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# Weather and Environmental Services Quality of Service Survey 2011

## **FINAL REPORT**

*Ce rapport est également disponible en français*

Submitted to:  
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# 1. BACKGROUND AND OBJECTIVES

Environment Canada (EC) provides Canadians with public and marine weather services (including observations, forecasts, and weather warnings), air quality forecast services, and climate information. Its dissemination system includes the “weatheroffice” website, recorded weather forecast messages via the telephone, and WEATHERADIO - weather information via a radio receiver. EC is committed to consulting with and engaging Canadians regarding their satisfaction with Weather and Environmental Services (WES) products and services.

In 1997, EC conducted a national public opinion survey to assess Canadians’ needs, usage, satisfaction and expectations concerning the weather products and services it provides. In 2002, EC conducted a second national survey to assess the public’s usage of and satisfaction with meteorological products and services and their needs and expectations for the future. Some questions from the 1997 survey were included in the 2002 survey, in order to measure trends in satisfaction and usage. A third national survey was conducted in 2007. It focused primarily on the use of WES products and services and determined what additional meteorological products and services the public wants. A limited number of questions from the 1997 and 2002 surveys were included in the 2007 survey.

Environment Canada commissioned EKOS Research Associates to conduct another survey in February 2011. This survey focuses specifically on weather forecasts and weather warnings and is intended to measure the public’s usage and satisfaction in these two key areas. A national survey more comprehensive in scope that parallels those conducted in 1997, 2002 and 2007 is planned for early 2012.

Specific issues addressed through this survey included:

- identifying areas where usage, satisfaction and expectations have changed since the Common Measurements Tool (CMT) questions were asked in 2002 and 2007
- continuing to measure usage, importance, and satisfaction with WES products and services, consistent with the CMT framework (this work began in the 2002 national WES survey)

- providing information on public alert bulletins (weather warnings and weather watches), with emphasis on determining Canadians' understanding, expectation, use of, importance of, and satisfaction with these products
- providing information for five indicators in the 2010-2011 WES Performance Measurement Framework (PMF).

## 2. EXECUTIVE SUMMARY

### Background and Methodology

Environment Canada (EC) provides Canadians with public and marine weather services (including observations, forecasts, and weather warnings), air quality forecast services, and climate information.

In 1997, EC conducted a national public opinion survey to assess Canadians' needs, usage, satisfaction and expectations concerning the weather products and services it provides. In 2002 and 2007, EC conducted additional national surveys with the same focus and to determine if additional meteorological products and services were wanted.

In 2011, Environment Canada commissioned EKOS Research Associates to conduct a public opinion survey that focuses specifically on Canadians' usage and satisfaction in the areas of weather forecasts and weather warnings. A national survey broader in scope that parallels those conducted in 1997, 2002, and 2007 is planned for early 2012.

The methodology for this study involved conducting a telephone survey with 2 333 respondents drawn from the general Canadian population. The sample included all provinces and territories, and the survey questionnaire was administered in English and French.

Key findings from the study are outlined below and are described in more detail in later sections of this report. Please note that many of these results have been tracked over time to provide a clearer picture of public attitudes towards weather-related issues in Canada.

## **Key Findings**

### **Importance, Sources, and Satisfaction with Weather Information**

Survey results reveal that weather information is frequently sought by Canadians, with fully seven in ten (70 per cent) saying they are very likely to look for weather information on a typical day, and an additional one in five (20 per cent) saying they are somewhat likely to do so.

Results further suggest that access to weather information is of great importance to Canadians. When asked to rate the importance of weather information, a clear majority (63 per cent) rate it as critically (16 per cent) or definitely (47 per cent) important. One-third (30 per cent) say that weather information is somewhat important, and only seven per cent feel that weather information is of little or no importance to them. Tracking reveals an increase in the perceived importance of weather information over the past decade (up 4 percentage points since 2002).

Canadians were asked, unprompted, from which sources they are most likely to get their daily weather information. Results reveal that television channels dedicated exclusively to the delivery of weather information (Weather Network and Météomédia) are mentioned most often (42 per cent, up 4 per cent since 2007), followed by local radio stations (37 per cent, largely unchanged from 2007). Weather forecasts from local television stations are also a popular source of weather information (cited by 29 per cent of Canadians). Internet websites are the preferred source of weather information for one in four Canadians (25 per cent, up 7 per cent since 2007). Responses further reveal a highly favourable view of Canada's weather information outlets, with nearly nine in ten respondents (87 per cent) stating they are satisfied with their main source of weather information.

### **Views on Accuracy of Weather Forecasts**

The survey also examined public views on weather forecast accuracy. Results reveal that Canadians place a great deal of importance on the accuracy of winter precipitation forecasts. Fully 79 per cent of respondents rate the accuracy of winter precipitation forecasts as important, including 36 per cent who say it is very important. Fifteen per cent feel it is somewhat important, and only five per cent place little or no importance on winter precipitation forecast accuracy. Tracking indicates that the perceived importance



of accurate winter precipitation forecasts has decreased somewhat over the past decade (down 5 percentage points since 2002).

Results also reveal that Canadians generally perceive winter precipitation forecasts as fairly accurate. Three-quarters of respondents (74 per cent) say they are satisfied with the overall accuracy of the winter precipitation forecasts they receive (although only 15 per cent are very satisfied). One in five (20 per cent) say they are neither satisfied nor dissatisfied, and six per cent say they are dissatisfied.

### **Views on Weather Warnings**

The survey also examined Canadian views on a number of issues associated with weather warnings.

Canadians place a great deal of importance on weather warning information, with fully 87 per cent rating this information as important (including 50 per cent who rate it as very important). One in ten (10 per cent) believe that weather warning information is somewhat important, and only three per cent say it is of little or no importance to them.

Canadians were also asked about their awareness and perceptions of warning messages about approaching hazardous weather. Six in ten (62 per cent) say they recall seeing or hearing weather warning messages in the previous two to three weeks, while four in ten (37 per cent) do not recall any warnings.

Those who recall seeing or hearing weather warning messages were asked whether they felt that these messages provided the information necessary to make decisions or to take precautions. Six in ten of these respondents (61 per cent) indicated that they were provided with all the information they needed, while one in three (35 per cent) believes the messages provided some of the essential information.

Respondents who believe that recent warning messages were missing some or all of the information to make decisions or take precautions were asked, unprompted, to elaborate on what information was missing. The plurality of these respondents feel that the warning messages should include more accurate forecasts and updates (22 per cent), and should include more information on the severity of the weather event (20 per cent).

When asked their primary source of information for weather warnings, Canadians are most likely to cite their local radio stations (44 per cent, up 2 per cent since 2007), followed by the Weather Network/Météomédia (33 per cent, up 4 per cent since 2007) and their local TV station (30 per cent, up 5 per cent since 2007). Results also reveal that more than eight in ten Canadians (86 per cent) are satisfied with the accuracy of these information sources (and only 3 per cent are dissatisfied).

Survey findings suggest that many Canadians would like to be warned about a potential winter storm well in advance of its arrival. On average, respondents say they need 17 hours to adequately prepare for a winter storm. Looking at these results in more detail, a clear plurality (39 per cent) say they require at least 12 hours notice (including 8 per cent who say they need at least 24 hours notice). One in six (16 per cent) say they need 6 to 12 hours notice. One in ten (8 per cent) need 3 to 6 hours notice and 20 per cent need 1 to 3 hours notice. Tracking reveals that the need of Canadians in terms of notice for winter storm warnings has grown over the last decade: the proportion that requires at least 12 hours notice has increased from 26 per cent in 2002 to 39 per cent currently.

Canadians were asked how often they receive enough notice about a severe winter storm approaching their area. Almost eight in ten (78 per cent) believe that warnings give them sufficient notice most of the time (55 per cent) or always (23 per cent). Tracking, however, reveals that Canadians are now less likely than they were in 2007 to say they always receive enough notice to properly react to a winter weather warning (down 8 percentage points).

Canadians were also asked about the clarity of different types of information provided in winter weather warnings. Canadians are most likely to feel that information about the area likely to be affected by the storm is presented “very” clearly (47 per cent), and roughly the same proportion assigns this rating to information on the severity of the storm (43 per cent). Four in ten (40 per cent) feel that information related to when the storm will arrive in their area is presented very clearly. One in three is similarly positive in the assessment of information regarding actions to take to protect oneself and family (35 per cent), and how long the storm will last (33 per cent). Just over one in four (27 per cent) feel information regarding the damage that could occur as a result of the storm is presented very clearly. Despite a decrease in the proportion of Canadians who find they receive enough notice of an approaching winter storm, more Canadians find winter storm warnings clear than did in 2007.

## **Views on Environment Canada Services**

Canadians were asked about their awareness and use of Environment Canada services (i.e., historical weather information and WEATHERADIO).

Results reveal fairly high awareness of Environment Canada historical weather information: over half of Canadians (56 per cent) say they are aware the department provides historical weather information on its website, while four in ten (43 per cent) say they are not aware. Among those who indicate they are aware of this historical weather information, half (51 per cent) say they have used the information.

Canadians were also asked about their awareness and use of WEATHERADIO, an Environment Canada service that broadcasts weather information 24 hours a day in many areas across the country via a special type of radio receiver which must be purchased.

Results reveal that only approximately one in four Canadians (27 per cent) say they are aware of WEATHERADIO; however, this finding represents an increase of four per cent since 2007. Moreover, among those aware of the service, four in ten have used it, up six per cent since 2007 (and up a full 32 percentage points since 2002).

Results also reveal that users of the WEATHERADIO service are generally satisfied with the service. Eight in ten say they are very satisfied (34 per cent) or satisfied (46 per cent), and only eight per cent are dissatisfied or very dissatisfied.

Results also reveal little interest in WEATHERADIO among those not aware of the service: the clear majority of these respondents (78 per cent) say they are not interested in this service, and only about one in six (15 per cent) indicate they would be interested.

## **Regional and Demographic Trends**

Generally speaking, the findings presented above are applicable across all regional and demographic sub-groups of the Canadian population. There are, however, some key differences of note with respect to the use of weather information, and the degree of importance and satisfaction placed on weather forecasts.

Quebec residents are less likely than other Canadians to feel weather information is of importance to them, and are more likely to feel that they often do not receive enough weather information to make decisions or plans. However, Quebecers are also somewhat more satisfied with the accuracy of winter precipitation forecasts.

