

## **Public Perceptions of Climate Change and Health Final Report**

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*Prepared for:*  
Health Canada

*Prepared by:*  
Environics Research Group

PA 9321

*Ce rapport est aussi disponible en français sur demande*

For more information on this report:  
[info@hc-sc.gc.ca](mailto:info@hc-sc.gc.ca)

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# Executive summary

## Background and objectives

Health Canada, in collaboration with Environment and Climate Change Canada, the Public Health Agency of Canada, Natural Resources Canada, and the National Research Council identified the need for public opinion research to understand public perceptions of climate change and its effects on their health, and more generally on climate change adaptation. Specific research objectives were to understand:

- Level of awareness of climate change (and its health risks and impacts);
- Public perception of climate change “adaptation”/resilience;
- Actions to take to adapt/be more resilient to the health risks/impacts of climate change
- Trusted sources, media and means for education and awareness information; and
- Views on role(s) of government and non-governmental organizations.

## Methodology

To address the research objectives, a mixed-mode telephone and online survey was conducted with a total of 1,833 Canadians (aged 18 and over) from February 15 – March 10, 2017.

- The telephone survey consisted of interviews with a representative sample of 1,425 Canadians (1225 land line and 200 cell phone only households). The final sample includes oversamples conducted with Indigenous people and Canadians living in higher-risk forest fire areas. The margin of error for the telephone survey is plus or minus 2.6 percentage points, 19 times in 20.
- The online survey was conducted with 384 Canadians surveyed via an online panel, to allow for comparisons across mode should Health Canada wish to move this study to a fully online methodology in the future. Because an online survey is not a random probability sample, a margin of sampling error cannot be reported.

**The results described below are based on the telephone data only, with the exception of the section that summarizes the impact of survey mode.**

Where possible, results have been compared to a 2008 Health Canada survey about climate change and health.

## Cost of research

The cost of this research was \$119,928.60 (HST included).

## Key findings

### Climate change (impact) awareness and perceptions

- In order to effectively communicate on climate change, it is important to know whether or not the public acknowledges that climate change is actually happening. In fact, the large majority of Canadians (79%) are convinced that climate change is happening (consistent with other public opinion research on this topic), which represents an increase from the 2008 survey (69%).
- Canadians who believe in climate change (either definitely or probably) are seeing changes to the world around them that support this view. Three in ten (31%) have noticed a change in their local community that they definitely attribute to climate change, while four in ten (42%) have noticed changes in other

parts of Canada. The most noticed changes are warmer temperatures and more unpredictable weather, both at higher levels than in 2008.

- There is also widespread belief that climate change causes a variety of different impacts. Climate change believers are most convinced that climate change causes melting permafrost (89%), followed by flooding (83%), extreme heat events (83%) and more frequent storms (82%). On the other end of the spectrum, there is less certainty about whether climate change causes mental health conditions (40%), impact to health care availability (35%), increased isolation or sense of belonging (31%) and a weaker connection to one's culture (31%).

## **Climate change and health**

- Canadians who believe in climate change generally accept that it is either a health risk now (53%) or will be in the future (40%); very few (5%) deny a link to health. More than half (55%) feel personally vulnerable (either definitely or likely), and close to four in ten (37%) say there is someone in their household who is especially vulnerable.
- Climate change has the potential to cause a wide range of environmental and other impacts that could impact Canadians' health. When prompted with a list of 14 different impacts, majorities of six in ten or more believe that each of these are at least a moderate risk to health. The highest risk is attributed to changes in air quality (79%), forest fires (79%), changes in water quality (78%), forest fire smoke (77%) and extreme heat events (77%).
- A minority (38%) of those who believe in climate change say they have taken steps to protect against the health impacts of climate change, although very few (less than 10 percent each) have engaged in any one activity such as improving their eating habits or using more sunscreen.

## **Infectious diseases**

- The perceived health risk attributed to vector-borne diseases varies widely. Canadians believe the greatest risk comes from Lyme disease (69% major or moderate risk), followed by West Nile virus (59%). Only minorities perceive the same degree of risk from Zika (40%), malaria (32%) or yellow fever (27%).
- A minority of Canadians (43%) have taken protective actions to guard against being infected by a vector-borne illness, the most common of which is to use insect repellent.
- The Internet is by far the source most likely to be used for information about vector-borne diseases (mentioned by 75% of Canadians), with doctors in a distant second place.

## **Extreme weather and emergency preparedness**

- Public perceptions of the health risk posed by extreme weather are relatively modest. A minority of Canadians (42%) believe extreme weather events presents a major or moderate health risk to them and their family, and a similar proportion (40%) believe their community will likely experience a weather-related disaster within their lifetime. Perhaps as a result, only four in ten households report having an emergency plan, and this proportion has not increased since 2008.
- Many Canadians are taking preventive steps to reduce their risk from extreme weather events. More than half (54%) regularly check for extreme weather alerts, although this level has declined since 2008 (61%). Over half (55%) also say they regularly or occasionally change their daily routines in response to

such alerts; a similar proportion (51%) have specifically changed their plans in response to an extreme heat warning or heat wave.

- Most Canadians can identify at least one symptom of heat illness, particularly dizziness, excessive thirst and nausea. Similarly, there is a reasonably good understanding of what to do to protect against heat illness; staying inside and drinking fluids are the preventive measure most widely mentioned.
- The sources that Canadians would turn to for extreme weather information about their community are fragmented, with no single most popular source, but are most likely to include TV and the Internet. Specifically for information about heat illness, Canadians would be most likely to consult the Internet, ahead of their doctor.

## **Climate change adaptation**

- Most Canadians (74%) are not familiar with the terms “climate change adaptation” or “climate resilience”. This suggests that further work is needed to educate Canadians, before these terms can be broadly used (without explanation) in communications efforts.

## **Focus on higher risk forest fire areas**

- The survey results suggest that the views of people living in higher risk forest fire areas about the health impacts of climate change lag slightly behind those of other Canadians. In particular, this group is less likely to be convinced of the reality of climate change, to feel personally vulnerable to the health impacts and to have taken protective action. They are no more likely than others to believe that climate change causes forest fires, or to perceive the health risks associated with forest fires or forest fire smoke. Other Environics research<sup>1</sup> has found that urban populations tend to be more engaged with the topic of climate change, and thus the rural and remote nature of the forest fire areas may be contributing to the lag in opinions.

## **Focus on Indigenous people**

- Indigenous people are believed to be at the forefront of experiencing the impacts of climate change, as a result of their geographic location and traditional ways of life. This is certainly borne out by the results of the survey, which finds that Indigenous people are among the most sensitive to the changes caused by this phenomenon – particularly those that are less well understood by others, such as negative economic impacts, mental health impacts and weaker connection to one’s culture. Majorities also believe climate change is having at least a moderate impact on their connections to the land (64%) and their ability to eat healthy foods (56%).
- Indigenous people are among those most likely to feel personally vulnerable to the health impacts of climate change, to have a household member who is vulnerable, and to have taken protective actions (against climate change generally as well as against vector-borne illness).
- Indigenous people are seeing the impact of changing weather patterns on their ways of life. The most noticeable impact is on animal migration patterns or fish populations (71% say climate change is having at least a moderate impact), followed by the location of berries, foods or traditional medicines (67%), ice

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<sup>1</sup> For example, Environics’ *Canadian Environmental Barometer* (a biannual online survey of 2,000 Canadians on the topics of climate change and the environment)

roads (66%) and traditional fishing, hunting or trapping grounds (64%). Perhaps as a result, they are among the most likely to believe an extreme weather disaster will occur during their lifetime.

### **Political neutrality statement and contact information**

I hereby certify as a Senior Officer of Environics Research that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not contain any reference to electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leader.



Megan Tam  
Vice President, Public Affairs, Environics Research Group  
[megan.tam@environics.ca](mailto:megan.tam@environics.ca)  
613-699-8905

**Supplier name:** Environics Research Group  
**PWGSC contract number:** HT372/16433/001/CY  
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For more information, contact [info@hc-sc.gc.ca](mailto:info@hc-sc.gc.ca)

# Introduction

## Background

Given the imperative associated with climate change and the development of a Pan Canadian Framework on Clean Growth and Climate Change (released in December 2016), it is important to have a solid grasp of the perceptions of Canadians with respect to climate change and of the risks that they believe are associated with their health. Public communications have been identified by the First Ministers as a key area of work. Health Canada has also been supporting public and professional education activities related to “heat health”, which refers to the impacts extreme heat has on human health. Health Canada has also been supporting First Nations peoples and Inuit to conduct research, collect data and develop adaptation plans to address climate change.

Health Canada conducted research in this area in 2008 (‘Assessing perceived health risks of climate change: Canadian Public Opinion 2008’); however, the context and perspectives of Canadians are expected to have changed significantly. Further, as climate change adaptation is a cross-departmental priority, Health Canada has partnered with Environment and Climate Change Canada (ECCC), the Public Health Agency of Canada (PHAC), Natural Resources Canada (NRCan), and the National Research Council (NRC) to get a bigger picture of Canadian perspectives on this multi-sectoral issue.

## Research rationale and objectives

With this research, Health Canada and its partner organizations (ECCC, NRCan, NRC and PHAC) will be able to compare against the baseline climate change and health research conducted in 2008. This will provide useful information to determine effectiveness of heat campaign work carried out by Health Canada and will also help the department create a more effective communications campaign surrounding climate change and health and related climate change issues from other participating government departments (OGDs). The research will also provide useful baseline information for evaluation programs established under the Pan Canadian Framework. Through this collaborative research effort, the Government of Canada will be able to collectively obtain results on climate change, which is a cross-government priority, in an efficient and cost-effective way.

The purpose of this research is to understand public perceptions of climate change and its effects on the health of Canadians, First Nations and Inuit, and more generally on climate change adaptation. Specific research objectives include the following but are not limited to understanding:

- Level of awareness of climate change (and its health risks and impacts);
- Public perception of climate change “adaptation”/resilience;
- Actions to take to adapt/be more resilient to the health risks/impacts of climate change
- Trusted sources, media and means for education and awareness information; and
- Views on role(s) of government and non-governmental organizations.

## Report

This report begins with an executive summary outlining key findings and conclusions, followed by a detailed analysis of the survey data. **The results (including discussion of subgroup differences) are based on the telephone data only, with the exception of the table columns that present the combined telephone and online results.**

Provided under a separate cover is a detailed set of “banner tables” presenting the results for all questions by population segments as defined by region and demographics. These tables are referenced by the survey question in the detailed analysis. A detailed description of the methodology used to conduct this research is presented in Appendix A.

*In this report, results are expressed as percentages unless otherwise noted. Results may not add to 100% due to rounding or multiple responses. Net results cited in the text may not exactly match individual results shown in the charts due to rounding. Subgroup differences are only reported if they are statistically significant at the 95% confidence level.*



## Detailed findings

### I. Climate change (impact) awareness and perceptions

Over the past decade, climate change has been a high profile topic and the subject of much debate. The first section of the survey explored the Canadian public's attitudes towards and perceptions of the reality of climate change, including its potential impacts. *NOTE:* Several questions in this section are asked only of a subgroup who initially responded that they believe in climate change (either definitely or maybe).

#### Belief in climate change

*The large majority of Canadians remain convinced that climate change is happening.*

To understand the issue of climate change and health risk, it is important to know whether or not people believe that climate change is a real phenomenon. Eight in ten (79%) say that climate change is definitely happening, while 16 percent say it is not yet proven, and only five percent deny that climate change exists. Since 2008, the proportion who are convinced about climate change has increased (up 10 points).

Belief in climate change  
Base: Total sample

	Phone only		Phone and Online
	2008 (n=1600)	2017 (n=1425)	2017 (n=1833)
Climate change is definitely happening	69%	79%	79%
Climate change may be happening but is not yet proven	27%	16%	15%
Climate change is not happening at all*	n/a	5%	5%

\*This response category was not offered in 2008

Q1. *There has been a lot of discussion lately about the issue of climate change. Do you believe that climate change is something that is definitely happening, or something which may be happening but is not yet proven, or climate change is not happening at all?*

The proportion who believe climate change is *definitely* happening is higher among:

- Canadians aged 35-54 (84%)
- Those with a university education (86%)
- Women (83% vs. 74% of men)
- Those living *outside* higher risk forest fire areas, which tend to be more urbanized (80%, vs. 71% within them)
- This belief is *lower* among residents of the Prairie provinces (65%).

## Noticed changes due to climate change

*Three in ten climate change believers have definitely noticed changes in their community that they attribute to climate change; a slightly higher proportion of four in ten have noticed changes in other parts of the country. The most noticed changes are warmer temperatures and more unpredictable weather, both at higher levels than in 2008.*

Three in ten of those who believe in climate change (31%) say they have noticed a local change that they would definitely attribute to climate change, while an additional third have noticed changes they feel are either likely (19%) or possibly (16%) the result.

A greater proportion have noticed climate change-related changes in other parts of the country. Four in ten (42%) say they have noticed changes elsewhere that are definitely the result of climate change, while another three in ten (29%) have noticed changes they would at least possibly attribute to this cause.

### Noticed changes due to climate change Base: Believe in climate change

	Phone only (n=1378)		Phone & online (n=1751)	
	In your community	In other parts of Canada	In your community	In other parts of Canada
Definitely the result of climate change	31%	42%	31%	40%
Likely the result of climate change	19%	15%	21%	18%
Possibly the result of climate change	16%	14%	17%	15%
No changes noticed	32%	25%	28%	21%

- Q2. *Have you noticed any changes in your community which you think are definitely, likely, or possibly the result of climate change or you have not noticed any changes?*
- Q3. *And are you aware of any changes in other parts of Canada which you think are definitely, likely, or possibly the result of climate change or you have not noticed any changes?*

The same population segments are most likely to have noticed changes both in their community and in other parts of Canada that are *definitely* the result of climate change. They include:

- Those with a university education.
- Those who definitely believe climate change is happening (compared to those who say it is not yet proven).

