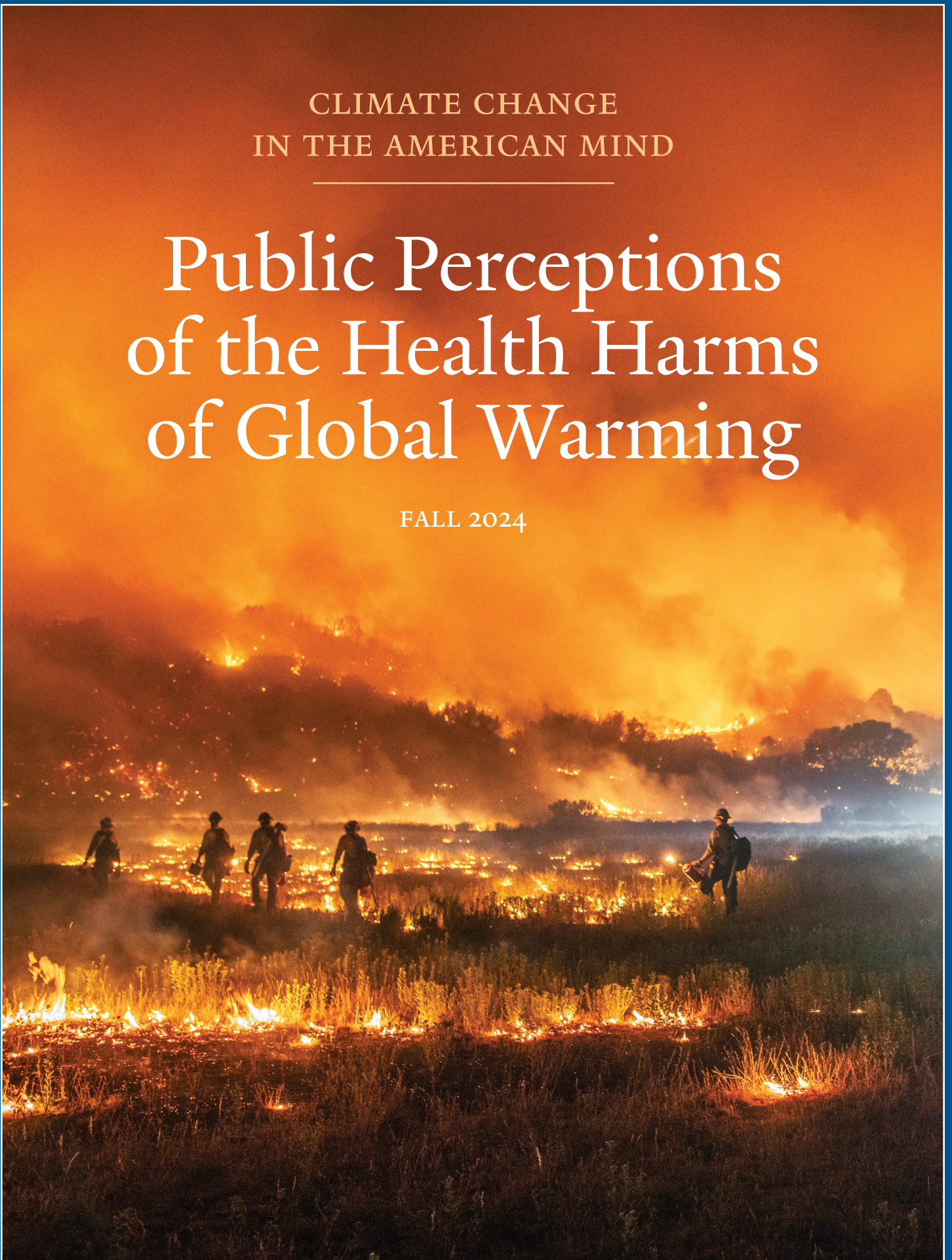


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Introduction

This report is based on findings from a nationally representative survey – *Climate Change in the American Mind* – conducted jointly by the [Yale Program on Climate Change Communication](#) and the [George Mason University Center for Climate Change Communication](#). Interview dates: December 11 – 22, 2024. Interviews: 1,013 adults (18+). Average margin of error: +/- 3 percentage points at the 95% confidence level. The research was funded by the Schmidt Family Foundation, the U.S. Energy Foundation, the Heising-Simons Foundation, King Philanthropies, and the Grantham Foundation.

Climate Change in the American Mind is conducted jointly by the Yale Program on Climate Change Communication and the George Mason University Center for Climate Change Communication.

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Executive Summary

Drawing on a nationally representative survey ($n = 1,013$) conducted from December 11 – 22, 2024, this report describes Americans'¹ perceptions of the health harms of global warming. This report also compares many of these results to surveys conducted in October 2014 ($n = 1,275$), December 2018 ($n = 1,114$), and April 2020 ($n = 1,029$).

This report focuses on public perceptions of the health harms of climate change and various sources of energy. Global warming is [causing many health harms](#) in the United States. Examples include injuries and deaths due to extreme events such as heat waves, wildfires, storms, and floods, the increasing geographic range of infectious diseases, and increasing exposure to air pollution. These harms disproportionately affect low-income people, people of color, and people with health conditions, among other groups.

The survey results reported here assess Americans' awareness and understanding of the health harms of global warming; their beliefs about who should take action to protect people from these harms; and their trust in various sources of information about these harms. We compare many of the results with prior surveys conducted in [2014](#), [2018](#), and [2020](#).

Among the key findings in this report:

Beliefs about the Health Harms of Global Warming

- Many Americans have thought (32%) or worried (28%) a “great deal” or “moderate amount” about the health harms of global warming, similar to the percentages in 2014.
- 39% of Americans think Americans' health is being harmed by global warming “a great deal” or “a moderate amount,” an 8 percentage point increase from 2014. However, only 16% think their own health is being harmed by global warming a “great deal” or a “moderate amount.”
- When asked to name health problems related to global warming, about four in ten Americans (37%) identify at least one health problem (+5 points since 2014).
- When asked about a list of potential health harms, Americans increasingly identify heat stroke (45%, +31 points since 2014), air pollution (44%, +26 points), asthma and/or other lung diseases (43%, +26 points), and pollen-related allergies (41%, +23 points), among other health harms, as likely to become “much more” or “somewhat more” common in their communities if global warming is not addressed.

Beliefs About Who is Most Likely to Experience Health Problems from Global Warming

- 47% of Americans understand that some groups in the U.S. are more likely than others to experience the health harms of global warming, +13 points since 2014.

¹ Throughout this report, we use the term “Americans” to refer to adults (18+) who reside in the United States (the 50 states plus the District of Columbia).

- When asked to name groups more likely than others to be affected, Americans most commonly identify low-income people (18%, +12 points since 2014), older adults (7%), people with health conditions (6%), and people of color (6%, +5 points).

Beliefs About the Health Harms of Energy Sources

- Most Americans think coal (65%) harms people's health, and many think natural gas does (38%, +9 points since 2018).
- 53% of Americans believe nuclear energy harms health, the same percentage as in 2018.
- Small, yet increased proportions of Americans believe wind (15%, +9 points) and solar power (12%, +7 points) harm people's health.

Beliefs About Who Should Do More to Protect People from the Health Harms of Global Warming

- 39% of Americans think federal agencies such as the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and the Federal Emergency Management Agency (FEMA) should do more to protect people from health harms related to global warming.
- 24% of Americans think doctors, nurses, and other health professionals should do more.

Trusted Information Sources

- Americans trust a broad range of information sources about the health harms of global warming, including first responders (60%, not asked on previous surveys), primary care physicians (60%, +11 points since 2014), climate scientists (50%, +10 points), the CDC (48%, +7 points), the American Medical Association (47%, +7 points), their local public health departments (45%, +11 points), the World Health Organization (44%, +7 points), the Environmental Protection Agency (43%, +9 points), environmental organizations (40%, +9 points), television weather reporters (36%, +10 points), and journalists (20%, not previously asked).