Generally speaking, older Canadians and residents of Atlantic Canada and Ontario are more likely than others to say all of the information provided in winter weather warnings is presented very clearly.

Looking at differences between urban and rural Canadians (as defined by postal code), results reveal that those who reside in rural areas are more likely than their urban counterparts to feel weather information is important, and are more likely to require more advance warning for a winter storm.

Sources of weather information differ according to age. Older Canadians are most likely to get this information from television and radio, whereas the Internet is the more popular choice among younger Canadians.

Socio-economic status (as measured by education and income levels) has an influence with respect to how Canadians currently, and prefer to, receive weather warning information. For example, the likelihood of using Internet websites to receive or hear about a weather warning increases as income and education levels rise. Similarly, the university-educated and those earning \$100 000 or more in annual household income are more likely to say they would like to receive weather warning information from the Internet in the future.

## WES Performance Measurement Framework

The WES PMF for 2010-2011 includes five indicators for which data were collected via the WES quality of services survey. Table 1 contains the indicators and obtained data.

**Table 1: WES Performance Measurement Framework 2010-2011**

	<b>Program Statement</b>	<b>Performance Activity Indicator</b>	
Strategic Outcome 2.0	Canadians are equipped to make informed decisions on changing weather, water and climate conditions	Percentage of the population surveyed (adult Canadians) who indicate having received enough notice to properly react to a warning of an approaching winter storm always or most of the time	78 per cent
Program Activity 2.1	Canadians understand information on the changing weather, water and climate conditions and know how to use it	Percentage of the population indicating that they understand the differences between severe weather watches and warnings and the implications for their safety	10 per cent of respondents correctly stated the differences to be timing and likelihood
Program Activity 2.1.1	Canadians have the information they need on current and changing weather conditions	Percentage of the population of a "warned area" who were aware of and understood the warning	61 per cent of respondents stated the warning message provided all of the information to make decisions or take precautions
		Percentage of the population who are somewhat or very likely to access weather information during a typical day	90 per cent
		Percentage of the population who indicate that weather forecasts are "always" or "usually" useful	82 per cent

## Conclusions

Canadians are avid users of weather information: fully seven in ten (70 per cent) say they are very likely to look for weather information on a typical day, and two-thirds (63 per cent) feel access to weather information is of importance to them (up 4 percentage points since 2002).

Most Canadians (82 per cent – up 6 per cent since 2007) feel that the weather information they receive provides enough information to make decisions or plans, and Canadians offer highly favourable views of Canada's weather information outlets, with nearly nine in ten stating they are satisfied with their main source of weather information.

Canadians place a great deal of importance on weather warning information, with fully 87 per cent rating this information as important, and a clear majority (78 per cent) believe that winter weather warnings provide sufficient notice to prepare for an approaching storm (although the proportion who feel this way is down 6 per cent since 2007).

Looking at the perceived clarity of different types of information provided in weather warnings, majorities feel that the information provided about all aspects of a winter storm (e.g., area affected, severity, timing) is presented very or somewhat clearly. Only about one in four or fewer feels any of these types of information is "not very" or "not at all" clearly presented. Results further reveal an increase since 2007 in the proportion of Canadians who feel the information provided in winter weather warnings is presented clearly.

Many Canadians are accessing Environment Canada's weather-related products and services, and they are largely satisfied with them.

Over half (56 per cent) say they are aware that Environment Canada provides historical weather information on its websites, and among those who indicate they are aware of this historical weather information, half (51 per cent) say they have used it.

Only about one in four Canadians (27 per cent) say they are aware of WEATHERADIO; however, this number is up four per cent since 2007. Moreover, among those aware of the service, four in ten have used it, up six per cent since 2007 (and up 32 percentage points since 2002).

Results also reveal that users of the WEATHERADIO service are generally satisfied with it. Eight in ten say they are very satisfied (34 per cent) or satisfied (46 per cent) with this service, and only eight per cent are dissatisfied or very dissatisfied.

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To obtain more information on this study, please e-mail [por-rop@ec.gc.ca](mailto:por-rop@ec.gc.ca)

# 3. IMPORTANCE, SOURCES, AND SATISFACTION WITH WEATHER INFORMATION

## 3.1 WEATHER NEWS CONSUMPTION

Respondents were first asked to indicate how likely they are to look at or hear the weather forecast during a typical day. Results reveal that weather information is frequently sought by Canadians, with fully seven in ten (70 per cent) saying they are very likely to look for weather information on a typical day, and an additional one in five (20 per cent) saying they are somewhat likely to do so. **(Q.1)**

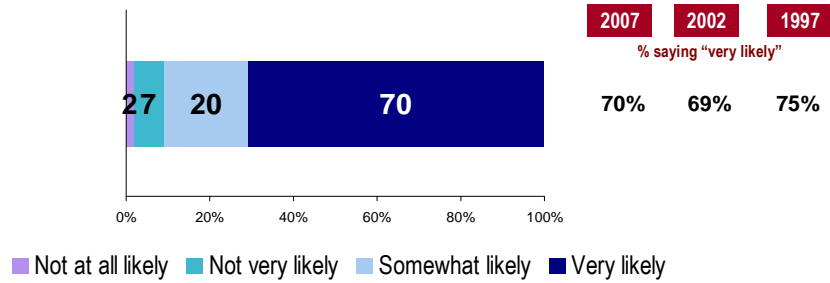
Results suggest that Canadians' appetite for weather information has remained largely stable since 2002, but is down slightly since 1997.

- Residents of Manitoba/Saskatchewan (81 per cent), men (73 per cent), those 65 years of age and older (82 per cent), those with university education (74 per cent), and those with \$60 000-\$80 000 in annual household income (77 per cent) are more likely than their counterparts to indicate they are very likely to seek out weather forecasts.



## Weather News Consumption

“During a typical day, how likely are you to look at or hear the weather forecast?”



{Base: All Canadians; n=2333}

## 3.2 IMPORTANCE OF WEATHER INFORMATION

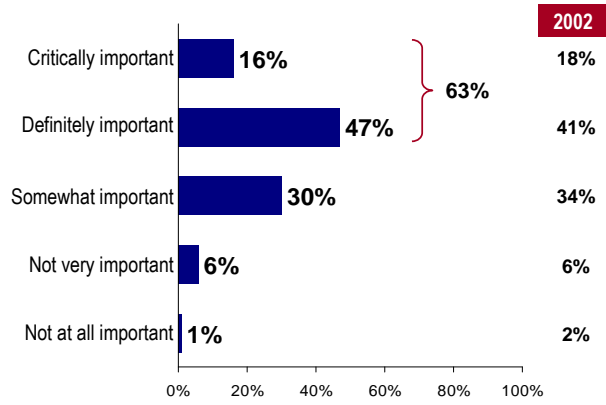
Results further suggest that access to weather information is of great importance to Canadians. When asked to rate the importance of weather information, a clear majority (63 per cent) rate it as critically (16 per cent) or definitely (47 per cent) important. One-third (30 per cent) say that weather information is somewhat important, and only seven per cent feel that weather information is of little or no importance to them. **(Q.3)**

Tracking these data reveals an increase in the perceived importance of weather information over the past decade: the proportion who say weather information is critically or definitely important is up 4 per cent since 2002.

- The perceived importance of weather information varies somewhat from region to region. It is highest in Alberta (69 per cent feel it is critically or definitely important) and lowest in Quebec (54 per cent feel it is critically or definitely important).
- Residents of rural areas are slightly more likely to rate weather information as important (67 per cent, compared to 62 per cent of urban residents).
- Perceived importance is relatively higher among university graduates (67 per cent, compared to 58 per cent of high school graduates).
- The perceived importance of weather information rises with income (67 per cent of those with a household income of \$100 000 or more say it is important, compared to 54 per cent of those households earning less than \$20 000).

## Importance of Weather Information

“How important is it for you to have information about weather. Is it...?”



{Base: All Canadians; n=2333}

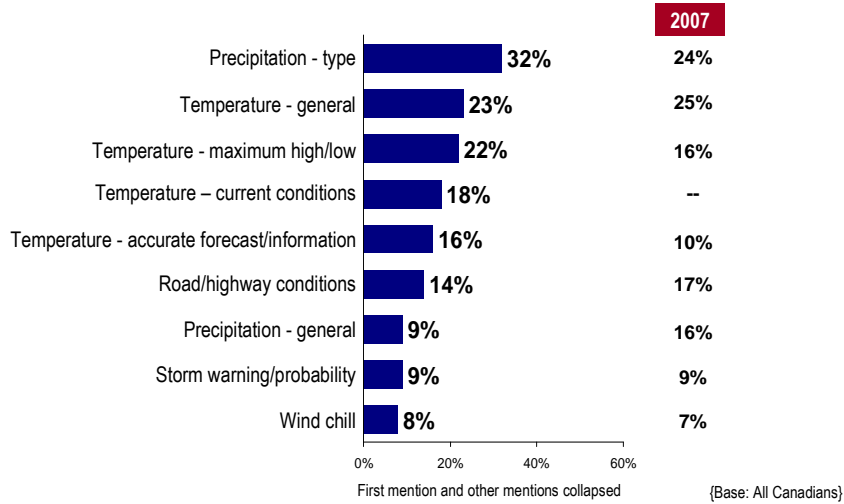
### 3.3 WEATHER INFORMATION NEEDED TO MAKE DECISIONS

Respondents were also asked, unprompted, what type of weather information they need to make decisions or plans. Results reveal that precipitation type is mentioned most often (32 per cent, up 8 percentage points since 2007). General information about temperature (23 per cent), temperature highs and lows (22 per cent), and temperature-current conditions (18 per cent) were also seen as important weather information by a relatively large proportion of respondents. All other types of weather information were mentioned by one in six or fewer Canadians. **(Q.2)**

- Residents of British Columbia are most interested in information about precipitation type (47 per cent).
- Quebeckers express the highest preference for temperature highs and lows (59 per cent).
- Alberta residents are most interested in current conditions (34 per cent).