**Types of changes noticed.** Canadians who have noticed a change, either locally or elsewhere in Canada, were asked what kinds of changes they have noticed (unprompted). The most commonly mentioned change is warmer temperatures (43%, up 10 points), followed by more unpredictable weather (31%, up 18 points), both of which have increased since 2008. Other common changes noticed include more (11%) or less (25%) ice or snow, colder temperatures (15%), more extreme weather events (12%), and more (8%) or less (10%) rain.

**Kind of changes noticed (top mentions)**  
**Base: Noticed changes**

	Phone only		Phone and Online
	2008* (n=1291)	2017 (n=1152)	2017 (n=1475)
Warmer temperatures/weather	33%	43%	42%
Weather more unpredictable	13%	31%	31%
Less ice/snow	26%	25%	24%
Colder temperatures/weather	11%	15%	13%
Weather events more extreme	13%	12%	11%
More ice/snow	6%	11%	10%
Less rain	6%	10%	8%
More rain	4%	8%	8%
More storms	7%	7%	7%
Changes in migration patterns	-	7%	7%
More air pollution/lower air quality	8%	2%	2%
Changes/harm to wildlife and plants	10%	-	-

\* The 2008 survey was conducted during a very snowy winter which threatened to break snowfall records in some regions of the country.

Q4. What kinds of changes have you noticed?

The noticed changes are largely similar across regions and segments of the population, with a few exceptions:

- Mentions of more extreme weather events are higher in the Atlantic provinces (21%) and mentions of more ice or snow are more common in B.C. (21%) than elsewhere. Residents of the Prairie provinces are less likely than others to mention warmer temperatures (31%).
- Indigenous people are more likely than others to mention changes in migration patterns (22%, vs. 6% of non-Indigenous people) and impacts to the tundra and permafrost (9%, vs. 4%)

## Perceived impacts of climate change

*Climate change believers are most convinced that climate change causes melting permafrost, followed by flooding, extreme heat events and more frequent storms.*

Canadians who believe in climate change were presented with a series of potential impacts in Canada and asked whether they think climate change causes or does not cause each (definitely or likely).<sup>2</sup>

While the degree of belief ranges considerably (from a high of 89% “definitely” or “likely” to a low of 31%), in most cases, the majority believe that climate change is at least a likely cause; the exceptions (where fewer than half believe they are caused by climate change) include mental health conditions (40%), impact to health care availability (35%), increased isolation (31%) and a weaker connection to one’s culture (31%).

### Impacts that are caused by climate change Base: Believe in climate change

	Definitely cause		Definitely or likely cause	
	Phone only (n=1379)	Phone & online (n=1751)	Phone only (n=1379)	Phone & online (n=1751)
Melting permafrost in the Arctic regions	58%	56%	89%	88%
Flooding of rivers and in coastal areas	47%	43%	83%	82%
Loss of wildlife habitat	45%	42%	79%	78%
More frequent storms	42%	41%	82%	82%
Impact to food supply	40%	36%	79%	76%
Extreme heat events or heat waves	39%	39%	83%	83%
Drought conditions	39%	38%	80%	81%
Coastal erosion	36%	35%	76%	75%
Forest fires	36%	34%	75%	72%
Air pollution/lower air quality	35%	33%	71%	70%
Extreme cold weather	28%	28%	65%	66%
More severe forest pest infestation	27%	25%	70%	68%
Increased allergies	25%	22%	62%	58%
Physical health conditions of Canadians	20%	17%	52%	49%
Negative impacts on the economy/jobs	18%	16%	56%	51%
Mental health conditions of Canadians	11%	10%	40%	36%
Impact to health care availability	10%	10%	35%	32%
Increases isolation /reduces belonging	10%	10%	31%	29%
Weaker connection to one’s culture	9%	9%	31%	30%

Q5 *Would you say that climate change definitely causes, likely causes, likely does not cause or definitely does not cause each of the following types of impacts in Canada?*

Generally speaking, but not in all cases, the following groups tend to be more likely to say that climate change definitely or likely causes these impacts:

<sup>2</sup> Each respondent was asked about only half of the 19 impacts, to reduce response burden. The exception is respondents in higher risk forest fire areas, who were each asked about all 19 impacts.

- Women
- Those with more education - except in the cases of mental health, impact on health care availability and weaker connection to one's culture, all of which are higher among those with no postsecondary education
- Those who live outside higher risk forest fire areas, which tend to be more urbanized (It should also be noted that belief that climate change causes forest fires is consistent regardless of whether an individual lives in or outside a higher risk forest fire area)
- Indigenous peoples – including pest infestation (87%), increased allergies (84%), negative economic impacts (74%), physical health (70%), mental health (66%), impact on health care availability (58%) and weaker connection to one's culture (48%)
- Those who definitely believe in climate change (compared to those who say it is not yet proven)

On the other hand, belief that several of these impacts are caused by climate change tends to be *lower* among residents of the Prairie provinces, older Canadians (55+) and those with household incomes under \$100,000.

## II. Climate change and health

### How climate change may affect health

*A majority of climate change believers can cite at least one health impact of climate change, the most common of which is air quality impacts.*

**Unprompted awareness.** Seven in ten climate change believers (69%) were able to identify (without prompting) at least one way in which climate change potentially affects health. Awareness of any one specific effect is relatively low, with various mentions of air quality impacts (21%), fluctuation in the weather (14%), water quality impacts (11%) and infectious diseases (10%), among others. Three in ten either cannot think of any (11%) or maintain that there are none (20%).

#### How believe climate change affects health of Canadians (top mentions)

Base: Believe in climate change

	Phone only (n=1379)	Phone & Online (n=1751)
<b>Any impacts</b>	<b>69%</b>	<b>70%</b>
<b>Net: Air Quality Impacts</b>	<b>21%</b>	<b>19%</b>
<i>Poor air quality</i>	11%	10%
<i>Increased air pollution</i>	11%	9%
<b>Net: Water Quality Impacts</b>	<b>11%</b>	<b>9%</b>
<i>Decreased water quality</i>	7%	6%
<i>Decreased drinking water supply</i>	4%	3%
<b>Net: Infectious Diseases</b>	<b>10%</b>	<b>10%</b>
<i>Other infectious diseases</i>	6%	6%
<i>Flu/influenza virus</i>	4%	4%
Weather fluctuation/warmer/colder	14%	13%
Respiratory/breathing problems	9%	8%
Drought/affects food supply/agriculture	8%	8%
Allergies (related to pollen/mould)	7%	7%

Q6 In what ways, if any, do you think climate change poses a risk to the health of Canadians?

The proportion able to identify at least one potential health impact of climate change is higher among:

- Women (76%, vs. 62% of men)
- Those with a university education (75%, vs. 63% without a postsecondary education)
- Indigenous people (77%, vs. 69% of non-Indigenous people)
- Those who believe climate change is definitely happening (75%, vs. 47% who say it may be happening)
- Residents of the Prairie provinces are less likely than others to name at least one health impact of climate change (58%), and more inclined to say there are none (32%).

## Ratings of health risks

*Majorities of six in ten or more climate change believers say that each of these issues poses at least a moderate health risk.*

Those who believe climate change is happening were asked the extent to which different factors are a health risk for Canadians (Indigenous peoples were asked specifically about the risk to First Nations peoples, Inuit and Metis). There is fairly limited differentiation between the risk factors, with six in ten or more who say that each of these issues poses at least a moderate risk to health. The highest risk is attributed to changes in air quality (79% major or moderate health risk), forest fires (79%), changes in water quality (78%), forest fire smoke (77%) and extreme heat events (77%).

### Risk to health of Canadians/Indigenous peoples Base: Believe in climate change

	Major risk		Major or moderate risk	
	Phone only (n=1379)	Phone & Online (n=1751)	Phone only (n=1379)	Phone & Online (n=1751)
Changes in water quality	49%	48%	78%	78%
Changes in air quality	48%	47%	79%	79%
Forest fires	47%	46%	79%	79%
Forest fire smoke	45%	44%	77%	77%
Rising sea levels/coastal erosion	44%	42%	73%	73%
Flooding	43%	42%	75%	76%
Extreme heat events	43%	42%	77%	77%
Loss of permafrost	40%	38%	66%	66%
Spread of infectious diseases	38%	37%	71%	70%
Food security	36%	34%	69%	68%
Food safety	34%	33%	67%	66%
Allergies (pollen/mould)	32%	30%	68%	67%
Food-borne illness	27%	27%	61%	60%
Indirect impacts (mass migration, loss of jobs/income)	27%	26%	63%	60%

Q7 How much of a risk to the health of [Canadians]/ [IF INDIGENOUS: First Nations peoples/Inuit/Métis] is there from each of the following?

Generally speaking, but not in all cases, the following groups are more likely to say that these factors cause a major or moderate health risk for Canadians:

- Women
- Those with lower household incomes (under \$60,000)
- Those who definitely believe in climate change (compared to those who say it is not yet proven)

On the other hand, the perceived health risk from these factors tends to be *lower* among residents of the Prairie provinces.

Finally, the perceived health risk from forest fires or forest fire smoke is consistent both within and outside higher risk forest fire areas.

## Impact on Indigenous health and culture

*Majorities of Indigenous people believe climate change is having at least a moderate impact on their connection to the land and their ability to eat healthy foods.*

Indigenous people who believe in climate change were asked about the extent to which they believe their health and culture is being affected by it. They are most likely to say climate change has had at least a moderate impact on Indigenous peoples' connection to the land (64%) and on their ability to eat healthy foods (56%). Fewer than half believe that climate change is affecting transmission of knowledge and beliefs (48%) or their ability to cope with the impact on their mental health (44%).

**Impact on health and culture**  
**Base: Believe in climate change - Indigenous peoples only**

	Major risk		Major or moderate risk	
	Phone only (n=248)	Phone & Online (n=288)	Phone only (n=248)	Phone & Online (n=288)
Indigenous peoples' connection to the land	39%	35%	64%	59%
Your ability to eat healthy foods	29%	28%	56%	62%
Passing down knowledge/beliefs from elders to youth	23%	18%	48%	48%
Your ability to cope with impact on your mental health	16%	16%	44%	46%

Q8 *The next question is about how you feel climate change is affecting your health and your culture. Is climate change having a major, moderate, minor impact or no impact at all on each of the following?*

- The sample size for this subgroup limits the ability to analyze results by regional or demographic subgroups. However, the perceived impact on health and culture does not vary by Indigenous peoples' participation in traditional activities such as hunting, fishing, trapping and harvesting.



## Current versus future health risks of climate change

*Half of climate change believers say it poses a health risk to Canadians today, compared to four in ten who say the risk will happen in the future.*

Canadians who believe in climate change were asked if they think that it already poses a health risk today, or if this is something that will happen in the future. Half (53%) believe that climate change poses a current health risk, while four in ten (40%) say it will pose such a risk in the future. Only five percent insist there are no health risks from climate change, either now or in the future.

### Does climate change pose a health risk to Canadians? Base: Believe in climate change

	Phone only (n=1379)	Phone & Online (n=1751)
Poses a risk today	53%	52%
Will pose a risk in the future	40%	39%
No risks now or in the future	5%	5%
Depends	2%	4%

Q9 *Do you think that climate change already poses a risk to Canadians today, or do you think this is something that will happen in the future or it poses no risk now or in the future?*

Belief that climate change poses a risk today is significantly higher among:

- Residents of BC/YK (64%), and lowest in the Prairies (47%)
- Those with a university education (57%)
- Women (60%)
- Those who believe climate change is definitely happening (61%)

This belief is also linked to perceived vulnerability to climate change. Individuals who feel more personally vulnerable to climate change, or who have someone in their household who they consider vulnerable, are more likely to say climate change poses a health risk today (69% and 71%, respectively).

## Vulnerability to climate change health impacts

*Over half feel personally vulnerable to climate change health impacts; almost four in ten have someone in their household who is vulnerable.*

**Personal vulnerability.** A majority (55%) believe they are either definitely (18%) or likely (37%) vulnerable to the potential health impacts of climate change.

### Whether personally vulnerable to climate change health impacts Base: Believe in climate change

	Phone only (n=1379)	Phone & Online (n=1751)
Definitely vulnerable	18%	18%
Likely vulnerable	37%	38%
<b>Top 2 box (net)</b>	<b>55%</b>	<b>56%</b>
Likely not vulnerable	28%	27%
Definitely not vulnerable	15%	14%

Q11 *What about your own health? Do you believe that you personally are definitely, likely, likely not, or definitely not vulnerable to the potential health impacts of climate change?*

Belief in one's own personal vulnerability (definitely or likely) is significantly higher among:

- Quebecers (62%), and lowest in the Prairies (46%)
- *Outside* higher risk forest fire areas (56% vs. 47% within them)
- Lower income households (64% earning \$60,000 or less)
- Women (63%)
- Indigenous people (69%)
- Those in fair or poor health (69%)
- Those who believe climate change is definitely happening (61% vs. 27% who say it may be happening but is unproven)

**Household vulnerability.** Close to four in ten (37%) say there is someone in their household who would be particularly impacted by climate change.

### Someone in household especially vulnerable to climate change health impacts Base: Believe in climate change

	Phone only (n=1379)	Phone & Online (n=1751)
Yes, have vulnerable household member	37%	37%

Q12 *Is there anyone else in your immediate household who you think would be especially vulnerable to the potential health impacts of climate change?*

The proportion with an especially vulnerable household member is significantly higher among:

- Quebecers (50%)
- Those under the age of 55 (42%, vs. 27% aged 55+)
- Women (43%, vs. 30% of men)
- Indigenous people (51%, vs. 36% of non-Indigenous people)
- Those who believe climate change is definitely happening (41% vs. 17% who say it may be happening but is unproven)

## Steps taken to protect against potential health impacts of climate change

*A minority of climate change believers have taken action to protect themselves and their families from the health impacts of climate change.*

Close to four in ten (38%) who believe in climate change say they have taken steps in the past year to protect themselves and their families from the potential health risks and/or impacts of climate change, although no single action stands out as more widespread than others. A few of these actions are more in line with mitigation (reducing the impacts of climate change), such as recycling and increasing their home's energy efficiency, rather than protective or adaptive measures.