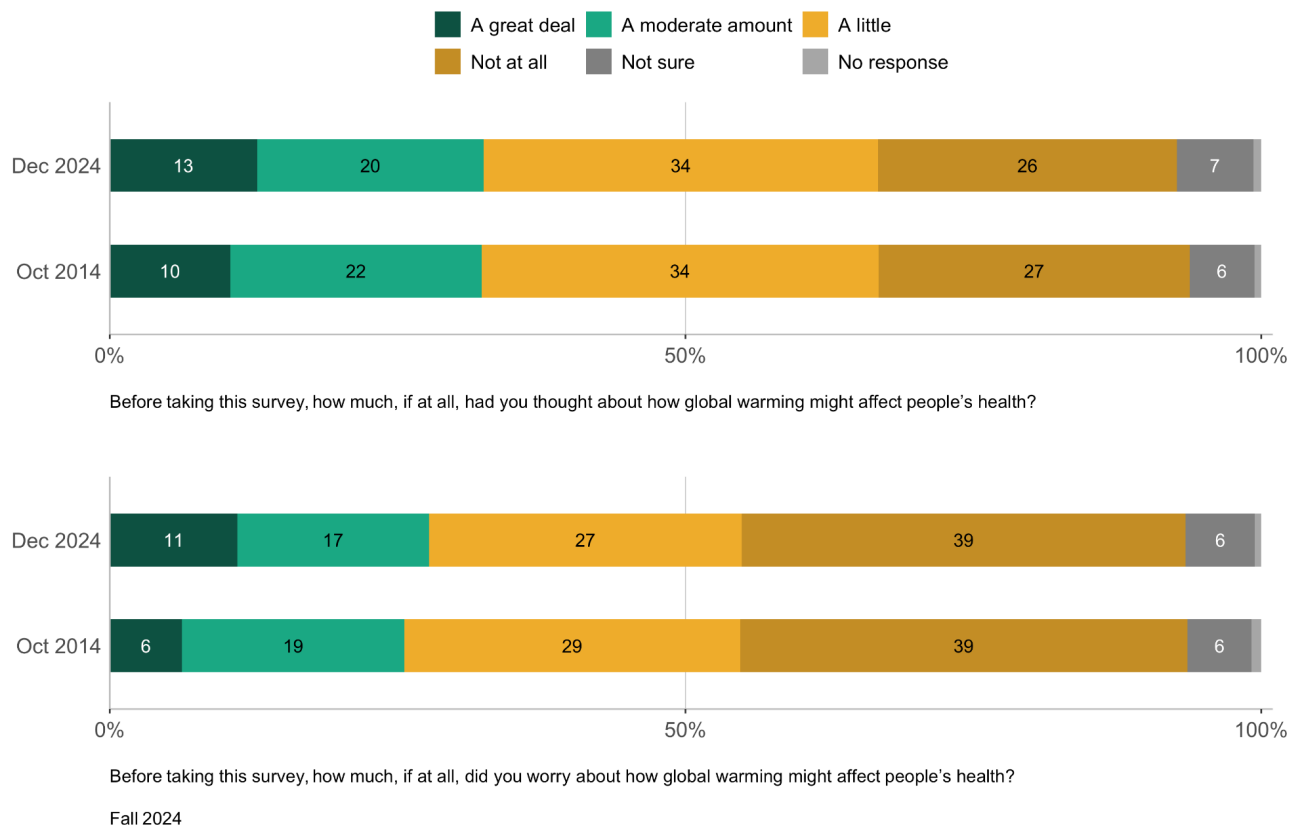
1 Beliefs About the Health Harms of Global Warming

1.1 Many Americans have thought or worried about how global warming might affect people's health.

About one-third of Americans (32%) say that, before taking the survey, they have thought either a “great deal” or “moderate amount” about the health harms of global warming.

Similarly, 28% of Americans say that before taking the survey, they have worried either a “great deal” or “moderate amount” about how global warming might affect their health. The percentage who say they have worried “a great deal” about the health harms of global warming has increased by five percentage points (from 6% to 11%) since the last time this question was asked in 2014.

Many Americans have thought or worried about how global warming might affect people's health

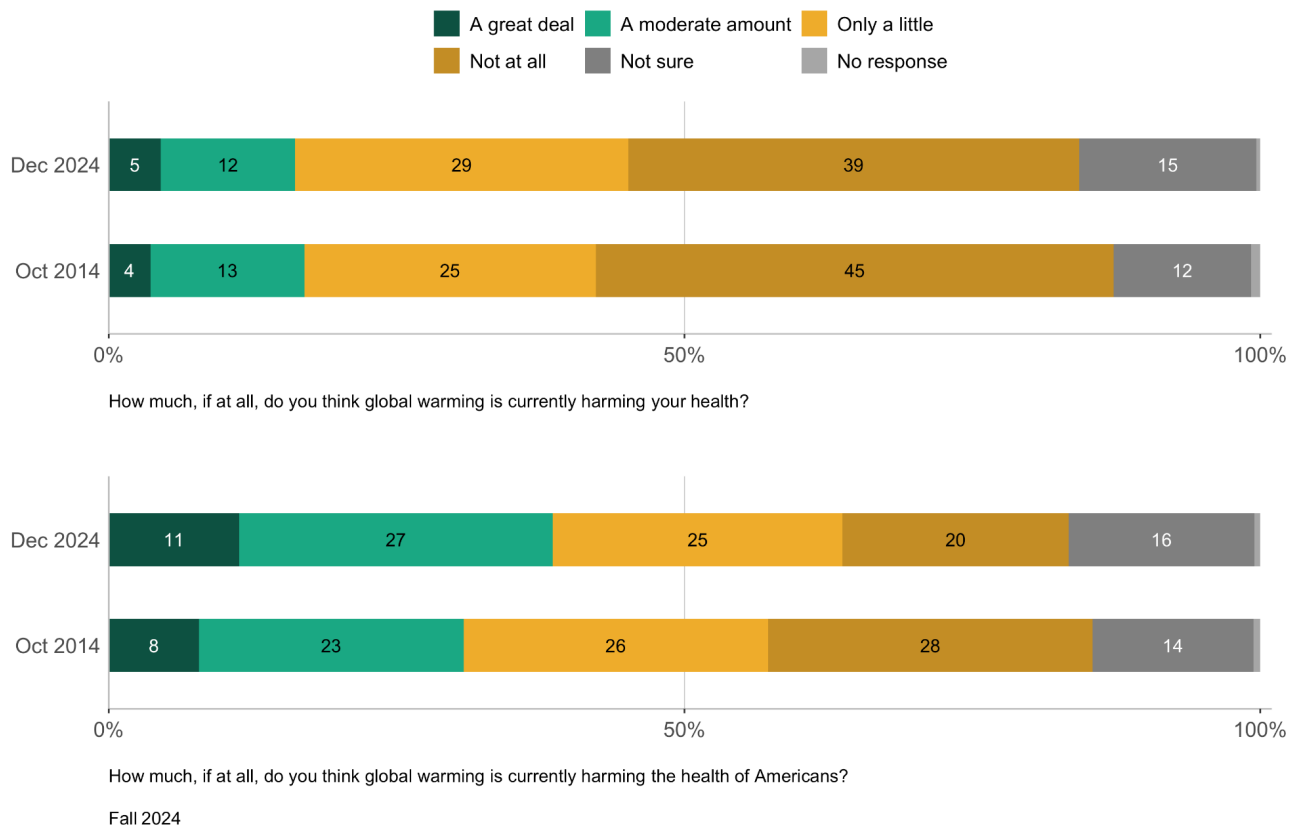


Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

1.2 Many Americans think global warming is harming the health of Americans; fewer think it is harming their own health.

About four in ten Americans (39%) think global warming is currently harming the health of *Americans* either a “great deal” or “moderate amount” (an increase of 8 percentage points since 2014). Fewer (16%) think global warming is currently harming their *own* health either a “great deal” or “moderate amount.”