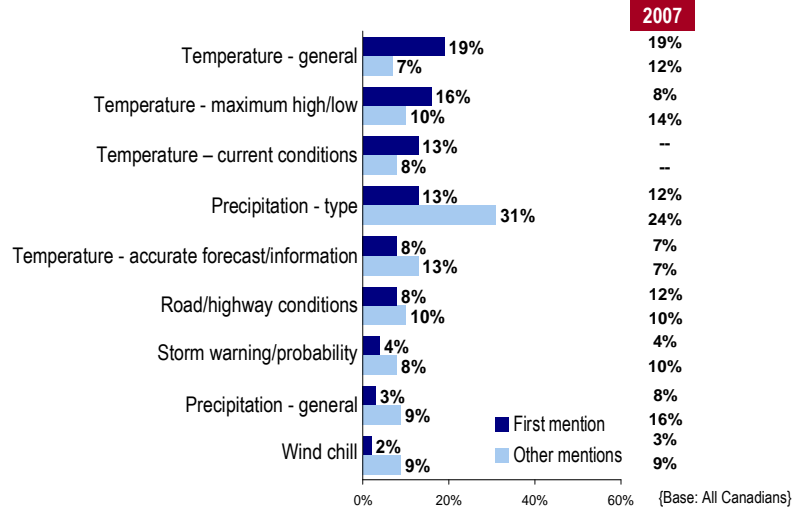
## Weather Information Needed To Make Decisions – All Mentions

“What specific types of weather information do you generally need, that is, information you would use in any season to make decisions or plans?” [OPEN]



## Weather Information Needed To Make Decisions – First and Other Mentions

“What specific types of weather information do you generally need, that is, information you would use in any season to make decisions or plans?” [OPEN]



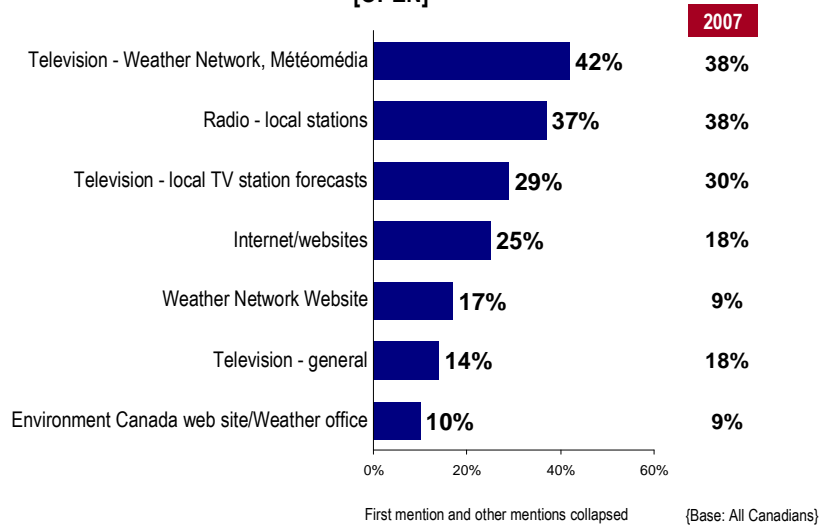
## 3.4 SOURCES OF WEATHER INFORMATION

Canadians were asked, unprompted, from which sources they are most likely to get their daily weather information. Results reveal that television channels dedicated exclusively to the delivery of weather information (the Weather Network and Météomédia) are mentioned most often (42 per cent, up 4 per cent since 2007), followed by local radio stations (37 per cent, largely unchanged from 2007). Weather forecasts from local television stations are also a popular source of weather information (cited by 29 per cent of Canadians). Internet websites are the preferred source of weather information for one in four Canadians (25 per cent, up 7 per cent since 2007), while the Weather Network website was mentioned by 17 per cent of Canadians (up 8 per cent since 2007). All other responses were mentioned by less than one in seven Canadians. **(Q.4a)**

- Manitoba/Saskatchewan residents (48 per cent), those 45 to 64 years of age (45 per cent), and those with college education (46 per cent) are particularly likely to mention specialty weather channels such as the Weather Network.
- Residents of Atlantic Canada and Manitoba/Saskatchewan are more likely to rely on local radio stations for weather information (55 per cent and 47 per cent, respectively).
- Those 65 years of age and older (41 per cent) and those with high school education (35 per cent) are more likely than their counterparts to get their weather information from local television stations.
- Residents of rural areas are more likely to use local radio stations (43 per cent, compared to 35 per cent of urban Canadians).
- Younger age groups (i.e., those under 45 years) are consistently more likely to use the Internet and various weather-related websites to retrieve weather-related information. Those over the age of 45, in contrast, are more likely to rely on television, newspapers, and the radio.
- The use of the Internet and weather-related websites increases with both education and income. For instance, 21 per cent of university graduates and 25 per cent of those with a household income of over \$100 000 say they use the Weather Network's website (compared to 10 per cent of high school graduates and 14 per cent of those with a household income of less than \$20 000).

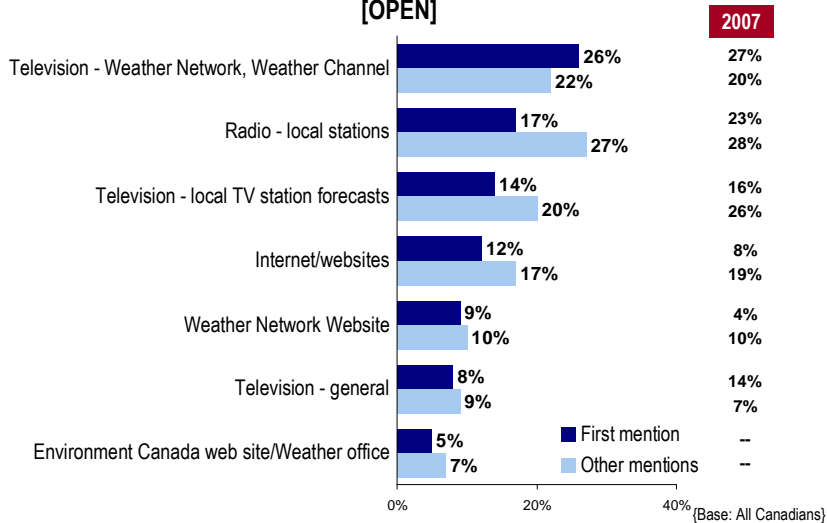
## Sources of Weather Information – All Mentions

“From which source are you most likely to get your daily weather information?”  
[OPEN]



## Sources of Weather Information – First and Other Mentions

“From which source are you most likely to get your daily weather information?”  
[OPEN]



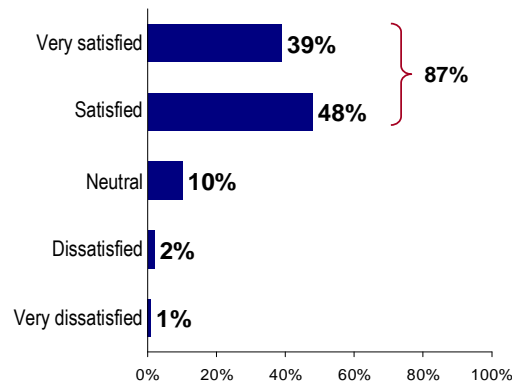
## 3.5 SATISFACTION WITH MAIN SOURCE OF WEATHER INFORMATION

Respondents were asked to rate their overall satisfaction with their main source of weather information. Responses reveal a highly favourable view of Canada's weather information outlets, with nearly nine in ten respondents (87 per cent) stating they are satisfied (including 39 per cent who say they are very satisfied). One in ten (10 per cent) express neutral feelings towards their main source of weather information, and just three per cent express dissatisfaction. **(Q.4b)**

- Rated satisfaction is highest among those who rely primarily on Environment Canada's website (93 per cent) and is lowest among those who depend on general television (80 per cent).

### Satisfaction with Main Source of Weather Information

"You stated your main source of weather information is... How satisfied are you with this source? Would you say that you are...?"



(Base: All Canadians)



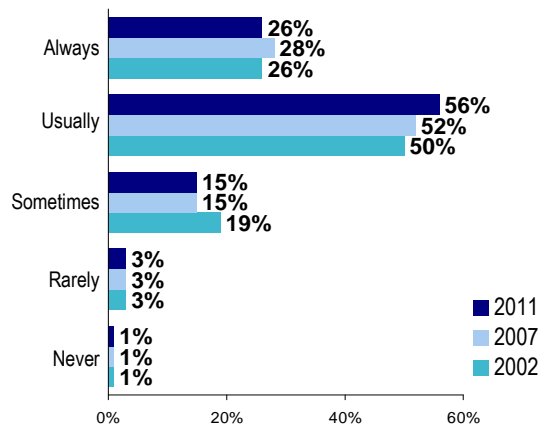
## 3.6 SATISFACTION WITH WEATHER INFORMATION IN GENERAL

Canadians were also asked how often weather information provides them with enough information to make decisions or plans on a typical day. As was the case in previous years of surveying, most indicate their expectations are being met in terms of the information they need to make decisions or plans. Just over one in four (26 per cent, down 2 percentage points since 2007, and back to 2002 levels) indicate that weather information “always” provides enough information for such decisions, while 56 per cent (up 4 percentage points since 2007) say this is “usually” the case. Few Canadians indicate they receive necessary weather information only sometimes (15 per cent, unchanged from 2007, and down 4 percentage points from 2002), and virtually no one believes they only rarely (3 per cent, unchanged over the past nine years) or never (1 per cent, unchanged) get the weather information they need to make decisions. **(Q.5)**

- Regionally, residents of Quebec are more likely than others to say they do not receive enough information to make decisions or plans.

### Satisfaction with Weather Information in General

“How often does the weather information you get on a typical day provide you with enough information to make whatever decisions or plans you need to make?”



{Base: All Canadians}

## 4. VIEWS ON ACCURACY OF WEATHER FORECASTS

The survey also examined public views on weather forecast accuracy.

