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**Intensity report of the November 25, 1988
Saguenay, Quebec, earthquake**

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ABSTRACT

On Friday November 25, 1988 the largest earthquake in eastern North America in 53 years occurred 35 km south of Chicoutimi, Québec and 75 km north of the Charlevoix-Kamouraska earthquake zone. This earthquake, referred to as the Saguenay earthquake, was located in a relatively aseismic region, had a calculated magnitude of 5.9 mb, 6.5 MN, and a depth of 29 km. It was characterized by a single foreshock, relatively minor aftershock activity, and a large amount of high frequency energy.

The Geological Survey of Canada distributed about 2400 questionnaires to rural postmasters in Quebec, Ontario, the Maritimes and Newfoundland to determine intensity distribution. Response rate was estimated to be about 75%. Supplementary information was obtained from technical reports and local newspapers. The Canadian data were combined with similar data collected by the National Earthquake Information Service in the United States and used to produce an isoseismal map.

The Saguenay earthquake was felt with maximum intensity MM VIII, but more typically MM VII, in the Chicoutimi-Jonquière-La Baie area, was felt strongly by most people within 500 km, was felt by many within 1000 km and was perceptible by some people, under special circumstances, beyond 1000 km. Damage in the sparsely populated epicentral area was modest, limited to cracked or fallen unreinforced masonry walls and a few minor landslides. Damage outside the epicentral area was correlated with underlying unconsolidated deposits. The total felt area of over 3.5 million km² is consistent with the large amount of high frequency energy and approaches that of the M6.5 Charlevoix-Kamouraska earthquake in 1925.

RÉSUMÉ

Le vendredi 25 novembre 1988, le plus fort tremblement de terre de l'est de l'Amérique du Nord des 53 dernières années s'est produit à 35 km au sud de Chicoutimi, Québec soit à 75 km au nord de la zone sismique de Charlevoix-Kamouraska. Localisé dans une région relativement inactive du point de vue séismique, ce séisme, connu sous le nom du tremblement de terre du Saguenay, avait une magnitude calculée de 5,9 mb, 6,5 MN, et une profondeur de 29 km. Il est caractérisé par un précurseur unique, une activité de répliques modeste, et un fort contenu énergétique pour les hautes fréquences.

Afin de déterminer la distribution des intensités, la Commission géologique du Canada a distribué environ 2400 questionnaires dans les communautés rurales du Québec, de l'Ontario, des Maritimes et de Terre-Neuve. Le taux de réponse fut estimé à environ 75%. Des informations supplémentaires furent obtenues de rapports techniques et de journaux locaux. Les données canadiennes furent amalgamées aux données semblables colligées par le National Earthquake Information Service des États-Unis pour produire une carte des isoséistes.

Le séisme du Saguenay fut ressenti avec une intensité maximale de MM VIII, mais plus généralement de MM VII, dans la région de Chicoutimi-Jonquière-La Baie. Il fut fortement ressenti par la plupart des gens à l'intérieur de 500 km, par plusieurs à l'intérieur de 1000 km et dans des conditions particulières, perçu par quelques personnes au-delà de 1000 km. Les dommages dans la zone épiscopentrale peu peuplée furent modestes, limités à des murs de maçonnerie non-renforcée fracturés ou effondrés et à quelques glissements de terrain. Hors de la zone épiscopentrale, les dommages corrèlent avec les dépôts non-consolidés. La superficie où le séisme fut ressenti dépasse 3,5 millions de km², en accord avec le fort contenu énergétique pour les hautes fréquences, et s'approche de la superficie du séisme de M6,5 de Charlevoix-Kamouraska de 1925.

INTENSITY REPORT OF THE 1988 SAGUENAY, QUÉBEC, EARTHQUAKE

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Introduction

The largest earthquake in 63 years on the eastern North American continent occurred on November 25, 1988 at 23:46 UT (18:46 EST), about 35 km south of Chicoutimi and the Saguenay River in Québec. The magnitude 5.9 earthquake, known as the Saguenay earthquake, was preceded by a magnitude 4.7 foreshock on November 23, 1988 and followed by only minor aftershock activity. The earthquake occurred in an area where no previous significant seismic activity was known, about 75 km north of the outer boundary of the active Charlevoix–Kamouraska seismic zone, the location of the 1925 M6.5 Charlevoix earthquake (Bent, 1992). The depth has been established at 29 km, in the lower part of the crust. This report describes in full the methodology and results of an extensive intensity survey conducted immediately following the earthquake.

The Saguenay earthquake was felt with maximum Modified Mercalli (MM) intensities VII–VIII in the Chicoutimi–Jonquièrre–La Baie area (Figure 1) and was felt strongly by most people within a 500 km radius of the epicentre. Many people within a 1000 km radius of the epicentre reported felt effects and the earthquake was perceptible by some individuals under special circumstances, beyond 1000 km (Figure 2). The earthquake was felt south to Washington, D.C., north to Kuujjuarapik (east coast of Hudson Bay) Québec, east to Goose Bay, Labrador and Halifax, Nova Scotia and west to Thunder Bay, Ontario and the upper peninsula of the state of Michigan. The total felt area is estimated to be approximately 3.5 million km².

The Geophysics Division of the Geological Survey of Canada (GSC) sent over 2000 questionnaires to rural postmasters, and selected town clerks and city engineers in Québec, Ontario and the Atlantic provinces to determine the intensity distribution of the earthquake. The Canadian intensity data have been combined with similar data collected by the National Earthquake Information Center (NEIC) in the United States to produce an isoseismal map (Figure 2). Communities reporting the event as "not felt" are plotted as zeroes on this map and from these the limits of the sampled area can be readily observed. Supplementary information, particularly with respect to damage, was obtained from various technical reports written after on-site visits. The primary source for this

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report, however, is the questionnaires. Information on other aspects of the Saguenay earthquake is summarized in North et al. (1989) and Du Berger et al. (1991).

Characteristics of the Saguenay Earthquake

The epicentre of this earthquake is in Laurentides Provincial Park, about 35 km south of the city of Chicoutimi, about 170 km north of Quebec city and 75 km from the outer boundary of the established Charlevoix–Kamouraska seismic zone. There are virtually no inhabitants within a 20 km radius of the epicentre and there is no history of seismic activity in the area. The main shock occurred on Friday evening, November 25, 1988 at 18:46 EST. The magnitude based on high frequency Lg waves was m_{blg} 6.5, a half magnitude higher than the magnitude (m_b 5.9) calculated using teleseismic body waves. In addition, this earthquake produced the largest set of strong motion records of any earthquake recorded in eastern North America (Munro and Weichert, 1988). Two days earlier, on Wednesday, November 23, at 04:11 EST, a foreshock awakened many people in the area. The magnitude of this event was m_{blg} 4.6, with a correspondingly smaller magnitude m_b 4.3, based on body waves. Aftershock activity was limited in that of the 85 aftershocks recorded, only two were greater than M3. The first large aftershock, M4.1 (m_{blg}), occurred in the evening at 22:38 EST, approximately four hours after the mainshock. The other large aftershock did not occur until January 19 at 16:36 EST. Since field stations were set up within 24 hours of the November 23 foreshock, it was possible to determine the epicentre and depth of the mainshock with a considerable degree of accuracy. The depth of the main shock was 29 km, which is deeper than 95% of all other earthquakes recorded in eastern Canada (Lamontagne *et al.*, 1990).

Data Collection

1. Design of Questionnaire (Canada only)

The Canadian earthquake intensity questionnaire (Appendix A) was redesigned in 1986 (Stevens and Cajka, 1986) and was used for several small earthquake intensity surveys prior to 1988. The goals of the questionnaire were to simplify responding on the part of the general public, clarify or eliminate ambiguous questions to encourage consistency on the part of respondents, and better sample noted effects of the mid-range Modified Mercalli Intensity Scale (Appendix B) in a format that would be ready for distribution within hours of an earthquake. The previous format, developed in 1978 (comprehensive, four pages in length, bilingual, multiple-choice format), was reduced to one double-sided, bilingual sheet with six basic questions. Questions with little or no bearing on the assigning of intensity such as the direction from which the noise was coming or the name of the nearest crossroad, were eliminated. Also eliminated were questions dealing with severe damage occurring within the community. For example, it was felt unnecessary to ask respondents if railroad tracks were bent slightly or greatly. Damage effects such as these, are more appropriately investigated through an

engineering or geotechnical field survey. Ambiguous questions such as "felt by many" or "several" were also dropped or reworded.

The redesign in 1986 followed experience with the 1982 Miramichi, New Brunswick earthquake sequence for which distribution of questionnaires was supplemented by a direct appeal to the public via radio for letters describing their experiences. The public were asked to describe in their own words where they were and what they heard, saw and felt during the earthquake. The resulting letters provided clear responses to these questions and generally were internally consistent, making assignment of a Modified Mercalli intensity more reliable. For this reason, the new format asks respondents to relate what they were doing and what they heard, saw and felt during and after the earthquake. They are asked to write a phrase or two for each question, and effects taken directly from the Modified Mercalli scale are provided as examples. Sometimes respondents prefer to circle one or more of the examples given, which is an acceptable alternative. If they did not feel the earthquake in question, they are asked to pass the questionnaire on to someone who did. Community effects are covered in the question, "are you personally aware of any damage directly related to this earthquake?" Caution is exercised in evaluating this response as it is sometimes difficult to separate the effects noticed by the respondent from those the respondent became aware of through the media. Two of the new questions force a distinction to be made between what was observed during and after the earthquake. For example, there should no longer be ambiguity as to whether the object that "moved" merely vibrated (during) or was found to be displaced (after).

The time-consuming chore of folding, stuffing and sealing the questionnaires was eliminated by designing a self-contained mailer in continuous forms construction ready for computer controlled addressing and printing of specific earthquake identification.

The earthquake report used by NEIC (Appendix C) is a multiple-choice single sheet that is often reproduced in local newspapers following an earthquake along with a request to complete the questionnaire and send it to NEIC. The format is very similar to that used by the GSC prior to 1986.

2. Distribution of Questionnaire (Canada only)

Prior to 1988, questionnaires had been sent to rural postmasters (no house-to-house delivery) solely on the basis of postal codes, a rather inexact method as some sparsely populated postal code areas extend for hundreds of kilometres. Shortly before 1988, geographical co-ordinates were assigned to all Canadian postal codes in the Geophysics Division database and regions to be surveyed can now be selected on the basis by latitude and longitude. With the exception of Newfoundland, whose co-ordinates were not yet entered into the database at the time of the survey, this method was used to send out over 2000 questionnaires following the main shock of November 25 (about 330 questionnaires had previously been sent out following the foreshock of November

23). From early media reports, the most distant communities reporting the earthquake as felt were noted and questionnaires were then sent to all postmasters of communities within a grid extending approximately 200 km beyond this original boundary. Additional information was solicited from city clerks or city engineers for the major cities within this area by mailing them the same questionnaire. From the limit of the felt area as contoured on Figure 2, it appears that this was a good geographical choice.

3. Other Canadian Intensity Data

Technical reports from groups making on-site visits were read carefully and major and local newspapers were scanned for supplementary and/or supporting material. In effect, newspaper reports were used only as a starting point, with confirmation being sought from personal accounts or technical reports based on on-site surveys. K.B.S. Burke of the University of New Brunswick forwarded the responses he received following his request from individuals in less-populated areas of the province, and a Montreal Cegep professor, M. Pierre Cauchy, forwarded the responses to a questionnaire he designed that was circulated by his students on the island of Montreal.

4. American Data

The NEIC survey was likewise conducted by sending out standard questionnaires to postmasters. Coverage was determined by selecting a radius from the epicentre and sending out questionnaires on the basis of geographical co-ordinates, to all postmasters within that area. In retrospect, a larger radius would have more clearly defined the limit of the felt area. However, the coverage was good within the sampled area and intensity data were supplemented by newspaper reports, particularly from the more distant areas.

Evaluation

1. Assignment of Intensity

A. Canada

Intensity values were assigned using the Modified Mercalli Intensity Scale (Wood and Neumann, 1931) (see Appendix B). Although the scale is sometimes ambiguous and there are shortcomings with respect to many of its parameters (for example, there are too many overlapping observations and not enough discrete observations), it is the most widely used intensity scale in North America, and for this reason, the most useful for comparative purposes with modern earthquakes. Each questionnaire was assigned an intensity representative of the maximum effect noted by the respondent provided that the observation was generally consistent with other observations noted by the same respondent. An example of an inconsistent response would be an observation that cracks in plaster walls were noted after the earthquake but that no one in the household noticed

anything other than a mild shaking at the time. In such a case, the observation of cracked plaster would be disregarded. Respondents who did not feel the earthquake, and did not know of anyone who did, were asked to return the questionnaire with that information.

Intensities were similarly assigned to communities based on information gleaned from technical reports published by groups that conducted on-site visits. Almost all reports of damage were verified or supplemented using these sources. These reports, plus others that were useful, can be found in the reference list at the end of this report.

The dilemma created by receiving numerous reports from the same community, as in the case of the city of Montreal, for example, was resolved by assigning only one intensity for the community where possible. For instance, if there were 12 responses from a single community, 11 of which described effects in the MM IV intensity range and one that described articles being thrown from shelves (MM V), the intensity value assigned would be MM IV. On the other hand, if 3 of the 12 responses described effects in the MM V intensity range, the intensity value assigned would be MM V despite the fact that it is not the modal value. If there were two reports from the same community and the assigned intensity value was different, separate entries were registered in the database. Multiple replies were flagged with an appropriate comment in the database.

To achieve inter-scorer reliability, the assignment of intensities based on questionnaires received in Canada was carried out under the direction of the senior author. All assigned values over Modified Mercalli (MM) V were subject to review by the senior author as well.

B. United States

Data on the observed effects of the earthquake in the United States were analyzed by Carl Stover of NEIC and the resulting intensities forwarded to the authors. Recently, the United States Geological Survey re-evaluated intensities associated with historic significant earthquakes (>M4.5) by applying the Mercalli scale as revised in 1931 in a more judicious manner (Stover and Coffman, 1993). The subjective effects on people were not considered reliable considerations for assigning values above the MM IV level. The parameters now used for MM IV, V and VI and in use at the time of this earthquake are as follows:

IV- Felt by many to all. Trees and bushes were shaken slightly. Buildings shook moderately to strongly. Walls creaked loudly. Observer described the shaking as "strong."

V- Felt, frightened, and awakened effects were not used at this or higher intensity levels. Hanging pictures fell. Spilled liquid effects were not used to assign any intensity. Trees and bushes were

shaken moderately to strongly. People had difficulty standing or walking. Felt moderately by people in moving vehicles.

VI- At this level, there must be reports of physical damage to manmade structures as described in the MM intensity scale. The only exception is that intensity VI is still assigned if many small objects fell from shelves and (or) many glassware items or dishes were broken.

The only significant differences for the assignment of intensity between the two agencies for these three levels are that awakening persons is still considered a legitimate (and useful) MM IV–MM V and spilled liquid a legitimate MM V by Canadian standards. Since the earthquake in question occurred in the early evening, the first difference is irrelevant.

2. Effects in the Epicentral Area

The epicentre of the earthquake is in Laurentides Provincial Park, a forested area approximately 35 km south of Chicoutimi, a city of 60,000 people. The region is a centre for smelting, pulp and paper production, and the production of hydro-electricity but is relatively sparsely populated. At first glance, it seems rather surprising that so little damage occurred in the epicentral area as a result of this earthquake. Whether due to the lack of overlying soft soil deposits to amplify the motion, the relatively low population density or the lack of man-made structures in the immediate epicentral area, damage was sporadic and modest. In the Chicoutimi and La Baie areas, there were numerous reports of cracked and sometimes fallen unreinforced masonry walls, articles being thrown from shelves and minor landslides (Mitchell *et al.*, 1989). These are rated MM VII. The highest intensity assessed for the epicentral area, MM VIII, refers to Ferland -Boileau, about 25 km from the epicentre, where sand boils, ground fissures and liquefaction-related damage to homes and water wells were documented (Law, 1990). Nevertheless, no major structural damage was documented and reported damage was confined largely to the epicentral area and a few isolated examples at larger distances. More representative were the numerous MM VII observations.

One of the parameters that can be used to assign intensity is the reaction of people to the tremor. In the case of the Saguenay earthquake, the fear of the residents in the epicentral area was heightened due to the fact that large sections of the province were hit almost simultaneously by a massive power failure (one of the main breakers tripped as a result of the shaking). Although there was no widespread panic at the time, people reported being very frightened. In many cases, this fear lasted for days and organizers who set up information sessions for the general public were most surprised at the high levels of response and anxiety exhibited several days after the event (Lamontagne *et al.*, 1992). The general degree of anxiety observed exceeded what would normally be expected for an earthquake of this size and calls into question the practice

of using personal subjective reactions as reliable indicators of intensity levels. In general, these observations were used only if consistent with other noted effects.

There were no injuries or deaths directly attributed to the earthquake, perhaps due more to good luck than to good management. At the Alcan Arvida facility, for instance, the failure of a safety valve resulted in the leakage of highly toxic hydrogen fluoride gas and forced the evacuation of the plant and residential areas nearby. Fortunately, favourable weather conditions allowed the gas to form a cloud that lifted above the site and dissipated harmlessly. In all, eight tons of gas escaped (EQE Engineering Report, 1988).

3. Damage Outside the Epicentral Area

Almost all damage outside the epicentral area was a function of soil or site conditions as opposed to the force of the earthquake *per se*. In Quebec city, 170 km south of the epicentre, a hospital chimney collapsed causing significant damage (MM VII). As well, light structural damage was reported in the soft soil regions of the city (Mitchell *et al.*, 1989). Similarly, the city hall building in Montréal-Est, more than 300 km southwest of the epicentre, suffered severe damage to its masonry cladding. This structure had been under investigation with respect to settlement problems since 1983 (Mitchell *et al.*, 1989) and is truly an anomaly.

One of the most spectacular and widely reproduced photographs featured the failure of a Canadian National railway embankment near Hervey-Jonction, a distance of 165 km from the epicentre (MM VII). When the embankment failed, the soil slid away leaving rails suspended in the air over a distance of 100 m, which necessitated closing the railway line for one week (Mitchell *et al.*, 1989). In Ste-Thècle, 170 km from the epicentre, a large landslide was documented (Lefebvre *et al.*, 1990) and the postmaster reported that a number of tombstones were overturned and a mausoleum damaged in the local cemetery (MM VIII). In all, nine incidents of slope failure resulting from the Saguenay earthquake were documented (Lefebvre *et al.*, 1990).

In a report prepared for Hydro-Québec, Pierre (1989) noted that topographic and site effects were responsible for damage to hydro sub-stations at distances of 145–210 km from the epicentre. Although there was not much damage in the epicentral area, there was significant damage in the aforementioned range as circuit breakers, disconnectors and power transformer lightning arresters failed or experienced serious damage.

In a comprehensive analysis of damage reports dealing with smaller buildings such as houses and apartments, filed in the province of Québec, Paultre *et al.* (1993) also concluded that the geographical distribution of damage was clearly related to soil and site effects. They reported strong effects to a number of houses in Boucherville on the south shore of the St. Lawrence River near Montreal, 320 km from the epicentre. Other areas

that sustained damage were Shawinigan (210 km), St-Alban (179 km) and Shannon and Ste-Brigitte-de-Laval (140 km). They estimated that in 95% of the situations where damage occurred, structures were located on soil deposits as opposed to bedrock or till. Damage was related to clay about half of the time, whereas multi-layer soils and sand figured roughly equally in the other half of the damage incurred. Structural damage to larger buildings such as schools and hospitals, along with numerous photographs, is provided in Mitchell *et al.* (1990). Although soil conditions cannot realistically be taken into account when assigning intensity values based on current questionnaires (in part because this information is not routinely solicited), they are crucial when interpreting isoseismal zones.

With the exception of one MM VI value in southern Maine, all U.S. values were MM V or less.

4. Typical Responses

The most commonly assigned intensity was MM IV, consistent with the unusually high level of high-frequency energy produced by the earthquake. The following excerpts are considered to be good examples of unambiguous observations taken from the questionnaires:

Intensity III (near the mining area of Sudbury)—sitting in a leisure chair relaxing; sounded like a light blasting; pictures were a little crooked.

Intensity IV (near Ottawa)—most people in the village thought that it was thunder; their cupboard doors opened; others thought men were fixing roads with jackhammers.

Intensity V (east of Montreal)—was having supper; sounded like a helicopter in difficulty, which was shaking the house; books fell to the floor.