Many Americans think global warming is harming the health of Americans; fewer think it is harming their own health



Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

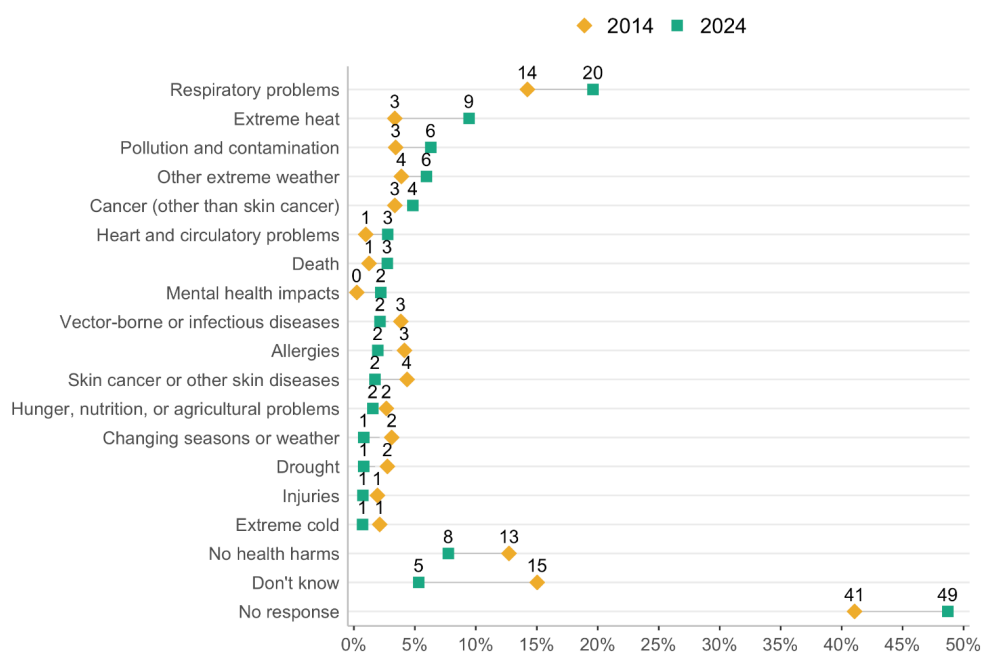
1.3 The percentage of Americans who identify respiratory problems and extreme heat as health harms of global warming has increased.

All survey participants were asked an open-ended question: “In your view, what health problems related to global warming are Americans experiencing, if any?” Responses were then categorized for analysis (refer to data tables, p. 15; for descriptions of all categories, refer to pp. 28-29).

Approximately four in ten Americans (37%) identify at least one health problem linked to global warming (+5 points since 2014). One in five (20%) identify respiratory problems (an increase of 5 percentage points), and about one in ten (9%) mention extreme heat (+6 percentage points). Other health problems commonly mentioned include pollution or contamination of air, water, soil, and food (6%, +3 points) and extreme weather events (other than extreme heat or cold), such as wildfires, storms, and floods (6%, +2 points).

Half of survey participants (49%) did not provide a response to this question (+8 points), while 8% said there are no health harms (-5 points), and 5% said they don’t know if there are any health harms (-10 points).

The percentage of Americans who identify respiratory problems and extreme heat as health harms of global warming has increased



In your view, what health problems related to global warming are Americans experiencing, if any?

Fall 2024

Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

1.4 An increasing percentage of Americans think health harms will become more common in their community due to global warming.

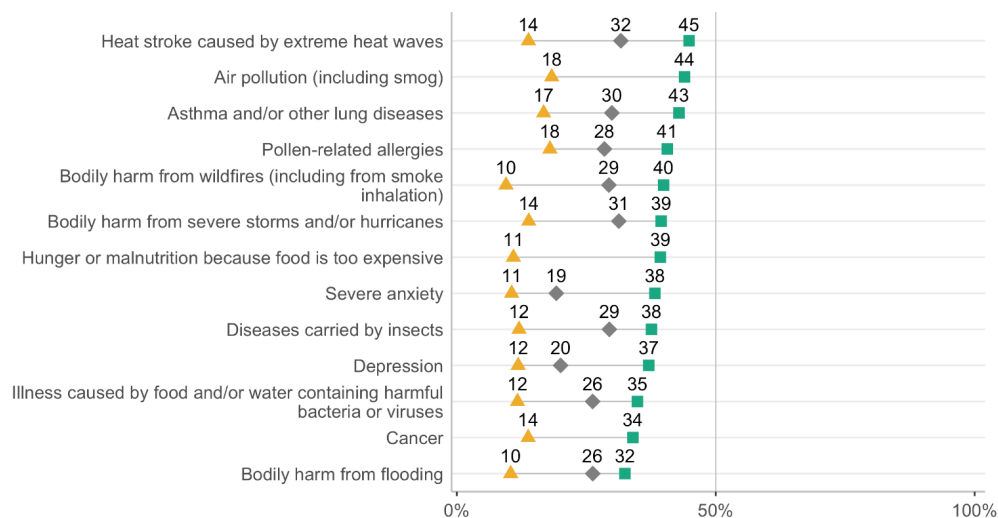
An increasing percentage of Americans think many health harms will become “much more” or “somewhat more” common in their community over the next ten years as a result of global warming if nothing is done to address it. Currently, the health harms most anticipated to become more common include heat stroke (45%, +31 percentage points since 2014), air pollution (44%, +26 points), asthma and/or other lung diseases (43%, +26 points), and pollen-related allergies (41%, +23 points).

Additionally, many Americans think bodily harm from wildfires (including from smoke inhalation; 40%, +30 points), bodily harm from severe storms and/or hurricanes (39%, +26 points), hunger or malnutrition because food is too expensive (39%, +28 points), severe anxiety (38%, +28 points), diseases carried by insects (38%, +26 points), depression (37%, +25 points), illness caused by food and/or water containing harmful bacteria or viruses (35%, +23 points), cancer (34%, +20 points), and bodily harm from flooding (32%, +22 points) will become more common.

An increasing percentage of Americans think health harms will become more common in their community due to global warming

- % “much” or “somewhat” more common -

▲ 2014 ◆ 2020 ■ 2024



Do you think each of the following will become more or less common in your community over the next 10 years as a result of global warming if nothing is done to address it? If you're not sure, please provide your best estimate.

Fall 2024

Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

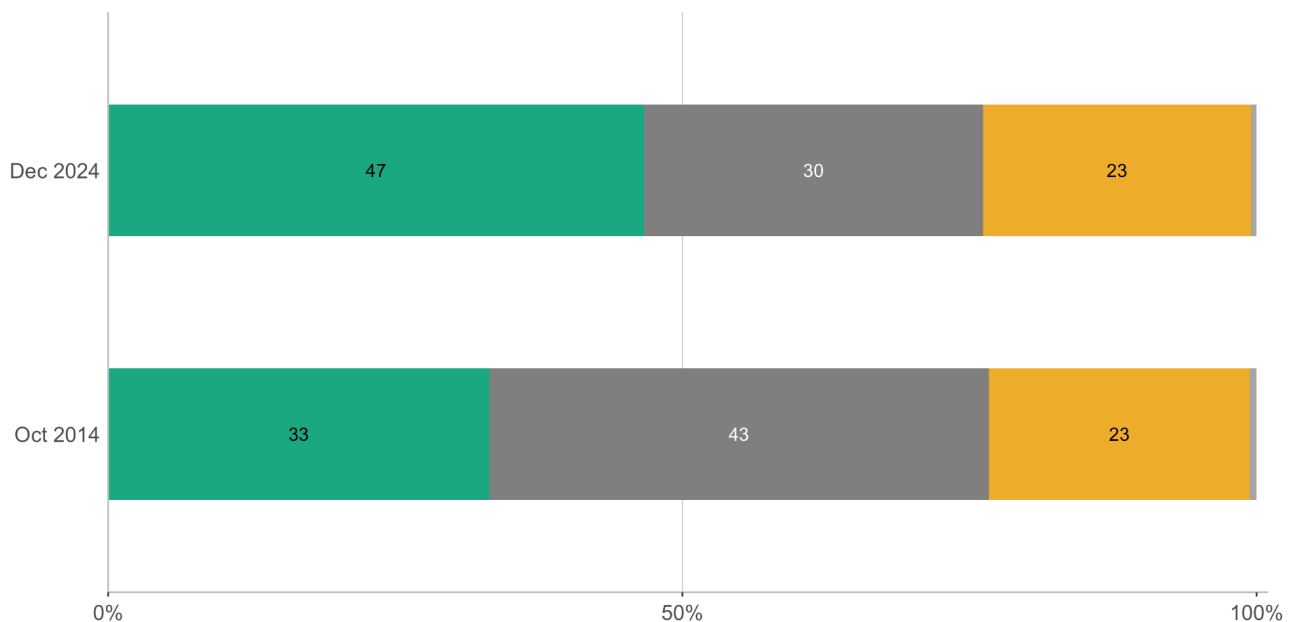
2 Beliefs About Who is Most Likely to Experience Health Problems from Global Warming

2.1 About half of Americans think some groups or types of Americans are more likely than others to experience health problems from global warming.