### 4.1 IMPORTANCE OF ACCURACY OF WINTER PRECIPITATION FORECASTS

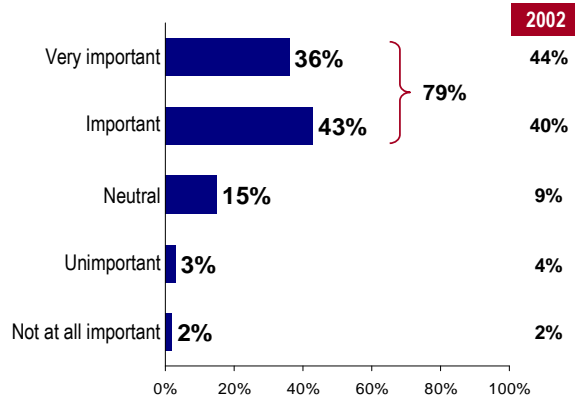
Results reveal that Canadians place a great deal of importance on the accuracy of winter precipitation forecasts. Fully 79 per cent of respondents rate the accuracy of winter precipitation forecasts as important, including 36 per cent who say it is very important. Fifteen per cent feel it is somewhat important, and only five per cent place little or no importance on winter precipitation forecast accuracy. **(Q.6)**

Tracking indicates that the perceived importance of accurate winter precipitation forecasts has decreased slightly over the past decade (down 5 percentage points since 2002).

- Residents of the Territories appear to place significantly less importance on the accuracy of winter precipitation forecasts: only half of these respondents (49 per cent) say accuracy is important.

## Importance of Accuracy of Winter Precipitation Forecasts

“How much importance do you place on the accuracy of winter precipitation forecasts? Would you say it is...?”



(Base: All Canadians)

## 4.2 SATISFACTION WITH ACCURACY OF WINTER PRECIPITATION FORECASTS

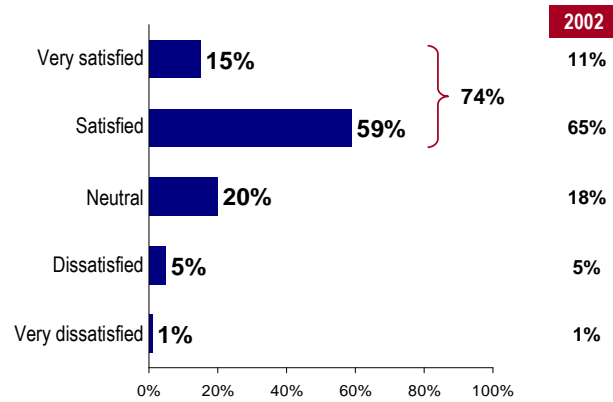
Results also reveal that Canadians generally perceive winter precipitation forecasts as fairly accurate. Three-quarters of respondents (74 per cent) say they are satisfied with the overall accuracy of the winter precipitation forecasts they receive (although only 15 per cent are very satisfied). One in five (20 per cent) say they are neither satisfied nor dissatisfied, and six per cent say they are dissatisfied. **(Q.7)**

Tracking of results reveals that overall satisfaction has remained largely unchanged since this question was last asked in 2002.

- The results show some interesting regional variations. Satisfaction is highest in Quebec (79 per cent say they are satisfied) and Atlantic Canada (79 per cent), and is lowest in the Territories (60 per cent).
- Satisfaction appears to be higher among older age groups. Seventy-eight per cent of those 65 years of age and older say they are satisfied with the accuracy of the winter precipitation forecasts they receive, compared to 68 per cent among those under the age of 30.

## Satisfaction with Accuracy of Winter Precipitation Forecasts

“And how satisfied are you overall with the accuracy of winter precipitation forecasts provided? Are you...?”



(Base: All Canadians)

# 5. VIEWS ON WEATHER WARNINGS

The survey explored Canadians' views on a number of issues associated with weather warnings.

## 5.1 IMPORTANCE OF WEATHER WARNING INFORMATION

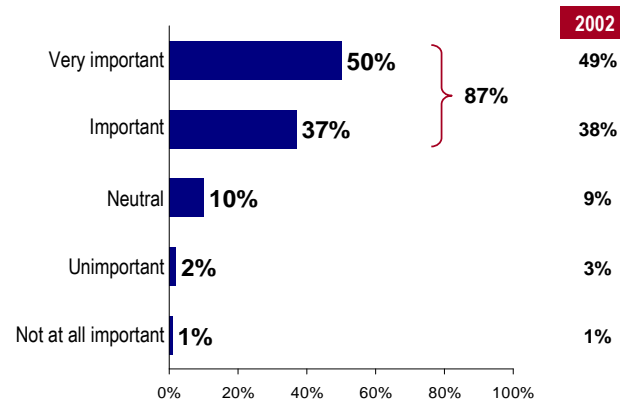
Results reveal that Canadians place a great deal of importance on weather warning information. Fully 87 per cent rate this information as important, including 50 per cent who rate it as very important. One in ten Canadians (10 per cent) believe that weather warning information is somewhat important, and only three per cent say it is of little or no importance to them. **(Q.9)**

Tracking reveals that Canadian views on the importance of weather warning information have remained stable since this question was last asked in 2002.

- Regionally, residents of the Territories (62 per cent “important” or “very important”) and Quebec (80 per cent “important” or “very important”) assign less importance to weather warning information.

## Importance of Weather Warning Information

“How important is weather warning information to you? Is it...?”



(Base: All Canadians)

## 5.2 APPROPRIATE ACTIONS IN EVENT OF WEATHER WARNING/WATCH

Respondents were asked, unprompted, to identify what they consider to be the appropriate actions to take when they see or hear the words “weather warning” or “weather watch” as part of a weather report. Results reveal that Canadians believe a number of different actions are appropriate when informed about a weather warning or watch. Twenty-one percent would alter travel plans; 20 per cent would make arrangements to stay home. One in six would attempt to learn more about the weather event (17 per cent), or would stay updated on weather conditions (17 per cent). One in ten say they would verify the adequacy of their supplies (9 per cent), avoid going outside entirely (8 per cent), generally adjust their behaviour/take precautions (7 per cent), or take action to protect personal property (7 per cent). **(Q.10)**

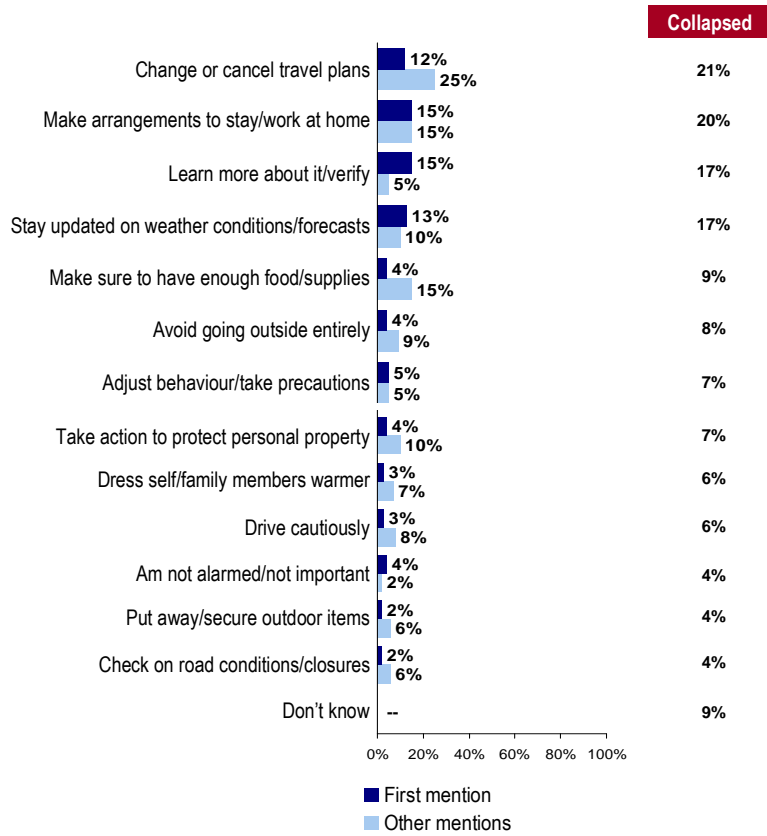
Other common responses include dressing warmer (6 per cent), driving cautiously (6 per cent), checking on road conditions (4 per cent), securing outdoor items (4 per cent). One in ten (9 per cent) were unsure what action to take.

- Regionally, residents of Alberta and British Columbia appear to favour an information-based approach. For instance, 25 per cent of Albertans and 22 per cent of British Columbians say they would stay updated on the situation (compared to 17 per cent on average). Residents of Atlantic Canada, meanwhile, are more likely to check their supplies (22 per cent, compared to 9 per cent on average), while residents of the Territories are more likely to say they would not be alarmed/react to a weather warning/watch (17 per cent versus 4 per cent nationally).
- Those under the age of 30 appear to be the most uncertain regarding how to react to a weather warning (15 per cent say they are uncertain, compared to 6 per cent of those 45 to 64 years of age).



## Appropriate Actions in Event of Weather Warning/Watch

“What actions do you think might be appropriate when you see or hear the words “weather warning” or “weather watch” as part of a weather report?” [OPEN]



(Base: All Canadians)

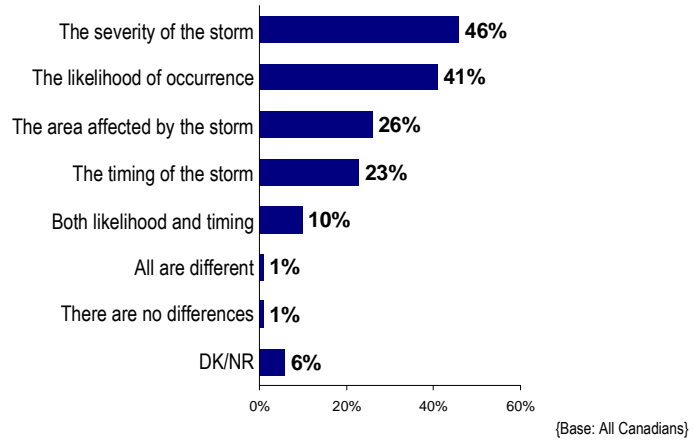
## 5.3 PERCEIVED DIFFERENCE BETWEEN WEATHER WATCH AND WARNING

Results also reveal that Canadians have a rather limited understanding of the differences between a weather watch and a weather warning. When asked if they understood the difference, just one in ten respondents (10 per cent) correctly stated that the difference lies in both the timing and the likelihood of the weather event. Just under half of respondents (46 per cent) believe that the difference has to do with severity, while a similar proportion (41 per cent) say the difference lies in the likelihood of the weather event. One-quarter believe that the primary determinant of whether a storm warrants a watch or a warning is the area affected by the storm (26 per cent), or the timing of the storm (23 per cent), and six per cent are uncertain. **(Q.11)**

- Understanding of the difference between a weather watch and weather warning is highest in the Territories (where 18 per cent of respondents indicated the difference is both the timing and the likelihood of the storm) and is lowest in Quebec (where only six per cent indicated the difference is both timing and likelihood of the storm).
- Understanding of the difference is also lower among those 18-30 years of age (only 6 per cent indicated the difference is both likelihood and timing of storm).