Intensity VI (Mont-Apica, near epicentre)—house was shaking; ran outside to get the children; snow was falling off the roofs of houses; a lot of broken glass mirrors and ceramics; a few cracks around window frames.

Intensity VII (south shore of St. Lawrence River, near Rivière-du-Loup)—was watching T.V.; heard cracking of house; was very frightened as everything was trembling; no electricity but could hear things falling all over; a chimney fell on a parked car.

5. Response Rate

In Canada, approximately 2400 questionnaires were sent out for the November 25, 1988 earthquake and its foreshock on November 23. It is impossible to determine an

exact response rate as effects from various sources (questionnaires, technical reports, newspapers and personal letters) were recorded, not the number of questionnaires returned. For the main shock, 1907 unique responses were entered into the database. Some were from the same community (respondents frequently ignored the earthquake identification portion of the questionnaire and assumed that both questionnaires pertained to the larger event) and many were in the form of letters from interested parties, some of which may have duplicated information provided on questionnaires from the same community. Allowing for these variables, the response rate in Canada is estimated to be over 75%.

To some degree, it is unfortunate that questionnaires had been sent out following the M4.7 foreshock of November 23 (who was to know it wasn't the main event?) as respondents were sometimes confused, failing to read the earthquake identification portion of the questionnaire and assuming they had received a duplicate request for information for the main event. When respondents reported that they were eating supper at the time of the earthquake, it was assumed that they were referring to the mainshock of November 25 rather than the foreshock of November 23 identified on the questionnaire, which occurred at 04:11 EST. Of the approximately 330 questionnaires sent out following the foreshock, 209 were returned with information relating to the earthquake in question. Since the foreshock occurred during the early hours of the morning, the most common response referred to being awakened (96 respondents). Some persons who were awake described a moderate shaking (9 respondents), whereas others (9 respondents) indicated only that they felt the event. Seventy-six respondents noted they did not feel the earthquake. Since there was some confusion associated with the event and results were not as comprehensive as anticipated, the results were entered into the database but were not contoured.

6. Intensity Database

Using INGRES, a relational database management system, results were entered into a table whose standard structure has been used for all intensity surveys undertaken during the last five years. When the mailing list is generated from the initial selection process based on geographical co-ordinates, the place name and postal codes from that list are loaded into a table specific to the particular earthquake. Intensity and comments, where applicable, were entered as results were evaluated. Communities that were not surveyed but nevertheless provided information were added by hand. Comments are terse because of space limitations and refer to such issues as source (e.g. technical report), reason for assigning a particular intensity (usually used only at the higher ranges) or any other circumstance deemed out of the ordinary or worthy of note. The postal codes in this table were matched with postal codes in a similar table containing all postal codes in Canada, along with place names, and a list of intensities and co-ordinates was then produced.

Upon receipt of the American intensity values, a similar table was constructed and values were entered into it. A list of intensities and co-ordinates was

produced, merged with the Canadian data and used in the plotting program. A total 1125 data points were entered for the United States.

The place names, geographical co-ordinates, and assigned Modified Mercalli intensity values for each intensity range for all Canadian communities surveyed were listed alphabetically then compiled by section in order of decreasing intensity (Appendix D). American geographical co-ordinates and assigned intensities (no place names) are listed in order of increasing latitude following each corresponding Canadian section.

Analysis

1. Isoseismals

The combined Canadian and American set of 3032 intensities was plotted and contoured by the authors as follows. Using a large-scale map and an in-house plotting program, each assigned intensity value was plotted. When there was more than one intensity value assigned to a community (i.e. identical geographical co-ordinates), the higher value was plotted provided that it was not deemed to be an anomaly.

When all inconsistencies with respect to data points were resolved, the rather subjective task of drawing the isoseismal lines began. After much redrawing and revising (one technique employed a series of overlays—one for each intensity group), the isoseismal lines as shown in Figure 2 were felt to represent the best fit of the data points. Where it was not possible to delineate the boundary of a particular intensity zone, due to insufficient data, a broken line was used. This was the case with respect to northern and eastern Québec, and northern Ontario where populations are extremely sparse. The original 3032 data points were filtered to 354 data points to improve the overall clarity of Figure 2. Although the process of filtering plots the larger value, the contour lines were drawn based on **all** data points.

Unfortunately, the intensities could not be separated into distinct groupings. Thus, the epicentral area (MM VI–VII) is defined as one zone because no pattern could be determined for either intensity (see Figure 1). In fact, the zone was characterized by a wide spectrum of intensity values ranging from MM III to MM VIII. Similarly, the other zones depicted in Figure 2 are characterized by a range of intensity values, although not as wide-ranging as in the epicentral area.

Intensity studies are, at best, a very blunt and subjective instrument as individual responses can rightly be challenged with respect to both their validity and reliability. Their value lies within the pattern that emerges rather than the individual values assigned. A high number of responses help mitigate the more extreme and non-representative effects noted. Fortunately, the results for the Saguenay intensity study fulfil this condition.

2. Limit of the Felt Area

As a result of the extensive area sampled and the large number of responses received, particularly those from respondents who did not feel the earthquake, it was possible to delimit the felt area with a fair degree of certainty. Although a case could be made for a smaller felt area than that shown in Figure 2 (a sparse population makes specific demarcation questionable), it would be hard to argue for a larger felt area. The dotted felt intensity line illustrated in Figure 2 encloses an area of approximately 3.5 million km², which approaches that of the 1925 Charlevoix-Kamouraska M6.5 earthquake (Smith, 1962). As mentioned earlier, the Saguenay event produced a large amount of high-frequency waves, consistent with a large felt area. The unusually deep focal depth also contributed to the large felt area.

Discussion

It appears from the map that within similar distances from the epicentre, the Saguenay earthquake was felt more strongly in the United States than in Canada, particularly with respect to the assessment of MM V. There are several possible explanations for this. Obviously, both the survey form used and the evaluator differed between the United States and Canada. Of greater significance, however, is the fact that the area surveyed in the United States is far more densely populated than areas within similar distances from the epicentre in Canada, particularly in a north–south azimuth. The chances of someone feeling the earthquake or reporting stronger effects is, without question, proportional to the population density. It is quite probable that the basic rupture characteristics of the earthquake may have contributed to it being felt more strongly in a more southerly direction. Using the strong motion data recorded on two networks, Haddon (1992) postulated a long, narrow fault surface, probably 30 km deep, originating at the northwest end of the long axis and propagating in a southeasterly direction. To a much lesser degree, one might argue for enhanced effects due to different soil conditions the varied condition of buildings, differing construction techniques, and the possible influence of media reports.

Two other factors seem to play a major role in the intensity distribution pattern. Firstly, the population distribution near the epicentre is skewed, with most of the population living along the Saguenay or St. Lawrence rivers; most of the immediate epicentral area is unpopulated. Secondly, as mentioned earlier, in certain areas, the effects of the earthquake were significantly enhanced by the underlying soft soil conditions; a phenomenon vividly illustrated by both the 1985 Mexican earthquake (Seed *et al.*, 1988) and the 1989 Loma Prieta, California earthquake (Hanks and Krawinkler, 1991). As discussed earlier, damage in parts of Quebec city and the Montreal area was almost certainly due to site-specific soil conditions. Therefore, small pockets of higher intensity values, due to the presence of soil and clay, types that are known to amplify

earthquake ground motion, may exist within larger, basically homogeneous intensity zones. A large sample size helps to put valid, but nonrepresentative values, into perspective.

Strong motion records revealed that peak amplitudes did not decay significantly with increasing distance from the epicentre within 120 km, but decreased abruptly after that (Somerville *et al.*, 1990). The authors attribute this to the unusually deep focal depth of the earthquake. The depth did not seem to be a major factor in the intensity distribution, possibly being obscured by other factors such as the uneven population distribution and differing soil conditions.

The unusual amount of high-frequency energy (North *et al.*, 1989) was a much more significant factor in determining the intensity distribution. It is generally agreed that earthquakes in eastern North America are characterized by low attenuation of ground motion and high-frequency energy. However, the Saguenay earthquake is unusual in that the magnitude calculated from the Eastern Canada Telemetered Network (ECTN) at distances ranging from 310 to 715 km from the epicentre gave a m_{bLg} of 6.5, a half magnitude higher than the teleseismic magnitude of m_b 5.9. In this respect the Saguenay earthquake differs from similarly large earthquakes in eastern Canada, for example, the Miramichi New Brunswick earthquake of 1982. In the case of the Miramichi earthquake, the magnitude calculated from the two scales is consistent. The abundance of energy associated with the Saguenay earthquake on the other hand, could account for the large felt area and is probably best reflected by the m_{bLg} magnitude. A comprehensive discussion of the magnitude in relation to source parameters can be found in Haddon (1992) and Somerville *et al.* (1990).

Summary

The intensity study following the magnitude 5.9 1988 Saguenay earthquake was comprehensive and well documented. Relying primarily on responses to questionnaires sent to rural postmasters, supplemented by technical reports on damage effects, evaluators, using the Modified Mercalli Intensity Scale, assigned and plotted over 3000 intensity values from Canadian and American sources. All intensity values (data points) were plotted on a large-scale map and isoseismal zones were then defined. The event was felt over an area of about 3.5 million km². Despite skewing of the population in an east-west direction along the St. Lawrence River and the sparse population near the epicentral area, isoseismal zones conformed roughly to a concentric pattern. Intensity values were greatest near the epicentre, but underlying soil conditions were the most significant variable, often resulting in a difference of two or more degrees of intensity for the same area. Damage outside the epicentral area was almost exclusively due to underlying soil conditions or structurally weak buildings. The large amount of high-frequency energy correlates with the extensive MM IV zone, and combined with the deep focal depth of 29 km, is consistent with the large felt area.

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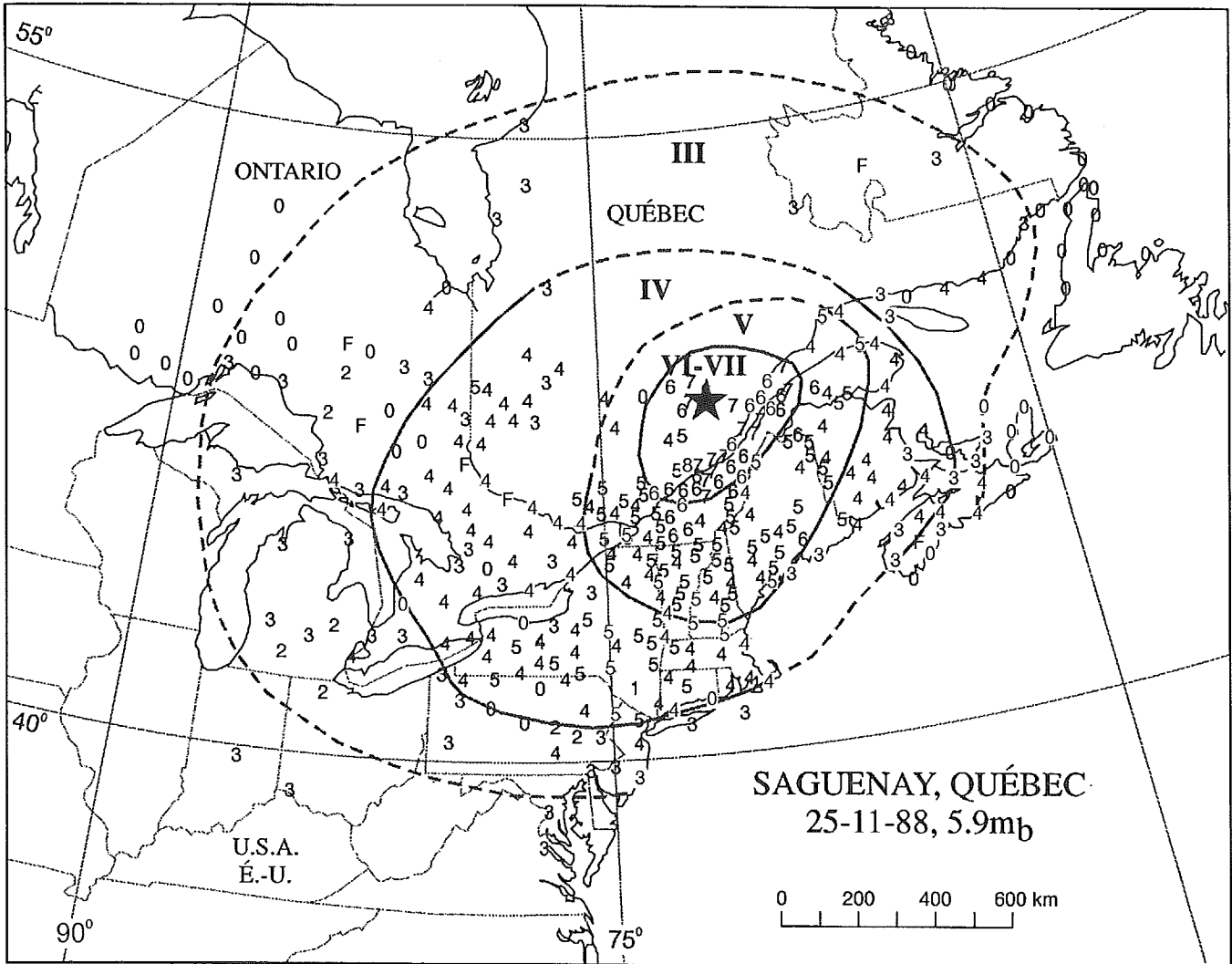
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FIGURES

- Figure 1. Modified Mercalli Intensity Scale values for the epicentral area. All data points are plotted (some values are overwritten). Most of the blank areas are unpopulated.
- Figure 2. Isoseismal map for the 1988 Saguenay earthquake. Communities reporting the event as "not felt" are plotted as zeroes and F refers to responses indicating only that the event was felt, with no additional details. Numbers refer to the Modified Mercalli Intensity Scale values. Data have been filtered to improve map clarity but original contouring was done on a large-scale map upon which with all data points were plotted.

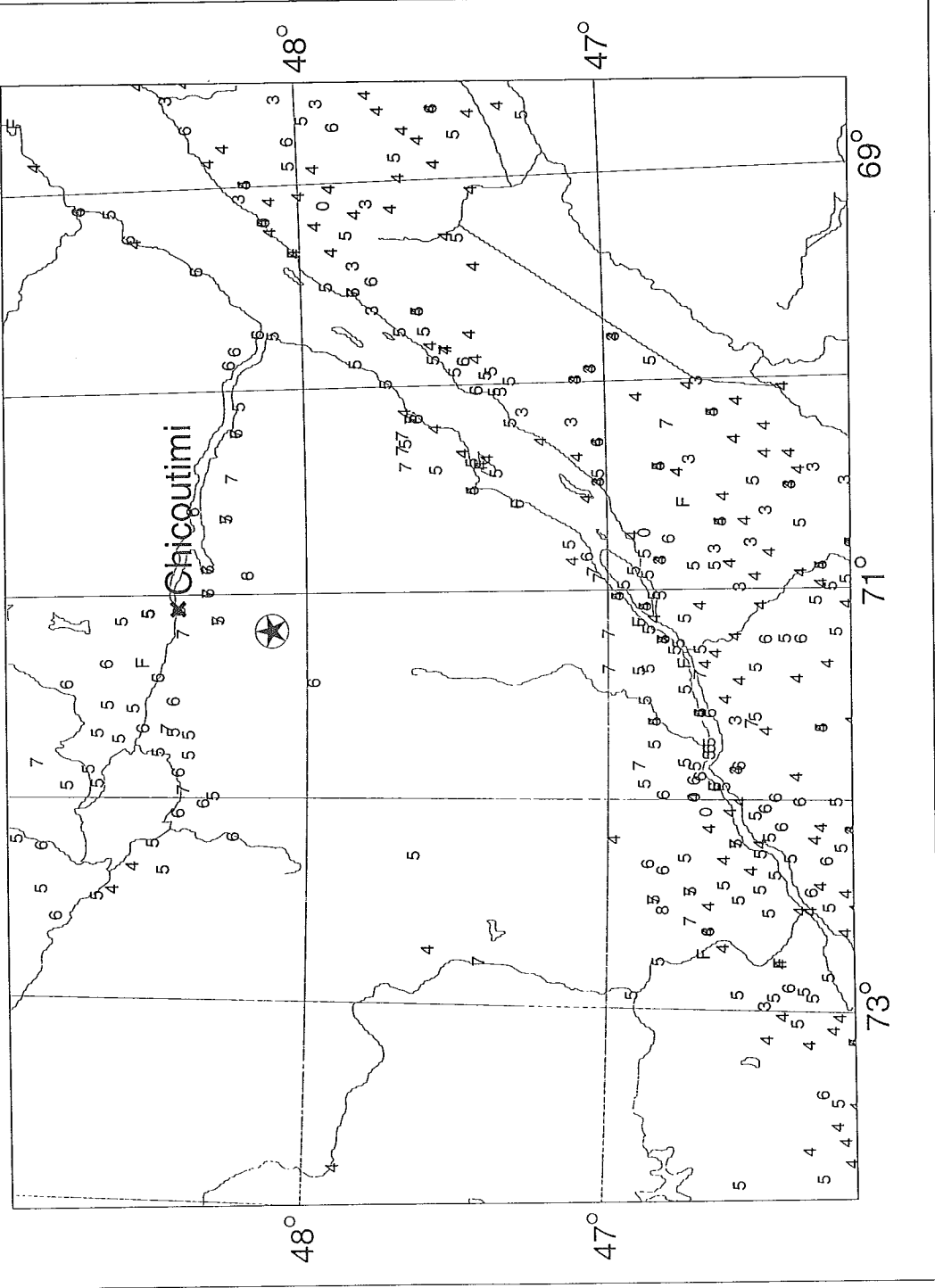
APPENDICES

- Appendix A. Canadian earthquake intensity questionnaire developed in 1986 and used for the 1988 Saguenay, Québec earthquake.
- Appendix B. Modified Mercalli Intensity Scale (Wood and Neumann, 1931).
- Appendix C. National Earthquake Information Center intensity questionnaire used for the 1988 Saguenay, Québec earthquake.
- Appendix D. Communities and their Modified Mercalli intensity values for the 1988 Saguenay, Québec earthquake.



Drysdale and Cajka,
Geological Survey of Canada

Mercalli intensity values, epicentral area 25-11-88



0. 200. 400. KM

"Appendix A"

EARTHQUAKE REPORTS
1 Observatory Crs., Ottawa, Ontario K1A 0Y3 or
9860 West Saanich Road, Sidney, B.C. V8L 4B2

We are seeking information on the earthquake described below *.
A postage-paid return envelope is attached for your convenience.
Thank you for your time and information.

Please answer the questions below, using the blank spaces to
describe your observations.

If you did not personally experience this earthquake, please have
this questionnaire completed, if possible, by someone in your
community who did.

Was the earthquake noticed by you or others in your
community on the date and at the time indicated?

- NO. Please return questionnaire; this information is important
for our studies.
- YES. Earthquake noticed on _____ at _____
(day) (time)

If more than one earthquake was noticed on this day, please give
time(s).

WHERE WERE YOU AT THE TIME OF THE EARTHQUAKE?

- At the address printed below
- At another location (specify)

If you were inside, on what storey of the building were you?

Your name
(optional) _____

Please answer the questions below, using the blank spaces provided.
Attach a second sheet if you need more space.

WHAT WERE YOU DOING? e.g. driving a car; making dinner;
sleeping; sitting down and watching TV.

WHAT DID YOU HEAR/ FEEL/ SEE?

HEARD e.g. sounded like distant thunder; sounded like my
furnace exploded; heard dishes rattle; heard nothing.

FELT e.g. chair rocked; house shook throughout; awakened
my children.

SAW (during the earthquake)
e.g. suspended plants sway; knick-knacks tremble; liquid sloshes in
a cup; dishes fall over.

SAW (after the earthquake)
e.g. pictures were crooked on wall; knick-knacks were displaced
on shelf; books were on the floor; window panes were cracked.

Are you personally aware of any damage directly related to this
earthquake? Describe briefly.

If you noticed more than one earthquake, please describe what you
experienced.

RAPPORTS DE TREMBLEMENT DE TERRE
1, place de l'Observatoire, Ottawa (Ontario) K1A 0Y3 ou
9860 ouest, chemin Saanich Sidney (C. B.) V8L 4B2

Nous faisons enquête sur le tremblement de terre décrit en bas de
page *. Une enveloppe-retour déjà affranchie est jointe. Merci de
votre collaboration.

Veillez inscrire vos réponses aux questions suivantes dans les
espaces réservés.

Si vous n'avez pas vous-même été témoin de ce tremblement de
terre, veuillez demander à quelqu'un d'autre de votre communauté,
qui l'a vécu, de remplir, si possible, le questionnaire.