About half of Americans (47%) understand that some groups or types of Americans are more likely than others to experience health problems related to global warming — an increase of 13 percentage points since the question was last asked in 2014.

About half of Americans think some groups or types of Americans are more likely than others to experience health problems from global warming

Yes Not sure No No response



Do you think that some groups or types of Americans are more likely than other Americans to experience health problems related to global warming?

Fall 2024

Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

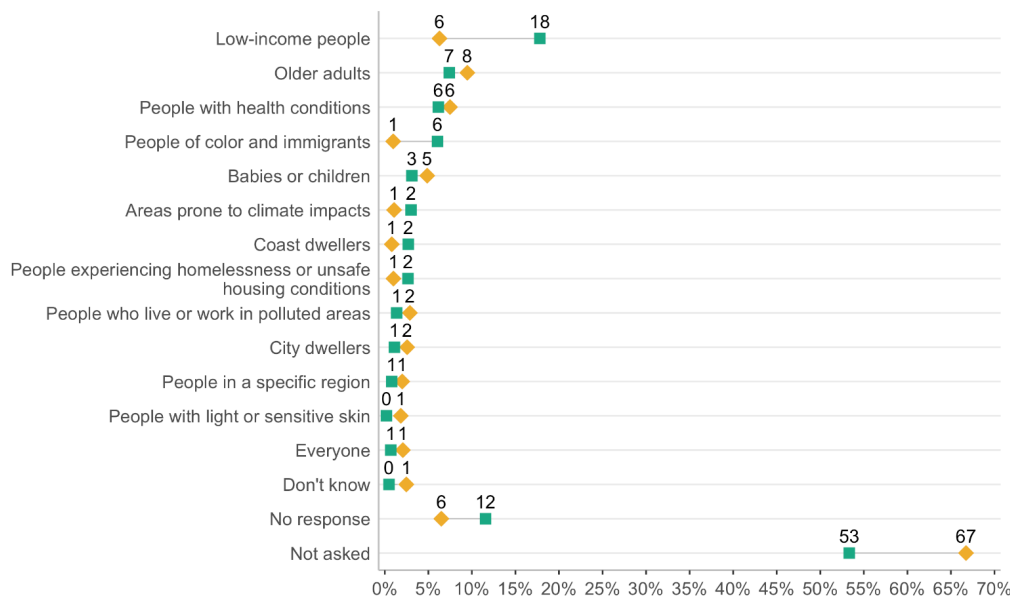
2.2 The percentage of Americans who identify low-income people and people of color as likely to experience health problems from global warming has increased.

Survey participants who said that some groups are more likely than others to experience the health harms of global warming (refer to section 2.1) were then asked the open-ended question: “Which groups or types of Americans do you think are more likely than other Americans to experience health problems related to global warming?” The responses were categorized and analyzed (refer to data tables, p. 20, and category descriptions, p. 30).

Americans most commonly say that low-income people (18%, an increase of 12 percentage points since 2014), older adults (7%), people with health conditions (6%), and people of color (6%, +5 points), including Black, Latino, Indigenous and immigrant communities, are more likely than others to experience the health harms of global warming.

The percentage of Americans who identify low-income people and people of color as likely to experience health problems from global warming has increased

◆ 2014 ■ 2024



Which groups or types of Americans do you think are more likely than other Americans to experience health problems related to global warming?

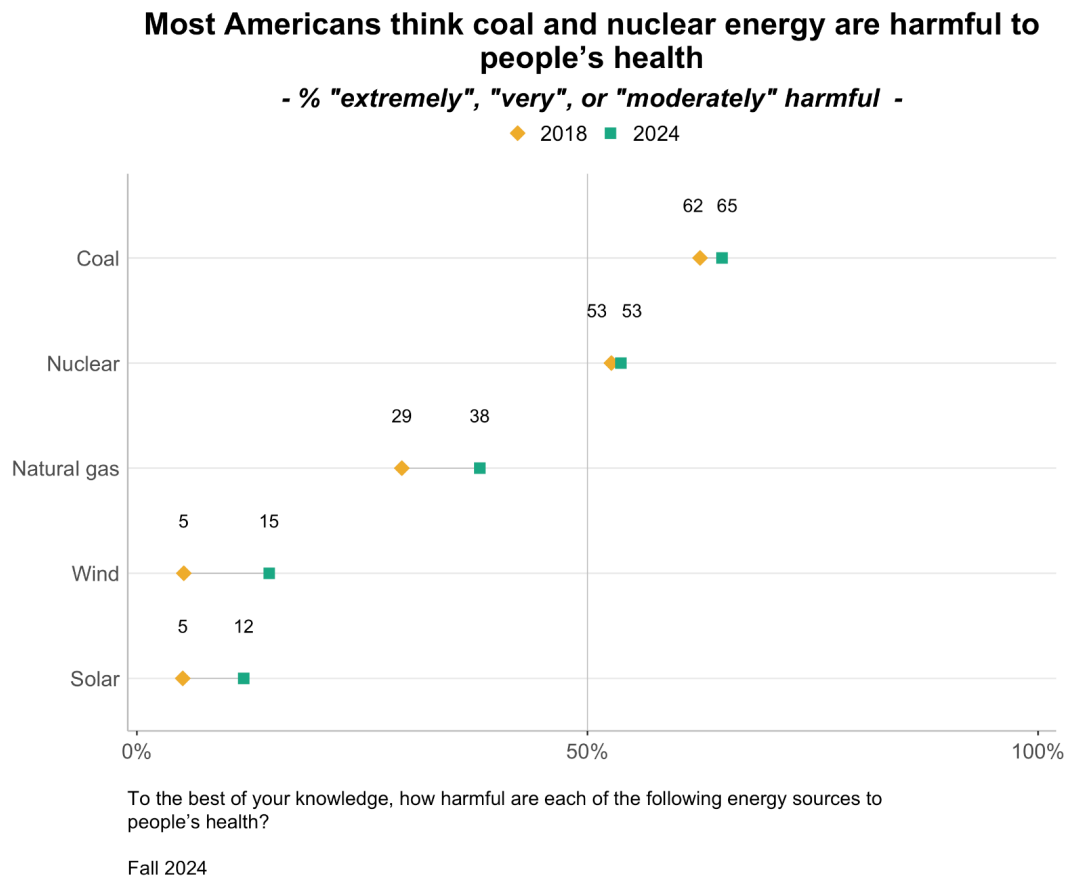
Fall 2024

Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

3 Beliefs About the Health Harms of Energy Sources

3.1 Most Americans think coal and nuclear energy are harmful to people's health.

About two-thirds of Americans (65%) view coal as “extremely,” “very,” or “moderately” harmful to people’s health, and about half (53%) think nuclear energy is at least “moderately” harmful. Smaller (but increased) proportions of Americans think natural gas (38%, +9 percentage points since 2018), wind (15%, +9 points), and solar energy (12%, +7 points) are harmful to people’s health.



Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

4 Who Should Do More to Protect People from the Health Harms of Global Warming?

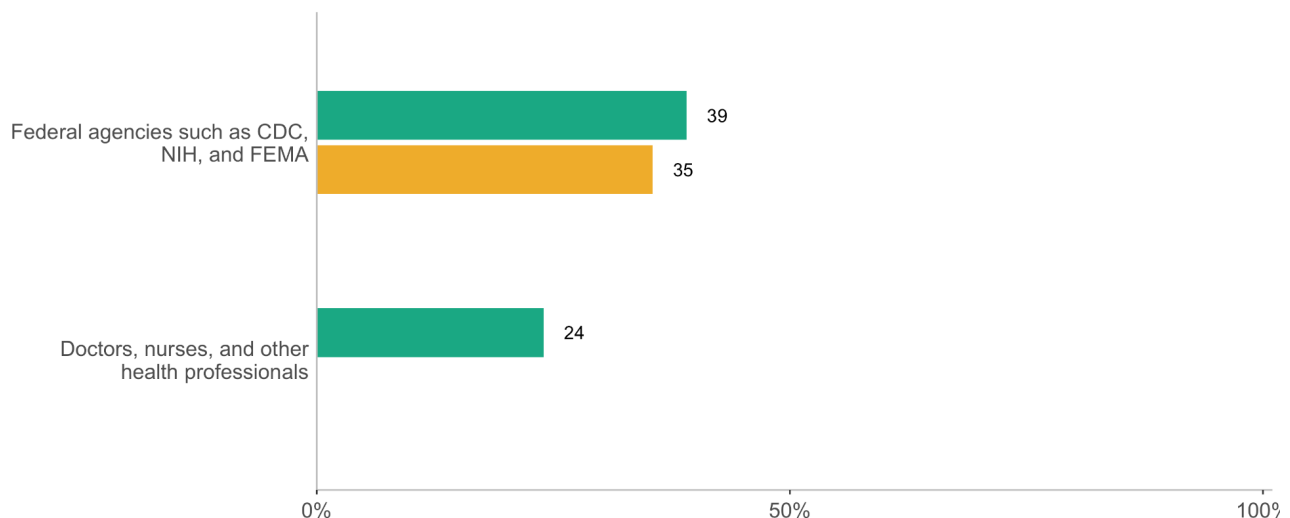
4.1 Many Americans think federal agencies and health professionals should be doing more to protect people from the health harms of global warming.

About four in ten Americans (39%) think federal agencies such as the Centers for Disease Control and Prevention, the National Institutes of Health, and the Federal Emergency Management Agency should be doing either “much more” or “somewhat more” to protect people from health problems related to global warming. About one in four Americans (24%) think doctors, nurses, and other health professionals should do more.

Many Americans think federal agencies and health professionals should be doing more to protect people from the health harms of global warming

- % should be doing “much” or “somewhat” more -

Oct 2014 Dec 2024



In your opinion, should each of the following be doing more, less, or about the same amount as they are doing now to protect people from health problems related to global warming?

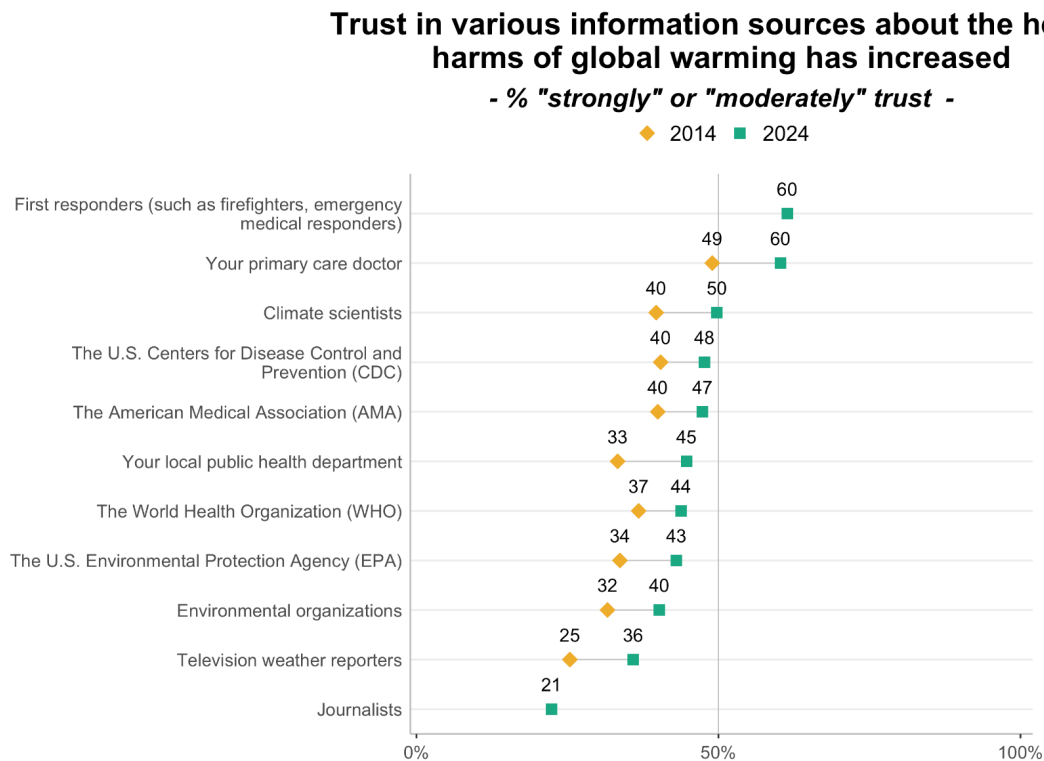
Fall 2024

Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

5 Trusted Information Sources

5.1 Trust in various information sources about the health harms of global warming has increased.

Six in ten Americans “strongly trust” or “moderately trust” first responders such as firefighters and emergency medical responders (60%, not asked on previous surveys) and their primary care doctors (60%, an increase of 11 percentage points since 2014) as sources of information about health problems related to global warming. Half of Americans trust climate scientists (50%, +10 points) as a source of this information. Many Americans also trust the U.S. Centers for Disease Control and Prevention (48%, +7 points), the American Medical Association (47%, +7 points), their local public health department (45%, +11 points), the World Health Organization (44%, +7 points), the U.S. Environmental Protection Agency (43%, +9 points), environmental organizations (40%, +9 points), television weather reporters (36%, +10 points), and journalists (21%, not previously asked) as information sources.



How much do you trust or distrust each of the following as a source of information about health problems related to global warming?

Fall 2024

Source: Source: Yale Program on Climate Change Communication; George Mason University Center for Climate Change Communication

Appendix I: Data Tables

Table Notes:

- In all tables, the base is all Americans age 18+.
- In the first row of each table, “Unweighted Base” refers to the unweighted number of respondents in each column.
- Percentages reported are weighted to match U.S. Census parameters.
- A dash (“-”) denotes that there were no responses in that cell, and “0” denotes that the cell value is greater than 0 but less than 0.50.
- If a dash (“-”) appears for all possible responses for a given question and wave, then that question was not asked in that survey wave.