### Steps taken in past year to protect from climate change health impacts Base: Believe in climate change

	Phone only (n=1379)	Phone & Online (n=1751)
<b>Any protective steps</b>	<b>38%</b>	<b>37%</b>
Better eating habits/gardening	8%	8%
Use more sunscreen	7%	6%
Recycling	7%	6%
Increase home's energy efficiency	6%	5%
Watch weather more closely	5%	5%
Drive less	3%	3%
Flu shot/immunization	2%	2%
Installed air conditioning	2%	2%
Have an emergency plan/kit	1%	1%
Prepare for storms	1%	1%
Vigilant for ticks on person/pets	1%	1%
Other mentions	10%	11%
None	62%	63%

Q14 Have you personally taken any steps in the past year to protect yourself or family members from the potential health risks and/or impacts of climate change?

The proportion who have taken any protective actions is significantly *higher* among:

- Women (45%, vs. 31% of men)
- Those with lower household incomes (43% with incomes under \$60,000, vs. 33% with incomes over \$100,000)
- Those living *outside* higher risk forest fire areas (39%, vs. 31% within such areas)
- Indigenous peoples (52%, vs. 37% of non-Indigenous people)

- Those who believe climate change is definitely happening (42% vs. 22% who say it may be happening but is unproven)

Residents of the Prairie provinces are less likely than others to report taking any action to protect against the health impacts of climate change (31%).

### III. Infectious diseases

One potential health impact of climate change is an increase in the number and type of vector-borne diseases. This section explores the extent to which Canadians see these diseases as a health risk, and the steps they have taken to protect themselves and their families.

#### Risk to health from infectious diseases

*Of diseases caused by an insect bite, Lyme disease is perceived to be the biggest health risk, followed by West Nile virus.*

Seven in ten (69%) Canadians believe Lyme disease poses at least a moderate health risk, while six in ten (59%) say the same about West Nile virus. Fewer perceive the same degree of risk from Zika (40%), malaria (32%) or yellow fever (27%); in those three cases, half or more say the risk is minor or there is no risk at all.

#### Risk to health from infectious diseases caused by insect bite

Base: Total sample

	Major risk		Major or moderate risk	
	Phone Only (n=1425)	Phone & Online (n=1833)	Phone Only (n=1425)	Phone & Online (n=1833)
Lyme disease	31%	30%	69%	68%
West Nile Virus	22%	22%	59%	58%
Zika	17%	17%	40%	40%
Malaria	15%	15%	32%	32%
Yellow Fever	11%	11%	27%	28%

Q17 I will now read you a list of diseases caused by a mosquito / tick bite. Please tell me whether you think each of the following poses a major risk, moderate risk, a minor risk or no risk at all to the health of Canadians.

- Belief in the health risk of these diseases (either major or moderate) is consistently higher among women and those with household incomes under \$60,000 (with the exception of Lyme disease, for which perceived risk is similar across the population)
- Malaria and yellow fever are more likely to be perceived as a risk among those without a postsecondary education and those living *outside* higher risk forest fire areas
- West Nile virus is more likely to be perceived as a health risk by Ontarians (65%) and by Indigenous people (34%, vs. 21% of non-Indigenous people)
- Quebecers are more inclined than others to perceive a risk from Zika (51%) and yellow fever (35%)

## Taken steps to protect against infectious diseases

*A minority of Canadians have taken protective action against being infected by a vector-borne illness.*

Over four in ten Canadians (43%) say they have taken steps in the past year to protect themselves and family members against the bite of an infected mosquito or tick. The step most commonly taken (mentioned without prompting) is to always use insect repellent (23%), followed by wearing long pants and long sleeves (11%). A number of other steps are mentioned, such as avoiding outdoor areas where mosquitos or ticks are known to be bad (6%), updating their immunizations (6%), using insect repellent in marshy or treed areas (5%) and checking for ticks (5%).

### Taken steps to protect against infectious diseases caused by insect bite

Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
<b>Yes, taken steps</b>	<b>43%</b>	<b>41%</b>
Using insect repellent / spray always	23%	22%
Wearing long pants and long sleeves	11%	11%
Avoid outdoor areas known for higher volume of mosquitos/ticks	6%	7%
Vaccinations/immunizations/shots	6%	6%
Using insect repellent / spray only when going into marshy / treed areas	5%	5%
Checking for ticks on skin after being outdoors	5%	5%
Check pets after being outdoors	3%	2%
Reducing time outdoors during peak mosquito periods	3%	2%
Avoid standing water	2%	2%
Wearing light coloured clothing when outdoors	1%	1%
Other	4%	4%

Q18 *Have you personally taken any steps in the past year to protect yourself or family members to prevent against diseases caused by the bite from an infected mosquito or tick?*

Q19 *What steps have you taken?*

The proportion who have taken any protective actions is significantly higher among:

- Residents of the Prairie provinces (50%) and Ontario (49%)
- Women (43%, vs. 30% of men)
- Canadians aged 35-54 (51%, vs. 41% of younger and 37% of older Canadians)
- Those with a university degree (52%, vs. 39% without)
- Those with higher household incomes (47% with incomes over \$60,000, vs. 35% with lower incomes)
- Indigenous peoples (51%, vs. 36% of non-Indigenous people)
- Those who believe climate change is definitely happening (41% vs. 17% who say it may be happening but is unproven)

## Source of information

*The Internet is by far the source most likely to be used for information about vector-borne disease; doctors are a distant second.*

By a wide margin, Canadians are most likely to do an Internet search (75%) if they wanted to find out more about vector-borne diseases; one in five also mention specific federal government websites (19%). A doctor or specialist (19%) is the next most likely source. A variety of other sources are mentioned by four percent of Canadians or fewer.

### Source of information about infectious diseases

Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
Web/Internet/Google search	75%	74%
Federal Government website such as HC and PHAC	19%	18%
Doctor / Specialist	19%	18%
Books/library/journals	4%	3%
Newspaper/Magazine ad	3%	3%
Your provincial government	3%	3%
TV	3%	2%
US Centre for Disease Prevention and Control (CDC)	2%	2%
Your municipal government / local government (e.g. city)	2%	1%
Hospital/health clinic/center/unit	2%	2%
Other	8%	9%

Q20 *If you wanted more information about these types of diseases, where would you look or what sources would you use?*

Online sources are by far the preferred source for this type of information in all regions and segments of the Canadian population.

- However, the proportion who prefer online sources is lower among older Canadians (65% of those aged 55+) and those without a postsecondary education (68%), who in turn are more likely than others to say they would ask their doctor (25% and 24%, respectively).

## IV. Extreme weather and emergency preparedness

While many of the efforts to adapt to climate change will require action by communities and varying levels of government, there are also many adaptive actions can take. As such, it is important to assess what Canadians know about the risks of extreme weather events and what, if any, preventive steps they may be prepared to undertake. The survey asked opinions about extreme weather events as a health risk; about perceptions of the likelihood of extreme weather events; and about whether the household has taken emergency preparedness steps.

### Health risk from extreme weather events

*Four in ten Canadians believe extreme weather events pose at least a moderate health risk to them and their family. Most Canadians can identify at least one extreme weather event that could pose a health risk, the most common being winter storms and extreme heat events.*

A minority of Canadians believe the risk to their health and that of their family from extreme weather events is either major (12%) or moderate (30%); more than half (57%) say the risk is minor, or there is no risk at all.

**Risk to health from extreme weather events**  
Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
A major health risk	12%	13%
A moderate health risk	30%	31%
<b>Top 2 box (net)</b>	<b>42%</b>	<b>44%</b>
A minor health risk	40%	39%
No health risk at all	17%	15%

Q21 How much of a health risk do you believe extreme weather events present to you and your family? Do they present:

Belief that extreme weather events pose at least a moderate health risk is significantly higher among:

- Quebecers (51%)
- Those with lower household incomes (50% earning \$60,000 or less, vs. 32% with \$100,000 or more)
- Women (49%, vs. 36% of men)

The large majority of Canadians (92%) can identify (without prompting) at least one extreme weather event that poses a health risk. These are most likely to include winter storms (22%) and extreme heat events (17%), followed by floods (11%), hurricanes (10%) and wind storms (9%).

**Extreme weather events that pose greatest risk to health**  
**Base: Total sample**

	Phone Only (n=1425)	Phone & Online (n=1833)
Winter storms/blizzards	22%	20%
Extreme heat/heat waves	17%	17%
Floods	11%	10%
Hurricanes	10%	9%
Wind storms	9%	7%
Forest fires	5%	4%
Tornadoes	4%	5%
Earthquake	3%	3%
Drought	2%	3%
Extreme cold	2%	3%
Other	7%	9%
None/dk/na	8%	10%

Q22 Which extreme weather events do you feel pose the greatest risk to your health and the health of your family?

The types of extreme weather events identified as health risks vary primarily by region:

- Mentions of winter storms are higher among residents of the Atlantic provinces (38%) and Ontarians (27%); Maritimers are also more likely than others to mention hurricanes (25%)
- Extreme heat events are more likely to be mentioned by Ontarians (21%) and Quebecers (19%)
- Earthquakes are more widely mentioned by BC residents (19%)
- Wind storms (13%), forest fires (10%) and tornados (7%) are more widely mentioned by Prairie residents
- Forest fires are also more widely mentioned by those living in higher risk forest fire areas (10%, vs. 4% outside such areas)

**Impact of changing weather patterns for Indigenous people**

*Indigenous peoples believe changing weather patterns are having an impact in a variety of ways, but particularly on animal migration patterns or fish populations.*

To what extent are Indigenous people seeing the impact of changing weather patterns on their ways of life? Majorities are seeing at least a moderate impact on animal migration patterns (71%), the location of berries and foods (67%), ice roads (66%), traditional fishing or hunting grounds (64%) and housing conditions (53%). Half say climate change is impacting their ability to get out on the land (50%), while four in ten (43%) say the same about their ability to store traditional foods.



**Impact of changing weather patterns**  
**Base: Total sample – Indigenous people only**

	Major impact		Major or moderate impact	
	Phone only (n=262)	Phone & Online (n=288)	Phone only (n=262)	Phone & Online (n=288)
Animal migration patterns or fish populations	52%	47%	71%	69%
Traditional fishing, hunting or trapping grounds	42%	36%	64%	65%
The location of berries, foods or traditional medicines	42%	34%	67%	65%
Ice roads	41%	42%	66%	66%
Your ability to get out on the land	23%	25%	50%	55%
Housing conditions	22%	23%	53%	54%
Your ability to store traditional foods	22%	20%	43%	44%

*Q23 The next question is about weather conditions and climate change. Do you feel that changing weather patterns are having a major, moderate, minor impact or no impact at all on...?*

- Perceptions of climate change impacts (major or moderate) tend to be higher among Indigenous people who participate in traditional activities such as hunting, fishing and harvesting. These include animal migration patterns (81%); traditional fishing or hunting grounds (69%); location of berries or foods (72%); ability to get out on the land (56%); and, housing conditions (56%).

**Household emergency plan**

*Similar to 2008, four in ten Canadian households report having an emergency plan.*

It is recommended that Canadians households prepare and discuss an emergency plan so that family members can locate and protect each other more effectively in the event of a natural disaster or emergency. Four in ten (40%) Canadians say they have such a plan; this proportion is essentially unchanged since 2008.

However, this proportion appears to be overstated, which is to be expected given the high level of social desirability associated with a having such a plan in the context of this survey: only one-quarter (26%) of online respondents reported that their household has an emergency plan.

**Household has an emergency household plan**  
**Base: Total sample**

	Phone only		Phone and Online
	2008 (n=1600)	2017 (n=1425)	2017 (n=1833)
Yes, have emergency plan	42%	40%	37%

*Q24 Does your household currently have a plan for what to do to protect yourself and your family in the event of a natural disaster or emergency? Such a plan might include how you would evacuate your home, or how to stay in contact with other family members.*

The proportion reporting that they have an emergency household plan is significantly higher among:

- Residents of BC/YK (53%)
- Residents of higher risk forest fire areas (47%, vs. 40% outside such areas)
- Those who believe a weather-related disaster is very likely to occur in the next two years (61%)

Notably, having a household emergency plan is also *highest* among the small group of climate change deniers (65%, vs. 38% who say climate change definitely exists and 45% who say it may).

Contrary to what might be expected, the likelihood of having an emergency plan is *not* any higher among those who believe extreme weather events present a health risk.

## Likelihood of community disaster caused by extreme weather

*Four in ten Canadians believe their community will very likely experience a weather-related disaster within their lifetime.*

Relatively few Canadians believe a weather-related disaster is very likely to occur in their community. Less than one in ten (8%) think it will happen in the next two years, and this increases to four in ten (39%) who think it will happen in their lifetime; however, a majority (60%) don't believe any of the scenarios are very likely to happen.

### Likelihood of an extreme weather-related disaster in your community

Base: Total sample

	Very likely		Very or somewhat likely	
	Phone Only (n=1425)	Phone & Online (n=1833)	Phone Only (n=1425)	Phone & Online (n=1833)
Within your lifetime	39%	38%	74%	72%
Within the next 10 years	24%	23%	64%	62%
Within the next two years	8%	7%	36%	35%
None of the above	60%	60%	22%	24%

Q25 Do you think it is very, somewhat, not very or not at all likely that a disaster caused by extreme weather will occur and affect you or your community:

Strong belief (i.e., very likely) in an extreme-weather disaster during any timeframe is significantly higher among:

- Residents of the Atlantic provinces (54%)
- Younger Canadians (52% under the age of 35)
- Indigenous peoples (54%)
- Those who believe climate change is definitely happening (45% vs. 25% who say it may be happening but is unproven)

## Information sources about extreme weather

*The sources that Canadians would turn to for extreme weather information about their community are fragmented, but are most likely to include TV and the Internet.*

There are a wide variety of sources that Canadians would consult if they needed information about extreme weather in their community, with no single source that is top-of-mind. Canadians are most likely to look for this

information on TV (26%), or on the Weather Network – either on TV (21%) or on the website (20%). By comparison, relatively few mention Environment Canada specifically (8%).