Le tremblement de terre, fut-il remarqué par vous, ou par d'autres
personnes dans votre communauté, à la date et à l'heure
indiquées?

- NON. Veuillez remettre le questionnaire à la poste; cette
information aidera nos recherches.
- OUI. Séisme remarqué le _____ à _____
(date) (heure)

Si plus d'un tremblement de terre fut remarqué ce jour-là, veuillez
inscrire l'heure (les heures).

OÙ ÉTIEZ-VOUS AU MOMENT DU SÉISME?

- À l'adresse imprimée en bas à gauche
- Autre (précisez)

Si vous étiez à l'intérieur d'un bâtiment, à quel étage vous trouviez-
vous?

Votre nom
(facultatif) _____

Veillez inscrire vos réponses aux questions suivantes dans les
espaces réservés. Au besoin, ajoutez une deuxième page.

QU'EST-CE QUE VOUS FAISIEZ? par ex. au volant; occupé à
préparer un repas; endormi; assis à regarder la télé.

QU'EST-CE QUE VOUS AVEZ ENTENDU/ RESENTI/ VU?

ENTENDU par ex. grondement sourd comme un tonnerre
au loin; bruit souterrain comme une fournaise faisant explosion;
vibration de vaisselle; aucun bruit.

RESENTI par ex. chaise qui balançait; maison qui tremblait
partout; mes enfants furent réveillés.

VU (pendant le tremblement de terre)
par ex. plantes suspendues oscillent; bibelots frémissent; liquide
s'agite dans la tasse; vaisselle renversée.

VU (après le tremblement de terre)
par ex. cadres de travers sur le mur; bibelots déplacés sur l'étagère;
livres tombés par terre; vitres fêlées.

Êtes-vous au courant vous-même de dommages associés directe-
ment à ce tremblement de terre? Précisez.

Si vous avez remarqué plus d'un tremblement de terre, veuillez
noter vos expériences.

Appendix B

By Harry O. Wood and Frank Neumann
Published in Bulletin of the Seismological Society of America, **21**, p 277-283.

MODIFIED MERCALLI INTENSITY SCALE OF 1931

Adapted from Sieberg's Mercalli-Cancani scale, modified and condensed.

- I. Not felt – or, except rarely under especially favourable circumstances. Under certain conditions, at and outside the boundary of the area which a great shock is felt:
sometimes birds, animals, reported uneasy or disturbed;
sometimes dizziness or nausea experienced; sometimes trees, structures, liquids, bodies of water, may sway – doors may swing, very slowly.
- II. Felt indoors by few, especially on upper floors, or by sensitive, or nervous persons. Also, as in grade I, but often more noticeably:
sometimes hanging objects may swing, especially when delicately suspended;
sometimes trees, structures, liquids, bodies of water, may sway, doors may swing, very slowly;
sometimes birds, animals, reported uneasy or disturbed;
sometimes dizziness or nausea experienced.
- III. Felt indoors by several, motion usually rapid vibration. Sometimes not recognized to be an earthquake at first. Duration estimated in some cases. Vibration like that due to passing of light, or lightly loaded trucks, or heavy trucks some distance away. Hanging objects may swing slightly. Movement may be appreciable on upper levels of tall structures. Rocked standing motor cars slightly.
- IV. Felt indoors by many, outdoors by few. Awakened few, especially light sleepers. Frightened no one, unless apprehensive from previous experience. Vibration like that due to passing of heavy, or heavily loaded trucks. Sensation like heavy body striking building, or falling of heavy objects inside. Rattling of dishes, windows, doors; glassware and crockery clink and clash. Creaking of walls, frame, especially in the upper range of this grade. Hanging objects swing, in numerous instances. Disturbed liquids in open vessels slightly. Rocked standing motor cars slightly.

- V. Felt indoors by practically all, outdoors by many or most: outdoors direction estimated.
 Awakened many, or most.
 Frightened few — slight excitement, a few ran outdoors.
 Buildings trembled throughout.
 Broke dishes, glassware, to some extent.
 Cracked windows — in some cases, but not generally.
 Overturned small or unstable objects, in many instances, with occasional fall.
 Hanging objects, doors, swing generally or considerably.
 Knocked pictures against walls, or swung them out of place.
 Opened or closed, doors, shutters, abruptly.
 Pendulum clocks stopped, started, or ran fast, or slow.
 Moved small objects, furnishings, the latter to slight extent.
 Spilled liquids in small amounts from well-filled open containers.
 Trees, bushes, shaken slightly.

- VI. Felt by all, indoors and outdoors.
 Frightened many, excitement general, some alarm, many ran outdoors.
 Awakened all.
 Persons made to move unsteadily.
 Trees, bushes, shaken slightly to moderately.
 Liquid set in strong motion.
 Small bells rang — church, chapel, school etc.
 Damage slight in poorly built buildings.
 Fall of plaster in small amount.
 Cracked plaster somewhat, especially fine cracks chimneys in some instances.
 Broke dishes, glassware, in considerable quantity, also some windows.
 Fall of knick-knacks, books, pictures.
 Overturned furniture, in many instances.
 Moved furnishings of moderately heavy kind.

- VII. Frightened all — general alarm, all ran outdoors.
 Some, or many, found it difficult to stand.
 Noticed by persons driving motor cars.
 Trees and bushes shaken moderately to strongly.
 Waves on ponds, lakes, and running water.
 Water turbid from mud stirred up.
 Incaving to some extent of sand or gravel stream banks.
 Rang large church bells, etc.
 Suspended objects made to quiver.

- VIII. Damage negligible in buildings of good design and construction, slight to moderate in well-built ordinary buildings, considerable in poorly built or badly designed buildings, adobe houses, old walls (especially where laid up without mortar), spires,

etc.

Cracked chimneys to considerable extent, walls to some extent.

Fall of plaster in considerable to large amount, also some stucco.

Broke numerous windows, furniture to some extent.

Shook down loosened brickwork and tiles.

Broke weak chimneys at the roof-line (sometimes damaging roofs).

Fall of cornices from towers and high buildings.

Dislodged bricks and stones.

Overtured heavy furniture, with damage from breaking.

Damage considerable to concrete irrigation ditches.

VIII. Fright general – alarm approaches panic.

Disturbed persons driving motor cars.

Trees shaken strongly – branches, trunks, broken off, especially palm trees.

Ejected sand and mud in small amounts.

Changes: temporary, permanent; in flow of springs and wells; dry wells renewed flow; in temperature of spring and well waters.

Damage slight in structures (brick) built especially to withstand earthquakes.

Considerable in ordinary substantial buildings, partial collapse: racked, tumbled down, wooden houses in some cases; threw out panel walls in frame structures, broke off decayed piling.

Fall of walls.

Cracked, broke, solid stone walls seriously.

Wet ground to some extent, also ground on steep slopes.

Twisting, fall, of chimneys, columns, monuments, also factory stack, towers.

Moved conspicuously, overturned, very heavy furniture.

IX. Panic general.

Cracked ground conspicuously.

Damage considerable in (masonry) structure built especially to withstand earthquakes:

threw out of plumb some wood-frame houses built especially to withstand earthquakes;

great in substantial (masonry) buildings, some collapse in large part; or wholly shifted frame buildings off foundations, racked frames; serious to reservoirs; underground pipes sometimes broken.

X Cracked ground, especially when loose and wet, up to widths of several inches;

fissures up to a yard in width ran parallel to canal and stream banks.

Landslides considerable from river banks and steep coasts.

Shifted sand and mud horizontally on beaches and flat land.

Changed level of water in wells.

Threw water on banks of canals, lakes, rivers, etc.

Damage serious to dams, dikes, embankments.

Severe to well-built wooden structures and bridges, some destroyed.
Developed dangerous cracks in excellent brick walls.
Destroyed most masonry and frame structures, also their foundations.
Bent railroad rails slightly.
Tore apart, or crushed endwise, pipe lines buried in earth.
Open cracks and broad wavy folds in cement pavements and asphalt road surfaces.

- XI. Disturbances in ground many and widespread, varying with ground material.
Broad fissures, earth slumps, and land slips in soft, wet ground.
Ejected water in large amounts charged with sand and mud.
Caused sea-waves ("tidal" waves) of significant magnitude.
Damage severe to wood-frame structures, especially near shock centers.
Great to dams, dikes, embankments, often for long distances.
Few, if any (masonry), structures remained standing.
Destroyed large well-built bridges by the wrecking of supporting piers, or pillars.
Affected yielding wooden bridges less.
Bent railroad rails greatly, and thrust them endwise.
Put pipe lines buried in earth completely out of service.
- XII. Damage total – practically all works of construction damaged greatly or destroyed.
Disturbances in ground great and varied, numerous shearing cracks.
Landslides, falls of rock of significant character, slumping of river banks, etc. numerous and extensive.
Wrenched loose, tore off, large rock masses.
Fault slips in firm rock, with notable horizontal and vertical offset displacements.
Water channels, surface and underground, disturbed and modified greatly.
Dammed lakes, produced waterfalls, deflected rivers, etc.
Waves seen on ground surfaces (actually seen, probably, in some cases).
Distorted lines of sight and level.
Threw objects upward into the air.
-

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
EARTHQUAKE REPORT

Form Approved
OMB No. 42-R1700

Please answer this questionnaire carefully and return as soon as possible.
1. Was an earthquake felt by anyone in your town or zip code area recently?
 Not felt: Please refile and tape for return mail.
 Felt: Date _____ Time _____
 AM Standard time
 PM Daylight time

Name of person filling out form _____
Address _____
City _____ County _____ Zip code _____
State _____

If you felt the earthquake, complete the following section. If others felt the earthquake but you did not, skip the personal report and complete the community report.
PERSONAL REPORT
2a. Did you personally feel the earthquake? Yes No
b. Were you awakened by the earthquake? Yes No
c. Were you frightened by the earthquake? Yes No
d. Were you at Home Work Other?
e. Town and zip code of your location at time of earthquake _____

f. Check your activity when the earthquake occurred:
 Walking Sleeping Lying down Standing
 Driving (car in motion) Sitting Other Outside?
g. Were you Inside or Outside?
h. If inside, on what floor were you?
Continue on to next section which should include personal as well as reported observations.

COMMUNITY REPORT
3a. The earthquake was felt by No one Few Several Many All?
b. This earthquake awakened No one Few Several Many All?
c. This earthquake frightened No one Few Several Many All?

4. What outdoor physical effects were noted in your community?
Pavements or cornices fallen Yes No
Trees and bushes shaken Slightly Moderately Strongly
Standing vehicles rocked Slightly Moderately Strongly
Moving vehicles rocked Slightly Moderately Strongly
Ground cracks Wet ground Dry and level
Landslides Small Large
Underground pipes Broken Out of service
Water splashed onto sides of lakes, ponds, swimming pools Yes No
Elevated water tanks Cracked Twisted Fallen (thrown down)
Air coolers Displaced Rotated Fallen
Railroad tracks bent Slightly Greatly Destroyed
Stone or brick fences Cracked Fallen Rotated
Tombstones Displaced Cracked Fallen
Chimneys Cracked Twisted Fallen
 Broken at roof line Bricks fallen
Highways or streets Cracked slightly Large cracks Displaced
Sidewalks Cracked slightly Large cracks Displaced

Continued on the reverse side

5. What indoor physical effects were noted in your community?
Windows, doors, dishes rattled Yes No
Buildings cracked Yes No
Building trembled (shook) Yes No
Hanging pictures Swung Out of place Fallen
Water in small containers Spilled Slightly disturbed
Windows Few cracked Some broken Many broken
6a. Did hanging objects, doors swing? No Slightly Moderately
 Violently North/South East/West
b. Can you estimate direction? No Other

7a. Were small objects (dishes, knick-knacks, pictures) Unmoved Shifted
 Overturned Fallen, not broken Broken?
b. Was light furniture Unmoved Shifted
 Overturned Fallen, not broken Broken?
c. Were heavy furniture or appliances Unmoved Shifted
 Overturned Broken?

8. Indicate effects of the following types to interior walls if any:
Plaster Cracked Fell
Dry wall Cracked Fell
Ceiling tiles Cracked Fell

9a. Check below any damage to buildings or structures.
Foundation Cracked Destroyed
Interior walls Spilt Fallen Separated from ceiling or floor
Exterior walls Hairline cracks Large cracks Sluiced outward
 Partial collapse Total collapse
Building Moved on foundation Shifted off foundation

b. What type of construction was the building that showed this damage?
 Wood Stone Brick veneer Other
 Brick Cinderblock Reinforced concrete
c. What was the type of ground under the building?
 Don't know Sandy soil Marshy Fill
 Hard rock Clay soil Sandstone, limestone, shale
d. Was the ground: Level Sloping Steep?

e. Check the approximate age of the building:
 Built before 1935 Built 1936-65 Built after 1965
f. What percentage of buildings were damaged?
Within 2 city blocks of your location None Few (about 5%)
 Many (about 50%) Most (about 75%)
b. In area covered by your zip code None Few (about 5%)
 Many (about 50%) Most (about 75%)

11a. Were springs or well water disturbed? Level changed Flow disturbed
 Muddied Don't know
b. Were rivers or lakes changed? Yes No Don't know
12a. Was there earth noise? No Faint Moderate Loud
b. Direction of noise North South East West
c. Estimated duration of shaking Sudden, sharp (less than 10 secs) Long (30-60 secs)
 Short (10-30 secs) Other

13. What is the approximate population of your city/town? Or are you in a
 Less than 1,000 10,000 to 100,000 Rural area?
 1,000 to 10,000 Over 100,000
This community report is associated with what town or zip code? _____

Appendix D

INTENSITY 8 (CANADA)

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
FERLAND ET BOILLEAU	QUE.	48.200	-70.900	8
STE-THECLE	QUE.	46.820	-72.520	8

INTENSITY 7 (CANADA)

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
BAIE-DES-SABLES	QUE.	48.720	-67.850	7
BEAUPRE	QUE.	47.050	-70.900	7
CLERMONT	QUE.	47.680	-70.230	7
DESBIENS	QUE.	48.417	-71.950	7
HERVEY-JONCTION	QUE.	46.850	-72.470	7
JONQUIERE	QUE.	48.417	-71.183	7
L'ANSE-ST-JEAN	QUE.	48.230	-70.200	7
LA TUQUE	QUE.	47.430	-72.780	7
LATERRIERE	QUE.	48.300	-71.120	7
LAURIER	QUE.	46.530	-71.630	7
MILOT	QUE.	48.900	-71.817	7
NOTRE-DAME-DES-MONTS	QUE.	47.670	-70.380	7
POINTE-AUX-OUTARDES	QUE.	49.050	-68.430	7
RIVIERE-DU-LOUP	QUE.	47.830	-69.530	7
RIVIERE-ETERNITE	QUE.	48.250	-70.420	7
ST-ADELPHIE-DE-CHAMPLAIN	QUE.	46.730	-72.430	7
ST-AIME-DES-LACS	QUE.	47.680	-70.300	7
ST-ANACLET	QUE.	48.480	-68.430	7
ST-BRUNO-LAC-ST-JEAN	QUE.	48.470	-71.650	7
ST-FELIX-D'OTIS	QUE.	48.270	-70.620	7
ST-NICOLAS	QUE.	46.700	-71.400	7
ST-PASCAL	QUE.	47.530	-69.820	7
ST-RAYMOND	QUE.	46.900	-71.830	7
ST-TITE	QUE.	46.730	-72.570	7
STE-ANNE-DE-BEAUPRE	QUE.	47.030	-70.930	7
STE-ANNE-DE-LA-PERADE	QUE.	46.580	-72.200	7
STE-APOLLINE-DE-PATTON	QUE.	46.800	-70.200	7
STE-BRIGITTE-DE-LAVAL	QUE.	47.00	-71.200	7
STE-SOPHIE-DE-MEGANTIC	QUE.	46.150	-71.700	7
STONEHAM	QUE.	47.000	-71.370	7

**INTENSITY 6
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ALMA	QUE.	48.550	-71.650	6
AMQUI	QUE.	48.470	-67.430	6
AUVERGNE	QUE.	46.820	-71.970	6
BEAUCEVILLE-OUEST	QUE.	46.200	-70.780	6
BECANOUR	QUE.	46.330	-72.430	6
BFC BAGOTVILLE	QUE.	48.333	-70.983	6
BIC	QUE.	48.370	-68.700	6
BRIGHAM	QUE.	45.250	-72.850	6
CANTON-BEGIN	QUE.	48.670	-71.330	6
CHAMBORD	QUE.	48.433	-72.067	6
CHICOUTIMI	QUE.	48.430	-71.070	6
DEGELIS	QUE.	47.550	-68.650	6
DESCHAMBAULT	QUE.	46.650	-71.930	6
DOLBEAU	QUE.	48.883	-72.233	6
EDMUNDSTON	N.B.	47.370	-68.330	6
FERLAND ET BOILLEAU	QUE.	48.200	-70.900	6
FORESTVILLE	QUE.	48.730	-69.080	6
FORTIERVILLE	QUE.	46.483	-72.033	6
HEROUXVILLE	QUE.	46.670	-72.620	6
JACQUES-CARTIER	QUE.	46.670	-71.750	6
L'ANSE-ST-JEAN	QUE.	48.230	-70.200	6
LA BAIE	QUE.	48.333	-70.867	6
LA DECHARGE	QUE.	48.500	-71.400	6
LA MARTINE	QUE.	48.350	-72.020	6
LAC-BOUCHETTE	QUE.	48.250	-72.183	6
LAMARCHE	QUE.	48.800	-71.430	6
LAROCHE	QUE.	48.450	-71.517	6
LAWRENCEVILLE	QUE.	45.417	-72.350	6
LES ESCOUMINS	QUE.	48.350	-69.400	6
MANSEAU	QUE.	46.370	-72.000	6
METABETCHOUAN	QUE.	48.433	-71.867	6
MONT-APICA SFC/CFS	QUE.	47.980	-71.430	6
MONTAUBAN	QUE.	46.870	-72.300	6
MONTAUBAN LES MINES	QUE.	46.820	-72.330	6
NEUBOIS	QUE.	46.483	-71.233	6
NEUVILLE	QUE.	46.700	-71.580	6
NORMANDIN	QUE.	48.833	-72.583	6
PETITE-RIVIERE	QUE.	47.300	-70.570	6
POINTE-AU-PIC	QUE.	47.630	-70.150	6
PORTNEUF	QUE.	46.700	-71.880	6
PORTNEUF-STATION	QUE.	46.720	-71.900	6
RIVIERE-BOIS-CLAIR	QUE.	46.570	-71.830	6
RIVIERE-DU-LOUP	QUE.	47.830	-69.530	6
RIVIERE-OUELLE	QUE.	47.430	-70.020	6
RIVIERE-STE-MARGUERITE	QUE.	48.250	-69.867	6
SACRE-COEUR-SAGUENAY	QUE.	48.230	-69.800	6
SQUATEC	QUE.	47.880	-68.720	6
ST-ANTOINE-DE-TILLY	QUE.	46.667	-71.583	6
ST-ANTONIN	QUE.	47.770	-69.480	6
ST-BARNABE-NORD	QUE.	46.400	-72.883	6
ST-BARNABE-SUD	QUE.	45.733	-72.917	6
ST-CYRILLE-DE-L'ISLET	QUE.	47.030	-70.280	6
ST-GABRIEL-DE-BRANDON	QUE.	46.280	-73.380	6
ST-GUY	QUE.	48.030	-68.780	6
ST-JOACHIM-DE-MONTMORENCY	QUE.	47.070	-70.830	6

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ST-MARC (SUR RICHELIEU)	QUE.	45.680	-73.200	6
ST-PAUL-DU-NORD	QUE.	48.570	-69.230	6
ST-PHILIPPE-DE-NERI	QUE.	47.470	-69.880	6
ST-RAPHAEL-DE-BELLECHASSE	QUE.	46.800	-70.750	6
ST-SYLVESTRE	QUE.	46.367	-71.233	6
ST-WENCESLAS	QUE.	46.170	-72.330	6
STE-BRIGITTE-DES-SAULTS	QUE.	46.033	-72.483	6
STE-FRANCOISE-DE-LOTBINIERE	QUE.	46.450	-71.980	6
STE-GERTRUDE	QUE.	46.280	-72.280	6
STE-ROSE-DU-NORD	QUE.	48.380	-70.580	6
STE-SOPHIE-DE-LEVRARD	QUE.	46.430	-72.120	6
TADOUSSAC	QUE.	48.150	-69.720	6
TROIS-PISTOLES	QUE.	48.120	-69.170	6