1.1 Before taking this survey, how much, if at all, had you thought about how global warming might affect people’s health?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
A great deal (%)	10	-	-	13
A moderate amount (%)	22	-	-	20
A little (%)	34	-	-	34
Not at all (%)	27	-	-	26
Not sure (%)	6	-	-	7
No response (%)	1	-	-	1

Before taking this survey, how much, if at all, did you worry about how global warming might affect people’s health?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
A great deal (%)	6	-	-	11
A moderate amount (%)	19	-	-	17
A little (%)	29	-	-	27
Not at all (%)	39	-	-	39
Not sure (%)	6	-	-	6
No response (%)	1	-	-	1

1.2 How much, if at all, do you think global warming is currently harming your health?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
A great deal (%)	4	-	-	5
A moderate amount (%)	13	-	-	12
Only a little (%)	25	-	-	29
Not at all (%)	45	-	-	39
Not sure (%)	12	-	-	15
No response (%)	1	-	-	0

How much, if at all, do you think global warming is currently harming the health of Americans?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
A great deal (%)	8	-	-	11
A moderate amount (%)	23	-	-	27
Only a little (%)	26	-	-	25
Not at all (%)	28	-	-	20
Not sure (%)	14	-	-	16
No response (%)	1	-	-	1

1.3 In your view, what health problems related to global warming are Americans experiencing, if any?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Respiratory problems (%)	14	-	-	20
Extreme heat (%)	3	-	-	9
Other extreme weather (%)	4	-	-	6
Pollution and contamination (%)	3	-	-	6
Cancer (other than skin cancer) (%)	3	-	-	4
Death (%)	1	-	-	3
Heart and circulatory problems (%)	1	-	-	3
Allergies (%)	3	-	-	2
Hunger, nutrition, or agricultural problems (%)	2	-	-	2
Mental health impacts (%)	0	-	-	2
Skin cancer or other skin diseases (%)	4	-	-	2
Vector-borne or infectious diseases (%)	3	-	-	2
Injuries (%)	1	-	-	1
Changing seasons or weather (%)	2	-	-	1
Drought (%)	2	-	-	1
Extreme cold (%)	1	-	-	1
No health harms (%)	13	-	-	8
Don't know (%)	15	-	-	5
No response (%)	41	-	-	49

1.4 Do you think each of the following will become more or less common in your community over the next 10 years as a result of global warming if nothing is done to address it? If you're not sure, please provide your best estimate.

Heat stroke caused by extreme heat waves

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	4	-	15	25
Somewhat more common (%)	9	-	17	20
A little more common (%)	23	-	26	20
Will stay about the same (%)	45	-	32	27
A little less common (%)	3	-	2	2
Somewhat less common (%)	4	-	2	2
Much less common (%)	8	-	5	3
No response (%)	3	-	1	2

Bodily harm from severe storms and/or hurricanes

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	5	-	15	21
Somewhat more common (%)	9	-	16	19
A little more common (%)	20	-	26	19
Will stay about the same (%)	45	-	32	33
A little less common (%)	5	-	3	2
Somewhat less common (%)	5	-	2	2
Much less common (%)	8	-	5	3
No response (%)	2	-	2	2

Bodily harm from flooding

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	4	-	10	15
Somewhat more common (%)	6	-	16	17
A little more common (%)	17	-	26	21
Will stay about the same (%)	50	-	36	36
A little less common (%)	5	-	3	3
Somewhat less common (%)	5	-	2	2
Much less common (%)	10	-	6	5
No response (%)	3	-	2	2

Bodily harm from wildfires (including from smoke inhalation)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	4	-	15	21
Somewhat more common (%)	6	-	15	19
A little more common (%)	16	-	24	19
Will stay about the same (%)	51	-	35	33
A little less common (%)	6	-	2	2
Somewhat less common (%)	5	-	2	1
Much less common (%)	9	-	5	3
No response (%)	2	-	1	2

Air pollution (including smog)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	8	-	-	24
Somewhat more common (%)	10	-	-	20
A little more common (%)	20	-	-	18
Will stay about the same (%)	44	-	-	29
A little less common (%)	4	-	-	3
Somewhat less common (%)	4	-	-	1
Much less common (%)	8	-	-	3
No response (%)	3	-	-	2

Pollen-related allergies

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	7	-	15	23
Somewhat more common (%)	11	-	14	18
A little more common (%)	20	-	22	17
Will stay about the same (%)	45	-	38	34
A little less common (%)	4	-	3	2
Somewhat less common (%)	3	-	2	2
Much less common (%)	7	-	4	2
No response (%)	3	-	2	2

Diseases carried by insects, such as Lyme disease, West Nile virus, and/or dengue fever

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	4	-	13	17
Somewhat more common (%)	8	-	16	20
A little more common (%)	21	-	24	18
Will stay about the same (%)	48	-	35	36
A little less common (%)	4	-	4	3
Somewhat less common (%)	4	-	2	1
Much less common (%)	8	-	4	3
No response (%)	2	-	1	2

Illness caused by food and/or water containing harmful bacteria or viruses

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	5	-	12	19
Somewhat more common (%)	7	-	14	16
A little more common (%)	20	-	25	22
Will stay about the same (%)	48	-	37	35
A little less common (%)	5	-	3	2
Somewhat less common (%)	4	-	3	2
Much less common (%)	8	-	5	3
No response (%)	2	-	2	2

Depression

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	4	-	9	18
Somewhat more common (%)	7	-	11	20
A little more common (%)	15	-	21	19
Will stay about the same (%)	53	-	47	36
A little less common (%)	4	-	4	2
Somewhat less common (%)	4	-	3	1
Much less common (%)	8	-	4	3
No response (%)	3	-	1	2

Severe anxiety

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	5	-	9	17
Somewhat more common (%)	6	-	11	21
A little more common (%)	16	-	25	20
Will stay about the same (%)	54	-	44	34
A little less common (%)	4	-	4	2
Somewhat less common (%)	4	-	2	2
Much less common (%)	8	-	5	3
No response (%)	3	-	2	2

Asthma and/or other lung diseases

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	6	-	13	23
Somewhat more common (%)	11	-	16	20
A little more common (%)	20	-	24	18
Will stay about the same (%)	45	-	35	32
A little less common (%)	4	-	3	2
Somewhat less common (%)	4	-	2	1
Much less common (%)	8	-	4	2
No response (%)	2	-	2	2

Hunger or malnutrition because food is too expensive

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	4	-	-	20
Somewhat more common (%)	7	-	-	19
A little more common (%)	19	-	-	20
Will stay about the same (%)	48	-	-	31
A little less common (%)	5	-	-	3
Somewhat less common (%)	5	-	-	1
Much less common (%)	10	-	-	3
No response (%)	2	-	-	2

Cancer

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more common (%)	5	-	-	18
Somewhat more common (%)	9	-	-	16
A little more common (%)	17	-	-	18
Will stay about the same (%)	52	-	-	41
A little less common (%)	4	-	-	2
Somewhat less common (%)	3	-	-	1
Much less common (%)	7	-	-	3
No response (%)	3	-	-	2

2.1 Do you think that some groups or types of Americans are more likely than other Americans to experience health problems related to global warming?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Yes (%)	33	-	-	47
Not sure (%)	43	-	-	30
No (%)	23	-	-	23
No response (%)	1	-	-	0

2.2 Which groups or types of Americans do you think are more likely than other Americans to experience health problems related to global warming?

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Low-income people (%)	6	-	-	18
Older adults (%)	8	-	-	7
People with health conditions (%)	6	-	-	6
People of color and immigrants (%)	1	-	-	6
Babies or children (%)	5	-	-	3
People experiencing homelessness or unsafe housing conditions (%)	1	-	-	2
Areas prone to climate impacts (%)	1	-	-	2
Coast dwellers (%)	1	-	-	2
City dwellers (%)	2	-	-	1
People who live or work in polluted areas (%)	2	-	-	1
People in a specific region (%)	1	-	-	1
People with light or sensitive skin (%)	1	-	-	0
Everyone (%)	1	-	-	1
Don't know (%)	1	-	-	0
No response (%)	6	-	-	12
Not asked (%)	67	-	-	53

3.1 To the best of your knowledge, how harmful are each of the following energy sources to people's health?

Solar

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Extremely harmful (%)	-	1	-	2
Very harmful (%)	-	1	-	3
Moderately harmful (%)	-	3	-	7
A little harmful (%)	-	9	-	18
Not at all harmful (%)	-	66	-	54
Don't know (%)	-	19	-	15
No response (%)	-	1	-	0

Wind

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Extremely harmful (%)	-	1	-	2
Very harmful (%)	-	1	-	3
Moderately harmful (%)	-	4	-	10
A little harmful (%)	-	9	-	19
Not at all harmful (%)	-	66	-	53
Don't know (%)	-	18	-	13
No response (%)	-	1	-	0

Natural gas

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Extremely harmful (%)	-	4	-	4
Very harmful (%)	-	5	-	9
Moderately harmful (%)	-	21	-	25
A little harmful (%)	-	31	-	30
Not at all harmful (%)	-	14	-	16
Don't know (%)	-	24	-	16
No response (%)	-	2	-	1

Nuclear

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Extremely harmful (%)	-	22	-	23
Very harmful (%)	-	14	-	14
Moderately harmful (%)	-	17	-	16
A little harmful (%)	-	13	-	20
Not at all harmful (%)	-	10	-	14
Don't know (%)	-	23	-	13
No response (%)	-	1	-	1

Coal

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Extremely harmful (%)	-	20	-	18
Very harmful (%)	-	21	-	21
Moderately harmful (%)	-	22	-	26
A little harmful (%)	-	13	-	17
Not at all harmful (%)	-	5	-	6
Don't know (%)	-	19	-	12
No response (%)	-	1	-	0

4.1 In your opinion, should each of the following be doing more, less, or about the same amount as they are doing now to protect people from health problems related to global warming?