**Source of information about extreme weather (top mentions)**  
**Base: Total sample**

	Phone Only (n=1425)	Phone & Online (n=1833)
TV	26%	36%
Weather Network (TV)	21%	28%
Weather Network (website)	20%	27%
Google/Google search	17%	16%
Radio	14%	21%
Internet/online/website (unspecified)	12%	11%
Newspaper	8%	12%
Environment Canada	8%	7%
Weather apps	8%	12%
MétéoMédia	6%	5%
Weather network/channel	6%	5%

Q26. *Where are you most likely to look for information about extreme weather that might affect your community?*

Sources for information about extreme weather vary across the population as follows:

- Mentions of TV are more common among older Canadians (36% aged 55+) and those with household incomes under \$100,000 (28%); in turn, mentions of Google searches are more common among younger Canadians (26% under 35) and those in the highest income bracket (25% with incomes over \$100,000).
- Indigenous people are also more likely than others to mention a Google search (31%, vs. 16% of non-Indigenous people).

**Frequency of checking for extreme weather alerts**

*Over half of Canadians regularly check for extreme weather events, although this level has declined since 2008.*

An indicator of proactive responsibility for the health effects of climate change is being aware of the weather, so that precautions can be taken if needed. Over half of Canadians (54%) say household members check regularly for such weather information; this proportion has declined since 2008 (down 7 points). A further two in ten (23%) check at least occasionally, while the remaining two in ten indicate that they rarely (16%) or never (7%) check for extreme weather news.

### Frequency of checking for extreme weather alerts

Base: Total sample

	Phone only		Phone and Online
	2008 (n=1600)	2017 (n=1425)	2017 (n=1833)
Regularly	61%	54%	51%
Occasionally	20%	23%	26%
Rarely	12%	16%	17%
Never	6%	7%	7%

Q27. How often do you or others in your household listen or check for extreme weather alerts in your local area? Is this done?

The proportion who regularly check for extreme weather alerts is significantly higher among:

- Residents of the Atlantic provinces (73%)
- Canadians aged 35 and older (57%, vs. 47% under 35)
- Those in excellent or very good health (57%, vs. 50% of others)
- Canadians who believe extreme weather presents a major health risk (66%, vs. 50% who say such weather presents a minor or no health risk).

### Taking action in response to extreme weather

*More than half of Canadians say they regularly or occasionally change their daily routines as result of extreme weather alerts; a similar proportion have taken action or changed plans specifically as a result of a heat warning.*

**Extreme weather alert.** To what extent do Canadians take action to reduce their health risk from extreme weather by changing their daily routines? More than half (55%) say they do so regularly (23%) or occasionally (32%). Four in ten (43%) say they rarely or never change their routines as a result of an extreme weather alert.

### How often change daily routines as a result of an extreme weather alert

Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
Regularly	23%	21%
Occasionally	32%	32%
<b>Top 2 box (net)</b>	<b>55%</b>	<b>53%</b>
Rarely	27%	29%
Never	16%	15%

Q28. How often do you take steps or make changes in your daily routine as a result of an extreme weather alert?

The proportion who regularly or occasionally change their daily routine in response to extreme weather alerts is significantly higher among:

- Residents of the Atlantic provinces (73%) and Ontario (60%)
- Those with a postsecondary education (58%, vs. 48% with a high school diploma or less education)
- Women (62%, vs. 48% of men)
- Those who regularly check for extreme weather alerts (71%, vs. 18% who rarely or never do so)
- Canadians who believe extreme weather presents a major health risk (79%, vs. 44% who say such weather presents a minor or no health risk).

**Heat warnings.** Specifically in response to an extreme heat warning or heat wave, half of Canadians (51%) say they have taken action or changed their plans.

**Ever taken action/changed plans as a result of a heat warning**  
Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
Yes, ever taken action	51%	51%

Q29. *When thinking specifically about extreme heat or heat waves, have you ever taken action or changed your plans as a result of hearing a heat warning?*

The proportion that has taken action as a result of a heat warning/heat wave is significantly higher among:

- Residents of Ontario (60%) and Quebec (55%)
- Women (58%, vs. 44% of men)
- Those who say they regularly change their daily routines as a result of an extreme weather alert (75%, vs. 33% who rarely or never change routines)
- Those who regularly check for extreme weather alerts (60%, vs. 36% who rarely or never do so)
- Canadians who believe extreme weather presents a major health risk (71%, vs. 42% who say such weather presents a minor or no health risk).

**Symptoms of heat illness**

*Canadians are most likely to mention dizziness, excessive thirst and nausea as symptoms of heat illness.*

Most Canadians can identify (without prompting) at least one symptom of heat illness, the most common being dizziness (35%), followed by excessive thirst (29%) and nausea (25%).

**Symptoms of heat illness**  
Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
Dizziness	35%	33%
Excessive thirst / dry mouth	29%	29%
Nausea	25%	24%
Headache	19%	18%

Fainting	19%	18%
Weakness	16%	14%
Confusion / disorientation / staggering	14%	13%
Difficulty breathing	10%	10%
Lack of sweating (despite heat)	7%	7%
Heat rash	7%	6%
Rapid heartbeat	3%	3%
Swelling of hands, feet, ankles	2%	2%
Muscle cramps	2%	2%
Decreased urination/unusually dark yellow urine	1%	1%
Other (not specified)	44%	47%
dk/na	6%	6%

Q30. To the best of your knowledge, what are the symptoms of heat illness?

Broadly speaking, these results are similar across the population. However, Canadians aged 35-54 and those with higher socioeconomic status (as represented by education and household income) are more likely than others to identify multiple symptoms of heat illness.

## Protection from heat illness

*Canadians are most likely to stay inside and drink liquids to protect against heat illness.*

Almost all Canadians can identify at least one way to protect themselves and their families from heat illness. More than half each say (unprompted) that they would stay inside when it's too hot (58%) or would drink lots of liquids (57%). About half that proportion would use air conditioning (27%), while others mention finding outdoor shade (18%) or wearing a hat (11%).

### Things would do to protect against heat illness

Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
Stay inside when it's too hot	58%	51%
Drink liquids/water	57%	57%
Turn on air conditioning	27%	25%
Find an outdoor shaded location (e.g. under a tree)	18%	19%
Wear a hat	11%	10%
Go to air conditioned public location (e.g. mall, community centre, library)	7%	7%
Go to a swimming pool/beach	7%	6%
Wear loose fitting clothing	6%	6%
Turn on fan	4%	4%
Take a shower	2%	2%
Close curtains/blinds	2%	1%

Other (not specified)	25%	26%
dk/na	4%	4%

Q31. What kinds of things would you do to protect yourself and your family from heat illnesses?

Broadly speaking, these results are similar across the population, with one notable exceptions:

- Mentions of drinking fluids are lower among older Canadians (44% aged 55+) and those with household incomes under \$100,000 (54%, vs. 64% with higher incomes).

## Source of information about heat illness

*Canadians are most likely to turn to the Internet, ahead of their doctor, for information about heat illness.*

When asked who they would turn to get more information on heat illness, half of Canadians (51%) mention (without prompting) the Internet, while three in ten (30%) mention their doctor. Fewer would turn to Health Canada (8%), another health professional (8%) or friends or family (7%) for this purpose.

### Source for information about heat illness

Base: Total sample

	Phone Only (n=1425)	Phone & Online (n=1833)
Internet	51%	50%
Doctor	30%	30%
Health Canada	11%	10%
Other health professional	8%	7%
Friends/Family	7%	6%
Other government website	4%	5%
TV	4%	4%
Hospital/health clinic/center/unit	3%	3%
Local weather forecasters/Meteorologists	3%	3%
Nurse	2%	2%
Pharmacist	2%	2%
Other	7%	9%
dk/na	3%	3%

Q32. Who would you turn to in order to obtain more information on heat illness?

- The Internet is the primary source for heat illness information in all regions and across all population segments. However, it is more widely mentioned by Canadians under 55, those with a postsecondary education and those with household incomes over \$60,000, as well as among those living *outside* higher risk forest fire areas.
- Older Canadians are more inclined than others to turn to their doctor (37%, vs. 27% of younger Canadians).
- Mentions of Health Canada (17%) and meteorologists (6%) are higher among Canadians living in higher risk forest fire areas than among others.

## V. Climate change adaptation

Adaptation involves making adjustments in our decisions, activities, and thinking because of observed or expected changes in climate, in order to reduce harm or take advantage of new opportunities.<sup>3</sup> While these terms are widely used and understood by professionals working in the field of climate change, from a communications perspective, it is useful to know the baseline familiarity with and understanding of this terminology among the general public.

### Familiarity with adaptation terminology

*Just one-quarter of Canadians who believe in climate change are familiar with the terms climate change adaptation or climate resilience. This group is most likely to associate these terms with the idea of “being prepared for what’s to come”.*

**Familiarity.** There is limited familiarity with these terms. One-quarter (26%) are very familiar or familiar with them. The large majority say they are either not very familiar (27%), know the words by name only (16%) or have never heard of them before (31%).

**Familiarity with terms “climate change adaptation” or “climate resilience”**  
Base: Believe in climate change

	Phone Only (n=1425)	Phone & Online (n=1833)
Very familiar	6%	5%
Familiar	20%	19%
<b>Top 2 box (net)</b>	<b>26%</b>	<b>24%</b>
Not very familiar	27%	31%
Know them by name only	16%	15%
Have never heard of them before	31%	30%

Q33. How familiar are you with the terms “climate change adaptation” or “climate resilience”?

Familiarity (i.e., very familiar or familiar) with these terms is significantly higher among:

- Residents of Quebec (32%) and the Prairies (30%), and lowest in Atlantic Canada (17%)
- Those who believe climate change is definitely happening (27%, vs. 19% who say it may be happening but is unproven)

**Meaning.** When presented with potential definitions, Canadians with some familiarity with the terms are most likely to link them to the idea of being prepared for what’s to come (40%). (It should be noted that the popularity of this choice may have been influenced by the context of the questionnaire, much of which focused on being prepared and taking preventive actions).

<sup>3</sup> Government of Canada: <http://www.climatechange.gc.ca/default.asp?lang=En&n=2B2A953E-1> (Accessed March 28, 2017).



**Perceived meaning of terminology**  
**Base: Heard of terms**

	Phone only (n=962)	Phone & Online (n=1236)
Being prepared for what's to come	40%	32%
Change/adjustment	22%	20%
Becoming more flexible with change	15%	14%
Changing government rules/policies	9%	7%
Adapting to the changing climate	3%	8%
All of the above	2%	1%
Other	2%	3%
dk/na	2%	16%

Q34. *What do they mean to you?*

These results are consistent across regions and population segments, with no meaningful differences of note.

## VI. Modal differences

The purpose of incorporating online interviews into the survey was to allow for comparisons across modes should Health Canada wish to move this study to a fully online methodology in the future. This section summarizes the similarities and differences between the telephone and online results.

Note that both the phone and online samples are weighted identically by region, age and gender to ensure they are representative of the Canadian population; thus, we can be more comfortable that differences are the result of modal differences rather than differences in their sample composition.

Overall, the phone and online results are largely consistent, meaning that they are within the margin of error and that any differences would not change the conclusions drawn based on the findings.

The primary differences occur where social desirability bias is a factor. The research literature has consistently demonstrated that interview-based surveys (e.g., telephone, in-person) have a tendency to elicit somewhat more socially-desirable responses (i.e., responses that will be viewed favourably by others), in comparison to surveys involving self-administration (paper and pencil questionnaires or online surveys) since the latter does not involve direct contact with another individual.

This is evident in the current study, in two ways:

- Behavioural-based measures:** Phone respondents are more likely than online respondents to report behaviours that would help protect them from climate change health impacts. The literature suggests that phone respondents are over-reporting these “good”, or socially desirable, behaviours.

	Phone only (n=1425)	Online only (n=384)	Difference
Taken steps to protect against infectious diseases caused by insect bite (Q18)	43%	32%	-11
Have a household emergency plan (Q24)	40%	26%	-14
Regularly check for extreme weather alerts (Q27)	54%	37%	-17
Regularly change daily routine as a result of an extreme weather alert (Q28)	23%	15%	-8

This pattern is not always the case. For instance, the proportion who report ever taking action as a result of an extreme heat warning is similar by phone (51%) and online (48%). It may be that the infrequent and unique nature of such an event (at least up to now) allows respondents to recall their behaviour more accurately (without the influence of bias).

- Attitudinal-based measures:** Differences also exist between the phone and online survey on topics that are less well understood or accepted. For instance, phone and online respondents are similarly likely to say climate change causes melting permafrost, flooding and loss of wildlife habitat, perhaps because they are often discussed and generally well-accepted. In contrast, phone respondents are more likely to believe climate change causes lesser-known impacts such as negative economic impacts or mental health conditions, in part because it is the socially desirable response.

	Phone only (n=1425)	Online only (n=384)	Difference
<b>Q5 – Climate change definitely or likely causes:</b>			
Physical health conditions of Canadians	52%	41%	-11
Negative impacts on the economy/jobs	56%	38%	-18
Mental health conditions of Canadians	40%	27%	-13
Impact to health care availability	35%	25%	-10
Increases isolation/reduces belonging	31%	25%	-6
<b>Q7 – Major or moderate risk to health</b>			
Indirect impacts (mass migration, loss of jobs/income)	63%	50%	-13
<b>Q25 – Extreme weather related disaster is very or somewhat likely...</b>			
Within your lifetime	74%	64%	-10
Within the next 10 years	64%	53%	-11
Within the next two years	36%	30%	-6
None of the above	22%	33%	+11

**Summary.** We believe that the online results would serve as a valid and reliable new baseline against which to compare future survey results, if Health Canada chooses a fully online methodology going forward. This is based on the fact that, in most cases, the online data is similar to the telephone data, and that, where there are differences, the online data may actually more accurately represent the public’s true opinions and behaviours.

## VII. Conclusions

The research reveals that most Canadians have accepted the reality of climate change, confirming other public opinion research on this topic. Moreover, the public has a reasonably good understanding of the environmental impacts of the phenomenon (e.g., melting permafrost, flooding, more frequent storms). In contrast, it is still relatively early days for public understanding of the broader implications of climate change, such as impacts to the economy, mental health, health care availability and on belonging and culture.