## Perceived Difference Between Weather Watch and Warning

“Suppose there is an approaching winter storm. What is your understanding of the differences between a weather watch and a weather warning for this storm? Is it...?”



## 5.4 AWARENESS AND PERCEPTIONS OF WARNING MESSAGES ABOUT HAZARDOUS WEATHER

Canadians were also asked about their awareness and perceptions of warning messages regarding approaching hazardous weather.

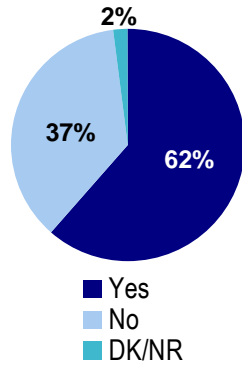
Six in ten (62 per cent) say they recall seeing or hearing weather warning messages in the previous two to three weeks. Four in ten (37 per cent) do not recall any warnings, and two per cent are uncertain. **(Q.12a)**

- Recall varies heavily by region. Recall is highest in Atlantic Canada and Ontario (87 per cent and 78 per cent of respondents, respectively, say they recall a warning message) and lowest in Quebec and the Territories (40 per cent and 25 per cent of respondents, respectively, say they recall a weather warning message).

Those who recall seeing or hearing weather warning messages were asked whether they felt the messages provided the information necessary to make decisions or to take precautions. Six in ten of these respondents (61 per cent) indicated that they were provided with all the information they needed, and one in three (35 per cent) believe the messages provided some of the essential information. **(Q.12b)**

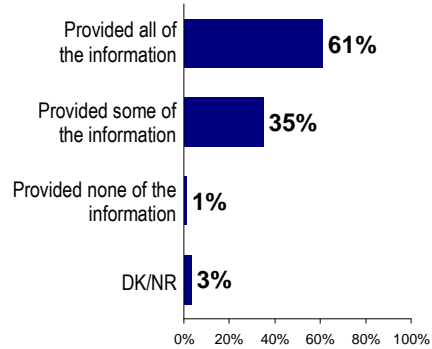
## Awareness and Perceptions of Warning Messages About Hazardous Weather

“Do you recall seeing or hearing any warning messages in the past two or three weeks about approaching hazardous weather in your area?”



{Base: All Canadians}

[IF YES] “I would like to ask your opinion of these messages. Did they provide the information to make decisions or take precautions?”



{Base: n=1378}

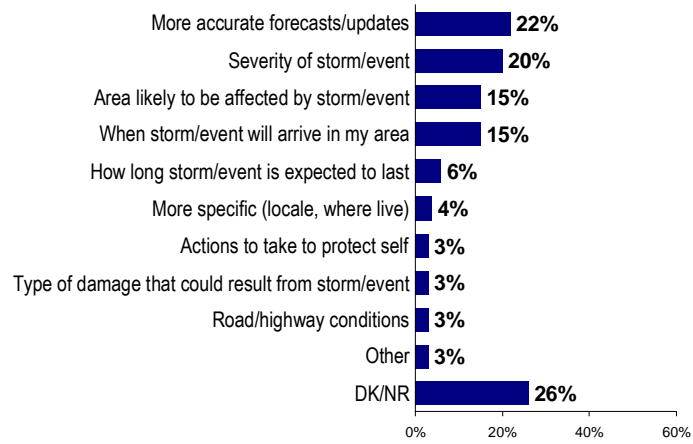
## 5.5 INFORMATION MISSING FROM WARNINGS

Respondents who believe that warning messages were missing at least some information were asked, unprompted, to elaborate on the type of information that was missing. One in five of these respondents feel that the warning messages should include more accurate forecasts and updates (22 per cent), and should include more information on the severity of the weather event (20 per cent). One in seven would like to see more information on the area likely to be affected by the weather event (15 per cent) and when the event will arrive in their area (15 per cent). One in four of these respondents (26 per cent) did not provide a response to this question. **(Q.12c)**

- Residents of Manitoba and Saskatchewan are more likely to suggest that weather warning messages lack sufficient information on the area that is likely to be affected by the weather event (32 per cent, compared to 15 per cent on average).
- Those respondents in households with total income of less than \$20 000 (55 per cent), those with high school education or less (35 per cent), and those under the age of 30 (31 per cent) are most likely not to provide a response to this question.

## Perceived Missing Information to Make Decisions

[IF PROVIDED SOME OR NONE OF INFORMATION]  
"What information do you feel was missing?" [OPEN]



{Base: n=516}

## 5.6 SOURCES OF WEATHER WARNINGS

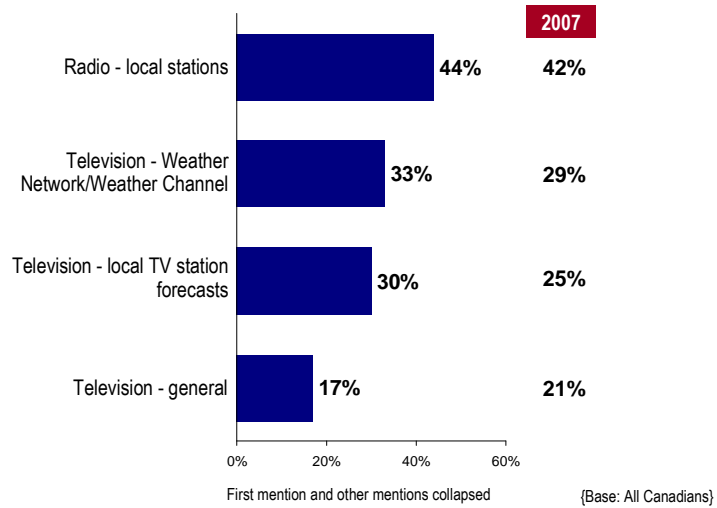
When asked their primary source of information for weather warnings, Canadians are most likely to cite their local radio stations (44 per cent, up 2 per cent since 2007), followed by the Weather Network/Météomédia (33 per cent, up 4 per cent since 2007) or their local TV station (30 per cent, up 5 per cent since 2007). Seventeen per cent say they are most likely to hear about a weather warning from television in general (down 4 percentage points since 2007). **(Q.13a)**

- Residents of the Territories (52 per cent) and of Manitoba/Saskatchewan (51 per cent) mention radio most often, as do those 45 to 64 years of age (50 per cent) and the college-educated (50 per cent).
- Residents of Quebec are most likely to cite the Weather Network or Météomédia as their primary source of weather warnings (38 per cent).
- Those 65 years of age and older (39 per cent), Quebec residents (36 per cent), and those earning less than \$20 000 a year in household income (40 per cent) are more likely than their counterparts to receive weather warnings from local television stations.



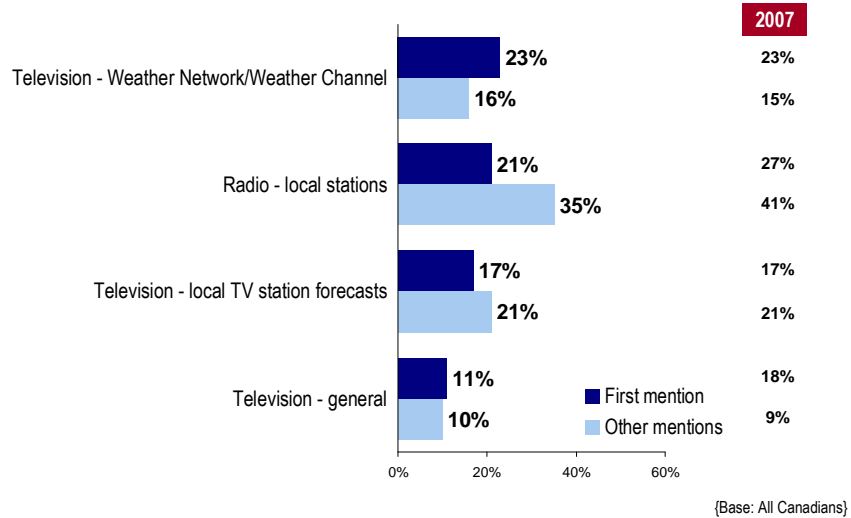
## Sources of Weather Warnings – All Mentions

“From what source are you most likely to receive or hear about a weather warning?” [OPEN]



## Sources of Weather Warnings – First and Other Mentions

“From what source are you most likely to receive or hear about a weather warning?” [OPEN]



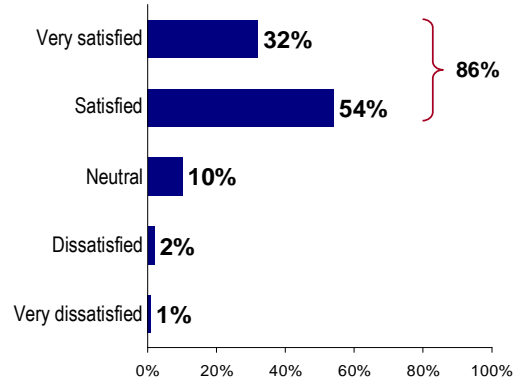
## 5.7 SATISFACTION WITH MAIN SOURCE OF WEATHER WARNING

Respondents were asked to rate their satisfaction with their main source of weather warning information. More than eight in ten Canadians (86 per cent) say they are satisfied or very satisfied with the accuracy of these information sources, and only three per cent are dissatisfied. **(Q.13b)**

- Atlantic Province residents (91 per cent) are generally more satisfied with their main source of weather warnings.
- Those who mention the Environment Canada website (94 per cent), and the Weather Network/Météomédia (89 per cent) as their main sources of weather warnings are particularly satisfied with these sources of information.

## Satisfaction with Main Source of Weather Warning

“You stated your main source of weather warnings is... How satisfied are you with this source? Would you say that you are...?”