Federal agencies such as the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and the Federal Emergency Management Agency (FEMA)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more (%)	21	-	-	20
Somewhat more (%)	14	-	-	19
A little more (%)	12	-	-	15
About the same (%)	23	-	-	20
A little less (%)	3	-	-	4
Somewhat less (%)	3	-	-	3
Much less (%)	11	-	-	7
Not sure (%)	11	-	-	11
No response (%)	2	-	-	1

Doctors, nurses, and other health professionals

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Much more (%)	-	-	-	9
Somewhat more (%)	-	-	-	15
A little more (%)	-	-	-	16
About the same (%)	-	-	-	38
A little less (%)	-	-	-	3
Somewhat less (%)	-	-	-	2
Much less (%)	-	-	-	3
Not sure (%)	-	-	-	12
No response (%)	-	-	-	2

5.1 How much do you trust or distrust each of the following as a source of information about health problems related to global warming?**The World Health Organization (WHO)**

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	11	-	-	16
Moderately trust (%)	26	-	-	28
In between (%)	29	-	-	19
Moderately distrust (%)	8	-	-	9
Strongly distrust (%)	11	-	-	15
Not sure (%)	14	-	-	12
No response (%)	1	-	-	1

The U.S. Environmental Protection Agency (EPA)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	9	-	-	14
Moderately trust (%)	25	-	-	29
In between (%)	28	-	-	22
Moderately distrust (%)	11	-	-	11
Strongly distrust (%)	13	-	-	12
Not sure (%)	12	-	-	11
No response (%)	1	-	-	1

The U.S. Centers for Disease Control and Prevention (CDC)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	14	-	-	18
Moderately trust (%)	27	-	-	30
In between (%)	28	-	-	19
Moderately distrust (%)	9	-	-	11
Strongly distrust (%)	10	-	-	12
Not sure (%)	12	-	-	9
No response (%)	1	-	-	1

Your local public health department

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	7	-	-	11
Moderately trust (%)	26	-	-	34
In between (%)	36	-	-	28
Moderately distrust (%)	9	-	-	9
Strongly distrust (%)	8	-	-	7
Not sure (%)	13	-	-	10
No response (%)	1	-	-	1

The American Medical Association (AMA)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	10	-	-	16
Moderately trust (%)	30	-	-	32
In between (%)	30	-	-	24
Moderately distrust (%)	8	-	-	9
Strongly distrust (%)	8	-	-	7
Not sure (%)	13	-	-	11
No response (%)	1	-	-	1

Your primary care doctor

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	19	-	-	25
Moderately trust (%)	30	-	-	35
In between (%)	27	-	-	21
Moderately distrust (%)	4	-	-	4
Strongly distrust (%)	4	-	-	2
Not sure (%)	14	-	-	11
No response (%)	1	-	-	1

Television weather reporters

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	4	-	-	6
Moderately trust (%)	21	-	-	30
In between (%)	37	-	-	30
Moderately distrust (%)	14	-	-	13
Strongly distrust (%)	9	-	-	9
Not sure (%)	13	-	-	10
No response (%)	1	-	-	1

Environmental organizations

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	7	-	-	11
Moderately trust (%)	24	-	-	29
In between (%)	31	-	-	23
Moderately distrust (%)	10	-	-	11
Strongly distrust (%)	14	-	-	13
Not sure (%)	12	-	-	11
No response (%)	1	-	-	1

Climate scientists

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	17	-	-	23
Moderately trust (%)	23	-	-	26
In between (%)	29	-	-	21
Moderately distrust (%)	7	-	-	9
Strongly distrust (%)	10	-	-	9
Not sure (%)	13	-	-	9
No response (%)	1	-	-	1

Journalists

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	-	-	-	3
Moderately trust (%)	-	-	-	19
In between (%)	-	-	-	29
Moderately distrust (%)	-	-	-	18
Strongly distrust (%)	-	-	-	20
Not sure (%)	-	-	-	11
No response (%)	-	-	-	1

First responders (such as firefighters, emergency medical responders)

	Oct 2014	Dec 2018	Apr 2020	Dec 2024
Unweighted Base	1,275	1,114	1,029	1,013
Strongly trust (%)	-	-	-	25
Moderately trust (%)	-	-	-	35
In between (%)	-	-	-	23
Moderately distrust (%)	-	-	-	4
Strongly distrust (%)	-	-	-	2
Not sure (%)	-	-	-	10
No response (%)	-	-	-	1

Appendix II: Survey Method

The data in this report are based on a nationally representative survey of 1,013 American adults, aged 18 and older. The survey was conducted December 11 –22, 2024. All questionnaires were self-administered by respondents in a web-based environment. The median completion time for the survey was 24 minutes.

The sample was drawn from the Ipsos KnowledgePanel®, an online panel of members drawn using probability sampling methods. Prospective members are recruited using a combination of random digit dial and address-based sampling techniques that cover virtually all (non-institutional) resident phone numbers and addresses in the United States. Those contacted who would choose to join the panel but do not have access to the Internet are loaned computers and provided Internet access so they may participate.

The sample therefore includes a representative cross-section of American adults – irrespective of whether they have Internet access, use only a cell phone, etc. Key demographic variables were weighted, post survey, to match US Census Bureau norms.

From November 2008 to December 2018, no KnowledgePanel® member participated in more than one *Climate Change in the American Mind* (CCAM) survey. Beginning with the April 2019 survey, panel members who have participated in CCAM surveys in the past, excluding the most recent two surveys, may be randomly selected for participation. In the current survey, 267 respondents participated in a previous CCAM survey.

To test whether the proportions of respondents who selected a given answer or set of answers differed between 2024 and a previous year, two-tailed two-proportion z-tests were conducted with an alpha level of 0.05.

The survey instrument was designed by Anthony Leiserowitz, Seth Rosenthal, Jennifer Carman, Marija Verner, Matthew Goldberg, and Jennifer Marlon of Yale University, and Edward Maibach, John Kotcher, Teresa Myers, Joshua Ettinger, Julia Fine, and Kathryn Thier of George Mason University. The content analysis of the open-ended responses, including the development of categories, was conducted by Julia Fine, Joshua Ettinger, Yuan Yue, and Hilyatuz Zakiyyah of George Mason University. The figures and tables were constructed by Emily Goddard of Yale University.

Sample details and margins of error

All samples are subject to some degree of sampling error – that is, statistical results obtained from a sample can be expected to differ somewhat from results that would be obtained if every member of the target population were interviewed. Average margins of error for each wave of CCAM, at the 95% confidence level, are plus or minus 3 percentage points except where noted.

- December 2024: Fielded December 11 – 22 ($n = 1,013$)
- April 2020: Fielded April 7 – 17 ($n = 1,029$)
- December 2018: Fielded November 28 – December 11 ($n = 1,114$)
- October 2014: Fielded October 17 – 28 ($n = 1,275$)

Rounding error and tabulation

In data tables, bases specified are unweighted, while percentages are weighted to match national population parameters.

For tabulation purposes, percentage points are rounded to the nearest whole number. As a result, percentages in a given figure or table may total slightly higher or lower than 100%. Summed response categories (e.g., “strongly agree” + “somewhat agree”) are rounded after sums are calculated. For example, in some cases, the sum of 25% + 25% might be reported as 51% (e.g., 25.3% + 25.3% = 50.6%, which after rounding would be reported as 25% + 25% = 51%).