**INTENSITY 6
(UNITED STATES)**

LATITUDE	LONGITUDE	INT.
44.883	-68.667	6

**INTENSITY 5
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ALBANEL	QUE.	48.883	-72.450	5
AMQUI	QUE.	48.470	-67.430	5
ANDREVILLE	QUE.	47.680	-69.730	5
ATHOLVILLE	N.B.	47.980	-66.720	5
ATHOLVILLE	N.B.	47.980	-66.720	5
BAIE-COMEAU	QUE.	49.220	-68.150	5
BAIE-ST-PAUL	QUE.	47.450	-70.500	5
BAIE-STE-CATHERINE	QUE.	48.100	-69.730	5
BAKER BROOK	N.B.	47.300	-68.520	5
BATH	N.B.	46.520	-67.600	5
BATISCAN	QUE.	46.500	-72.250	5
BEAUMONT	QUE.	46.830	-71.020	5
BEAUPORT	QUE.	46.867	-71.183	5
BEAURIVAGE	QUE.	46.420	-71.230	5
BERTHIERVILLE	QUE.	46.080	-73.170	5
BLANDFORD	QUE.	46.250	-72.000	5
BOISCHATEL	QUE.	46.900	-71.150	5
BROME	QUE.	45.200	-72.567	5

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
CABANO	QUE.	47.680	-68.880	5
CACOUNA	QUE.	47.920	-69.500	5
CAP-SANTE	QUE.	46.670	-71.780	5
CAP-ST-IGNACE-STATION	QUE.	47.030	-70.430	5
CHAMPLAIN	QUE.	46.450	-72.350	5
CHARETTE	QUE.	46.450	-72.930	5
CHATEAU-RICHER	QUE.	46.970	-71.020	5
DALMAS	QUE.	48.800	-71.930	5
DANVILLE	QUE.	45.783	-72.017	5
DELISLE	QUE.	48.630	-71.700	5
DESMELOIZES	QUE.	48.950	-79.470	5
DEUX-MONTAGNES	QUE.	45.530	-73.880	5
DIJON	QUE.	46.520	-70.480	5
DISRAELI	QUE.	45.900	-71.350	5
DONNACONA	QUE.	46.670	-71.750	5
EDMUNDSTON	N.B.	47.370	-68.330	5
FALARDEAU	QUE.	48.620	-71.120	5
FRANQUELIN	QUE.	49.300	-67.900	5
FULFORD	QUE.	45.300	-72.570	5
GENTILLY	QUE.	46.400	-72.270	5
GIRARDVILLE	QUE.	49.000	-72.550	5
GROS-MORNE	QUE.	49.250	-65.550	5
HEBERTVILLE	QUE.	48.400	-71.683	5
HEBERTVILLE STATION	QUE.	48.450	-71.670	5
HERVEY-JONCTION	QUE.	46.850	-72.470	5
HONFLEUR	QUE.	46.650	-70.880	5
HUDSON-HEIGHTS	QUE.	45.450	-74.150	5
ILE-AUX-NOIX	QUE.	45.133	-73.283	5
ISLE-AUX-COUDRES	QUE.	47.370	-70.420	5
KAMOURASKA	QUE.	47.570	-69.870	5
KINGSBURY	QUE.	45.583	-72.150	5
L'ASSOMPTION	QUE.	45.830	-73.420	5
LA DECHARGE	QUE.	48.500	-71.400	5
LA GUADELOUPE	QUE.	45.950	-70.933	5
LA MALBAIE	QUE.	47.650	-70.150	5
LA PLAINE	QUE.	45.780	-73.770	5
LA POCATIERE	QUE.	47.370	-70.030	5
LA POCATIERE-STATION	QUE.	47.350	-70.030	5
LAC-A-LA-CROIX	QUE.	48.400	-71.783	5
LAC-CARRE	QUE.	46.130	-74.480	5
LAC-DES-AIGLES	QUE.	47.980	-68.680	5
LAC-EDOUARD	QUE.	47.650	-72.270	5
LAC-HUMQUI	QUE.	48.320	-67.580	5
LAC-MEGANTIC	QUE.	45.583	-70.883	5
LAC-SAGUAY	QUE.	46.500	-75.150	5
LAC-SERGENT	QUE.	46.850	-71.730	5
LAC-ST-CHARLES	QUE.	46.900	-71.380	5
LANGLAIS	QUE.	48.700	-71.670	5
LATERRIERE	QUE.	48.300	-71.120	5
LAURIERVILLE	QUE.	46.300	-71.650	5
LES ECUREUILS	QUE.	46.670	-71.720	5
LES ESCOUMINS	QUE.	48.350	-69.400	5
LOTBINIERE	QUE.	46.620	-71.930	5
MARTEL	QUE.	48.530	-71.080	5
MESSINES	QUE.	46.230	-76.020	5
MICHAUDVILLE	QUE.	45.833	-73.067	5
MISTASSINI	QUE.	48.966	-72.200	5
MONTPELLIER	QUE.	45.850	-75.170	5

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
MONTREAL-EST	QUE.	45.633	-73.517	5
MONTREAL-NORD	QUE.	45.600	-73.630	5
NEUVILLE	QUE.	46.700	-71.580	5
NEW-GLASGOW	QUE.	45.830	-73.880	5
NOTRE-DAME-DU-ROSAIRE	QUE.	46.830	-70.400	5
NOUVELLE-OUEST	QUE.	48.150	-66.370	5
OKA	QUE.	45.470	-74.100	5
OUTREMONT	QUE.	45.517	-73.617	5
PACKINGTON	QUE.	47.480	-68.780	5
PARISVILLE	QUE.	46.517	-72.067	5
PETIT-SAGUENAY	QUE.	48.220	-70.070	5
PETITE-MATANE	QUE.	48.850	-67.430	5
PIERREVILLE	QUE.	46.067	-72.817	5
PINTENDRE	QUE.	46.750	-71.130	5
PONTBRIAND	QUE.	46.150	-71.250	5
PREMONT	QUE.	46.370	-73.050	5
QUEBEC	QUE.	46.820	-71.230	5
RICHMOND	QUE.	45.500	-72.000	5
RIGAUD	QUE.	45.480	-74.300	5
RIVIERE-A-CLAUDE	QUE.	49.220	-65.900	5
RIVIERE-BROCHU	QUE.	50.100	-66.700	5
RIVIERE-DES-PRAIRIES	QUE.	45.650	-73.583	5
RIVIERE-MATAWIN	QUE.	46.920	-72.930	5
RIVIERE-MEKINAC	QUE.	46.833	-72.767	5
RIVIERE-OUELLE	QUE.	47.430	-70.020	5
RIVIERE-PORTNEUF	QUE.	48.630	-69.100	5
ROBERVAL	QUE.	48.517	-72.217	5
SHANNON	QUE.	46.880	-71.520	5
SILLERY	QUE.	46.770	-71.250	5
ST-ADALBERT	QUE.	46.850	-69.900	5
ST-ADELPHIE-DE-CHAMPLAIN	QUE.	46.730	-72.430	5
ST-ALBERT	ONT.	45.250	-75.120	5
ST-ANDRE-DU-LAC-ST-JEAN	QUE.	48.317	-71.983	5
ST-ANTOINE-SUR-RICHELIEU	QUE.	45.767	-73.183	5
ST-AUGUSTIN-DE-QUEBEC	QUE.	46.750	-71.470	5
ST-BARTHELEMY	QUE.	46.180	-73.130	5
ST-BASILE-DE-PORTNEUF	QUE.	46.750	-71.817	5
ST-BASILE-LE-GRAND	QUE.	45.530	-73.280	5
ST-BASILE-STATION	QUE.	46.717	-71.833	5
ST-BENOIT-DU-LAC	QUE.	45.167	-72.267	5
ST-CLEOPHAS-DE-BRANDON	QUE.	46.230	-73.420	5
ST-COME	QUE.	46.270	-73.780	5
ST-DAMIEN-DE-BUCKLAND	QUE.	46.630	-70.670	5
ST-DENIS-DE-LA-BOUTEILLERIE	QUE.	47.500	-69.930	5
ST-DENIS-RIVIERE-RICHELIEU	QUE.	45.783	-73.150	5
ST-ELEUTHERE	QUE.	47.480	-69.280	5
ST-ESPRIT	QUE.	45.900	-73.670	5
ST-FELIX-D'OTIS	QUE.	48.270	-70.620	5
ST-FELIX-DE-KINGSEY	QUE.	45.800	-72.200	5
ST-FIDELE	QUE.	47.730	-69.980	5
ST-FLAVIEN	QUE.	46.517	-71.600	5
ST-FRANCOIS-DE-MADAWASKA	N.B.	47.250	-68.700	5
ST-FRANCOIS-XAVIER-DE-VIGER	QUE.	47.850	-69.250	5
ST-GABRIEL-DE-KAMOURASKA	QUE.	47.380	-69.930	5
ST-GEDEON	QUE.	48.500	-71.767	5
ST-GERMAIN-DE-GRANTHAM	QUE.	45.833	-72.567	5
ST-GERVAIS	QUE.	46.720	-70.880	5
ST-GILLES	QUE.	46.517	-71.367	5

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ST-GREGOIRE	QUE.	46.270	-72.500	5
ST-GUILLAUME-D'UPTON	QUE.	45.883	-72.767	5
ST-HERMAS	QUE.	45.620	-74.150	5
ST-HILARION	QUE.	47.570	-70.400	5
ST-HONORE	QUE.	48.533	-71.083	5
ST-HUGUES	QUE.	45.800	-72.867	5
ST-JACQUES	N. B.	47.430	-68.380	5
ST-JEAN-D'ORLEANS	QUE.	46.917	-70.900	5
ST-JOSEPH-DE-BEAUCE	QUE.	46.300	-70.883	5
ST-JOSEPH-DE-KAMOURASKA	QUE.	47.620	-69.630	5
ST-JOSEPH-DE-LA-RIVE	QUE.	47.450	-70.367	5
ST-JULES-DE-BEAUCE	QUE.	46.217	-70.950	5
ST-LAURENT-D'ORLEANS	QUE.	46.850	-71.020	5
ST-LEON	QUE.	46.320	-72.930	5
ST-LEON-DE-CHICOUTIMI	QUE.	48.667	-71.533	5
ST-LEONARD-DE-PORTNEUF	QUE.	46.883	-71.917	5
ST-MATHIEU	QUE.	48.180	-68.980	5
ST-MATHIEU-DU-PARC	QUE.	46.570	-72.920	5
ST-MAURICE	QUE.	46.470	-72.530	5
ST-MEDARD	QUE.	48.030	-68.900	5
ST-MICHEL-DE-BELLECHASSE	QUE.	46.870	-70.920	5
ST-MICHEL-DE-NAPIERVILLE	QUE.	45.230	-73.570	5
ST-NARCISSE	QUE.	46.570	-72.470	5
ST-NAZAIRE-DE-CHICOUTIMI	QUE.	48.583	-71.550	5
ST-NICOLAS-EST	QUE.	45.750	-74.083	5
ST-ODILON	QUE.	46.367	-70.683	5
ST-ONESIME	QUE.	47.320	-69.980	5
ST-PACOME	QUE.	47.400	-69.950	5
ST-PHILIPPE-DE-NERI	QUE.	47.470	-69.880	5
ST-PIERRE-D'ORLEANS	QUE.	46.880	-71.070	5
ST-PIERRE-DE-BROUGHTON	QUE.	46.250	-71.200	5
ST-REDEMPTEUR-DE-LEVIS	QUE.	46.700	-71.280	5
ST-REMI-D'AMHERST	QUE.	46.020	-74.770	5
ST-RENE	QUE.	46.017	-70.617	5
ST-ROCH-DES-AULNAIES	QUE.	47.320	-70.180	5
ST-ROMAIN	QUE.	45.783	-71.100	5
ST-SAMUEL-DE-HORTON	QUE.	46.070	-72.220	5
ST-SEVERE	QUE.	46.350	-72.900	5
ST-SEVERIN-DE-BEAUCE	QUE.	46.317	-71.050	5
ST-SIMEON	QUE.	47.830	-69.880	5
ST-SIMON-DE-BAGOT	QUE.	45.730	-72.870	5
ST-STANISLAS-DE-CHAMPLAIN	QUE.	46.620	-72.400	5
ST-SYLVERE	QUE.	46.233	-72.217	5
ST-TELESPHORE	QUE.	45.280	-74.380	5
ST-TITE-DES-CAPS	QUE.	47.130	-70.770	5
ST-UBALDE	QUE.	46.750	-72.270	5
ST-VALERE	QUE.	46.067	-72.100	5
ST-VALLIER	QUE.	46.880	-70.820	5
ST-VICTOR-DE-BEAUCE	QUE.	46.150	-70.900	5
ST-ZENON	QUE.	46.550	-73.820	5
STE-AGNES-DE-CHARLEVOIX	QUE.	47.670	-70.270	5
STE-ANGELE-DE-MERICI	QUE.	48.530	-68.080	5
STE-ANNE-DE-LA-PERADE	QUE.	46.580	-72.200	5
STE-ANNE-DES-PLAINES	QUE.	45.770	-73.820	5
STE-BRIGIDE-D'IBERVILLE	QUE.	45.300	-73.067	5
STE-CATHERINE	QUE.	46.850	-71.620	5
STE-CECILE-DE-FRONTENAC	QUE.	45.667	-70.933	5
STE-CECILE-DE-LEVRARD	QUE.	46.470	-72.170	5

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
STE-CHRISTINE	QUE.	45.617	-72.417	5
STE-EULALIE	QUE.	46.100	-72.250	5
STE-FAMILLE	QUE.	46.950	-70.967	5
STE-FLAVIE	QUE.	48.620	-68.230	5
STE-FOY	QUE.	46.783	-71.283	5
STE-HEDWIDGE-DE-ROBERVAL	QUE.	48.483	-72.350	5
STE-HELENE-DE-KAMOURASKA	QUE.	47.600	-69.730	5
STE-JEANNE-D'ARC-DE-MATANE	QUE.	48.480	-67.950	5
STE-MADELEINE	QUE.	45.600	-73.100	5
STE-MONIQUE-LAC-ST-JEAN	QUE.	48.730	-71.850	5
STORNOWAY	QUE.	45.700	-71.167	5
TADOUSSAC	QUE.	48.150	-69.720	5
TAILLON	QUE.	48.700	-71.920	5
TICOUAPE	QUE.	48.700	-72.483	5
TRING-JONCTION	QUE.	46.267	-70.983	5
TROIS-PISTOLES	QUE.	48.120	-69.170	5
VILLAGE-DES-HURONS	QUE.	46.870	-71.370	5
VINCENNES	QUE.	46.500	-72.420	5
WOBURN	QUE.	45.383	-70.867	5
WOODSTOCK	N.B.	46.150	-67.580	5
YAMACHICHE	QUE.	46.270	-72.830	5

**INTENSITY 5
(UNITED STATES)**

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
40.800	-74.483	5	43.500	-70.433	5
41.018	-74.332	5	43.533	-71.467	5
41.100	-75.000	5	43.583	-70.350	5
41.683	-72.850	5	43.617	-72.983	5
41.950	-78.667	5	43.617	-72.550	5
42.083	-76.050	5	43.650	-71.500	5
42.183	-75.133	5	43.683	-70.300	5
42.250	-73.783	5	43.717	-72.317	5
42.347	-76.844	5	43.750	-71.167	5
42.633	-73.133	5	43.767	-70.533	5
42.717	-78.000	5	43.867	-72.817	5
42.750	-73.767	5	43.967	-71.117	5
42.850	-74.983	5	44.100	-69.133	5
42.933	-74.200	5	44.117	-70.067	5
43.017	-75.067	5	44.133	-72.667	5
43.033	-71.600	5	44.183	-73.433	5
43.039	-75.071	5	44.183	-72.833	5
43.083	-75.283	5	44.213	-71.912	5
43.133	-72.450	5	44.217	-72.200	5
43.217	-71.567	5	44.267	-71.550	5
43.267	-73.583	5	44.283	-69.783	5
43.300	-73.667	5	44.317	-73.250	5
43.333	-75.750	5	44.383	-71.617	5
43.483	-72.400	5	44.400	-68.217	5
			44.467	-73.233	5

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
44.468	-71.185	5	44.883	-73.433	5
44.517	-73.067	5	44.900	-71.500	5
44.550	-73.150	5	44.917	-72.783	5
44.550	-69.733	5	44.933	-72.217	5
44.583	-73.533	5	44.950	-70.150	5
44.600	-71.517	5	45.000	-72.400	5
44.633	-69.500	5	45.001	-72.105	5
44.667	-74.983	5	45.050	-69.883	5
44.700	-73.633	5	45.183	-67.267	5
44.733	-72.200	5	45.250	-68.983	5
44.767	-69.733	5	45.667	-68.717	5
44.783	-68.750	5	46.767	-67.833	5
44.783	-68.783	5	46.867	-68.017	5
44.800	-71.900	5	47.167	-67.950	5
44.817	-70.350	5	47.267	-68.583	5
44.850	-69.900	5			

INTENSITY 4
(CANADA)