(Base: All Canadians)

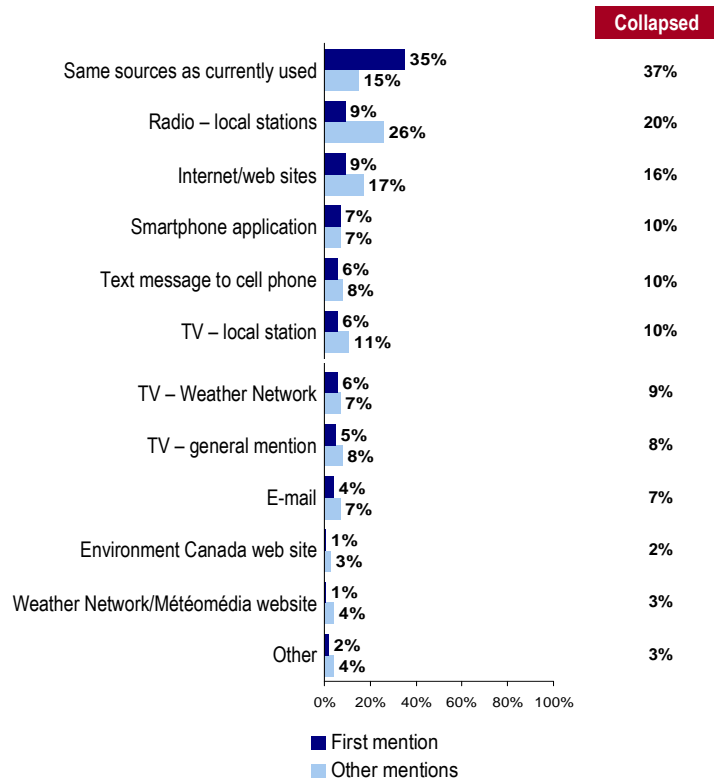
## 5.8 PREFERRED METHOD FOR RECEIVING WEATHER WARNING INFORMATION

Canadians were asked how they would like to receive weather warning information two to three years in the future. A clear plurality of respondents (37 per cent) say they would prefer to use the same sources as they currently use. Approximately one in five say they would like to receive weather warning information via local radio (20 per cent) or from a website (16 per cent). One in ten respondents would prefer to receive this information by means of local television (10 per cent), Smartphone applications (10 per cent), text messaging (10 per cent), specialty weather channels (i.e., the Weather Network) (9 per cent), television in general (8 per cent), or e-mail (7 per cent). **(Q.14)**

- Electronic mediums (particularly Smartphone applications, text messaging, and e-mail) are more popular among younger age groups, university graduates, and those in higher income brackets.
- Those 65 years of age and older (49 per cent), and those with high school education or less (41 per cent) are most likely to say they prefer to continue to use the same sources that they currently use.

## Preferred Method for Receiving Weather Warning Information

“Thinking two or three years into the future, how would you like to receive weather warning information?” [OPEN]



{Base: All Canadians}

## 5.9 ADVANCE NOTICE REQUIRED FOR WINTER STORM WARNING

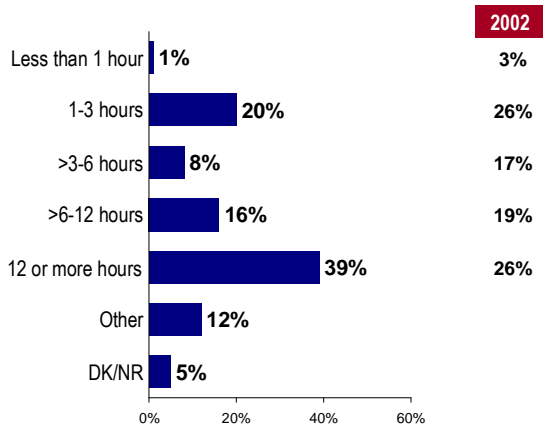
Results also reveal that many Canadians would like to be warned about a potential winter storm warning well in advance. On average, respondents say they need 17 hours to adequately prepare for a winter storm. Looking at these results in more detail, a clear plurality (39 per cent) say they require at least 12 hours notice (including 8 per cent who say they need at least 24 hours notice). One in six (16 per cent) say they need 6 to 12 hours notice. One in ten (8 per cent) need at least 3 to 6 hours notice, and 20 per cent need 1 to 3 hours notice. Just one per cent of Canadians believe that they would need less than one hour notice. An additional five per cent are uncertain or offered no response. **(Q.16)**

Tracking reveals that the needs of Canadians in terms of notice for winter storm warnings have grown significantly over the last decade: the proportion of respondents who say they require at least 12 hours notice has increased from 26 per cent in 2002 to 39 per cent currently.

- Regionally, residents of Atlantic Canada express the greatest need for advance warning (requiring an average of 22 hours notice), while residents of Alberta and Manitoba/Saskatchewan appear comfortable with a significantly shorter period of time (12 and 13 hours, respectively).
- Respondents in urban areas say they require an average of 18 hours advance notice, while the expectations of rural respondents are somewhat more modest (15 hours notice).
- The amount of advance notice required by respondents decreases steadily with age, from an average of 19 hours among those under 30, to an average of 14 hours among those over 65.
- Those earning less than \$20 000 in annual household income require more advance notice than their higher income counterparts (20 hours).

## Advance Notice Required for Winter Storm Warning

“When you hear a winter storm warning, how much advance notice do you need?” [OPEN]



Average = 17 hours

(Base: All Canadians)

## 5.10 FREQUENCY OF RECEIVING SUFFICIENT NOTICE TO PREPARE FOR APPROACHING WINTER STORMS

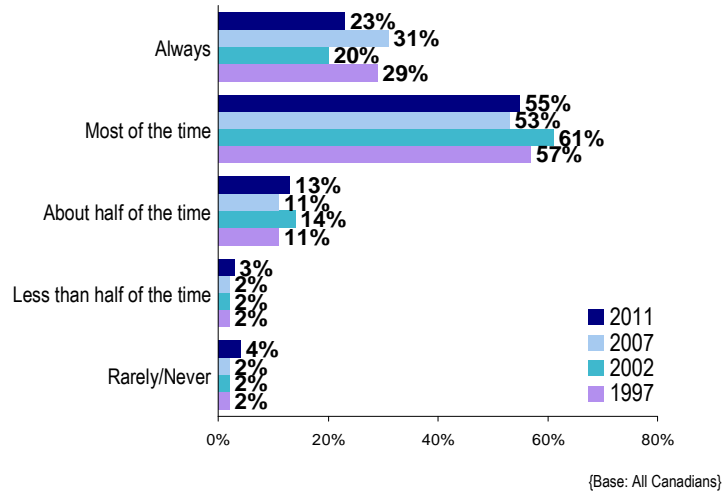
Canadians were asked how often they receive enough notice about a severe winter storm approaching their area. Almost eight in ten (78 per cent) say that warnings give them sufficient notice most of the time (55 per cent) or always (23 per cent). Tracking, however, reveals that Canadians are now less likely than they were in 2007 to say they always receive enough notice to properly react to a winter weather warning (down 8 percentage points). **(Q.17)**

- Ontario residents (29 per cent) those 45 to 64 years of age (26 per cent), those with university education (26 per cent), and those earning \$80 000 to \$100 000 in annual household income (29 per cent) are most likely to indicate they always receive enough notice regarding an approaching winter storm.



## Frequency of Receiving Sufficient Notice to Prepare for Approaching Winter Storms

“And how often would you say that you receive enough notice to properly react to a warning about an approaching winter storm heading toward your area?”



## 5.11 CLARITY OF WINTER WEATHER WARNINGS

Canadians were asked about the clarity of different types of information provided in winter weather warnings.

Canadians are most likely to feel that information about the area likely to be affected by the storm is presented “very” clearly (47 per cent), and roughly the same proportion assigns this rating to information on the severity of the storm (43 per cent). Four in ten (40 per cent) feel that information related to when the storm will arrive in their area is presented very clearly. One in three is similarly positive in the assessment of information regarding actions to take to protect oneself and family (35 per cent), and how long the storm will last (33 per cent). Just over one in four (27 per cent) feel information regarding the damage that could occur as a result of the storm is presented very clearly.

Across most of these types of information, approximately half of respondents also believe the information is presented “somewhat” clearly, with the exception of actions to take to protect oneself and family: fewer than four in ten (38 per cent) feel this information is provided somewhat clearly.

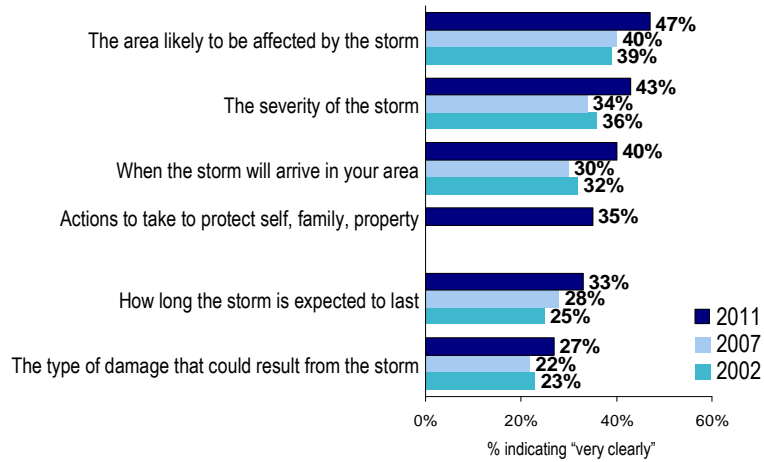
Only about one in four or fewer feels any of these types of information is “not very” or “not at all” clearly presented. **(Q.18a-18f)**

Interestingly, despite a decrease in belief that they always receive enough notice to react to a winter storm warning, results reveal an increase in Canadians’ belief in the clarity of all information related to winter weather warnings.

- Generally speaking, residents of Atlantic Canada and Ontario, and those 45 years of age and older are more likely than others to say all of the information provided in winter weather warnings is presented very clearly.