When pressed, most Canadians acknowledge that climate change is causing health impacts, or will do so in the future. However, consistent with other research, a key challenge is that relatively few see the threat as immediate, local and/or personal. Minorities of Canadians believe a weather-related disaster is likely in their lifetime, have seen clear evidence of local climate change impacts, and feel personally vulnerable or have a household member who is. As a result, there is limited urgency to take protective action, if they are unlikely to feel direct effects or to anticipate such effects in the near term. In addition to building the case for protective action, there is also room for improvement in terms of what that looks like – that is, what steps the public should be taking that will be effective at protecting themselves and their families.

There is not yet widespread recognition of and understanding of what is meant by “climate change adaption” or “climate resilience”. Thus, either the terms should be avoided (replaced with clearer terminology) or effort is required to increase familiarity with the terms, before they can be used as shorthand in communications to the public. The Internet is now a primary source for information on health-related topics, whether it be about climate change generally, infectious diseases, extreme weather events or heat illness. Nonetheless, this should continue to be complemented by more traditional information sources (e.g., health professionals, traditional media) – particularly to reach older Canadians and those with lower socioeconomic status who are more likely to search out information in these ways.

# Appendix A: Methodology

## Background and research objectives

Health Canada identified the need for public opinion research to understand public perceptions of climate change and its effects on their health, and more generally on climate change adaptation. Specific research objectives were to understand:

- Level of awareness of climate change (and its health risks and impacts);
- Public perception of climate change “adaptation”/resilience;
- Actions to take to adapt/be more resilient to the health risks/impacts of climate change
- Trusted sources, media and means for education and awareness information; and
- Views on role(s) of government and non-governmental organizations.

## Methodology

To address the research objectives, a mixed-mode telephone and online survey was conducted with a total of 1,425 Canadians (aged 18 and over) from February 15 – March 10, 2017.

- The telephone survey consisted of interviews with a representative sample of 1,425 Canadians (1225 land line and 200 cell phone only households). The final sample includes oversamples conducted with Indigenous people and Canadians living in higher-risk forest fire areas. The margin of error for the telephone survey is plus or minus 2.6 percentage points, 19 times in 20.
- The online survey was conducted with 375 Canadians surveyed via an online panel, to allow for comparisons across mode should Health Canada wish to move this study to a fully online methodology in the future. Because an online survey is not a random probability sample, a margin of sampling error cannot be reported.

## Sample design and weighting

**Telephone.** The telephone sampling method was designed to complete 1400 interviews with the target audience of Canadians aged 18 and older.

The base sample of 825 was stratified across five designated regions to ensure meaningful data analysis at the regional level. An additional 375 oversample interviews were conducted with Canadians living in higher risk forest fire areas, based on a list of Forward Sortation Areas (FSA) provided by Health Canada. A further 200 oversample interviews with conducted Indigenous people (with quotas set to ensure the final sample was representative by on- and off-reserve).

EnviroNics employed industry-standard random-digit-dialling (RDD) methods as a basis for drawing a national sampling frame for this survey and used an industry-standard “most recent birthday” selection technique to randomly select a respondent within each selected household. Cell phone only (CPO) sample was also included.

The sample was stratified by region to allow for meaningful coverage of lower population areas:

### Sample design

Region (% of population)	Telephone unweighted sample size	Margin of error (Phone sample only)*	Online unweighted sample size
Atlantic Canada (7%)	202	+/-6.9	49
Quebec (24%)	341	+/-5.7	95
Ontario (38%)	346	+/-5.3	133
Prairies/NWT/Nunavut (17%)	413	+/-4.7	58
B.C./Yukon (13%)	147	+/-8.1	49
<b>CANADA (100%)</b>	<b>1,449</b>	<b>+/-2.6</b>	<b>384</b>

\* In percentage points, at the 95% confidence level

The adjacent map of the forest fire FSAs demonstrates that the majority fall in the territories and in the northern parts of the western provinces, most of which represent rural areas.

### FSAs with a higher risk of forest fires



**Online.** The online sample was designed to achieve completed surveys with 375 adult Canadians. Survey participants were recruited via an online panel, and quotas were set to ensure the sample were generally representative of the Canadian population by age and gender. As with the telephone sample, the online sample was stratified by region to allow for meaningful coverage of lower population areas (see table above).

**Weighting.** At the analysis stage, the telephone and online survey data were each weighted separately to the national adult population (by region, age and gender, plus for the telephone sample, by forest fire areas and the Indigenous population), and then combined.

### Questionnaire design and pre-testing

The questionnaire was designed by Environics in consultation with representatives from Health Canada and the collaborative partners. Where relevant, the questionnaire incorporated tracking questions from a 2008 survey on climate change and health. The questionnaire was initially developed as a telephone survey; upon client

approval of the content, Environics then adapted the survey for online administration. The final study questionnaire is included in Appendix B.

**Pre-test.** An initial pretest of 10 interviews in each of English and French was conducted on February 10, 2015 and audited using recordings by Environics and Government of Canada staff. These interviews included standard GC pretest probing questions. The survey came in significantly longer than budgeted. As a result, the survey was reviewed, edits, as well as adjustments to the sample size were made to the survey to fall within the budget. The English and French surveys proceeded February 20, 2017.

## Fieldwork

**Telephone.** Telephone interviewing was conducted by Elemental Data Collection (EDCI) using Computer Aided Telephone Interviewing (CATI) technology. Field supervisors were present at all times to ensure accurate interviewing and recording of responses. A minimum of ten percent of each interviewer's work was unobtrusively monitored for quality control in accordance with the standards set out by the Marketing Research and Intelligence Association (MRIA). The telephone survey averaged 19 minutes to deliver.

Data analysts programmed the questionnaire in CATI then performed thorough testing to ensure accuracy in set-up and data collection. This validation ensured that the data entry process conformed to the survey's basic logic. The CATI system handles sampling dialling, quotas and questionnaire completion (skip patterns, branching, and valid ranges). The system also ensures that callbacks are conducted in a timely manner. No number is called twice in a two-hour period. Callbacks are conducted on different days of the week and at different times of the day (i.e. morning, afternoon). This system ensures all scheduled appointments are kept, maximizing the response rate and sample representativeness. Up to eight callbacks were made to reach each household selected in the sample.

**Online.** The surveys were conducted by Environics using a secure, fully featured web-based survey environment. The average length of time to complete the online survey was 19 minutes.

Environics' data analysts programmed the questionnaires then performed thorough testing to ensure accuracy in set-up and data collection. This validation ensured that the data entry process conformed to the surveys' basic logic. The data collection system handles sampling invitations, quotas and questionnaire completion (skip patterns, branching, and valid ranges).

## Quality control

All respondents were offered the opportunity to complete the survey in their official language of choice. All research work was conducted in accordance with the standards established by federal government Public Opinion Research (POR) requirements, as well as applicable federal legislation (Personal Information Protection and Electronic Documents Act, or PIPEDA). The survey was registered with the MRIA's research registration system, which permits the public to verify a survey call, inform themselves about the industry and/or register a complaint.

## Completion results

**Telephone.** The telephone sample for this survey consisted of 1,449 interviews with adult Canadians. The effective response rate for the survey is nine percent.<sup>4</sup> This is calculated as the number of responding participants (completed interviews plus those disqualified because of survey requirements and quotas being filled), divided by unresolved numbers (e.g., busy, no answer) plus non-responding households or individuals

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<sup>4</sup> This response rate calculation is based on a formula developed by MRIA in consultation with the Government of Canada (Public Works and Government Services).

(e.g., refusals, language barrier, missed callbacks) plus responding participants  $[R/(U+IS+R)]$ . The disposition of all contacts is presented in the following table:

### Telephone completion results

	TOTAL	Landline	Cell
<b>Total Numbers Attempted</b>	<b>55263</b>	<b>31088</b>	<b>25444</b>
<b>Out-of-scope - Invalid</b>	<b>24163</b>	<b>8111</b>	<b>16052</b>
<b>Unresolved (U)</b>	<b>15161</b>	<b>9872</b>	<b>5289</b>
<i>No answer/Answering machine</i>	15161	9872	5289
<b>In-scope - Non-responding (IS)</b>	<b>3649</b>	<b>2268</b>	<b>1381</b>
<i>Language barrier</i>	301	217	84
<i>Incapable of completing (ill/deceased)</i>	229	209	20
<i>Callback (Respondent not available)</i>	3119	1842	1277
<b>Total Asked</b>	<b>12290</b>	<b>10837</b>	<b>2722</b>
<i>Refusal</i>	10293	8136	2157
<i>Termination</i>	356	254	102
<b>In-scope - Responding units (R)</b>	<b>2910</b>	<b>2447</b>	<b>463</b>
<i>Completed Interview</i>	1449	1034	415
<i>NQ - Quota Full</i>	136	94	42
<i>NQ – Age</i>	17	11	6
<i>NQ – Out of Area (Forest Fire Risk)</i>	39	39	0
<i>NQ – Non-Aboriginal (Aboriginal oversample)</i>	1269	1269	0
<b>Response Rate</b>	<b>9.36</b>	<b>10.65</b>	<b>4.93</b>
<b>Incidence</b>	<b>49.79</b>	<b>42.26</b>	<b>89.63</b>
<b>Survey Length (in minutes)</b>	<b>19.3</b>	<b>19.9</b>	<b>18.1</b>



**Online.** The online completion results are presented in the following table.

### Contact disposition

Total invitations	(c)	1724
Total completes	(d)	384
Qualified break-offs	(e)	55
Disqualified	(f)	87
Not responded	(g)	1039
Quota filled	(h)	159
Contact rate = (d+e+f+h)/c		40%
Participation rate = (d+f+h)/c		37%

### Non-response bias analysis

The table below presents a profile of the final telephone sample, compared to the actual population of Canada (2011 Census information). As is typically the case for general population telephone surveys, older individuals are easier to reach, so the survey overrepresented those age 55+ (this was corrected with age weighting). The final sample also somewhat under-represents those with high school or less education, which is a typical pattern for telephone surveys in Canada (e.g., individuals with more education are more likely to respond to telephone surveys).

### Sample profile

	Phone Sample*	Canada
<b>Gender (18+)</b>		
Male	50	48
Female	50	52
<b>Age</b>		
18-34	18	28
35-54	33	37
55+	49	36
<b>Education level <sup>α</sup></b>		
High school diploma or less	32	40
Trades/college/post sec no degree	35	32
University degree	33	28

\* Data are unweighted and percentaged on those giving a response to each demographic question

<sup>α</sup> Actual Census categories differ from those used in this survey and have been recalculated to correspond. Statistics Canada figures for education are for Canadians aged 25 to 64 years.

## Appendix B: Survey questionnaire

# Interdepartmental Public Opinion Research – Climate Change Adaptation: Survey questions

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## INFO NODE

Good afternoon/evening. My name is \_\_\_\_\_ and I am calling from Environics, a public opinion research company.

## CONFIRM WHETHER RESPONDENT PREFERS ENGLISH OR FRENCH

We are conducting a study on behalf of the Government of Canada to find out what people think about issues facing Canada today. Please be assured that we are not selling or soliciting anything. The survey is voluntary and your responses will be kept entirely confidential and anonymous. This survey is registered with the national survey registration system.

The survey should take about 15 minutes to complete]

**[IF ASKED:** The survey is sponsored by the Government of Canada]

**[IF ASKED:** This survey is registered with the national survey registration system. The registration system has been created by the Canadian survey research industry to allow the public to verify that a survey is legitimate, get information about the survey industry or register a complaint. The registration system's toll-free telephone number is 1-888-602-6742, extension 8728].

## IF LANDLINE SAMPLE

We choose telephone numbers at random and then select one person from each household to be interviewed. To do this, we would like to speak to the person in your household, 18 years of age or older, who has had the most recent birthday. Would that be you?

## IF CELL PHONE SAMPLE ASK A AND B

### SC

A Are you in a safe place to talk – for example not operating a motor vehicle?

1. Yes **[RE-INTRODUCE YOURSELF, IF NECESSARY]**
2. No **[ARRANGE CALLBACK DATE/TIME]**

### SC

B At home, do you have a traditional telephone line other than a cell phone?

1. Yes **CHECK AGAINST QUOTA**
2. No **CHECK AGAINST QUOTA**

## OE NUM [1900-2016] TERMINATE IF > 1998

C. In what year were you born?  
RECORD RESPONSE

### SC

D. Which of the following age groups do you fall into?

- 01 – 18 – 24 years of age
- 02 – 25 to 34
- 03 – 35 to 44
- 04 – 45 to 54
- 05 – 55 to 64
- 06 – 65 to 74

07 – 75+

**VOLUNTEERED**

99 - REFUSAL

**OE NUM CHA**

E. To ensure we include people from all parts of Canada, what are the six digits of your postal code?

**RECORD RESPONSE**

IF REFUSED AT E: Can I please have the first 3 characters of your postal code?

**SC**

F. Which of the following best identifies you? Are you...?

01 - First Nations

02 - Inuk

03 - Métis

04 - a non-Aboriginal peoples

**VOLUNTEERED**

05 - Inuit

06 - Inuvialuit

98 - Other (SPECIFY \_\_\_\_\_)

99 - REFUSE

**SC**

IF F=01, 02 OR 03:

F2. Do you participate in any traditional First Nation/Inuit/Metis activities, such as hunting, fishing, trapping, crafts, harvesting of traditional berries, foods and/or medicines, or other activities?

1. Yes

2. No

**A. Climate Change (impact) awareness and perceptions**

2008 – Q4a

**SC**

1. There has been a lot of discussion lately about the issue of climate change. Do you believe that climate change is something that is definitely happening, or something which may be happening but is not yet proven, or climate change is not happening at all?

1. Climate change is definitely happening

2. Climate change may be happening but is not yet proven

3. , or Climate change is not happening at all – then skip to Q17

99. DK/NA

2008 – Q5

**ASK IF Q1=1, 2 OR 99**

**SC**

2. Have you noticed any changes in your community which you think are definitely, likely, or possibly the result of climate change or you have not noticed any changes?