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ACTON-VALE	QUE.	45.650	-72.570	4
AGUANISH	QUE.	50.220	-62.080	4
AHUNTSIC	QUE.	45.550	-73.650	4
ALCOVE	QUE.	45.683	-75.933	4
ALMONTE	ONT.	45.230	-76.200	4
AMOS	QUE.	48.580	-78.120	4
ANGE-GARDIEN	QUE.	45.350	-72.933	4
ANGLIERS	QUE.	47.550	-79.230	4
ANJOU	QUE.	45.600	-73.550	4
APSLEY	ONT.	44.750	-78.100	4
AROOSTOOK JUNCTION	N.B.	46.800	-67.720	4
ARTHURETTE	N.B.	46.780	-67.480	4
ARUNDEL	QUE.	45.970	-74.620	4
ASTON-JONCTION	QUE.	46.170	-72.230	4
ATHOLVILLE	N.B.	47.980	-66.720	4
AUCLAIR	QUE.	47.730	-68.650	4
AYER'S CLIFF	QUE.	45.167	-72.050	4
AYLESFORD	N.S.	45.030	-64.830	4
BAIE-DU-FEBRE	QUE.	46.133	-72.717	4
BAIE-ST-PAUL	QUE.	47.450	-70.500	4
BAIE-TRINITE	QUE.	49.420	-67.300	4
BARRY'S BAY	ONT.	45.480	-77.680	4
BATHURST	N.B.	47.600	-65.650	4
BEACHBURG	ONT.	45.730	-76.850	4
BEAUCANTON	QUE.	49.030	-79.250	4
BEAUCEVILLE-EST	QUE.	46.200	-70.770	4
BEAUCEVILLE-OUEST	QUE.	46.200	-70.780	4
BEAVER HARBOUR	N.B.	45.070	-66.750	4
BEEBE	QUE.	45.017	-72.150	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
BELLIVEAUS COVE	N.S.	44.380	-66.050	4
BELWOOD	ONT.	43.783	-80.317	4
BERNIERES	QUE.	46.683	-71.350	4
BERNIERES B.A.1	QUE.	46.683	-71.350	4
BERTHIER-SUR-MER	QUE.	46.920	-70.730	4
BERTHIERVILLE	QUE.	46.080	-73.170	4
BISHOPTON	QUE.	45.583	-71.583	4
BLACK LAKE	QUE.	46.050	-71.037	4
BLACK RIVER BRIDGE	N.B.	47.000	-65.280	4
BOLTON CENTRE	QUE.	45.200	-72.350	4
BONAVENTURE	QUE.	48.050	-65.480	4
BOUCHETTE	QUE.	46.220	-75.970	4
BRACEBRIDGE	ONT.	45.050	-79.170	4
BREBEUF	QUE.	46.070	-74.670	4
BRISTOL	QUE.	45.530	-76.470	4
BRISTOL-LES-MINES	QUE.	45.500	-76.350	4
BRITT	ONT.	45.770	-80.550	4
BROWNSBURG	QUE.	45.680	-74.420	4
BUCKLAND	QUE.	46.620	-70.550	4
BURRITTS RAPIDS	ONT.	44.980	-75.800	4
BURTT'S CORNER	N.B.	46.050	-66.870	4
CADILLAC	QUE.	48.230	-78.380	4
CALUMET	QUE.	45.650	-74.650	4
CAMPBELL'S-BAY	QUE.	45.730	-76.600	4
CANTLEY	QUE.	45.570	-75.770	4
CAP-A-L'AIGLE	QUE.	47.670	-70.120	4
CAP-CHAT	QUE.	49.100	-66.680	4
CAP-CHAT-EST	QUE.	49.100	-66.670	4
CAP-DE-LA-MADELEINE	QUE.	46.367	-72.517	4
CAP-ST-IGNACE	QUE.	47.030	-70.470	4
CAPREOL	ONT.	46.720	-80.930	4
CARLETON	QUE.	48.100	-66.130	4
CARRYING PLACE	ONT.	44.050	-77.580	4
CAZAVILLE	QUE.	45.080	-74.370	4
CENTREVILLE	N.B.	46.430	-67.720	4
CHALK RIVER	ONT.	46.020	-77.450	4
CHAPEAU	QUE.	45.920	-77.070	4
CHATHAM	N.B.	47.030	-65.470	4
CHATEAU-RICHER	QUE.	46.970	-71.020	4
HAZEL	QUE.	48.870	-79.050	4
CHENEVILLE	QUE.	45.880	-75.050	4
CHESLEY	ONT.	44.280	-81.080	4
CHESTERVILLE	ONT.	45.100	-75.230	4
CHIBOUGAMAU	QUE.	49.917	-74.367	4
CHUTE-AUX-OUTARDES	QUE.	49.120	-68.400	4
CHUTE-ST-PHILIPPE	QUE.	46.650	-75.230	4
CLARENCEVILLE	QUE.	45.067	-73.250	4
CLARKE CITY	QUE.	50.200	-66.630	4
CLERICY	QUE.	48.370	-78.870	4
CLOUTIER	QUE.	48.020	-79.150	4
COMMANDA	ONT.	45.950	-79.600	4
CONTRECOEUR	QUE.	45.850	-73.230	4
COOKSHIRE	QUE.	45.420	-71.630	4
CORMAC	ONT.	45.470	-77.300	4
COTEAU-DU-LAC	QUE.	45.300	-74.180	4
COURCELLES	QUE.	45.867	-70.983	4
DALQUIER	QUE.	48.680	-78.120	4
DAVELUYVILLE	QUE.	46.200	-72.130	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
DAVIDSON	QUE.	45.867	-76.767	4
DEBEC	N.B.	46.070	-67.700	4
DEGELIS	QUE.	47.550	-68.650	4
DEWITTVILLE	QUE.	45.120	-74.080	4
DOAKTOWN	N.B.	46.550	-66.130	4
DORION	QUE.	45.380	-74.020	4
DORSET	ONT.	45.230	-78.900	4
DRUMMONDVILLE	QUE.	45.880	-72.480	4
EAST BROUGHTON	QUE.	46.217	-71.067	4
EAST-HEREFORD	QUE.	45.083	-71.500	4
EASTMAIN	QUE.	52.233	-78.500	4
EASTMAN	QUE.	45.300	-72.317	4
ECHO BAY	ONT.	46.483	-84.067	4
EDMUNDSTON	N.B.	47.370	-68.330	4
EEL RIVER CROSSING	N.B.	48.020	-66.420	4
EGANVILLE	ONT.	45.530	-77.100	4
ELGIN	N.B.	45.800	-65.120	4
ENFIELD	N.S.	44.930	-63.530	4
ENTRELACS	QUE.	46.100	-74.000	4
ESTEREL	QUE.	46.030	-74.030	4
FARRELLTON	QUE.	45.750	-75.920	4
FASSETT	QUE.	45.650	-74.870	4
FERME-NEUVE	QUE.	46.700	-75.450	4
FIGUERY	QUE.	48.470	-78.050	4
FITZROY HARBOUR	ONT.	45.470	-76.220	4
FLORENCEVILLE	N.B.	46.450	-67.630	4
FONTENELLE	QUE.	48.900	-64.550	4
FORESTERS FALLS	ONT.	45.680	-76.780	4
FORESTVILLE	QUE.	48.730	-69.080	4
FORT-COULONGE	QUE.	45.850	-76.730	4
FOX CREEK	N.B.	46.070	-64.700	4
FRAMPTON	QUE.	46.470	-70.820	4
GALLICHAN	QUE.	48.600	-79.280	4
GALLIX	QUE.	50.130	-66.620	4
GARSON	ONT.	46.567	-80.867	4
GARTHBY STATION	QUE.	45.830	-71.380	4
GASPE HARBOUR	QUE.	48.820	-64.470	4
GATINEAU	QUE.	45.500	-75.650	4
GEORGEVILLE	QUE.	45.133	-72.250	4
GETHSEMANI	QUE.	50.230	-60.670	4
GLENCOE	N.B.	47.950	-66.800	4
GLENLIVIT	N.B.	47.970	-66.850	4
GODBOUT	QUE.	49.320	-67.600	4
GONDOLA POINT	N.B.	45.260	-65.590	4
GORE BAY	ONT.	45.917	-82.467	4
GRANBY	QUE.	45.400	-72.730	4
GRAND FALLS	N.B.	47.050	-67.730	4
GRAND'MERE	QUE.	46.620	-72.700	4
GRAND-ST-ESPRIT	QUE.	46.183	-72.500	4
GRENVILLE	QUE.	45.630	-74.600	4
GRONDINES	QUE.	46.600	-72.050	4
GUIGUES	QUE.	47.470	-79.430	4
HALEY STATION	ONT.	45.570	-76.780	4
HAM NORD	QUE.	45.900	-71.650	4
HAMEL	QUE.	46.050	-70.700	4
HARRINGTON	QUE.	45.830	-74.670	4
HARTLAND	N.B.	46.300	-67.530	4
HENRYVILLE	QUE.	45.133	-73.183	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
HEROUXVILLE	QUE.	46.670	-72.620	4
HILLSBOROUGH	N.B.	45.930	-64.650	4
HOLTYRE	ONT.	48.470	-80.280	4
HOPEWELL CAPE	N.B.	45.850	-64.580	4
HUDSON	QUE.	45.450	-74.150	4
HUNTSVILLE	ONT.	45.330	-79.220	4
ILE-DU-GRAND-CALUMET	QUE.	45.720	-76.620	4
IROQUOIS FALLS	ONT.	48.770	-80.680	4
ISLE-AUX-GRUES	QUE.	47.070	-70.550	4
JACQUET RIVER	N.B.	47.920	-66.000	4
JOLIETTE	QUE.	46.020	-73.450	4
JOLY	QUE.	46.483	-71.667	4
JUNIPER	N.B.	46.550	-67.220	4
KAZABAZUA	QUE.	45.950	-76.020	4
KENABEEK	ONT.	47.650	-79.980	4
KENMORE	ONT.	45.230	-75.420	4
KIAMIKA	QUE.	46.420	-75.380	4
KILLALOE STATION	ONT.	45.550	-77.420	4
KINGSEY-FALLS	QUE.	45.850	-72.067	4
KIROUAC	QUE.	46.417	-70.037	4
KNOWLTON	QUE.	45.250	-72.670	4
L'ANNOCIATION	QUE.	46.420	-74.870	4
L'ANSE-A-VALLEAU	QUE.	49.100	-64.550	4
L'ASCENSION	QUE.	46.550	-74.830	4
L'EPIPHANIE	QUE.	45.850	-73.480	4
L'ISLE-VERTE-OUEST	QUE.	48.020	-69.330	4
L'ISLET	QUE.	47.100	-70.350	4
LA BALEINE	QUE.	47.400	-70.350	4
LA CORNE	QUE.	48.350	-78.000	4
LA CROCHE	QUE.	47.600	-72.730	4
LA DURANTAYE	QUE.	46.830	-70.850	4
LA GUADELOUPE	QUE.	45.950	-70.933	4
LA MINERVE	QUE.	46.270	-74.930	4
LA MORANDIERE	QUE.	48.620	-77.630	4
LA MOTTE	QUE.	48.330	-78.100	4
LA PATRIE	QUE.	45.400	-71.250	4
LA PRESENTATION	QUE.	45.667	-73.050	4
LA VISITATION	QUE.	46.133	-72.600	4
LABELLE	QUE.	46.280	-74.730	4
LAC-AUX-LOUPS	QUE.	45.900	-74.770	4
LAC-CAYAMANT	QUE.	46.130	-76.250	4
LAC-DES-ECORCES	QUE.	46.570	-75.370	4
LAC-DES-ILES	QUE.	46.400	-75.530	4
LAC-DES-PLAGES	QUE.	46.000	-74.900	4
LAC-ETCHEMIN	QUE.	46.400	-70.500	4
LAC-MASSON	QUE.	46.030	-74.070	4
LAC-ST-PAUL	QUE.	46.730	-75.320	4
LAC-STE-MARIE	QUE.	45.950	-75.950	4
LADRIERE	QUE.	48.250	-68.800	4
LAFONTAINE	QUE.	45.817	-74.017	4
LAKE CHARLOTTE	N.S.	44.770	-62.950	4
LAKEFIELD	QUE.	45.750	-74.250	4
LAKEVILLE	N.B.	46.330	-67.680	4
LAMBTON	QUE.	45.833	-71.083	4
LANCASTER	ONT.	45.130	-74.500	4
LANGEVIN	QUE.	46.400	-70.350	4
LAURENTIDES	QUE.	45.850	-73.770	4
LAURIERVILLE	QUE.	46.300	-71.650	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
LAVALTRIE	QUE.	45.880	-73.280	4
LAVERLOCHERE	QUE.	47.430	-79.300	4
LECLERCVILLE	QUE.	46.567	-72.000	4
LEEDS VILLAGE	QUE.	46.280	-71.350	4
LEJEUNE	QUE.	47.770	-68.570	4
LEMIEUX	QUE.	46.300	-72.120	4
LES BOULES	QUE.	48.680	-67.970	4
LES EBOULEMENTS	QUE.	47.480	-70.320	4
LES MECHINS	QUE.	48.980	-66.970	4
LINCOLN	N.B.	45.920	-66.550	4
LORRAINVILLE	QUE.	47.350	-79.350	4
LOURDES-DE-JOLIETTE	QUE.	46.100	-73.430	4
LOWER FIVE ISLANDS	N.S.	45.420	-64.080	4
LUCEVILLE	QUE.	48.530	-68.370	4
LUDLOW	N.B.	46.480	-66.350	4
LUNENBURG	ONT.	45.050	-74.950	4
MADELEINE-CENTRE	QUE.	49.250	-65.350	4
MALARTIC	QUE.	48.130	-78.130	4
MANCHE-D' EPEE	QUE.	49.250	-65.430	4
MANDEVILLE	QUE.	48.550	-78.430	4
MARIA	QUE.	48.170	-65.980	4
MARTINVILLE	QUE.	45.267	-71.717	4
MARYSVILLE	N.B.	45.980	-66.580	4
MASKINONGE	QUE.	46.230	-73.020	4
MASSON	QUE.	45.530	-75.420	4
MATAGAMI	QUE.	49.750	-77.630	4
MAXWELL	N.B.	45.900	-67.700	4
MAYNOOTH	ONT.	45.230	-77.950	4
MEDUCTIC	N.B.	46.000	-67.480	4
MELBOURNE	QUE.	45.650	-72.150	4
MELOCHEVILLE	QUE.	45.320	-73.930	4
MERCIER	QUE.	45.320	-73.750	4
METIS-SUR-MER	QUE.	48.670	-68.000	4
MILLERTON	N.B.	46.900	-65.630	4
MINTO	N.B.	46.080	-66.070	4
MIQUELON	QUE.	49.400	-76.450	4
MOISIE	QUE.	50.180	-66.080	4
MONCTON	N.B.	46.100	-64.780	4
MONT-CARMEL	QUE.	47.430	-69.870	4
MONT-JOLI	QUE.	48.580	-68.180	4
MONT-ST-MICHEL	QUE.	46.780	-75.330	4
MONTBEILLARD	QUE.	48.030	-79.250	4
MONTEBELLO	QUE.	45.650	-74.930	4
MONTEITH	ONT.	48.630	-80.680	4
MONTFORT	QUE.	45.880	-74.330	4
MONTREAL-NORD	QUE.	45.600	-73.630	4
MOORES MILLS	N.B.	45.300	-67.280	4
MOOSE RIVER	ONT.	50.800	-81.283	4
MOUTH OF KESWICK	N.B.	45.980	-66.930	4
NAPAN	N.B.	47.070	-65.300	4
NAPIERVILLE	QUE.	45.183	-73.400	4
NASHWAAK BRIDGE	N.B.	46.230	-66.620	4
NASHWAAK VILLAGE	N.B.	46.230	-66.620	4
NELSON-MIRAMICHI	N.B.	46.970	-65.550	4
NEUVILLE	QUE.	46.700	-71.580	4
NEW DENMARK	N.B.	46.980	-67.600	4
NEW-RICHMOND	QUE.	48.170	-65.870	4
NEWCASTLE	N.B.	47.000	-65.570	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
NEWCASTLE BRIDGE	N. B.	46.080	-66.050	4
NICOLET	QUE.	46.217	-72.617	4
NOMININGUE	QUE.	46.400	-75.030	4
NORMETAL	QUE.	49.000	-79.370	4
NORTH BAY	ONT.	46.320	-79.467	4
NORTH GOWER	ONT.	45.130	-75.720	4
NORTH HEAD	N. B.	44.770	-66.750	4
NORTH-HATLEY	QUE.	45.283	-71.967	4
NORTON	N. B.	45.630	-65.700	4
NOTRE-DAME-DE-HAM	QUE.	45.900	-71.733	4
NOTRE-DAME-DE-LA-MERCI	QUE.	46.230	-74.050	4
NOTRE-DAME-DE-LA-PAIX	QUE.	45.820	-74.970	4
NOTRE-DAME-DE-LA-SALETTE	QUE.	45.770	-75.590	4
NOTRE-DAME-DE-PONTMAIN	QUE.	46.280	-75.630	4
NOTRE-DAME-DES-BOIS	QUE.	45.400	-71.067	4
NOTRE-DAME-DU-LAC	QUE.	47.600	-68.800	4
NOTRE-DAME-DU-LAUS	QUE.	46.080	-75.620	4
NOTRE-DAME-DU-NORD	QUE.	47.600	-79.480	4
NOTRE-DAME-DU-ROSAIRE	QUE.	46.830	-70.400	4
OBEDJIWAN	QUE.	48.667	-74.933	4
ODANAK 12	QUE.	46.067	-72.833	4
ONAPING	ONT.	46.617	-81.417	4
OTTER-LAKE	QUE.	45.850	-76.430	4
OXFORD	N. S.	45.730	-63.870	4
PAISLEY	ONT.	44.300	-81.270	4
PAKENHAM	ONT.	45.330	-76.280	4
PALMAROLLE	QUE.	48.670	-79.200	4
PANET	QUE.	46.650	-70.150	4
PAPINEAUVILLE	QUE.	45.620	-75.020	4
PAQUETVILLE	N. B.	47.670	-65.100	4
PARENT	QUE.	47.917	-74.617	4
PENNFIELD	N. B.	45.100	-66.730	4
PENNFIELD RIDGE	N. B.	45.120	-66.680	4
PENOBSCQUIS	N. B.	45.780	-65.380	4
PERCE	QUE.	48.530	-64.220	4
PERTH-ANDOVER	N. B.	46.750	-67.700	4
PETIT-ROCHER	N. B.	47.780	-65.720	4
PETITE-VALLEE	QUE.	49.220	-65.030	4
PHILIPSBURG	QUE.	45.033	-73.083	4
PIEDMONT	QUE.	45.900	-74.130	4
PIKE-RIVER	QUE.	45.117	-73.067	4
PLASTER ROCK	N. B.	46.900	-67.400	4
POHENEGAMOOK (ESTCOURT)	QUE.	47.520	-69.270	4
POINTE-A-LA-CROIX	QUE.	48.020	-66.680	4
POINTE-AU-PERE	QUE.	48.520	-68.470	4
POLTIMORE	QUE.	45.780	-75.720	4
PORCUPINE	ONT.	48.500	-81.167	4
PORT DOVER	ONT.	42.780	-80.200	4
PORT-DANIEL	QUE.	48.180	-64.970	4
PRECIEUX-SANG	QUE.	46.300	-72.400	4
PREISSAC	QUE.	48.400	-78.370	4
PREVOST	QUE.	45.870	-74.080	4
PRICE	QUE.	48.600	-68.120	4
PRINCE WILLIAM	N. B.	45.920	-67.050	4
PRINCEVILLE	QUE.	46.167	-71.883	4
PROULXVILLE	QUE.	46.670	-72.500	4
QUADEVILLE	ONT.	45.320	-77.380	4
QUEBEC	QUE.	46.820	-71.230	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
QUISPAMISIS,	N.B.	45.420	-65.970	4
QUYON	QUE.	45.520	-76.230	4
RACINE	QUE.	45.500	-72.250	4
RAPIDE-DANSEUR	QUE.	48.550	-79.280	4
RAWDON	QUE.	46.050	-73.720	4
RESTIGOUCHE	QUE.	48.020	-66.700	4
RICHELAIN B.P.M	QUE.	45.300	-73.283	4
RIPON	QUE.	45.780	-75.100	4
RIVERVIEW	N.B.	46.030	-64.490	4
RIVIERE-A-PIERRE	QUE.	46.983	-72.183	4
RIVIERE-BLEUE	QUE.	47.430	-69.050	4
RIVIERE-COLOMBIER	QUE.	48.870	-68.850	4
RIVIERE-DES-PRAIRIES	QUE.	45.650	-73.583	4
RIVIERE-LA-MADELEINE	QUE.	49.230	-65.300	4
RIVIERE-TROIS-PISTOLES	QUE.	48.100	-69.220	4
RIVIERE-VERTE	N.B.	47.320	-68.150	4
ROBERTSONVILLE	QUE.	46.150	-71.217	4
ROBINSONVILLE	N.B.	47.870	-66.950	4
ROCHEBAUCOURT	QUE.	48.680	-77.500	4
ROCK-FOREST	QUE.	45.350	-71.980	4
ROTHESAY	N.B.	45.380	-66.000	4
ROXTON-FALLS	QUE.	45.567	-72.517	4
SACKVILLE	N.B.	45.900	-64.370	4
SACRE-COUER-DE-MARIE	QUE.	46.133	-71.183	4
SALISBURY	N.B.	46.030	-65.050	4
SANDY COVE	N.S.	44.480	-66.080	4
SANMAUR	QUE.	47.900	-73.800	4
SAULT-AU-MOUTON	QUE.	48.550	-69.250	4
SCOTT-JONCTION	QUE.	46.500	-71.070	4
SEELEYS BAY	ONT.	44.480	-76.230	4
SENNETERRE	QUE.	48.380	-77.230	4
SESEKINIKA	ONT.	48.180	-80.230	4
SHERBROOKE	QUE.	45.420	-71.900	4
SHERRINGTON	QUE.	45.170	-73.520	4
SIEGAS	N.B.	47.220	-67.980	4
SOUTHAMPTON	N.S.	45.580	-64.250	4
SPRUCEDALE	ONT.	45.480	-79.470	4
ST CROIX	N.S.	44.970	-64.030	4
ST. JOHN	N.B.	45.270	-66.050	4
ST. STEPHEN	N.B.	45.120	-67.170	4
ST-AGAPIT	QUE.	46.570	-71.430	4
ST-AIME	QUE.	45.917	-72.933	4
ST-ALEXIS-DE-MATAPEDIA	QUE.	47.970	-67.050	4
ST-ALEXIS-DES-MONTS	QUE.	46.470	-73.130	4
ST-ALFRED	QUE.	46.150	-70.833	4
ST-ALPHONSE	QUE.	46.180	-73.700	4
ST-AMABLE	QUE.	45.650	-73.300	4
ST-ANACLET	QUE.	48.480	-68.430	4
ST-ANDRE	N.B.	47.100	-67.750	4
ST-ANDRE-AVELLIN	QUE.	45.720	-75.070	4
ST-ANDRE-DE-RESTIGOUCHE	QUE.	48.070	-66.950	4
ST-ANICET	QUE.	45.120	-74.350	4
ST-ANTOINE-ABBE	QUE.	45.050	-73.880	4
ST-APOLLINAIRE	QUE.	46.617	-71.517	4
ST-ARMAND-STATION	QUE.	45.030	-73.050	4
ST-ATHANASE	QUE.	47.430	-69.420	4
ST-AUGUSTIN-DEUX-MONTAGNES	QUE.	45.620	-73.980	4
ST-BARTHELEMY	QUE.	46.180	-73.130	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ST-BENOIT	QUE.	45.570	-74.100	4
ST-BERNARD-SUR-MER	QUE.	47.420	-70.380	4
ST-BRUNO-DE-KAMOURASKA	QUE.	47.450	-69.750	4
ST-CALIXTE-DE-KILKENNY	QUE.	45.950	-73.850	4
ST-CAMILLE	QUE.	45.680	-71.700	4
ST-CAMILLE-DE-BELLECHASSE	QUE.	46.480	-70.220	4
ST-CASIMIR	QUE.	46.670	-72.130	4
ST-CELESTIN	QUE.	46.217	-72.433	4
ST-CHARLES-DE-BELLECHASSE	QUE.	46.580	-71.850	4
ST-CHARLES-SUR-RICHELIEU	QUE.	45.683	-73.183	4
ST-CHRYSTOSTOME	QUE.	45.100	-73.770	4
ST-CLET	QUE.	45.350	-74.220	4
ST-COLOMBAN	QUE.	45.730	-74.130	4
ST-CUTHBERT	QUE.	46.150	-73.230	4
ST-CYPRIEN	QUE.	47.900	-69.020	4
ST-CYRILLE-DE-L' ISLET	QUE.	47.030	-70.280	4
ST-CYRILLE-DE-WENDOVER	QUE.	45.933	-72.433	4
ST-DAMASE-DE-MATANE	QUE.	48.670	-67.830	4
ST-DAMIEN-DE-BUCKLAND	QUE.	46.630	-70.670	4
ST-DAVID-D' YAMASKA	QUE.	45.950	-72.850	4
ST-DONAT-DE-MONTCALM	QUE.	46.320	-74.220	4
ST-DONAT-DE-RIMOUSKI	QUE.	48.500	-68.270	4
ST-EDOUARD-DE-MASKINONGE	QUE.	46.330	-73.150	4
ST-ELIE-D' ORFORD	QUE.	45.383	-72.067	4
ST-EMILE-DE-SUFFOLK	QUE.	45.930	-74.920	4
ST-EPHREM-DE-BEAUCE	QUE.	46.070	-70.950	4
ST-EPIPHANE	QUE.	47.900	-69.330	4
ST-ETIENNE-DE-BEAUHARNOIS	QUE.	45.250	-73.920	4
ST-ETIENNE-DE-BOLTON	QUE.	45.267	-72.367	4
ST-ETIENNE-DE-LAUZON	QUE.	46.650	-71.300	4
ST-ETIENNE-DES-GRES	QUE.	46.430	-72.770	4
ST-EUGENE	ONT.	45.500	-74.470	4
ST-EUGENE-DE-GRANTHAM	QUE.	45.800	-72.700	4
ST-EUGENE-DE-GUIGUES	QUE.	47.520	-79.350	4
ST-EUSEBE	QUE.	47.550	-68.920	4
ST-EVARISTE-DE-FORSYTH	QUE.	45.933	-70.950	4
ST-FABIEN	QUE.	48.300	-68.870	4
ST-FAUSTIN	QUE.	46.120	-74.480	4
ST-FELICIEN	QUE.	48.650	-72.450	4
ST-FELIX-DE-VALOIS	QUE.	46.170	-73.430	4
ST-FERREOL-LES-NEIGES	QUE.	47.120	-70.850	4
ST-FRANCOIS-XAVIER-BROMPTON	QUE.	45.533	-72.050	4
ST-FREDERIC	QUE.	46.300	-70.967	4
ST-GABRIEL-EST	QUE.	48.420	-68.170	4
ST-GEDEON-DE-BEAUCE	QUE.	45.850	-70.633	4
ST-GEORGE	N.B.	45.130	-66.830	4
ST-GEORGES-DE-WINDSOR	QUE.	45.700	-71.833	4
ST-GERARD	QUE.	45.767	-71.417	4
ST-GERMAIN-DE-KAMOURASKA	QUE.	47.580	-69.800	4
ST-GILBERT	QUE.	46.720	-71.980	4
ST-GODEFROI	QUE.	48.080	-65.100	4
ST-HENRI-DE-LEVIS	QUE.	46.700	-71.070	4
ST-HERMENEGILDE	QUE.	45.100	-71.667	4
ST-HONORE-DE-TEMISCOUATA	QUE.	47.700	-69.130	4
ST-HUBERT-DE-TEMISCOUATA	QUE.	47.820	-69.150	4
ST-IGNACE-DE-STANBRIDGE	QUE.	45.167	-72.950	4
ST-IRENEE	QUE.	47.570	-70.200	4
ST-ISIDORE-DE-LAPRAIRIE	QUE.	45.300	-73.683	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ST-JACQUES	N. B.	47.430	-68.380	4
ST-JACQUES-LE-MINEUR	QUE.	45.283	-73.417	4
ST-JANVIER	QUE.	45.720	-73.930	4
ST-JEAN-DE-DIEU	QUE.	48.000	-69.050	4
ST-JEAN-DE-LA-LANDE	QUE.	47.430	-68.680	4
ST-JEAN-DE-MATHA	QUE.	46.230	-73.530	4
ST-JEAN-PORT-JOLI	QUE.	47.220	-70.270	4
ST-JOACHIM-DE-SHEFFORD	QUE.	45.450	-72.517	4
ST-JOSEPH-DE-BEAUCE	QUE.	46.300	-70.883	4
ST-JOSEPH-DE-KAMOURASKA	QUE.	47.620	-69.630	4
ST-JOSEPH-DE-MADAWASKA	N. B.	47.450	-68.320	4
ST-JOVITE	QUE.	46.120	-74.600	4
ST-JUDE	QUE.	45.767	-72.983	4
ST-JUSTE-DE-BRETENIERES	QUE.	46.570	-70.100	4
ST-JUSTE-DU-LAC	QUE.	47.650	-68.750	4
ST-JUSTIN	QUE.	46.250	-73.080	4
ST-LAMBERT-DE-LEVIS	QUE.	46.583	-71.217	4
ST-LAURENT (VILLE)	QUE.	45.500	-73.670	4
ST-LEONARD	QUE.	45.583	-73.583	4
ST-LEONARD-D'ASTON	QUE.	46.100	-72.367	4
ST-LOUIS-DU-HA! HA!	QUE.	47.670	-68.980	4
ST-LUC-DE-MATANE	QUE.	48.800	-67.470	4
ST-LUCIEN	QUE.	45.867	-72.267	4
ST-MAGLOIRE	QUE.	46.580	-70.280	4
ST-MARCEL-DE-L'ISLET	QUE.	46.900	-70.070	4
ST-MATHIEU	QUE.	48.180	-68.980	4
ST-MATHIEU-DE-LAPRAIRIE	QUE.	45.320	-73.520	4
ST-MICHEL-DES-SAINTS	QUE.	46.680	-73.920	4
ST-NAZAIRE-DE-BUCKLAND	QUE.	46.550	-70.670	4
ST-OCTAVE	QUE.	48.600	-68.080	4
ST-PAMPHILE	QUE.	46.970	-69.780	4
ST-PASCAL	QUE.	47.530	-69.820	4
ST-PAUL-DE-LA-CROIX	QUE.	47.950	-69.200	4
ST-PAULIN	QUE.	46.420	-73.020	4
ST-PHILIBERT	QUE.	46.133	-70.550	4
ST-PIERRE-BAPTISTE	QUE.	46.200	-71.617	4
ST-PIERRE-D'ORLEANS	QUE.	46.880	-71.070	4
ST-PIERRE-LES-BECQUETS	QUE.	46.500	-72.200	4
ST-PLACIDE	QUE.	45.530	-74.220	4
ST-POLYCARPE	QUE.	45.300	-74.300	4
ST-PRIME	QUE.	48.583	-72.333	4
ST-PROSPER	QUE.	46.620	-72.280	4
ST-QUENTIN	N. B.	47.520	-67.380	4
ST-REMI	QUE.	45.270	-73.620	4
ST-SAUVEUR-DES-MONTS	QUE.	45.900	-74.170	4
ST-SIMEON-DE-BONAVENTURE	QUE.	48.070	-65.570	4
ST-STANISLAS-DE-KOSTKA	QUE.	45.180	-74.120	4
ST-SULPICE	QUE.	45.830	-73.350	4
ST-THEODORE	QUE.	46.070	-73.900	4
ST-TIMOTHEE	QUE.	45.270	-74.030	4
ST-VITAL-DE-CLERMONT	QUE.	48.920	-79.250	4
ST-ZACHARIE	QUE.	45.600	-71.950	4
STANLEY	N. B.	46.280	-66.730	4
STE-AGATHE-DE-LOTBINIERE	QUE.	46.380	-71.420	4
STE-AGNES-DE-BELLECOMBE	QUE.	48.100	-78.930	4
STE-ANGELE-DE-LAVAL	QUE.	46.333	-72.517	4
STE-ANGELE-DE-MONNOIR	QUE.	45.383	-73.100	4
STE-ANNE-DES-PLAINES	QUE.	45.770	-73.820	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
STE-AURELIE	QUE.	46.183	-70.367	4
STE-BEATRIX	QUE.	46.200	-73.600	4
STE-BLANDINE	QUE.	48.370	-68.470	4
STE-CATHERINE	QUE.	45.400	-73.580	4
STE-CATHERINE	QUE.	45.400	-73.580	4
STE-CATHERINE	QUE.	46.850	-71.620	4
STE-CECILE-DE-MASHAM	QUE.	45.650	-76.030	4
STE-CECILE-DE-MILTON	QUE.	45.483	-72.750	4
STE-CLAIRE	QUE.	46.600	-70.870	4
STE-CLOTHIDE-DE-BEAUCE	QUE.	45.980	-72.230	4
STE-CLOTHILDE-DE-CHATEAUGUAY	QUE.	45.983	-72.233	4
STE-EMELIE-DE-L'ENERGIE	QUE.	46.320	-73.650	4
STE-EULALIE	QUE.	46.100	-72.250	4
STE-EUPHEMIE	QUE.	46.770	-70.430	4
STE-FAMILLE-D'AUMOND	QUE.	46.470	-75.880	4
STE-FELICITE	QUE.	48.900	-67.330	4
STE-FLORENCE	QUE.	48.270	-67.230	4
STE-FRANCOISE	QUE.	48.100	-69.070	4
STE-GENEVIEVE-DE-BATISCAN	QUE.	46.530	-72.330	4
STE-GERMAINE-STATION	QUE.	46.370	-70.430	4
STE-HELENE-DE-CHESTER	QUE.	46.033	-71.700	4
STE-JULIENNE	QUE.	45.970	-73.720	4
STE-LUCE	QUE.	48.550	-68.380	4
STE-LUCIE-DE-BEAUREGARD	QUE.	46.730	-70.020	4
STE-LUCIE-DE-DONCASTER	QUE.	46.130	-74.180	4
STE-MARGUERITE-DE-DORCHESTER	QUE.	46.517	-70.933	4
STE-MARGUERITE-MARIE	QUE.	48.320	-67.080	4
STE-MARIE-DE-BLANDFORD	QUE.	46.320	-72.180	4
STE-MARTHE-SUR-LE-LAC	QUE.	45.530	-73.930	4
STE-PERPETUE-DE-L'ISLET	QUE.	47.050	-69.930	4
STE-PETRONILLE	QUE.	46.850	-71.130	4
STE-RITA	QUE.	47.950	-68.920	4
STE-SABINE-DE-BELLECHASSE	QUE.	46.480	-70.350	4
STE-SOPHIE	QUE.	45.820	-73.900	4
STE-VERONIQUE	QUE.	46.520	-74.980	4
STICKNEY	N.B.	46.380	-67.570	4
STOUFFVILLE	ONT.	43.970	-79.250	4
STRATFORD CENTRE	QUE.	45.783	-71.267	4
SULLIVAN (MINES)	QUE.	48.120	-77.830	4
SUNNYBRAE	N.S.	45.400	-62.500	4
SUSSEX	N.B.	45.720	-65.520	4
SUSSEX CORNER	N.B.	45.720	-65.480	4
TEMPERANCE-VALE	N.B.	46.070	-67.250	4
THORNE	ONT.	46.650	-79.080	4
THURSO	QUE.	45.600	-75.250	4
TIDE HEAD	N.B.	47.980	-66.780	4
TIGNISH	P.E.I.	46.950	-64.030	4
TOURELLE	QUE.	49.150	-66.420	4
TOURVILLE	QUE.	47.100	-69.980	4
TRACY	N.B.	45.680	-66.680	4
TROIS-PISTOLES	QUE.	48.120	-69.170	4
TUNIS	ONT.	48.833	-80.833	4
UPPER KENT	N.B.	46.570	-67.720	4
UPPER MILLS	N.B.	45.130	-67.320	4
VAL D'AMOUR	N.B.	47.950	-66.680	4
VAL-D'OR	QUE.	48.100	-77.780	4
VAL-DAVID	QUE.	46.020	-74.200	4
VAL-PARADIS	QUE.	49.170	-79.280	4