## Clarity of Winter Weather Warnings

**“I would like to know about the type of information provided in winter Weather Warnings. Is the following information generally presented clearly?”**



N.B. Response scales vary slightly between 1997 and 2002 questions

(Base: All Canadians)

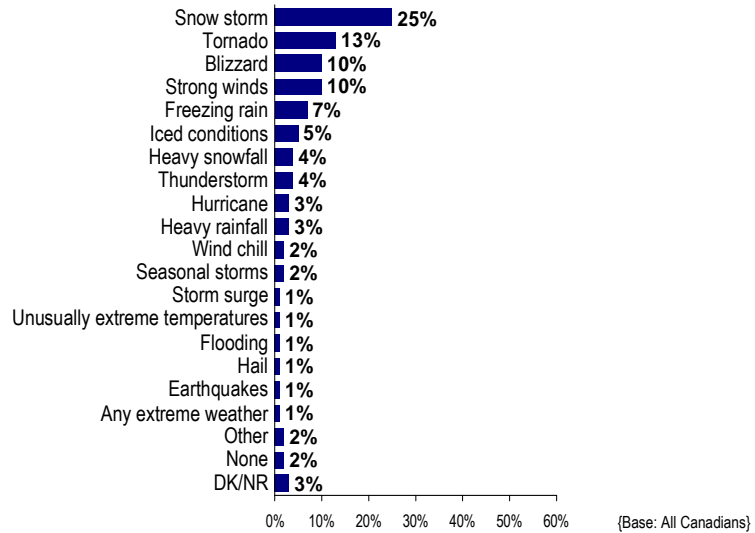
## 5.12 WEATHER EVENTS OF GREATEST CONCERN

Respondents were asked, unprompted, to identify the specific weather event that concerns them most. They identified a wide variety of weather conditions, although the plurality (25 per cent) indicate they are most concerned with the possibility of a snowstorm. Approximately one in ten is most troubled by the prospect of a tornado (13 per cent), a blizzard (10 per cent), strong winds (10 per cent), or freezing rain (7 per cent). **(Q.19)**

- Snowstorms are a particularly important concern in Atlantic Canada (mentioned by 35 per cent of respondents), British Columbia (32 per cent), and Ontario (29 per cent).
- Concerns regarding tornadoes are most prominent in the Prairies (27 per cent in Alberta, and 20 per cent in Manitoba/Saskatchewan).
- The prospect of a blizzard is of particular concern to residents of the Territories (32 per cent) and Manitoba/Saskatchewan (22 per cent).
- Strong winds are a leading concern in British Columbia (23 per cent) and Quebec (13 per cent).
- Icy conditions are a top concern in Quebec (14 per cent)

## Weather Events of Greatest Concern

“What specific weather event are you typically most concerned about?” [OPEN]



## 6. VIEWS ON ENVIRONMENT CANADA SERVICES

Canadians were also asked about their awareness and use of Environment Canada's historical weather information and WEATHERADIO service.

### 6.1 AWARENESS AND USE OF EC HISTORICAL WEATHER INFORMATION

Results reveal fairly high awareness of Environment Canada historical weather information: over half of respondents (56 per cent) say they are aware that Environment Canada provides historical weather information on its websites. Four in ten (43 per cent) say they are not aware that Environment Canada provides this information, and two per cent offered no response. **(Q.8a)**

- Awareness varies heavily by region from a low of 41 per cent in Quebec to a high of 78 per cent in the Territories.
- Awareness is somewhat higher among men than among women (59 per cent versus 52 per cent).
- Awareness increases progressively with education (60 per cent of university graduates say they are aware, compared to 46 per cent of those with high school education or less), as well as with income (61 per cent of those with a household income of \$100 000 or more, compared to 45 per cent of households with an income less than \$20 000).

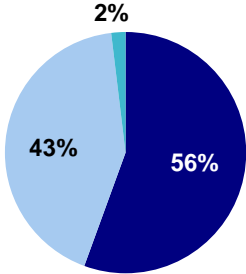
Among those who indicate they are aware of this historical weather information, half (51 per cent) say they have used it. Forty-eight per cent of respondents have not used the information and one per cent did not respond. **(Q.8b)**

- Regionally, residents of the Territories and British Columbia are the most likely to have used these data (62 per cent and 60 per cent, respectively).
- The age group that is least likely to use the Internet (those 65 years of age and older) is the least likely to access this online database (37 per cent).

- Use of this information increases progressively with education (61 per cent of university graduates, compared to 46 per cent of high school graduates), as well as income (58 per cent of those with a household income of at least \$100 000, compared to 39 per cent of those with a household income less than \$20 000).

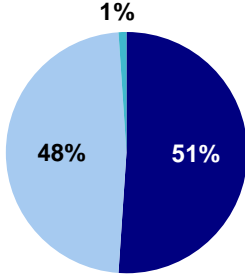
**Awareness and Use of EC Historical Weather Information**

“Are you aware that Environment Canada provides historical weather information on its websites?”



{Base: All Canadians}

[IF YES] “Have you ever used this information?”



{Base: n=1339}

■ Yes  
 ■ No  
 ■ DK/NR

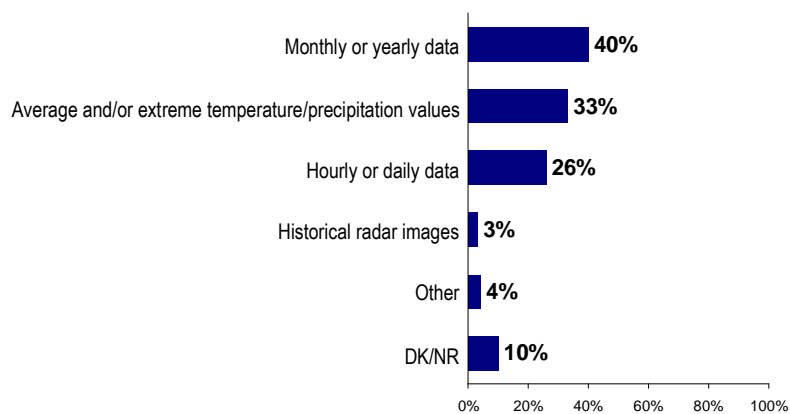
## 6.2 TYPES OF HISTORICAL WEATHER INFORMATION USED

Respondents who indicate they have used Environment Canada historical weather information were asked to identify the type of information that was used. Monthly and yearly data were mentioned most often, with four in ten (40 per cent) saying they have used this type of data. One-third of respondents (33 per cent) have used average and/or extreme temperature/precipitation data, and one-quarter (26 per cent) have used hourly or daily data. Historical radar images were used by just three per cent of respondents. Ten per cent of respondents offered no response to this question. **(Q.8c)**

- Resident of the Territories are more likely to say they have used hourly or daily data (49 per cent) and monthly or yearly data (63 per cent).
- University graduates (38 per cent) and those earning \$100 000 or more in annual household income (40 per cent) are more likely to have used average and/or extreme temperature precipitation data.

### Types of Historical Weather Information Used

[IF YES] "What types of historical weather information did you use?"



{Base: n=690}



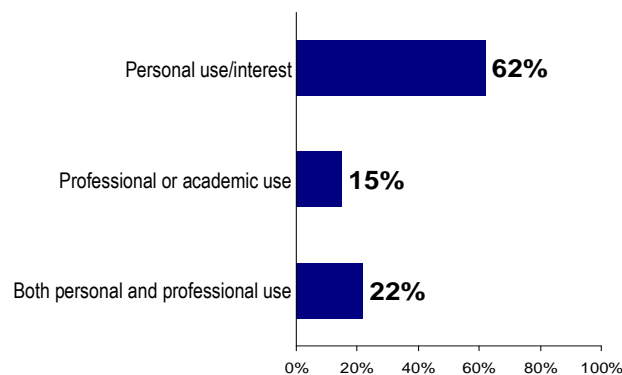
## 6.3 PURPOSE FOR USING HISTORICAL WEATHER INFORMATION

Respondents who used historical weather information were asked if it was used for personal purposes, professional purposes, or both. Most of these respondents (62 per cent) say they used the information for personal reasons, although one in seven (15 per cent) say it was used for professional or academic purposes. One-fifth of these respondents (22 per cent) used the information for both personal and professional purposes. **(Q.8d)**

- Women are somewhat more likely to use historical weather information for personal purposes (67 per cent, compared to 58 per cent of men), while men are somewhat more likely to use it for professional purposes (18 per cent, compared to 12 per cent of women).
- Respondents aged 65 years or more are more likely to have used historical information exclusively for personal purposes (79 per cent, compared to 47 per cent of those aged between 18 and 30 years), while those under 30 are more apt to use the information for professional purposes (25 per cent, compared to 8 per cent of seniors).

### Reason for Using Historical Weather Information

[IF YES] "For what purpose did you use this weather information?  
Was it for...?"



{Base: n=690}

## 6.4 AWARENESS AND USE OF WEATHERADIO

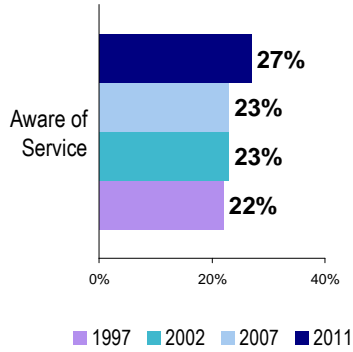
Canadians were also asked about their awareness and use of WEATHERADIO, an Environment Canada service that broadcasts weather information 24 hours a day in many areas across the country via a special type of radio receiver which must be purchased.

Results reveal that only about one in four Canadians (27 per cent) say they are aware of WEATHERADIO; however, this is up four per cent since 2007 **(Q.15a)**. Moreover, among those aware of the service, four in ten have used it, up six per cent since 2007 (and up 32 percentage points since 2002). **(Q.15c)**

- Awareness of WEATHERADIO is highest in Saskatchewan/Manitoba (42 per cent) and the Territories (40 per cent), and lowest in Quebec (24 per cent).
- Men are considerably more likely than women to be aware of WEATHERADIO (34 per cent versus 22 per cent, respectively).
- Those with college education (31 per cent) and those earning \$100 000 or more in annual household income (31 per cent) are also more likely to indicate awareness of WEATHERADIO.
- Despite lower awareness of WEATHERADIO, use of the service is highest among Quebec residents (55 per cent).
- Use of WEATHERADIO is also higher among men (43 per cent) and those 18 to 30 years of age (51 per cent).

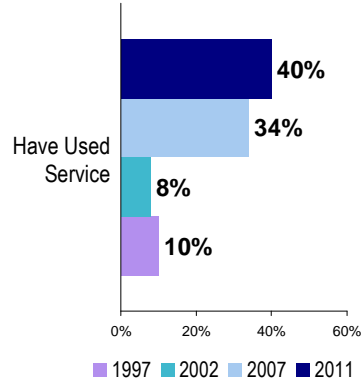
## Awareness and Use of WEATHERADIO

“Are you aware of WEATHERADIO, an Environment Canada service that broadcasts weather information 24 hours a day in many areas in Canada and for which a special radio receiver must be purchased?”