1. Definitely the result of climate change

2. Likely the result of climate change

3. Possibly the result of climate change

4. No changes noticed

5. Depends/hard to say

99. DK/NA

2008 – Q6

ASK IF Q1=1, 2 OR 99

SC

3. And are you aware of any changes in other parts of Canada which you think are definitely, likely, or possibly the result of climate change or you have not noticed any changes?
1. Definitely the result of climate change
  2. Likely the result of climate change
  3. Possibly the result of climate change
  4. No changes noticed
  5. Depends/hard to say
  99. DK/NA

2008 – Q7

ASK IF Q1=1, 2 OR 99

MC

4. (IF DEFINITELY/LIKELY/POSSIBLY IN Q2 OR Q3) What kinds of changes have you noticed?  
**DO NOT READ LIST – CODE ALL THAT APPLY – LIMIT PROBING**

1. Warmer temperatures/warmer weather
2. Colder temperatures/colder weather
3. More heat waves/extreme heat
4. Weather more unpredictable
5. Weather events more extreme
6. More storms
7. Stronger winds
8. More air pollution/lower air quality
9. Water levels are lower
10. Water levels are higher
11. More flooding/more severe flooding
12. Less ice/snow
13. Less rain
14. More ice/snow
15. More rain
16. More forest Fires
17. Less forest Fires
18. Affecting tundra/permafrost
19. Changes in migration patterns
20. Harvesting of foods such as berries, and traditional medicines
21. Increase in physical health issues
22. Increase in mental health issues
23. Increase in infectious disease risk or spread
24. Winter roads
98. Other (SPECIFY \_\_\_\_\_ **OE CHA** \_\_\_\_\_)
99. DK/NA **[EXCLUSIVE]**

2008 – Q8 with new items

**GRID SC PER ROW**

**ASK IF Q1=1, 2 OR 99**

5. Would you say that climate change definitely causes, likely causes, likely does not cause or definitely does not cause each of the following types of impacts in Canada?

**RANDOMIZE**

**SPLIT SAMPLE ALL SO HALF OF LIST IS ASKED TO EACH RESPONDENT EXCEPT HIGH RISK FOREST FIRE RESPONDENTS. THEY WILL RECEIVE ALL THESE ITEMS.**

**ROWS**

- a. Melting permafrost in the Arctic regions
- b. Coastal erosion
- c. Forest fires
- d. Extreme heat events or heat waves
- e. Extreme cold weather
- f. More frequent storms, such as hurricanes and ice storms
- g. Loss of wildlife habitat
- h. Drought conditions
- i. Flooding of rivers and in coastal areas
- j. More severe forest pest infestation
- k. Physical health conditions of Canadians
- l. Mental health conditions of Canadians
- m. Negative impacts on the economy or jobs
- n. Weaker connection to one's culture
- o. Increases isolation and reduces a sense of belonging of the community
- p. Air pollution/lower air quality
- q. Increased allergies
- r. Impact to food supply
- s. Impact to health care availability

**COLUMNS**

- 01 – Definitely causes
- 02 – Likely causes
- 03 – Likely does not cause
- 04 – Definitely does not cause

**VOLUNTEERED**

- 05 – Depends
- 99 – DK/NA

**B. Climate Change and Health**

2008 – Q9

**MC**

**ASK IF Q1=1, 2 OR 99**

6. In what ways, if any, do you think climate change poses a risk to the health of Canadians? Please be as specific as possible.

**DO NOT READ LIST – CODE ALL THAT APPLY – LIMIT PROBING**

- 1. Air quality impacts
  - a. Increased air pollution
  - b. Poor air quality
  - c. Increased smog
- 2. Respiratory/breathing problems
- 3. Infectious diseases/

- i. West Nile/
  - ii. Flu / Influenza Virus
  - iii. Lyme Disease
  - iv. Other Vector Borne Disease
  - v. Other infectious diseases
4. Diseases transmitted from animals/nature to people
  5. Water quality impacts
    - a. Decreased water quality
    - b. Decreased drinking water supply
    - c. Impact on water species
    - d. Impact on recreational waterways
  6. Water-borne diseases
  7. Food-borne disease
  8. Heat stroke
  9. Sunburn
  10. Skin cancer
  11. Cancer
  12. Frostbite/frozen skin
  13. Stress/anxiety
  14. Nutrition
  15. Allergies (related to pollen/mould)
  98. Other (SPECIFY \_\_\_\_\_ **OE CHA** \_\_\_\_\_)
  97. None **[EXCLUSIVE]**
  99. DK/NA **[EXCLUSIVE]**

**NEW**

**GRID, SC PER ROW**

**ASK IF Q1=1, 2 OR 99**

7. How much of a risk to the health of [Canadians]/ [INSERT CODES 01, 02 OR 03 AT QF: First Nations peoples/Inuit/Métis] is there from each of the following?

**RANDOMIZE**

- a. Forest fires
  - b. Flooding
  - c. Spread of infectious diseases (Lyme, West Nile, Flu/Influenza)
  - d. Extreme heat events
  - e. Food security
  - f. Loss of permafrost
  - g. Changes in air quality
  - h. Changes in water quality
  - i. Indirect impacts, e.g. mass migration, loss of jobs/income
  - j. Allergies (pollen/mould)
  - k. Forest Fire Smoke
  - l. Food safety
  - m. Food-borne illness
  - n. Rising sea levels/coastal erosion
1. Major risk
  2. Moderate risk
  3. Minor risk
  4. No risk at all
  99. DK/NA

**GRID, SC PER ROW**

**ASK IF Q1=1, 2 OR 99**

8. **IF F=01, 02 OR 03:** The next question is about how you feel climate change is affecting your health and your culture. Is climate change having a major, moderate, minor impact or no impact at all on each of the following?

RANDOMIZE

- a. Your ability to eat healthy foods
- b. Your ability to cope with the impact on your mental health
- c. Indigenous peoples' connection to the land
- d. Passing down knowledge and beliefs from elders to youth

1. Major impact
2. Moderate impact
3. Minor impact
4. No impact at all
99. DK/NA

2008 – Q11

SC

**ASK IF Q1=1, 2 OR 99**

9. Do you think that climate change already poses a risk to Canadians today, or do you think this is something that will happen in the future or it poses no risk now or in the future?

1. Poses a risk today
2. Will pose a risk in the future
3. No risks now or in the future
4. Depends
99. DK/NA

2008 – Q14

SC

**ASK IF Q1=1, 2 OR 99**

11. What about your own health? Do you believe that you personally are definitely, likely, likely not, or definitely not vulnerable to the potential health impacts of climate change?

1. Definitely vulnerable
2. Likely vulnerable
3. Likely not vulnerable
4. Definitely not vulnerable
5. DEPENDS
99. DK/NA

2008 – Q15

SC

**ASK IF Q1=1, 2 OR 99**

12. Is there anyone else in your immediate household who you think would be especially vulnerable to the potential health impacts of climate change?

1. Yes
2. No
99. DK/NA

2008 – Q17

MC UP TO 3

**ASK IF Q1=1, 2 OR 99**



14. Have you personally taken any steps in the past year to protect yourself or family members from the potential health risks and/or impacts of climate change?

**DO NOT READ – CODE UP TO 3 RESPONSES – LIMIT PROBING**

1. Installed air conditioning,
2. Use deet,
3. Have an emergency plan/kit,
4. Vigilant for ticks on person/pets,
5. Increase home's energy efficiency,
6. Watch weather more closely
7. Prepare for storms,
8. Recycling
9. Riding your bike to work
98. Other (SPECIFY) **OE CHA**
99. No/None **[EXCLUSIVE]**

## Climate Change and Health – Infectious diseases

### INFO NODE

Now, I would like to talk to you about Infectious diseases that are caused by the bite of an infected mosquito or tick.

**NEW**

**GRID, SC PER ROW**

17. I will now read you a list of diseases caused by a mosquito / tick bite. Please tell me whether you think each of the following poses a major risk, moderate risk, a minor risk or no risk at all to the health of Canadians:

RANDOMIZE

**ROWS**

- a. Lyme disease
- b. West Nile Virus
- c. Zika
- d. Yellow Fever
- e. Malaria

**COLUMNS**

1. Major risk
2. Moderate risk
3. Minor risk
4. No risk at all
99. DK/NA

**NEW**

**SC**

18. Have you personally taken any steps in the past year to protect yourself or family members to prevent against diseases caused by the bite from an infected mosquito or tick?:

1. Yes
2. No
99. DK/NA

**NEW**

**MC**

19. **IF YES AT Q18:** What steps have you taken?

**DO NOT READ THE LIST**

1. using insect repellent / spray always
2. using insect repellent / spray only when going into marshy / treed areas
3. checking for ticks on skin after being outdoors
4. check pets after being outdoors

5. reducing time outdoors during peak mosquito periods
6. avoid outdoor areas known for higher volume of mosquitos/ticks
7. wearing light coloured clothing when outdoors
8. wearing long pants and long sleeves
98. Other, please specify **OE CHA**

**NEW**

**MC**

20. If you wanted more information about these types of diseases, where would you look or what sources would you use?

**DO NOT READ LIST**

1. Federal Government website: such as Health Canada and the Public Health Agency of Canada
2. Your provincial government
3. Your municipal government / local government (e.g. city)
4. US Centre for Disease Prevention and Control (CDC)
5. Doctor / Specialist
6. Web/Internet
7. TV
8. Radio
9. Newspaper/Magazine ad
10. Social Media
11. Friends
98. Other: (Please specify) **OE CHA**

## **Climate Change and Health - Extreme weather**

**INFO NODE**

*I would now like to ask you about extreme weather events, such as hurricanes, violent wind storms, heat waves, floods and major blizzards . . .*

**2008 – Q18**

**SC**

21. How much of a health risk do you believe extreme weather events present to you and your family? Do they present:
1. A major health risk
  2. A moderate health risk
  3. A minor health risk, or
  4. No health risk at all
  99. DK/NA

NEW

SC

22. Which extreme weather events do you feel poses the **greatest** risk to your health and the health of your family?

**DO NOT READ LIST – CODE ONE ONLY**

1. Extreme heat/heat waves
2. Hurricanes
3. Wind storms
4. Floods
5. Winter storms/blizzards
6. Forest fires
7. Drought
98. OTHER, please specify **OE CHA**

**GRID SC PER ROW**

23. **IF F=01, 02 OR 03:** The next question is about weather conditions and climate change. Do you feel that changing weather patterns are having a major, moderate, minor impact or no impact at all on:

**RANDOMIZE  
ROWS**

- a. Your ability to get out on the land
- b. Animal migration patterns or fish populations
- c. Traditional fishing, hunting or trapping grounds
- d. The location of berries, foods or traditional medicines
- e. Ice roads
- f. Housing conditions
- g. Your ability to store traditional foods

**COLUMNS**

1. Major impact
2. Moderate impact
3. Minor impact
4. No impact at all
99. Not applicable

2008 – Q21

SC

24. Does your household currently have a plan for what to do to protect yourself and your family in the event of a natural disaster or emergency? Such a plan might include how you would evacuate your home, or how to stay in contact with other family members.

1. Yes
2. No
99. DK/NA

2008 – Q24

**GRID SC PER ROW**

25. Do you think it is very, somewhat, not very or not at all likely that a disaster caused by extreme weather will occur and affect you or your community:

**ROWS**

- a. Within the next two years
- b. Within the next 10 years
- c. Within your lifetime

**COLUMNS**

1. Very likely

2. Somewhat likely
3. Not very likely
4. Not at all likely
5. Depends
99. DK/NA

2008 – Q25

MC

26. Where are you most likely to look for information about extreme weather that might affect your community?
1. TV
  2. Radio
  3. Newspaper
  4. Internet/website - **PROBE FOR SPECIFIC SITE** \_\_\_\_\_ **OE CHA** \_\_\_\_\_
  5. Government of Canada website – **PROBE FOR SPECIFIC DEPT** [**OE CHA**]
  6. Weather Network (TV)
  7. Weather Network (website)
  8. Friend/family member
  9. Media billboard/outdoor electronic sign
  10. Weather apps
  11. Twitter
  12. Facebook
  13. Newsfeeds
  14. Phoning local weather line
  15. WEATHERADIO
  16. EC-Alert Me
  17. Crawler and the bottom of the TV screen
  18. Environment Canada (**SPECIFY MEDIUM** [**OE CHA**])
  98. Other (SPECIFY \_\_\_\_\_ **OE CHA** \_\_\_\_\_)
  99. DK/NA [**EXCLUSIVE**]

2008 – Q23 revised wording

SC

27. How often do you or others in your household listen or check for extreme weather alerts in your local area?  
Is this done:
1. Regularly
  2. Occasionally
  3. Rarely
  4. Never
  99. DK/NA

SC

28. How often do you take steps or make changes in your daily routine as a result of an extreme weather alert ?
1. Regularly
  2. Occasionally
  3. Rarely
  4. Never
  99. DK/NA
  5. depends

NEW

SC

29. When thinking specifically about extreme heat or heat waves, have you ever taken action or changed your plans as a result of hearing a heat warning?
1. Yes

2. No

NEW

MC

30. To the best of your knowledge, what are the symptoms of heat illness?

**DO NOT READ THE LIST**

1. headache
2. difficulty breathing
3. heat rash
4. dizziness
5. excessive thirst / dry mouth
6. weakness
7. fainting
8. muscle cramps
9. rapid heartbeat
10. confusion / disorientation / staggering
11. lack of sweating (despite heat)
12. nausea
13. swelling of hands, feet, ankles
14. decreased urination/unusually dark yellow urine
98. other
99. DK/NA **[EXCLUSIVE]**

NEW

31. What kinds of things would you do to protect yourself and your family from heat illnesses?

**DO NOT READ THE LIST**

1. Stay inside when it's too hot
2. Turn on air conditioning
3. Turn on fan
4. Go to air conditioned public location (e.g. mall, community centre, library)
5. Drink liquids/water
6. Wear loose fitting clothing
7. Wear a hat
8. Close curtains/blinds
9. Take a shower
10. Find an outdoor shaded location (e.g. under a tree)
11. Go to a swimming pool/beach
98. Other
99. DK/NA **[EXCLUSIVE]**

NEW

MC

32. Who would you turn to in order to obtain more information on heat illness?

**DO NOT READ THE LIST**

1. Doctor
2. Nurse
3. Pharmacist
4. Other health professional
5. Health Canada
6. Other government website
7. Local weather forecasters/Meteorologists
8. Friends/Family
9. Social Media
10. TV

- 11. Radio
- 12. Internet
- 98. Other:.....**OE CHA**
- 99. DK/NA [EXCLUSIVE]**

If Q1 Climate change is not happening, Skip to section D

### **C. Climate Change Adaptation**

**NEW**

**ASK**

**SC**

**ASK IF Q1=1,2 OR 99**

33. How familiar are you with the terms “climate change adaptation” or “climate resilience”

01 – Very familiar

02 - familiar

03 – Not very familiar

04 – Know them by name only

99 – Have never heard of them before

**NEW**

**34. IF CODES 01 – 04 AT Q33**

**SC**

What do they mean to you?:

- 1. change / adjustment
- 2. changing government rules/policies
- 3. becoming more flexible with change
- 4. being prepared for what's to come.
- 5. Other (specify)
- 99. DK/NA

### **D. Health Status/Demographic Questions**

**INFO NODE**

*Now I'd like to ask you a few questions about your health. .*

**2008 – Q26**

**SC**

D1. Compared to other people your age, would you say your health is generally:

- 1. Excellent
- 2. Very good
- 3. Good
- 4. Only fair
- 5. Poor
- 99. REFUSE/NA

**2008 – Q28**

**INFO NODE**

*Finally, I'd like to ask you a few questions about yourself and your household that will help us analyze the results of this survey. . .*

**2008 – Q33**

**SC**

D4. What is the highest level of formal education that you have completed?  
(READ LIST)

Grade 8 or less	1
Some high school	2
High School diploma or equivalent	3
Registered Apprenticeship or other trades certificate or diploma	4
College, CEGEP or other non-university certificate or diploma	5
University certificate or diploma below Bachelor's level	6
Bachelor's degree	7
Post graduate degree above bachelor's level	8
<b>[DO NOT READ]</b>	
Prefer not to answer	99

2008 – Q35

**OE NUM [0-99]**

D5. How many people, including yourself, currently live in your household?