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
VAL-SENNEVILLE	QUE.	48.180	-77.650	4
VAL-ST-GILLES	QUE.	48.970	-79.120	4
VALLEE-JONCTION	QUE.	46.367	-70.917	4
VANKLEEK HILL	ONT.	45.520	-74.650	4
VASSAN	QUE.	48.230	-77.930	4
VILLEMONTTEL	QUE.	48.630	-78.370	4
VILLEROY	QUE.	46.383	-71.883	4
WAINFLEET	ONT.	42.930	-79.380	4
WALTHAM-STATION	QUE.	45.920	-76.920	4
WARREN	ONT.	46.450	-80.300	4
WARWICK	QUE.	45.930	-71.980	4
WATERLOO	QUE.	45.350	-72.520	4
WEIR	QUE.	45.950	-74.550	4
WELSFORD	N.B.	45.450	-66.330	4
WELSHPOOL	N.B.	44.880	-66.950	4
WESTMOUNT	QUE.	45.483	-73.600	4
WHITE HEAD	N.B.	44.630	-66.720	4
WILLIAMSTOWN	ONT.	45.130	-74.580	4
WILNO	ONT.	45.520	-77.570	4
WOODLAWN	ONT.	45.450	-76.080	4
WOODSTOCK	N.B.	46.150	-67.580	4
ZEALAND	N.B.	46.050	-66.930	4

**INTENSITY 4
(UNITED STATES)**

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
40.267	-76.833	4	41.790	-69.990	4
40.455	-74.362	4	41.817	-70.917	4
40.728	-74.078	4	41.824	-72.622	4
40.807	-73.946	4	41.933	-79.650	4
40.857	-74.129	4	41.950	-76.500	4
40.883	-74.433	4	41.956	-73.364	4
40.917	-74.172	4	41.967	-70.667	4
40.933	-73.983	4	41.983	-76.533	4
40.950	-73.967	4	42.050	-71.883	4
40.967	-74.300	4	42.083	-78.433	4
41.050	-73.950	4	42.100	-72.300	4
41.083	-74.017	4	42.117	-77.933	4
41.190	-73.200	4	42.120	-72.752	4
41.233	-75.933	4	42.133	-71.183	4
41.300	-72.917	4	42.133	-80.083	4
41.333	-73.750	4	42.150	-72.617	4
41.417	-75.667	4	42.167	-72.317	4
41.583	-72.900	4	42.183	-78.717	4
41.610	-71.240	4	42.202	-72.617	4
41.653	-70.283	4	42.217	-72.183	4
41.667	-71.450	4	42.217	-71.417	4
41.667	-73.017	4	42.233	-71.000	4
41.700	-71.517	4	42.233	-70.883	4
41.717	-71.367	4	42.262	-71.803	4
41.767	-70.717	4	42.267	-72.667	4

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
42.279	-71.417	4	43.128	-72.392	4
42.283	-71.350	4	43.130	-77.475	4
42.317	-71.650	4	43.167	-76.150	4
42.333	-75.767	4	43.183	-78.667	4
42.342	-83.061	4	43.200	-77.617	4
42.350	-77.317	4	43.249	-70.599	4
42.408	-71.012	4	43.250	-77.067	4
42.417	-71.683	4	43.333	-70.933	4
42.450	-71.350	4	43.377	-72.347	4
42.463	-78.936	4	43.383	-70.545	4
42.465	-71.010	4	43.417	-73.267	4
42.471	-70.918	4	43.450	-71.617	4
42.483	-70.950	4	43.467	-73.783	4
42.483	-73.150	4	43.517	-70.383	4
42.507	-71.073	4	43.650	-72.317	4
42.517	-71.750	4	43.683	-72.317	4
42.533	-70.883	4	43.683	-70.367	4
42.575	-71.998	4	43.717	-72.300	4
42.583	-77.033	4	43.717	-71.467	4
42.583	-73.717	4	43.732	-70.712	4
42.583	-72.300	4	43.750	-71.717	4
42.583	-70.967	4	43.790	-70.401	4
42.600	-72.550	4	43.797	-70.259	4
42.600	-72.617	4	43.804	-73.298	4
42.600	-76.183	4	43.817	-70.883	4
42.600	-76.100	4	43.833	-70.433	4
42.617	-70.667	4	43.833	-72.633	4
42.617	-71.583	4	43.850	-73.433	4
42.633	-71.317	4	43.883	-70.333	4
42.667	-73.800	4	43.917	-69.983	4
42.683	-70.833	4	43.933	-69.967	4
42.683	-72.067	4	43.983	-72.150	4
42.700	-73.917	4	43.995	-71.062	4
42.700	-73.100	4	44.000	-69.667	4
42.717	-74.933	4	44.000	-70.050	4
42.717	-73.217	4	44.050	-73.467	4
42.767	-71.467	4	44.053	-71.129	4
42.800	-73.917	4	44.092	-70.236	4
42.850	-72.567	4	44.100	-70.217	4
42.883	-77.283	4	44.100	-69.383	4
42.900	-73.367	4	44.117	-70.683	4
42.900	-73.200	4	44.133	-70.500	4
42.900	-73.817	4	44.150	-73.067	4
42.917	-73.900	4	44.150	-71.183	4
42.932	-75.037	4	44.217	-72.517	4
42.933	-72.279	4	44.233	-74.450	4
42.933	-70.833	4	44.233	-70.517	4
42.950	-77.850	4	44.233	-71.750	4
42.966	-78.870	4	44.250	-70.267	4
42.967	-78.950	4	44.267	-72.567	4
43.017	-78.767	4	44.283	-72.433	4
43.033	-78.883	4	44.283	-71.683	4
43.058	-74.197	4	44.300	-69.967	4
43.067	-75.600	4	44.333	-73.117	4
43.073	-71.845	4	44.367	-73.383	4
43.083	-73.783	4	44.375	-73.730	4
43.083	-75.750	4	44.383	-73.233	4
43.117	-77.550	4	44.383	-71.167	4

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
44.383	-68.800	4	44.799	-72.449	4
44.430	-72.020	4	44.808	-73.085	4
44.433	-69.000	4	44.817	-72.217	4
44.433	-74.250	4	44.838	-68.705	4
44.433	-73.067	4	44.850	-74.300	4
44.450	-73.683	4	44.883	-69.467	4
44.467	-68.933	4	44.910	-68.848	4
44.483	-71.567	4	44.917	-73.117	4
44.500	-73.000	4	44.917	-74.083	4
44.517	-72.367	4	44.933	-74.900	4
44.550	-70.450	4	44.967	-70.650	4
44.567	-69.617	4	44.983	-73.450	4
44.567	-72.600	4	44.983	-73.400	4
44.610	-68.601	4	45.173	-69.382	4
44.617	-69.323	4	45.183	-69.217	4
44.633	-72.683	4	45.633	-68.583	4
44.650	-72.833	4	45.633	-70.267	4
44.683	-75.500	4	46.117	-67.833	4
44.700	-73.467	4	46.440	-82.390	4
44.717	-73.733	4	46.633	-68.400	4
44.717	-69.800	4	46.700	-68.017	4
44.750	-71.630	4	47.350	-68.350	4

**INTENSITY 3
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ABBOTSFORD	QUE.	45.430	-72.880	3
ABERCORN	QUE.	45.033	-72.667	3
AHUNTSIC	QUE.	45.550	-73.650	3
ALBERT	N.B.	45.750	-64.730	3
ALBERTON	P.E.I.	46.820	-64.070	3
ALBERTVILLE	QUE.	48.330	-67.370	3
ALLARDVILLE	N.B.	47.470	-65.480	3
ALMA	N.B.	45.600	-64.950	3
ANGLIERS	QUE.	47.550	-79.230	3
ANJOU	QUE.	45.600	-73.550	3
ANNAPOLIS ROYAL	N.S.	44.750	-65.520	3
APPLE HILL	ONT.	45.220	-74.770	3
AUBURN	N.S.	45.020	-64.870	3
AUTHIER	QUE.	48.720	-78.850	3
BATHURST	N.B.	47.600	-65.650	3
BAYSVILLE	ONT.	45.150	-79.117	3
BEAR RIVER	N.S.	44.570	-65.650	3
BEATTYVILLE	QUE.	48.880	-77.130	3
BEAUHARNOIS	QUE.	45.320	-73.870	3
BEAVER HARBOUR	N.B.	45.070	-66.750	3
BELLEISLE CREEK	N.B.	45.720	-65.750	3
BELLETERRE	QUE.	47.380	-78.700	3