{Base: All Canadians}

[IF YES]  
“Have you ever used this service?”



{Base: n=700}

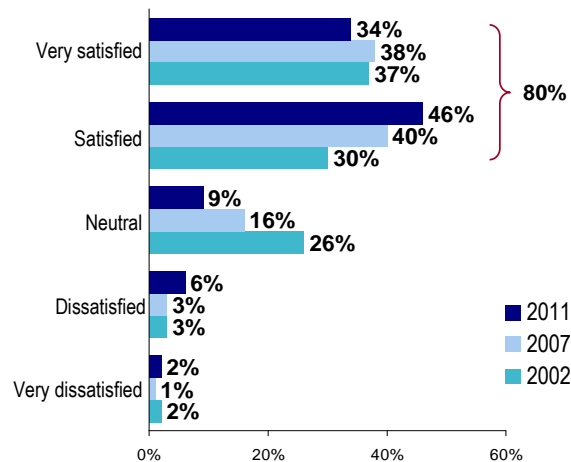
## a) Satisfaction with WEATHERADIO

Results also reveal that users of the WEATHERADIO service are generally satisfied with it. Eight in ten say they are very satisfied (34 per cent) or satisfied (46 per cent) with this service, and only eight per cent are dissatisfied or very dissatisfied. Tracking reveals that the proportion of WEATHERADIO service users who are very satisfied is down four percentage points since 2007; however, the proportion satisfied is up six per cent over this timeframe. **(Q.15d)**

- British Columbia residents (93 per cent) and those with high school education or less (88 per cent) are most likely to indicate they are satisfied or very satisfied with WEATHERADIO service.

### Satisfaction with WEATHERADIO

[IF USED WEATHERADIO] "How satisfied are you with the WEATHERADIO service provided by Environment Canada?"



N.B. Response scales vary slightly between 2007 and 2002 questions

(Base: n=267)

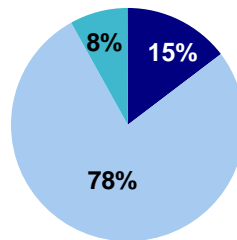
## b) Interest in WEATHERADIO Service

Those who indicated they were not aware of WEATHERADIO were asked if the service would be of interest to them. The clear majority of these respondents (78 per cent) say they are not interested in this service, and only about one in six (15 per cent) indicated they would be interested in WEATHERADIO service. An additional eight per cent are unsure. **(Q.15b)**

- Interest in WEATHERADIO is highest in Manitoba/Saskatchewan (22 per cent).

### Interest in WEATHERADIO Service

[IF NOT AWARE OF WEATHERADIO] “Does this service interest you?”



■ Yes  
■ No  
■ Don't know/depends

{Base: n=1610}



# 7. CONCLUSIONS AND RECOMMENDATIONS

## 7.1 CONCLUSIONS

Canadians are avid users of weather information: fully seven in ten (70 per cent) say they are very likely to look for weather information on a typical day, and two-thirds (63 per cent) feel access to weather information is of importance to them (up 4 percentage points since 2002).

Most Canadians (82 per cent – up 6 per cent since 2007) feel that the weather information they receive provides enough information to make decisions or plans, and Canadians offer highly favourable views of Canada’s weather information outlets, with nearly nine in ten stating they are satisfied with their main source of weather information.

Canadians place a great deal of importance on weather warning information, with fully 87 per cent rating this information as important, and a clear majority (78 per cent) believe that winter weather warnings provide sufficient notice to prepare for an approaching storm (although the proportion who feel this way is down since 2007).

Canadians have a rather limited understanding of the differences between a weather watch and a weather warning. When asked if they understood the difference, just one in ten respondents (10 per cent) correctly stated that the difference lies in both the timing and the likelihood of the weather event.

Looking at the perceived clarity of different types of information provided in weather warnings, majorities feel that the information provided about all aspects of a winter storm (e.g., area affected, severity, timing) is presented very or somewhat clearly. Only about one in four or fewer feels any of these types of information is “not very” or “not at all” clearly presented. Results further reveal an increase since 2007 in the proportion of Canadians who feel the information provided in winter weather warnings is presented clearly.

## 7.2 RECOMMENDATIONS

Survey findings suggest that weather watch and weather warning information needs to be better communicated to Canadians.

Only one in ten Canadians correctly identified the difference between a weather watch and a weather warning. In addition, many Canadians feel winter warning messages are missing key information (i.e., more accurate forecasts and updates, and more information on the severity of the weather event). Results further reveal a significant decrease in the proportion of Canadians who feel they receive enough notice about a severe winter storm approaching their area. The proportion of Canadians who feel they always receive notice is down eight percentage points since 2007.

There is a great deal of variety regarding the clarity of specific information provided in winter weather warnings. The proportion of respondents who feel the information “regarding the type of damage that could result from a storm” is presented very clearly is only 27 per cent; the proportion for “how long the storm is expected to last” is only 33 per cent; the proportion for “actions to protect self, family and property” is only 35 per cent. These results suggest Environment Canada should consider including more of this information in its warning messages.

Results also reveal that Canadians are largely satisfied with their main source of weather warning information, and many would prefer to use the same sources in the future. However, these results are not uniform across Canadians: they vary significantly by age and socio-economic status. Electronic mediums (particularly Smartphone applications, text messaging, and e-mail) are more popular among younger age groups, university graduates, and those in higher income brackets. Those 65 years of age and older, and those with high school education or less are most likely to say they prefer to continue to use the same sources that they currently use. These results suggest that Environment Canada needs to offer its weather and weather warning information to Canadians through a number of different media.



## 8. METHODOLOGY

The methodology for this study involved conducting a 15-minute telephone survey between February 7 and February 28, 2011 with 2 333 respondents drawn from the general Canadian population. Respondents were 18 years of age and older, and were randomly selected through random digit dialling. The sample included all provinces and territories and the survey questionnaire was administered in English and French. The response rate for this survey was 20 per cent, as detailed below and in accordance with Market Research Intelligence Association (MRIA) standards.

### Overall Call Results and Response Rate

<b>TOTAL SAMPLE</b>		<b>17,734</b>
Numbers not in Service	2,748	
Business/Fax Lines	659	
Duplicates	13	
Numbers blocked by Telephone Companies	325	
<b>TOTAL OUT OF SCOPE</b>		<b>3,745</b>
<b>TOTAL FUNCTIONAL SAMPLE</b>		<b>13,989</b>
Retired (i.e. called 10 times without success)	6,180	
<b>UNRESOLVED</b>		<b>6,180</b>
Language Difficulty	485	
Unavailable	17	
Other	4	
Refusals	8,520	
<b>IN-SCOPE NON-RESPONDING</b>		<b>9,008</b>
Completes	2,333	
Ineligible	470	
Quota Filled	19	
<b>IN-SCOPE RESPONDING UNITS</b>		<b>2,822</b>
<b>RESPONSE RATE (In-scope responding units divided by total functional sample)</b>		<b>20.17</b>

Data were weighted based on Statistics Canada data according to age, gender and province/territory to ensure that the sample is representative of the general public aged 18 years and over.

Prior to beginning the full fieldwork, the study objectives and sampling of the survey, as well as the meaning and intent of specific items in the questionnaire, were thoroughly covered in training sessions with the full complement of interviewers who were to work on this study. Test interviews were conducted before starting the survey to familiarize interviewers with the questions, categories, flow and skip logic. All questions related to overall study content were addressed before the start of the project.

As is standard EKOS practice, a minimum of eight call-backs (nine total calls) were made to each selected household in the original sample before retiring a phone number and substituting another household. Follow-up calls were made on subsequent days, at varying time periods to maximize the potential for reaching a given respondent, and appointments were taken at the convenience of the respondent. All individuals were given the choice of conducting the interview in either official language. If a respondent preferred to call the survey team back for an appointment, he/she was offered the toll free number in the survey centre.

Survey supervisors continuously monitored interviewing during the data collection process, using a dual audio and visual monitoring system. Ten per cent of interviews were monitored to ensure consistency of questionnaire administration and interviewing techniques.

## Sample Distribution

A sample of 2 333 drawn from the Canadian population would be expected to provide results accurate to within plus or minus 2.0 per cent in 95 out of 100 samples. The margin of sampling error will be greater for provincial and territorial sub-samples, as presented below.

### Sample Distribution by Region

Province/Territory	Proposed Sample Size	Final Unweighted Sample Size	Margin of Error <sup>1</sup>
Atlantic Provinces	200	205	± 6.9%
Quebec	500	516	± 4.3%
Ontario	750	757	± 3.6%
Manitoba/Saskatchewan	200	202	± 6.9%
Alberta	225	234	± 6.4%
British Columbia	275	265	± 6.0%
Territories	150	154	± 7.9%
<b>Total</b>	<b>2,300</b>	<b>2,333</b>	<b>± 2.0%</b>

<sup>1</sup> 95% confidence level.

## Sample Characteristics

The characteristics of the final sample are presented below, in terms of the distribution across region and demographic strata, and how they compare with the population. The banner tables present the results for all survey questions by each of these categories, as well as other categories.

### Sample Distribution by Population Characteristics

	Sample <sup>1</sup> (%)	Population <sup>2</sup> (%)
<b>PROVINCE/TERRITORY</b>		
British Columbia	13.1	13.1
Alberta	9.9	9.9
Saskatchewan	3.3	3.3
Manitoba	3.6	3.6
Ontario	38.5	38.5
Quebec	23.6	23.6
New Brunswick	2.4	2.4
Nova Scotia	3.0	3.0
Prince Edward Island	0.4	0.4
Newfoundland	1.7	1.7
Yukon	0.1	0.1
Northwest Territories	0.2	0.2
Nunavut	0.1	0.1
<b>GENDER</b>		
Male	48.4	48.4
Female	51.6	51.6
<b>EDUCATION</b>		
High School or less	26.0	46.9
College	31.7	29.4
University	42.3	23.7
<b>AGE GROUP</b>		
18 to 30 years old	21.9	21.9
31 to 44 years old	30.9	30.9
45 to 64 years old	30.9	30.9
65 years old and over	16.3	16.3

1. Weighted Data (by province/territory, age, gender)

2. Census 2006