99 – NA/REFUSE

**IF LANDLINE RECORD REGION FROM SAMPLE  
IF CELL PHONE SAMPLE ASK C**

**SC**

D8. In which province or territory do you live?

Newfoundland	1
Prince Edward Island	2
Nova Scotia	3
New Brunswick	4
Quebec	5
Ontario	6
Manitoba	7
Saskatchewan	8
Alberta	9
British Columbia	10
Yukon	11
Northwest Territories	12
Nunavut	13

SC

D9. Gender [DO NOT ASK: record based on interviewer observation]

- Female 1
- Male 2

SC

I. What language do you speak most often at home? [READ LIST — ACCEPT ALL THAT APPLY]

- English 1
- French 2
- Another language DO NOT SPECIFY 3
- VOLUNTEERED**
- Don't know/Refused 99

SC

J. Which of the following categories best describes your current employment status? Are you [READ LIST — ACCEPT ONE ANSWER ONLY]

- Working full-time, that is, 35 or more hours per week 1
- Working part-time, that is, less than 35 hours per week 2
- Self-employed 3
- Unemployed, but looking for work 4
- A student attending school full-time 5
- Retired 6
- Not in the workforce [FULL-TIME HOMEMAKER, UNEMPLOYED, NOT LOOKING FOR WORK] 7
- [DO NOT READ]**
- Other -- DO NOT SPECIFY 98
- [DO NOT READ]**
- Refused 99

2008 – Q39

SC

D10. Which of the following categories best describes your total household income? That is, the total income of all persons in your household combined, before taxes [READ LIST]?

- Under \$20,000 1
- \$20,000 to just under \$40,000 2
- \$40,000 to just under \$60,000 3
- \$60,000 to just under \$80,000 4
- \$80,000 to just under \$100,000 5
- \$100,000 to just under \$150,000 6
- \$150,000 and above 7
- (DO NOT READ)** Refused 99

INFO NODE

This completes the survey. In case my supervisor would like to verify that I conducted this interview, may I have your first name?

First Name: \_\_\_\_\_ **OE CHA** \_\_\_\_\_

This survey was conducted on behalf of the Government of Canada, and is registered under the Federal Access to Information Act. Thank you very much for your participation.



# Recherche interministérielle sur l'opinion publique – Adaptation au changement climatique : Projet de questions du sondage

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Bonjour/bonsoir. Je m'appelle \_\_\_\_\_ et j'appelle d'Environics, une compagnie de recherche sur l'opinion publique.

CONFIRMER SI LE(LA) RÉPONDANT(E) PRÉFÈRE L'ANGLAIS OU LE FRANÇAIS

Nous effectuons une étude pour le Gouvernement du Canada sur ce que pense le public des questions que le Canada affronte aujourd'hui. Soyez assuré(e) que nous ne vendons ni ne sollicitons rien. Le sondage est volontaire et vos réponses resteront confidentielles et anonymes. Ce sondage est enregistré auprès du système national d'enregistrement des sondages.

Le sondage devrait prendre environ 15 minutes à compléter.

[SI DEMANDÉ : Le sondage est commandité par le Gouvernement du Canada]

[SI DEMANDÉ : Ce sondage est enregistré auprès du système national d'enregistrement des sondages. Le système d'enregistrement a été mis sur pied par l'industrie canadienne de la recherche par sondage afin de permettre au public de vérifier la légitimité d'un sondage, d'obtenir de l'information à propos du secteur des sondages ou de déposer une plainte. Le numéro de téléphone sans frais du système d'enregistrement est le suivant : 1-888-602-6742, poste 8728].

## SI TÉLÉPHONE FILAIRE

Nous choisissons des numéros de téléphone au hasard, puis nous choisissons d'interviewer une personne du foyer. Nous aimerions parler à la personne de votre foyer de 18 ans ou plus dont l'anniversaire de naissance est le plus récent. Est-ce vous ?

- 
- 

## SI TÉLÉPHONE CELLULAIRE, DEMANDER A ET B

A Êtes-vous en lieu sûr pour parler – par exemple, pas au volant d'une voiture ?

Oui

[SE PRÉSENTER DE NOUVEAU, AU BESOIN]

Non

[FIXER UN MOMENT POUR LE RAPPEL]

B À la maison, avez-vous une ligne de téléphone traditionnelle autre qu'un cellulaire ?

Oui

VÉRIFIER CONTRE LE QUOTA

Non

VÉRIFIER CONTRE LE QUOTA

F. En quelle année êtes-vous né(e) ?  
ENREGISTRER LA RÉPONSE

G. De quel groupe d'âge êtes-vous ?

- 01 – 18 à 24 ans
- 02 – 25 à 34 ans
- 03 – 35 à 44 ans
- 04 – 45 à 54 ans
- 05 – 55 à 64 ans
- 06 – 65 à 74 ans
- 07 – 75 ou plus
- VOLONTAIRE
- 100 - REFUS

H. Pour nous assurer d'inclure des gens de toutes les parties du Canada, quels sont les six chiffres de votre code postal ?

- ENREGISTRER LA RÉPONSE

F. Lequel des qualificatifs suivants vous identifie le mieux ? Êtes-vous...?

- 01 - Premières Nations
- 02 - Inuk
- 03 - Métis
- 04 – Non autochtone
- VOLONTAIRE
- 05 - Inuit
- 06 - Inuvialuit
- 98 - Autre (PRÉCISER \_\_\_\_\_)
- 99 - REFUSE

SI F=01, 02 OU 03 : Participez-vous à l'une des activités traditionnelles des Premières Nations, des Inuits ou des Métis, comme la pêche, la chasse, le trappage, l'artisanat, la récolte de baies, d'aliments et/ou de médicaments traditionnels ou d'autres activités ?

- Oui
- Non

## Projet de thèmes et de questions du sondage :

### **A. Connaissance et perceptions (de l'effet) du changement climatique**

#### 2008 – Q4a

1. Il a beaucoup été question de changement climatique ces derniers temps. Croyez-vous que le changement climatique est un phénomène qui se produit vraiment ou qui pourrait se produire, mais n'est pas encore prouvé ?
  - Le changement climatique se produit vraiment
  - Le changement climatique pourrait se produire, mais n'est pas encore prouvé      passez a Q17
  - NSP/PR

#### 2008 – Q5

2. Avez-vous observé des changements dans votre milieu qui, selon vous, sont nettement, probablement ou possiblement le résultat du changement climatique ?
  - Nettement le résultat du changement climatique
  - Probablement le résultat du changement climatique
  - Possiblement le résultat du changement climatique
  - Aucun changement observé
  - Ça dépend/difficile à dire
  - NSP/PR

#### 2008 – Q6

3. Êtes-vous au courant de changements ailleurs au Canada qui, selon vous, sont nettement, probablement ou possiblement le résultat du changement climatique ?
  - Nettement le résultat du changement climatique

- Probablement le résultat du changement climatique
- Possiblement le résultat du changement climatique
- Aucun changement observé
- Ça dépend/difficile à dire
- NSP/PR

#### 2008 – Q7

4. (SI NETTEMENT/PROBABLEMENT/POSSIBLEMENT À LA Q2 OU À LA Q3) Quelle sorte de changements avez-vous observés ?  
NE PAS LIRE LA LISTE – CODER TOUT CE QUI S'APPLIQUE – LIMITER LE SONDAGE

- Températures plus chaudes/temps plus chaud
- Températures plus froides/temps plus froid
- Plus de vagues de chaleur/chaleur extrême
- Temps plus imprévisible
- Temps plus extrêmes
- Plus de tempêtes
- Vents plus forts
- Plus de pollution atmosphérique/moins bonne qualité de l'air
- Niveaux d'eau plus bas
- Niveaux d'eau plus hauts
- Plus d'inondations/inondations plus graves
- Moins de glace/neige
- Moins de pluie
- Plus de glace/neige
- Plus de pluie
- Plus de feux de forêt
- Moins de feux de forêt
- Affecte la toundra/le pergélisol
- Changements dans la structure des mouvements migratoires
- Récolte d'aliments comme les baies et les médicaments traditionnels
- Hausse des problèmes de santé physique
- Hausse des problèmes de santé mentale
- Hausse du risque ou de la propagation de maladies contagieuses
- Chemins d'hiver
- Autre (PRÉCISER \_\_\_\_\_)
- NSP/PR

#### 2008 – Q8 avec de nouveaux objets

5. Diriez-vous que le changement climatique cause nettement, probablement, probablement pas ou nettement pas les effets suivants au Canada ?  
RANDOMISER – SPLIT SAMPLE

- Fonte du pergélisol dans les régions arctiques
- Érosion côtière
- Feux de forêt
- Chaleur extrême ou vagues de chaleur
- Froid extrême
- Tempêtes plus fréquentes, comme des ouragans et des tempêtes de verglas
- Perte d'habitat faunique
- Conditions de sécheresse
- Inondations des rivières et des zones côtières
- Infestation plus grave des ravageurs de forêt
- Santé physique des Canadiens
- Santé mentale des Canadiens
- Effets négatifs sur l'économie ou les emplois

- w. Affaiblissement du rapport à la culture
- x. Hausse de l'isolement et réduction du sens d'appartenance à la communauté
- y. Pollution atmosphérique/moins bonne qualité de l'air
- z. Hausse des allergies
- aa. Effet sur l'approvisionnement alimentaire
- bb. Effet sur la disponibilité des soins de santé

- 01 – Cause nettement
- 02 – Cause probablement
- 03 – Ne cause probablement pas
- 04 – Ne cause nettement pas

VOLONTAIRE

- 05 – Ça dépend
- 99 – NSP/PR

## B. Changement climatique et santé

2008 – Q9

6. De quelle façon le changement climatique présente-t-il un risque pour la santé des Canadiens, selon vous ?  
Veuillez être aussi précis que possible.

NE PAS LIRE LA LISTE – CODER TOUT CE QUI S'APPLIQUE – LIMITER LE SONDAGE

- Effets de la qualité de l'air
  - Hausse de la pollution atmosphérique
  - Piètre qualité de l'air
  - Hausse du smog
- Problèmes respiratoires
- Maladies contagieuses/
  - Virus du Nil occidental/
  - Virus de la grippe/influenza de type A
  - Maladie de Lyme
  - Autre maladie à transmission vectorielle
  - Autres maladies contagieuses
- Maladies transmises des animaux/de la nature aux humains
- Effets de la qualité de l'eau
  - Baisse de la qualité de l'eau
  - Baisse d'approvisionnement d'eau potable
  - Effet sur les espèces aquatiques
  - Effet sur les cours d'eau destinés aux loisirs
- Maladies d'origine hydrique
- Maladies d'origine alimentaire
- Coup de chaleur
- Coup de soleil
- Cancer de la peau
- Cancer
- Gelures
- Stress/angoisse
- Nutrition
- Allergies (liées au pollen/à la moisissure)
- Autre (PRÉCISER \_\_\_\_\_)
- Aucune
- NSP/PR

NOUVEAU

7. Quelle sorte de risque les phénomènes suivants présentent-ils pour la santé des [Canadiens]/ [INSÉRER LES CODES 01, 02 OU 03 À LA QF : Membres des Premières Nations /Inuks/Métis] ?

## RANDOMISER

- o. Feux de forêt
  - p. Inondation
  - q. Propagation de maladies contagieuses (Lyme, Nil occidental, grippe/influenza)
  - r. Chaleur extrême
  - s. Sécurité alimentaire
  - t. Perte de pergélisol
  - u. Changements dans la qualité de l'air
  - v. Changements dans la qualité de l'eau
  - w. Effets indirects, ex. migration, perte d'emplois/de revenus
  - x. Allergies (pollen/moisissure)
  - y. Fumée des feux de forêt
  - z. salubrité alimentaire
  - aa. Maladie d'origine alimentaire
  - bb. Hausse du niveau de la mer/érosion côtière
- Risque majeur
  - Risque modéré
  - Risque mineur
  - Aucun risque

8. SI F=01, 02 OU 03 : La prochaine question porte sur ce que vous estimez être l'effet du changement climatique sur votre santé et votre culture. Le changement climatique a-t-il un effet majeur, modéré, mineur ou nul sur ce qui suit ?

- e. Votre capacité de manger des aliments sains
- f. Votre capacité de surmonter l'effet sur votre santé mentale
- g. Le lien des autochtones à la terre
- h. La transmission des connaissances et des croyances des aînés à la jeunesse
- 
- Effet majeur
- Effet modéré
- Effet mineur
- Aucun effet

### 2008 – Q11

9. Croyez-vous que le changement climatique présente déjà un risque pour les Canadiens ou présentera un risque dans l'avenir ?