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
BERESFORD	N. B.	47.700	-65.700	3
BIENCOURT	QUE.	47.930	-68.600	3
BLACKS HARBOUR	N. B.	45.050	-66.780	3
BONSHAW	P. E. I.	46.200	-63.350	3
BRIDGETOWN	N. S.	44.850	-65.300	3
BRISTOL	N. B.	46.470	-67.580	3
BROMONT	QUE.	45.300	-72.683	3
BRYSON	QUE.	45.680	-76.620	3
BUCTOUCHE	N. B.	46.470	-64.720	3
CALIXA-LAVALLEE	QUE.	45.750	-73.280	3
CALLANDER	ONT.	46.220	-79.370	3
CAMBRIDGE-NARROWS	N. B.	45.830	-65.950	3
CAP-SANTE	QUE.	46.670	-71.780	3
CAP-ST-IGNACE	QUE.	47.030	-70.470	3
CAPLAN	QUE.	48.100	-65.680	3
CAUSAPSCAL	QUE.	48.370	-67.230	3
CHATHAM	N. B.	47.030	-65.470	3
CHESTER	N. S.	44.550	-64.250	3
CHIPMAN	N. B.	46.170	-65.880	3
CLERVAL	QUE.	48.750	-79.420	3
COLOMBOURG	QUE.	48.750	-79.170	3
CONNAUGHT	ONT.	48.617	-80.933	3
COPPER CLIFF	ONT.	46.467	-81.067	3
CORBEIL	ONT.	46.270	-79.300	3
CORNHILL	N. B.	45.920	-65.350	3
COTEAU-LANDING	QUE.	45.250	-74.220	3
CRABTREE (MILLS)	QUE.	45.970	-73.470	3
CRYSTAL FALLS	ONT.	46.450	-79.900	3
DACRE	ONT.	45.370	-76.970	3
DALHOUSIE	N. B.	48.070	-66.380	3
DALKEITH	ONT.	45.450	-74.580	3
DAVELUYVILLE	QUE.	46.200	-72.130	3
DIEPPE	N. B.	46.100	-64.750	3
DIXVILLE	QUE.	45.067	-71.767	3
DOBIE	ONT.	48.130	-79.820	3
DORVAL	QUE.	45.450	-73.750	3
DOUGLASTOWN	N. B.	47.030	-65.500	3
DOWLING	ONT.	46.583	-81.333	3
DUPARQUET	QUE.	48.500	-79.230	3
DUPUY	QUE.	48.830	-79.350	3
DURHAM BRIDGE	N. B.	46.120	-66.600	3
EARLTON	ONT.	47.720	-79.820	3
ELLERSHOUSE	N. S.	44.950	-64.000	3
ELLIOT LAKE	ONT.	46.383	-82.650	3
ELMSDALE	N. S.	44.970	-63.500	3
ELMVALE	ONT.	44.580	-79.870	3
EMSDALE	ONT.	45.533	-79.317	3
ENGLEHART	ONT.	47.820	-79.870	3
ESPRIT-SAINT	QUE.	48.070	-68.570	3
FAIRHAVEN	N. B.	44.970	-67.000	3
FALCONBRIDGE	ONT.	42.900	-81.533	3
FAUQUIER	ONT.	49.317	-82.033	3
FERMONT	QUE.	52.780	-67.080	3
FIELD	ONT.	46.520	-80.020	3
FONTHILL	ONT.	43.030	-79.280	3
FORILLON	QUE.	48.770	-64.200	3
FRANKLIN-CENTRE	QUE.	45.030	-73.920	3
FREDERICKHOUSE	ONT.	49.083	-81.167	3

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
FREDERICTON JUNCTION	N. B.	45.670	-66.620	3
FUGEREVILLE	QUE.	47.400	-79.200	3
GARDEN VILLAGE	ONT.	46.320	-79.870	3
GASPE	QUE.	48.830	-64.480	3
GATINEAU	QUE.	45.500	-75.650	3
GLOUCESTER	ONT.	45.350	-75.630	3
GONDOLA POINT	N. B.	45.260	-65.590	3
GOOSE AIRPORT	NFLD	53.250	-60.333	3
GRACEFIELD	QUE.	46.100	-76.050	3
GRAND FALLS	N. B.	47.050	-67.730	3
GRAND HARBOUR	N. B.	44.680	-66.770	3
GRANDE-RIVIERE-OUEST	QUE.	48.400	-64.520	3
GROSSES-ROCHES	QUE.	48.930	-67.170	3
GUENETTE	QUE.	46.530	-75.250	3
GUYENNE	QUE.	48.780	-78.470	3
HAGAR	ONT.	46.450	-80.417	3
HAMPTON	N. B.	45.530	-65.850	3
HANMER	ONT.	46.650	-80.933	3
HANTSPORT	N. S.	45.070	-64.170	3
HARRICANAW-OUEST	QUE.	48.470	-78.130	3
HARVEY STATION	N. B.	45.730	-67.000	3
HATFIELD POINT	N. B.	45.650	-65.870	3
HEAD OF JEDDORE	N. S.	44.780	-63.070	3
HERON BAY	ONT.	48.667	-86.283	3
HEROUXVILLE	QUE.	46.670	-72.620	3
HOWICK	QUE.	45.180	-73.850	3
HUBERDEAU	QUE.	45.970	-74.630	3
HUNTINGDON	QUE.	45.080	-74.170	3
IRON BRIDGE	ONT.	46.283	-83.233	3
IROQUOIS FALLS	ONT.	48.770	-80.680	3
ISSOUDUN	QUE.	46.583	-71.617	3
JACKSONVILLE	N. B.	46.200	-67.620	3
JOLIETTE	QUE.	46.020	-73.450	3
KARS	ONT.	45.150	-75.650	3
KATRINE	ONT.	45.570	-79.350	3
KEARNEY	ONT.	45.550	-79.220	3
KEARNS	ONT.	48.150	-79.570	3
KEDGWICK	N. B.	47.650	-67.350	3
KEMPTVILLE	N. S.	44.050	-65.830	3
KENMORE	ONT.	45.230	-75.420	3
KENOGAMI	ONT.	48.100	-80.200	3
KING CITY	ONT.	43.930	-79.530	3
KING KIRKLAND	ONT.	48.170	-79.950	3
KIPAWA	QUE.	46.780	-78.980	3
KOUCHIBOUGUAC	N. B.	46.800	-65.050	3
L'ASCENSION-DE-PATAPEDIA	QUE.	47.930	-67.250	3
LA DURANTAYE	QUE.	46.830	-70.850	3
LA MARTRE	QUE.	49.200	-66.170	3
LA REDEMPTION	QUE.	48.450	-67.880	3
LA REINE	QUE.	48.870	-79.500	3
LAC-DROLET	QUE.	45.717	-70.850	3
LAC-ETCHEMIN	QUE.	46.400	-70.500	3
LAC-FRONTIERE	QUE.	46.700	-70.000	3
LAC-SUPERIEUR	QUE.	46.200	-74.470	3
LADYSMITH	QUE.	45.770	-76.380	3
LAFORCE	QUE.	47.530	-78.730	3
LAMY	QUE.	47.780	-69.100	3
LANDRIENNE	QUE.	48.550	-77.950	3

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
LATULIPE	QUE.	47.430	-79.030	3
LAVIGNE	ONT.	46.330	-80.170	3
LEBEL-SUR-QUEVILLON	QUE.	49.050	-76.980	3
LEPREAU	N.B.	45.170	-66.470	3
LES HAUTEURS-DE-RIMOUSKI	QUE.	48.380	-68.120	3
LEVACK	ONT.	46.633	-81.383	3
LIMOGES	ONT.	45.330	-75.250	3
LITTLE RIDGE	N.B.	45.650	-64.750	3
LOCHIEL	ONT.	45.380	-74.620	3
LOUVICOURT	QUE.	48.070	-77.380	3
LOWBANKS	ONT.	42.870	-79.450	3
MACAMIC	QUE.	48.750	-79.000	3
MACKEY	ONT.	46.170	-77.800	3
MAGPIE	QUE.	50.320	-64.500	3
MAISONNETTE	N.B.	47.820	-65.000	3
MAITLAND	N.S.	45.320	-63.500	3
MALAGASH	N.S.	45.770	-63.380	3
MALLORYTOWN	ONT.	44.480	-75.880	3
MANOTICK	ONT.	45.220	-75.680	3
MARTEN RIVER	ONT.	46.730	-79.820	3
MATANE	QUE.	48.850	-67.530	3
MAURICE POINT	ONT.	44.733	-80.067	3
MCDONALDS CORNERS	ONT.	44.950	-76.530	3
MCKERROW	ONT.	46.283	-81.767	3
MIDDLE MUSQUODOBOIT	N.S.	45.050	-63.150	3
MIDDLETON	N.S.	44.950	-65.070	3
MILFORD BAY	ONT.	45.080	-79.480	3
MILLBROOK	ONT.	44.150	-78.450	3
MILLTOWN	N.B.	45.120	-67.340	3
MIMINEGASH	P.E.I.	46.880	-64.230	3
MINDEN	ONT.	44.920	-78.720	3
MOFFET	QUE.	47.530	-78.950	3
MONCTON	N.B.	46.100	-64.780	3
MONT-LOUIS	QUE.	49.250	-65.730	3
MONT-ROLLAND	QUE.	45.950	-74.120	3
MONT-ST-GREGOIRE	QUE.	45.333	-73.167	3
MONT-ST-PIERRE	QUE.	49.220	-65.820	3
MONT-TREMBLANT	QUE.	46.220	-74.600	3
MONTCERF	QUE.	46.530	-76.050	3
MONTREAL-NORD	QUE.	45.600	-73.630	3
MOUNTAIN GROVE	ONT.	44.730	-76.850	3
MURDOCHVILLE	QUE.	48.970	-65.500	3
MURRAY RIVER	P.E.I.	46.020	-62.620	3
NACKAWIC	N.B.	46.000	-67.250	3
NASH CREEK	N.B.	47.920	-66.080	3
NATASHQUAN	QUE.	50.200	-61.820	3
NEDELEC	QUE.	47.680	-79.430	3
NEMISCAU	QUE.	51.317	-76.900	3
NEWCASTLE	N.B.	47.000	-65.570	3
NEW LOWELL	ONT.	44.370	-79.950	3
NEW ROSS	N.S.	44.730	-64.450	3
NEW-CARLISLE	QUE.	48.020	-65.330	3
NIGADOO	N.B.	47.730	-65.730	3
NIPISSING	ONT.	46.100	-79.520	3
NORTH WEST RIVER	NFLD	53.533	-60.133	3
NOTRE-DAME-DE-PIERREVILLE	QUE.	46.100	-72.883	3
NOTRE-DAME-DU-PORTAGE	QUE.	47.770	-69.620	3
NOUVEAU COMPTOIR	QUE.	53.000	-78.816	3

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
NOUVELLE	QUE.	48.130	-66.320	3
NOVAR	ONT.	45.450	-79.250	3
O'LEARY	P.E.I.	46.700	-64.220	3
OROMOCTO MPO 102	N.B.	45.830	-66.450	3
OWEN SOUND	ONT.	44.570	-80.930	3
OXFORD STATION	ONT.	44.930	-75.620	3
PABOS-MILLS	QUE.	48.300	-64.700	3
PALGRAVE	ONT.	43.950	-79.830	3
PALMER RAPIDS	ONT.	45.320	-77.520	3
PARRSBORO	N.S.	45.400	-64.330	3
PEMBROKE	ONT.	45.820	-77.120	3
PENNFIELD	N.B.	45.100	-66.730	3
PETIT-ROCHER-NORD	N.B.	47.800	-65.730	3
PLAISANCE	QUE.	45.620	-75.080	3
POINTE-AUX-TREMBLES	QUE.	45.650	-73.500	3
POINTE-DE-BUTTE	N.B.	45.900	-64.850	3
POINTE-DES-CASCADES	QUE.	45.330	-73.970	3
POINTE-FORTUNE	QUE.	45.570	-74.380	3
PORT-MENIER	QUE.	49.820	-64.350	3
PORTLAND	ONT.	44.700	-76.200	3
POSTE-DE-LA-BALEINE	QUE.	55.283	-77.750	3
POULARIES	QUE.	48.670	-78.980	3
PRESCOTT	ONT.	44.720	-75.520	3
QUISPAMISIS	N.B.	45.420	-65.970	3
RADISSON	QUE.	53.783	-77.617	3
RAMORE	ONT.	48.430	-80.330	3
RED ROCK	ONT.	48.933	-88.250	3
REMIGNY	QUE.	47.770	-79.200	3
RESTOULE	ONT.	46.030	-79.730	3
REXTON	N.B.	46.650	-64.870	3
RIMOUSKI	QUE.	48.430	-68.550	3
RIPPLES	N.B.	46.000	-66.220	3
RIVIERE-BEAUDETTE	QUE.	45.230	-74.330	3
RIVIERE-DAVY	QUE.	48.650	-78.233	3
RIVIERE-HEVA	QUE.	48.230	-78.220	3
RIVIERE-ST-JEAN	QUE.	50.300	-64.330	3
ROCHEBAUCOURT	QUE.	48.680	-77.500	3
ROGERSVILLE	N.B.	46.730	-65.430	3
ROLLET	QUE.	47.920	-79.250	3
ROLLINGDAM	N.B.	45.320	-67.080	3
ROQUEMAURE	QUE.	48.600	-79.420	3
ROTHESAY	N.B.	45.380	-66.000	3
ROUGEMONT	QUE.	45.430	-73.050	3
ROUND LAKE CENTRE	ONT.	45.620	-77.530	3
ROXTON-POND	QUE.	45.467	-72.667	3
RUISSEAU-A-REBOURS	QUE.	49.230	-65.930	3
RUTHERGLEN	ONT.	46.270	-79.050	3
SABREVOIS	QUE.	45.200	-73.230	3
SACKVILLE	N.B.	45.900	-64.370	3
SCOTSTOWN	QUE.	45.533	-71.283	3
SEARCHMONT	ONT.	46.783	-84.050	3
SECOND FALLS	N.B.	45.230	-66.850	3
SHELDRAKE	QUE.	50.270	-64.900	3
SHERBROOKE	QUE.	45.420	-71.900	3
SOUTH RIVER	ONT.	45.830	-79.380	3
SOUTHESK	N.B.	45.950	-65.680	3
ST. JOHN	N.B.	45.270	-66.050	3
ST-ADELME-DE-MATANE	QUE.	48.820	-67.320	3

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ST-ALBERT	QUE.	46.000	-72.083	3
ST-ALEXANDRE-DES-LACS	QUE.	48.470	-67.300	3
ST-ALPHONSE-DE-GRANBY	QUE.	45.317	-72.817	3
ST-ANDRE	N.B.	47.100	-67.750	3
ST-ANDRE-EST	QUE.	45.570	-74.330	3
ST-ANDREWS	N.B.	45.080	-67.050	3
ST-AUGUSTIN-SAGUENAY	QUE.	51.220	-58.650	3
ST-BERNARD-DE-LACOLLE	QUE.	45.080	-73.420	3
ST-CHARLES-DE-BELLECHASSE	QUE.	46.580	-71.850	3
ST-CHARLES-GARNIER	QUE.	48.330	-68.050	3
ST-CLAUDE	QUE.	45.667	-71.983	3
ST-CLEOPHAS	QUE.	48.483	-67.733	3
ST-CONSTANT	QUE.	45.370	-73.570	3
ST-DAMASE	QUE.	45.517	-73.017	3
ST-DOMINIQUE-DE-BAGOT	QUE.	45.567	-72.850	3
ST-ELIE	QUE.	46.480	-72.970	3
ST-EUSTACHE	QUE.	45.570	-73.900	3
ST-FRANCOIS-D'ASSISE	QUE.	47.980	-67.170	3
ST-FRANCOIS-DU-LAC	QUE.	46.067	-72.833	3
ST-GABRIEL-DE-RIMOUSKI	QUE.	48.420	-68.170	3
ST-GEORGES-DE-BEAUCE	QUE.	46.120	-70.670	3
ST-JEAN	QUE.	45.320	-73.270	3
ST-JEAN-BAPTISTE-DE-ROUVILLE	QUE.	47.117	-70.183	3
ST-JOSEPH	N.B.	45.980	-64.570	3
ST-LAURENT (VILLE)	QUE.	45.500	-73.670	3
ST-LAZARE-DE-BELLECHASSE	QUE.	46.650	-70.800	3
ST-LEON-LE-GRAND	QUE.	48.380	-67.500	3
ST-LIBOIRE	QUE.	45.650	-72.767	3
ST-LOUIS-DE-KENT	N.B.	46.730	-64.970	3
ST-MALACHIE	QUE.	46.530	-70.770	3
ST-MALO	QUE.	45.200	-71.500	3
ST-MARTINS	N.B.	45.350	-65.530	3
ST-MICHEL-DES-SAINTS	QUE.	46.680	-73.920	3
ST-MODESTE	QUE.	47.830	-69.400	3
ST-MOISE	QUE.	48.520	-67.850	3
ST-NARCISSE-DE-RIMOUSKI	QUE.	48.280	-68.430	3
ST-NAZAIRE-DE-BERRY	QUE.	48.720	-78.250	3
ST-OMER	QUE.	48.120	-66.220	3
ST-PAMPHILE	QUE.	46.970	-69.780	3
ST-PAUL-D'ABBOTSFORD	QUE.	45.430	-72.880	3
ST-PAUL-DE-MONTMINY	QUE.	46.730	-70.370	3
ST-POLYCARPE	QUE.	45.300	-74.300	3
ST-PROSPER-DE-DORCHESTER	QUE.	46.217	-70.483	3
ST-RENE-DE-MATANE	QUE.	48.700	-67.380	3
ST-SIMON-DE-RIMOUSKI	QUE.	48.200	-69.050	3
ST-THEOPHILE	QUE.	45.933	-70.483	3
ST-ULRIC	QUE.	48.780	-67.700	3
ST-VIANNEY	QUE.	48.620	-67.420	3
STANBRIDGE-STATION	QUE.	45.120	-73.030	3
STANDON	QUE.	46.480	-70.620	3
STE-ANNE-DE-KENT	N.B.	46.550	-64.770	3
STE-ANNE-DES-MONTS	QUE.	49.130	-66.500	3
STE-ANNE-DU-LAC	QUE.	46.880	-75.330	3
STE-CLOTHIDE	QUE.	45.983	-72.233	3
STE-HENEDINE	QUE.	46.567	-70.983	3
STE-IRENE-DE-MATAPEDIA	QUE.	48.430	-67.600	3
STE-JUSTINE-DE-NEWTON	QUE.	45.370	-74.420	3
STE-LOUISE	QUE.	47.280	-70.130	3

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
STE-MARIE-DE-KENT	N.B.	46.420	-64.820	3
STE-PAULA	QUE.	48.670	-67.550	3
STE-PERPETUE-DE-L'ISLET	QUE.	47.050	-69.930	3
STE-ROSE-DE-WATFORD	QUE.	46.320	-70.420	3
STITTSVILLE	ONT.	45.250	-75.917	3
STURGEON FALLS	ONT.	46.370	-79.920	3
SUSSEX	N.B.	45.720	-65.520	3
SUTTON	ONT.	44.300	-79.370	3
TABUSINTAC	N.B.	47.330	-65.020	3
TASCHEREAU	QUE.	48.670	-78.680	3
TEMPERANCE-VALE	N.B.	46.070	-67.250	3
THESSALON	ONT.	46.250	-83.567	3
THORNLOE	ONT.	47.670	-79.750	3
TORRANCE	ONT.	45.000	-79.567	3
TOURVILLE	QUE.	47.100	-69.980	3
TRACADIE	N.B.	47.520	-64.900	3
UPPER WOODSTOCK	N.B.	46.180	-67.570	3
UTTERSON	ONT.	45.217	-79.333	3
VAL-BRILLANT	QUE.	48.530	-67.550	3
VAL-CARON	ONT.	46.617	-81.017	3
VICTORIA	N.B.	47.030	-65.230	3
VILLEBOIS	QUE.	49.100	-79.150	3
WARKWORTH	ONT.	44.200	-77.880	3
WATERLOO	ONT.	43.467	-80.517	3
WEBBWOOD	ONT.	46.267	-81.883	3
WENDOVER	ONT.	45.570	-75.120	3
WENTWORTH	N.S.	45.650	-63.550	3
WEST BAY	N.S.	45.370	-64.380	3
WESTCHESTER STATION	N.S.	45.620	-63.670	3
WIRRAL	N.B.	45.520	-66.480	3