Appendix III: Coding Open-Ended Responses

Instructions for coding Section 1.3: Health Harms of Global Warming

A team of two postdoctoral fellows and two doctoral students coded the open-ended responses using jointly developed instructions and categories. The two doctoral students coded the 2024 data, while the postdoctoral fellows re-coded the 2014 data. Differences between each pair of coders were resolved via pair discussion, and if a resolution could not be reached, discussion among the full team. Definitions of the categories used by the coders are listed below.

For the following variables, we code each survey response for the presence or absence (0=absent; present=1) of the following categories listed below. A survey response can be coded positive for multiple content variables.

No response — Applied if the participant left the question blank or said something similar to “No comment.”

Respiratory problems — This category represents any reference to any kind of respiratory health problems, such as lung diseases or breathing difficulties. It does not include lung cancer. Examples include: “Lung issue due to smoke” “asthma” “breathing issues”

Extreme heat — This category represents any reference to any health harms related to extreme heat. Examples include: “heat stroke” “heat exhaustion” “overheating more easily”

No health harms — This category represents any responses that claim that global warming causes no health harms. Examples include: “None” “None that I am personally aware of” “None that I can think of”

Pollution and contamination — This category represents any reference to health harms resulting from pollution or contamination of air, water, food, or soil. Examples include: “Air pollution” “poisoned water” “food poisoning”

Other extreme weather — This category represents any reference to health harms associated with extreme weather events other than extreme heat or extreme cold, such as storms and wildfires, or comments that mention extreme weather in general without specifying specific types. Examples include: “I mean extreme weather could cause physical health problems” “More natural disasters” “Fires, dust storms”

Don’t know — This category represents any comments that indicate that the participant does not know or is unsure about the health harms of global warming. Examples include: “not sure” “I’ve no idea” “don’t know”

Cancer (other than skin cancer) — This category represents any reference to any types of cancer, including lung cancer, as a health harm of global warming. Examples include: “some cancers” “lot of people getting cancer”

Heart and circulatory problems — This category represents any reference to any cardiac or circulatory health issues. Examples include: “heart diseases” “cardiovascular diseases” “heart problems”

Death — This category represents any reference to deaths resulting from global warming. Examples include: “I mean, extreme weather is killing people. So, death?” “threats to life itself” “more people are dying from heat”

Mental health impacts — This category represents any reference to mental health problems associated with global warming. Examples include: “increased stress” “mental health” “anxiety”

Vector-borne or infectious diseases — This category represents any reference to vector-borne or infectious diseases, such as diseases spread to humans via insects or by other humans. Examples include: “tick-borne illnesses” “pest-related diseases like Lyme disease and West Nile Virus” “Covid 19”

Allergies — This category represents any reference to allergies as a health harm of global warming. Examples include: “Allergies” “Pollen” “Increase allergens”

Skin cancer or other skin diseases — This category represents any reference to skin cancer or other skin diseases, as well as sunburn. Examples include: “skin cancer” “sunburn” “skin conditions”

Hunger, nutrition, or agricultural problems — This category represents any reference to health problems associated with limited access to sufficient food quality or quantity. Examples include: “poor health outcomes due to harms in food supply” “starvation” “food choices will also be more limited and expensive”

Changing seasons or weather — This category represents any reference to health impacts associated with changing seasons or long-term weather patterns, excluding references to extreme weather. Examples include: “changes in weather” “seasonal shifting” “rising temperature”

Drought — This category represents any reference to health impacts associated with drought. Examples include: “droughts in California” “droughts” “reduced snowfall”

Injuries — This category represents any reference to injuries resulting from global warming. Examples include: “Deaths or injuries from extreme weather events” “Injuries and deaths resulting from stronger storms” “extreme weather related injuries”

Extreme cold — This category represents any reference to health impacts associated with extreme cold. Examples include: “Does freezing to death count?” “Over exposure to heat or cold” “aching joints in extreme cold”

Instructions for coding Section 2.2: Groups most likely to experience health problems due to global warming

As with section 1.3, the same team of doctoral students and postdoctoral fellows coded the open-ended responses using jointly developed instructions and categories, with the doctoral students coding the 2024 data and the postdoctoral fellows coding the 2014 data, and differences being resolved through pair or group discussion. The “Not asked” classification was applied to respondents who did not answer “Yes” to the previous question, “Do you think that some groups or types of Americans are more likely than other Americans to experience health problems related to global warming?” Definitions of the other categories used by the coders are listed below.

For the following variables, we code each survey response for the presence or absence (0 = absent; 1 = present) of the following categories listed below. A survey response can be coded positive for multiple content variables.

Low-income people — This category represents any reference to people with lower wealth. Examples include: “The impoverished” “Underprivileged” “Less fortunate” “blue collar”

No response — Applied if the participant left the question blank or said something similar to “No comment.”

Older adults — This category represents any reference to older people. Examples include: “The old” “elderly” “older”

People with health conditions — This category represents any reference to people with health conditions of any kind, broadly defined to include disability and addiction. Examples include: “Those with already underlying issues” “Unhealthy obese” “smokers”

People of color and immigrants — This category includes people of all races and ethnicities other than white, as well as immigrants of unspecified race. Examples include: “Minorities affected by environmental racism” “People of color” “BIPOC” “Native Americans” “immigrants”

Babies or children — This category represents any reference to infants, toddlers, children, or the young being especially likely to be harmed by the health consequences of global warming. Examples include: “Children” “Infants or toddlers” “The young”

Areas prone to climate impacts — This category represents any reference to people living in places that are more likely to be affected by climate-related problems. Examples include: “Places where weather extremes happen: fires, floods etc” “people living in areas that are more affected by global warming” “Those living in flood plains”

Coast dwellers — This category represents any reference to people living on the coast or near a body of water. Examples include: “People near water because of rising sea levels” “Those who may live near coastlines” “Those near bodies of water”

People experiencing homelessness or unsafe housing conditions — This category represents any reference to people who are not housed or whose housing is not safe, including not being adequately heated, cooled, or powered. Examples include: “the homeless” “Those unable to afford air conditioning” “power loss”

People who live or work in polluted areas — This category represents any reference to people living or working in areas with polluted air, water, or soil. Examples include: “Ones living in polluted areas” “People [who] are exposed to all kinds of smog and poor air quality” “Miners” “Industrial workers”

City dwellers — This category represents any reference to people who live in cities or urban areas. Examples include: “Urban areas” “inner city poor Americans” “people in crowded urban environments”

People in a specific region — This category represents any reference to people living in a specific region or regions in the U.S. Examples include: “Those in mid Atlantic states that now have milder climates” “people in the South” “Alaskans”

Everyone — This category represents answers saying that everyone is likely to be affected by the health harms of climate change. Examples include: “All types” “All Americans”

Don’t know — This category represents any reference to not knowing or being unsure of who is likely to be affected. It applies even when the respondent offers a guess, but says they are not sure. Examples include: “Don’t know” “not sure” “maybe people who live in Alaska”

People with light or sensitive skin — This category represents any reference to people with fair or sensitive skin. Examples include: “Fair skinned people” “Caucasians” “People with sensitive skin”

Appendix IV: Sample Demographics

	<i>n</i> (unweighted)	% (weighted)
Total	1,013	100
Male	519	49
Female	494	51
Generation Z (1997 -)	72	10
Millennials (1981 - 1996)	233	27
Generation X (1965 - 1980)	255	26
Baby Boomers (1946 - 1964)	345	28
Silent (1928 - 1945)	108	8
Less than high school	73	9
High school	263	29
Some college	252	26
Bachelor's degree or higher	425	36
<\$25K	64	10
\$25K-<\$50K	146	14
\$50K-<\$75K	156	15
\$75K-<\$100K	136	13
\$100K-<\$125K	121	12
\$125K+	390	37
White, Non-Hispanic	667	61
Black, Non-Hispanic	115	12
Hispanic	140	18
2+ Races, Non-Hispanic	43	2
Other, Non-Hispanic	48	8
Northeast	178	17
Midwest	211	20
South	386	39
West	238	24

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