- Présente un risque aujourd'hui
- Présentera un risque dans l'avenir
- Aucun risque ni maintenant ni dans l'avenir
- Ça dépend
  - NSP/PR

### 2008 – Q14

11. Et votre santé ? Vous croyez-vous nettement, probablement, probablement pas ou nettement pas vulnérable aux effets possibles du changement climatique sur votre santé ?

- Nettement vulnérable
- Probablement vulnérable
- Probablement invulnérable
- Nettement invulnérable
- ÇA DÉPEND

- NSP/PR

#### 2008 – Q15

12. Y en a-t-il d'autres chez vous que vous croyez particulièrement vulnérables aux effets possibles du changement climatique sur leur santé ?

- Oui
- Non
- NSP/PR

#### 2008 – Q17

14. Avez-vous personnellement pris des mesures au cours de la dernière année pour vous protéger ou protéger les membres de votre famille des risques possibles pour la santé et/ou des effets du changement climatique ?

NE PAS LIRE – CODER JUSQU'À TROIS RÉPONSES – LIMITER LE SONDRAGE

Installé l'air climatisé,  
Utilisé du DEET,  
Mis au point un plan/une trousse d'urgence,  
Vigilant pour les tiques sur les personnes/les animaux,  
Augmenté l'efficacité énergétique de la maison,  
Surveillé la météo de plus près  
Préparé pour les tempêtes,  
Recyclé  
Allé au travail à vélo  
Autre (PRÉCISER)  
Non/Aucune

### Changement climatique et santé – Maladies contagieuses

J'aimerais maintenant vous parler des maladies contagieuses causées par les piqures de maringouins ou de tiques.

#### NOUVEAU

17. Je vous lirai maintenant une liste de maladies causées par les piqures de maringouins et de tiques. Dites-moi si vous croyez que les maladies suivants présentent un risque majeur, modéré, mineur ou nul pour la santé des Canadiens :

- Maladie de Lyme
  - Virus du Nil occidental
  - Zika
  - Fièvre jaune
  - Malaria
- 
- Risque majeur
  - Risque modéré
  - Risque mineur
  - Aucun risque

#### NOUVEAU

18. Avez-vous personnellement pris des mesures au cours de la dernière année pour vous protéger ou protéger les membres de votre famille contre les maladies causées par les piqures de maringouins ou de tiques ?

- Oui
- Non
- NSP/PR

## NOUVEAU

19. SI OUI À LA Q18 : Quelles mesures avez-vous prises ?

- NE PAS LIRE LA LISTE

- utilisé des insectifuges / des vaporisateurs
- utilisé des insectifuges / des vaporisateurs seulement dans les zones marécageuses / boisées
- vérifié la présence de tiques sur la peau après être allé en plein air
- vérifié les animaux après une sortie à l'extérieur
- diminué vos sorties à l'extérieur durant les périodes de pointe pour les maringouins
- évité les zones réputées pour la forte présence de maringouins ou de tiques
- porté des vêtements de couleur pâle à l'extérieur
- porté un pantalon et des manches longues
- autre

## NOUVEAU

20. Si vous vouliez vous renseigner davantage sur ces types de maladies, où chercheriez-vous ou quelles sources utiliseriez-vous ?

NE PAS LIRE LA LISTE

12. Les sites Web du gouvernement fédéral, comme Santé Canada et l'Agence de la santé publique du Canada
13. Votre gouvernement provincial
14. Votre gouvernement municipal / local
15. Le Centre for Disease Prevention and Control (CDC) des États-Unis
16. Médecin / spécialiste
17. Web/Internet
18. TV
19. Radio
20. Publicité dans les journaux/magazines
21. Réseaux sociaux
22. Amis
23. Autre : (Veuillez préciser)

## Changement climatique et santé – Temps extrême

J'aimerais maintenant vous demander à propos des événements météorologiques extrêmes comme les ouragans, les tempêtes de vent violent, les vagues de chaleur, les inondations et les grands blizzards . . .

### 2008 – Q18

21. Quelle sorte de risque pour votre santé et celle de votre famille présentent les événements météorologiques extrêmes, selon vous ? Présentent-ils :

- Un risque majeur
- Un risque modéré
- Un risque mineur ou
- Aucun risque
- NSP/PR

## NOUVEAU

22. Quels événements météorologiques extrêmes présentent **le plus grand** risque pour votre santé et celle de votre famille, selon vous ?

NE PAS LIRE LA LISTE – N'EN CODEZ QU'UN SEUL

- La chaleur extrême/les vagues de chaleur
- Les ouragans
- Les tempêtes de vent

- Les inondations
- Les tempêtes hivernales/les blizzards
- Les feux de forêt
- Les sècheresses
- AUTRE

23. SI F=01, 02 OR 03 : La prochaine question porte sur les conditions météorologiques et le changement climatique. Croyez-vous que la situation météorologique changeante a un effet majeur, modéré, mineur ou nul sur :

- - h. Votre capacité de sortir
  - i. Les mouvements migratoires des animaux ou les populations de poissons
  - j. Les zones traditionnelles de pêche, de chasse ou de trappage
  - k. L'emplacement des baies, des aliments ou des médicaments traditionnels
  - l. Les routes de glace
  - m. Les conditions de logement
  - n. Votre capacité de stocker des aliments traditionnels

Effet majeur  
 Effet modéré  
 Effet mineur  
 Aucun effet  
 Non applicable

#### 2008 – Q21

24. Y a-t-il chez vous un plan pour vous protéger, vous et votre famille, en cas de désastre naturel ou de situation d'urgence ? Tel plan pourrait inclure la façon d'évacuer votre maison ou de rester en contact avec les autres membres de la famille.
- Oui
  - Non
  - NSP/PR

#### 2008 – Q24

25. Croyez-vous qu'il est très, assez, pas très ou pas du tout probable qu'un désastre causé par une situation météorologique extrême survienne et vous affecte, vous et votre communauté :
- a. D'ici deux ans
  - b. D'ici 10 ans
  - c. Durant votre vie
- Très probable
  - Assez probable
  - Pas très probable
  - Pas du tout probable
  - Ça dépend
  - NSP/PR

#### 2008 – Q25

26. Où êtes-vous le plus enclin à vous renseigner sur une situation météorologique extrême qui pourrait affecter votre communauté ?

TV

Radio

Journaux

Internet/site Web – DEMANDER LE SITE PRÉCIS \_\_\_\_\_

Site Web du Gouvernement du Canada – DEMANDER LE SITE PRÉCIS



Réseau de météo (TV)  
Réseau de météo (site Web)  
Ami/membre de la famille  
Panneau d'affichage/affiche électronique extérieure  
Applications météorologiques  
Twitter  
Facebook  
Distributeurs de nouvelles  
Ligne météorologique locale  
RADIO MÉTÉO  
EC-Alert Me  
Robot Web au bas de l'écran de télé  
Environnement Canada (PRÉCISER LE MÉDIA  
Autre (PRÉCISER \_\_\_\_\_)  
NSP/PR

#### 2008 – Q23 formulation révisée

27. À quelle fréquence vous ou d'autres personnes de votre foyer écoutez ou vérifiez les alertes de situation météorologique extrême dans votre région ? Est-ce :

- Régulièrement
- Occasionnellement
- Rarement
- Jamais
- NSP/PR

28. Vous arrive-t-il souvent de prendre des mesures ou de modifier votre routine à la suite d'une alerte de situation météorologique extrême ?

- Régulièrement
- Occasionnellement
- Rarement
- Jamais
- NSP/PR
- Ça dépend

#### NOUVEAU

29. À propos de chaleur extrême ou de vagues de chaleur, avez-vous déjà pris des mesures ou changé vos plans à la suite d'un avertissement de chaleur extrême ?

- Oui
- Non

#### NOUVEAU

30. Autant que vous sachiez, quels sont les symptômes de maladie causée par la chaleur ?

NE PAS LIRE LA LISTE

- mal de tête
- difficulté de respirer
- rash causé par la chaleur
- étourdissement
- soif excessive / bouche sèche
- faiblesse
- évanouissement
- crampes
- pouls rapide
- confusion / désorientation / chancelant
- manque de transpiration (malgré la chaleur)
- nausée

- enflure des mains, des pieds, des chevilles
- diminution d'urination/ urine anormalement jaune foncé
- autre
- NSP

#### NOUVEAU

31. Que feriez-vous pour vous protéger, vous et votre famille, contre les maladies causées par la chaleur ?

#### NE PAS LIRE LA LISTE

- Rester à l'intérieur lorsqu'il fait trop chaud
- Allumer l'air climatisé
- Allumer un ventilateur
- Aller dans un lieu public climatisé (ex. centre commercial, centre communautaire, bibliothèque)
- Boire des liquides/de l'eau
- Porter des vêtements amples
- Porter un chapeau
- Fermer les rideaux/les stores
- Prendre une douche
- Trouver un lieu ombragé à l'extérieur (ex. sous un arbre)
- Aller à une piscine/une plage
- Autre
- NSP

#### NOUVEAU

32. Vers qui vous tourneriez-vous pour vous renseigner davantage sur les maladies causées par la chaleur ?

#### NE PAS LIRE LA LISTE

- Médecin
- Infirmier (infirmière)
- Pharmacien (pharmacienne)
- Autre professionnel(le) de la santé
- Santé Canada
- Autre site Web gouvernemental
- Prévisionnistes/météorologues locaux
- Amis/famille
- Réseaux sociaux
- TV
- Radio
- Internet
- Autre
- NSP

### C. Adaptation au changement climatique

#### NOUVEAU

33. Connaissez-vous les expressions « adaptation au changement climatique » ou « résilience climatique » ?

- 01 – Très bien
- 02 – Assez bien
- 03 – Pas très bien
- 04 – Ne connaît que de nom
- 99 – N'en a jamais entendu parler

#### NOUVEAU

34. SI CODES 01 - 04, que signifient-elles pour vous ?

- changement / ajustement
- règles/politiques gouvernementales changeantes
- être plus souple à l'égard du changement

- être prêt pour ce qui vient
- NSP/PR

## D. État de santé / Questions démographiques

J'aimerais maintenant vous poser quelques questions sur votre santé

### 2008 – Q26

D1. Comparativement aux autres de votre âge, diriez-vous que votre santé en général est :

Excellente  
Très bonne  
Bonne  
Passable  
Mauvaise  
REFUS/PR

### 2008 – Q28

Finalement, j'aimerais vous poser quelques questions à votre sujet et au sujet de votre foyer qui nous aideront à analyser les résultats de ce sondage. . .

### 2008 – Q33

D4. Quel est le plus haut niveau d'éducation formelle que vous avez complété ?

(LIRE LA LISTE)

Huitième année ou moins	1
Des études secondaires	2
Diplôme d'école secondaire ou équivalent	3
Apprentissage enregistré ou autre certificat ou diplôme de métier	4
Collège, CÉGEP ou autre certificat ou diplôme non universitaire	5
Certificat ou diplôme universitaire	6
Niveau inférieur au baccalauréat	6
Baccalauréat	7
Diplôme de troisième cycle	8
[NE PAS LIRE]	
Préfère ne pas répondre	99

### 2008 – Q35

D5. Combien de personnes, vous y compris, habitent chez vous actuellement ?

— —  
99 – PR/REFUS

SI ÉCHANTILLON DE RÉGION DE TÉLÉPHONE FILAIRE  
SI ÉCHANTILLONS DE TÉLÉPHONE CELLULAIRE, DEMANDER C

D8. Dans quelle province ou quel territoire habitez-vous ?

Terre-Neuve	1
Île-du-Prince-Édouard	2
Nouvelle-Écosse	3
Nouveau-Brunswick	4
Québec	5
Ontario	6
Manitoba	7
Saskatchewan	8
Alberta	9
Colombie-Britannique	10
Yukon	11
Territoires du Nord-Ouest	12
Nunavut	13

D9. Sexe [NE PAS DEMANDER : réponse fondée sur l'observation de l'intervieweur]

Femme	1
Homme	2

I. Quelle langue parlez-vous le plus souvent à la maison ? [LIRE LA LISTE — ACCEPTER TOUT CE QUI S'APPLIQUE]

Anglais	1
Français	2
Autre langue NE PAS PRÉCISER	3
VOLONTAIRE	
Ne sait pas/Refusé	99

J. Laquelle des catégories suivantes décrit le mieux votre statut actuel d'emploi ? Êtes-vous [LIRE LA LISTE – N'ACCEPTER QU'UNE RÉPONSE]

Employé(e) à plein temps, c'est-à-dire 35 heures ou plus par semaine	1
Employé(e) à temps partiel, c'est-à-dire moins de 35 heures par semaine	2
Travailleur(se) indépendant(e)	3
Sans emploi, mais en quête de travail	4
Étudiant(e) à plein temps	5
À la retraite	6
Inactif(ve) [PERSONNE AU FOYER, SANS EMPLOI, NE CHERCHANT PAS D'EMPLOI] [NE PAS LIRE]	7
Autre – NE PAS PRÉCISER] [NE PAS LIRE]	98
Refusé	99

2008 – Q39

D10. Laquelle des catégories suivantes décrit le mieux l'ensemble des revenus de votre foyer ? C'est-à-dire l'ensemble des revenus des personnes de votre foyer avant impôt [LIRE LA LISTE] ?

Moins de 20 000 \$	1
20 000 \$ à moins de 40 000 \$	2
40 000 \$ à moins de 60 000 \$	3
60 000 \$ à moins de 80 000 \$	4
80 000 \$ à moins de 100 000 \$	5
100 000 \$ à moins de 150 000 \$	6
150 000 \$ et plus	7
(NE PAS LIRE) Refusé	99

Ceci complète le sondage. Au cas où mon superviseur voudrait vérifier que j'ai fait cette interview, puis-je demander votre prénom ?

Prénom : \_\_\_\_\_

Ce sondage a été effectué pour le Gouvernement du Canada et est enregistré conformément à la Loi fédérale d'accès à l'information. Merci de votre participation.