**INTENSITY 3
(UNITED STATES)**

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
38.080	-77.200	3	40.467	-74.350	3
38.900	-77.040	3	40.515	-74.413	3
39.100	-84.513	3	40.583	-73.667	3
39.617	-74.333	3	40.600	-75.500	3
39.633	-74.800	3	40.700	-75.217	3
39.753	-75.212	3	40.700	-74.283	3
39.770	-86.155	3	40.733	-74.383	3
39.833	-75.833	3	40.733	-74.183	3
39.833	-75.150	3	40.750	-74.033	3
39.920	-75.030	3	40.760	-74.417	3
39.920	-75.180	3	40.767	-73.017	3
39.933	-75.117	3	40.800	-72.800	3
39.950	-75.267	3	40.833	-74.483	3
39.993	-74.788	3	40.841	-74.045	3
40.267	-74.517	3	40.867	-74.033	3
40.440	-79.991	3	40.884	-72.390	3

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
40.886	-74.044	3	42.213	-78.637	3
40.900	-74.083	3	42.217	-71.317	3
40.900	-74.517	3	42.233	-73.867	3
40.900	-74.050	3	42.239	-79.031	3
40.900	-74.583	3	42.250	-71.167	3
40.904	-74.119	3	42.252	-78.806	3
40.917	-74.250	3	42.267	-72.583	3
40.920	-74.000	3	42.267	-71.617	3
40.926	-74.635	3	42.283	-74.917	3
40.931	-73.899	3	42.317	-72.333	3
40.943	-74.154	3	42.333	-79.567	3
40.963	-71.183	3	42.337	-78.458	3
40.998	-72.293	3	42.358	-71.056	3
41.033	-73.767	3	42.364	-79.056	3
41.067	-73.850	3	42.375	-71.125	3
41.234	-74.414	3	42.383	-76.850	3
41.250	-75.880	3	42.417	-77.233	3
41.250	-74.350	3	42.419	-78.495	3
41.267	-73.683	3	42.433	-76.500	3
41.283	-73.500	3	42.450	-79.333	3
41.300	-73.983	3	42.550	-75.550	3
41.367	-76.000	3	42.583	-71.283	3
41.377	-71.834	3	42.600	-73.767	3
41.383	-70.517	3	42.600	-72.233	3
41.383	-73.433	3	42.600	-70.883	3
41.433	-79.717	3	42.617	-76.183	3
41.450	-70.600	3	42.717	-76.417	3
41.517	-73.933	3	42.722	-84.427	3
41.583	-73.417	3	42.725	-77.875	3
41.600	-71.250	3	42.733	-73.717	3
41.617	-79.667	3	42.750	-70.867	3
41.667	-70.800	3	42.783	-73.667	3
41.717	-70.750	3	42.801	-82.486	3
41.717	-72.617	3	42.850	-70.933	3
41.717	-73.967	3	42.883	-76.983	3
41.750	-71.183	3	42.883	-71.950	3
41.767	-76.450	3	42.899	-76.105	3
41.783	-73.933	3	42.900	-76.867	3
41.783	-72.517	3	42.900	-78.740	3
41.860	-72.637	3	42.900	-73.817	3
41.867	-72.967	3	42.900	-72.067	3
41.920	-72.177	3	42.917	-76.783	3
41.933	-72.633	3	42.947	-71.516	3
41.975	-72.590	3	42.950	-74.400	3
41.983	-73.883	3	42.963	-78.804	3
41.985	-71.340	3	42.972	-85.670	3
42.000	-78.183	3	42.983	-78.583	3
42.033	-80.250	3	42.983	-77.417	3
42.067	-71.333	3	42.983	-76.150	3
42.083	-72.617	3	43.017	-75.983	3
42.090	-78.494	3	43.033	-78.883	3
42.100	-76.267	3	43.050	-76.300	3
42.100	-72.610	3	43.050	-76.117	3
42.117	-72.583	3	43.083	-70.733	3
42.167	-77.067	3	43.100	-79.067	3
42.183	-71.050	3	43.117	-75.283	3
42.190	-72.860	3	43.117	-73.500	3
42.200	-73.367	3	43.117	-71.450	3

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
43.167	-76.333	3	44.217	-68.683	3
43.167	-77.617	3	44.233	-70.033	3
43.217	-77.433	3	44.283	-73.983	3
43.233	-76.817	3	44.300	-74.083	3
43.300	-71.333	3	44.333	-70.583	3
43.417	-71.983	3	44.333	-69.867	3
43.467	-75.333	3	44.333	-74.117	3
43.583	-71.233	3	44.400	-70.783	3
43.597	-70.200	3	44.407	-74.087	3
43.683	-70.433	3	44.411	-72.143	3
43.700	-71.633	3	44.417	-68.600	3
43.800	-70.800	3	44.467	-72.683	3
43.800	-70.187	3	44.526	-72.946	3
43.817	-72.517	3	44.533	-67.883	3
43.850	-70.083	3	44.583	-70.233	3
43.854	-69.629	3	44.583	-68.800	3
43.867	-71.633	3	44.750	-74.983	3
43.917	-72.150	3	44.763	-85.620	3
43.983	-72.450	3	44.767	-69.400	3
43.983	-75.617	3	44.767	-69.211	3
44.017	-70.983	3	44.833	-69.267	3
44.031	-70.104	3	44.950	-72.133	3
44.033	-71.683	3	44.982	-72.917	3
44.050	-70.700	3	44.983	-74.500	3
44.050	-71.667	3	44.983	-73.300	3
44.117	-69.250	3	44.983	-72.683	3
44.117	-70.400	3	45.000	-69.017	3
44.122	-72.542	3	45.067	-83.433	3
44.133	-72.033	3	45.990	-68.450	3
44.150	-68.667	3	46.350	-87.350	3
44.183	-73.250	3	46.505	-67.820	3
44.188	-72.142	3	46.517	-67.883	3
44.217	-73.600	3	46.783	-68.167	3
44.217	-69.283	3	46.900	-67.833	3

**INTENSITY 2
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
BANCROFT	ONT.	45.050	-77.850	2
BLACK POINT	N.S.	44.650	-63.980	2
BLIND RIVER	ONT.	46.167	-82.967	2
BROMPTONVILLE	QUE.	45.467	-71.950	2
CAREROLL'S CROSSING	N.B.	46.520	-66.230	2
CHELMSFORD	ONT.	46.583	-81.200	2
CODRINGTON	ONT.	44.170	-77.800	2
CONISTON	ONT.	46.483	-80.850	2
DORION	ONT.	48.783	-88.533	2
FAIRVALE STATION	N.B.	45.420	-66.000	2
GUERIN	QUE.	47.670	-79.320	2

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
HAWK JUNCTION	ONT.	48.083	-84.567	2
KEGASHKA	QUE.	50.200	-61.283	2
MUD LAKE	NFLD	53.317	-60.167	2
NOBEL	ONT.	45.417	-80.100	2
OBA	ONT.	49.067	-84.100	2
PICKEREL	ONT.	45.983	-80.533	2
PORT SYDNEY	ONT.	45.217	-79.283	2
RICHARDS LANDING	ONT.	46.283	-84.033	2
RIVERVIEW	N.B.	46.030	-64.490	2
RIVERVIEW	N.B.	45.750	-65.080	2
ST CATHARINES	ONT.	43.170	-79.250	2
SPANISH	ONT.	46.183	-82.333	2
STONECLIFFE	ONT.	46.220	-77.880	2
STROUD	ONT.	44.320	-79.620	2
WASAGA BEACH	ONT.	44.517	-80.017	2
WELLAND	ONT.	42.983	-79.250	2
WESTFIELD	N.B.	45.330	-66.230	2

**INTENSITY 2
(UNITED STATES)**

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
39.770	-74.890	2	42.083	-71.417	2
40.417	-74.050	2	42.167	-71.217	2
40.420	-74.580	2	42.321	-85.180	2
40.617	-73.667	2	42.450	-73.250	2
40.617	-76.167	2	42.563	-84.836	2
40.700	-74.950	2	42.633	-70.950	2
40.717	-74.400	2	42.733	-73.717	2
40.790	-73.970	2	42.767	-77.817	2
40.832	-76.836	2	42.783	-71.200	2
40.833	-74.083	2	42.940	-73.687	2
40.867	-73.650	2	42.975	-82.425	2
41.033	-74.633	2	43.012	-83.681	2
41.233	-77.033	2	43.233	-78.383	2
41.317	-73.100	2	43.450	-76.517	2
41.567	-72.050	2	44.183	-69.100	2
41.567	-72.617	2	44.533	-67.600	2
41.667	-73.083	2	44.583	-75.167	2
41.667	-71.267	2	42.620	-82.820	2
41.940	-85.000	2			

**INTENSITY 1
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
SCOTCH LAKE	N.B.	45.950	-66.970	1

**INTENSITY F (NO OTHER INFORMATION GIVEN)
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ALBAN	ONT.	46.100	-80.617	F
ARMAGH	QUE.	46.750	-70.580	F
BAINSVILLE	ONT.	45.180	-74.420	F
BEAUDRY	QUE.	48.120	-79.150	F
BETSIAMITES	QUE.	48.930	-68.630	F
BLACKVILLE	N.B.	46.730	-65.830	F
BOIESTOWN	N.B.	46.450	-66.420	F
BOISCHATEL	QUE.	46.900	-71.150	F
BRINSTON	ONT.	44.930	-75.350	F
BROWNS FLAT	N.B.	45.470	-66.130	F
CALSTOCK	ONT.	49.783	-84.150	F
CANTERBURY	N.B.	45.880	-67.480	F
CAP-ROUGE	QUE.	46.750	-71.350	F
CAPUCINS	QUE.	49.050	-66.830	F
CHAPLEAU	ONT.	47.833	-83.400	F
CHURCHILL FALLS	NFLD	53.550	-64.017	F
CLAYTON	ONT.	45.180	-76.330	F
COBDEN	ONT.	45.630	-76.880	F
COMBERMERE	ONT.	45.370	-77.620	F
DESCHAMBAULT	QUE.	46.650	-71.930	F
DEUX-RIVIERES	ONT.	46.250	-78.280	F
DIEPPE	N.B.	46.100	-64.750	F
DOMAINE-DES-HAUTS-BOIS	QUE.	45.567	-73.317	F
EGANVILLE	ONT.	45.530	-77.100	F
ELK LAKE	ONT.	47.730	-80.330	F
GRAND MANAN	N.B.	44.700	-66.780	F
GRANDES-PILES	QUE.	46.683	-72.733	F
HORNELL HEIGHTS (CFB NORTH BAY)	ONT.	46.320	-79.470	F
L'ANNONCIATION	QUE.	46.420	-74.870	F
L'ISLE-VERTE	QUE.	48.020	-69.330	F
MANCEBOURG	QUE.	48.770	-79.280	F
MARSOUI	QUE.	49.220	-66.070	F
MASSEY	ONT.	46.200	-82.083	F
MCADAM	N.B.	45.600	-67.330	F
MCNAMEE	N.B.	46.500	-66.300	F
MOSER RIVER	N.S.	44.970	-62.250	F
MOSS GLEN	N.B.	45.420	-66.030	F
NEWCASTLE	N.B.	47.000	-65.570	F
NORBERTVILLE	QUE.	46.100	-71.817	F
NORTH HEAD	N.B.	44.770	-66.750	F
NORWOOD	ONT.	44.380	-77.980	F
PETITE-RIVIERE	QUE.	47.300	-70.570	F
PIERREFONDS	QUE.	45.480	-73.870	F

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
POCOLOGAN	N.B.	45.130	-66.580	F
POWASSAN	ONT.	46.080	-79.370	F
RIVIERE-AU-TONNERRE	QUE.	50.270	-64.780	F
SALISBURY	N.B.	46.030	-65.050	F
SAULT-ST-LIN	QUE.	45.880	-73.770	F
SEAL COVE	N.B.	44.650	-66.850	F
SOUTH BROOKFIELD	N.S.	44.380	-64.970	F
ST-RAPHAEL-SUR-MER	N.B.	47.800	-64.570	F
ST-BERNARD-SUR-MER	QUE.	47.420	-70.380	F
ST-JACQUES	QUE.	45.950	-73.570	F
ST-GEORGES-DE-MALBAIE	QUE.	48.650	-64.200	F
ST-ETIENNE-DES-GRES	QUE.	46.430	-72.770	F
ST-AMBROISE	QUE.	48.550	-71.330	F
STE-ANNE-DE-MADAWASKA	N.B.	47.250	-68.030	F
TEMAGAMI	ONT.	47.070	-79.780	F
TROUT CREEK	ONT.	45.980	-79.370	F
VAL THERESE	ONT.	46.650	-81.000	F
WALFORD STATION	ONT.	46.200	-82.250	F
WOODSTOCK	N.B.	46.150	-67.580	F
YOUNGS COVE ROAD	N.B.	45.950	-65.850	F

**INTENSITY 0 (NOT FELT)
(CANADA)**

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
ALBANY	P.E.I.	46.280	-63.650	0
ALDER POINT	N.S.	46.300	-60.280	0
ALGOMA MILLS	ONT.	46.167	-82.833	0
ALLENDALE	N.S.	43.750	-65.100	0
ANCHOR POINT	NFLD	51.233	-56.800	0
ANSE-AU-GRIFFON	QUE.	48.950	-64.300	0
APOHAQUI	N.B.	45.700	-65.600	0
ARCADIA	N.S.	43.830	-66.070	0
ARICHAT	N.S.	45.520	-61.020	0
ARMSTRONG STATION	ONT.	50.300	-89.033	0
ARNSTEIN	ONT.	45.920	-79.930	0
ASPEN	N.S.	45.300	-62.050	0
ASTORVILLE	ONT.	46.180	-79.280	0
ATHENS	ONT.	44.630	-75.950	0
ATIKOKAN	ONT.	48.750	-91.617	0
AUPALUK	QUE.	59.350	-69.683	0
AUSTIN	QUE.	45.180	-72.280	0
AVONPORT	N.S.	45.100	-64.250	0
AZILDA	ONT.	46.550	-80.100	0
BACK BAY	N.B.	45.050	-66.870	0
BADDECK	N.S.	46.100	-60.750	0
BAIE VERTE	NFLD	49.933	-56.183	0
BAIE-COMEAU	QUE.	49.220	-68.150	0
BAIE-DES-MOUTONS	QUE.	50.770	-59.030	0
BAIE-JOHAN-BEETZ	QUE.	50.280	-62.800	0
BAIE-STE-ANNE	N.B.	47.050	-64.950	0
BALA	ONT.	45.017	-79.617	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
BALMORAL	N.B.	47.970	-66.450	0
BARACHOIS-DE-MALBAIE	QUE.	48.620	-64.280	0
BARNEYS RIVER STATION	N.S.	45.600	-62.270	0
BARRINGTON PASSAGE	N.S.	43.530	-65.620	0
BARTON	N.S.	44.530	-65.870	0
BASS RIVER	N.B.	46.550	-65.120	0
BASSIN	QUE.	47.220	-61.930	0
BATHURST	N.B.	47.600	-65.650	0
BATCHAWANA BAY	ONT.	46.933	-84.600	0
BAYFIELD	N.B.	46.130	-63.820	0
BEARDMORE	ONT.	49.600	-87.950	0
BEAVERTON	ONT.	44.430	-79.150	0
BELLBURNS	NFLD	50.333	-57.533	0
BELLE COTE	N.S.	46.450	-61.100	0
BELLE VALLEE	ONT.	47.650	-79.580	0
BERTRAND	N.B.	47.750	-65.070	0
BERWICK	N.S.	45.050	-64.730	0
BICKERTON WEST	N.S.	45.100	-61.730	0
BIRCH GROVE	N.S.	46.120	-59.950	0
BIRCH ISLAND	ONT.	46.083	-81.750	0
BIRCHY HEAD	NFLD	49.450	-57.900	0
BIRD COVE	NFLD	51.050	-56.933	0
BISCOTASING	ONT.	47.283	-82.100	0
BLACK CAPE	QUE.	48.130	-65.820	0
BLACK DUCK COVE	NFLD	51.200	-56.800	0
BLACK POINT	N.S.	44.650	-63.980	0
BLANC-SABLON	QUE.	51.420	-57.130	0
BLANDFORD	N.S.	44.480	-64.120	0
BLOCKHOUSE	N.S.	44.450	-64.420	0
BLOOMFIELD	P.E.I.	46.770	-64.230	0
BOBCAYGEON	ONT.	44.550	-78.550	0
BONAVENTURE	QUE.	48.050	-65.480	0
BONFIELD	ONT.	46.230	-79.150	0
BOULANGER	QUE.	45.100	-72.567	0
BOYLSTON	N.S.	45.430	-61.500	0
BRANTVILLE	N.B.	47.370	-64.970	0
BRAS D'OR	N.S.	46.250	-60.280	0
BRENT'S COVE	NFLD	49.933	-55.717	0
BROOKLYN	N.S.	44.050	-64.700	0
BUCKHORN	ONT.	44.550	-78.350	0
BURLINGTON	NFLD	49.750	-56.017	0
CALEDONIA	N.S.	44.370	-65.030	0
CAMDEN EAST	ONT.	44.330	-76.830	0
CAMPBELLFORD	ONT.	44.300	-77.800	0
CANSO	N.S.	45.330	-61.000	0
CAP-AUX-MEULES	QUE.	47.380	-61.870	0
CAP-DES-ROSIERS	QUE.	48.870	-64.220	0
CAPE CHARLES	NFLD	52.217	-55.633	0
CAPE TORMENTINE	N.B.	46.130	-63.780	0
CAPSTICK	N.S.	47.000	-60.520	0
CARAMAT	ONT.	49.617	-86.150	0
CARDIGAN	P.E.I.	46.230	-62.620	0
CARTIER	ONT.	46.700	-81.550	0
CARTWRIGHT	NFLD	53.700	-57.017	0
CAUSAPSCAL	QUE.	48.370	-67.230	0
CENTRE-ST-SIMON	N.B.	47.730	-64.830	0
CHAPUT HUGHES	ONT.	48.130	-80.070	0
CHARTIERVILLE	QUE.	45.300	-71.200	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
CHEVERIE	N.S.	45.150	-64.170	0
CHRISTMAS ISLAND	N.S.	45.970	-60.750	0
CLARK'S HARBOUR	N.S.	43.450	-65.630	0
CLEMENTSVALE	N.S.	44.620	-65.570	0
CLIFTON ROYAL	N.B.	45.450	-66.000	0
CLINTON	ONT.	43.620	-81.530	0
CLYDE RIVER	N.S.	43.630	-65.480	0
COACHMAN'S COVE	NFLD	50.067	-56.117	0
COBALT	ONT.	47.400	-79.683	0
COCHRANE	ONT.	49.067	-81.017	0
CODYS	N.B.	45.880	-65.820	0
COLDBROOK STATION	N.S.	45.070	-64.580	0
COLLEGE BRIDGE	N.B.	45.980	-64.550	0
COMTOIS	QUE.	49.050	-76.980	0
CONCHE	NFLD	50.883	-55.900	0
COOK'S HARBOUR	NFLD	51.600	-55.867	0
CORNWALL	P.E.I.	46.230	-63.220	0
CORNWALLIS	N.S.	44.630	-65.630	0
COW HEAD	NFLD	49.917	-57.817	0
CRAPAUD	P.E.I.	46.230	-63.500	0
CROQUE	NFLD	51.033	-55.800	0
CROSS ROADS COUNTRY HARBOUR	N.S.	45.280	-61.880	0
CROWELL	N.S.	43.550	-65.600	0
CURRYS CORNER	N.S.	44.980	-64.130	0
CURVE LAKE	ONT.	44.480	-78.350	0
CUTLER	ONT.	46.167	-82.500	0
D'ESCOUSSE	N.S.	45.580	-60.970	0
DANFORD-LAKE	QUE.	45.920	-76.170	0
DAVIS INLET	NFLD	55.917	-60.967	0
DEEP BROOK	N.S.	44.630	-65.650	0
DEER LAKE	NFLD	49.167	-57.433	0
DEMORESTVILLE	ONT.	44.100	-77.200	0
DENSMORES MILLS	N.S.	45.300	-63.700	0
DESBARATS	ONT.	46.333	-83.933	0
DIGBY	N.S.	44.620	-65.770	0
DINGWALL	N.S.	46.900	-60.470	0
DOMINION	N.S.	46.220	-60.020	0
DOUGLASTOWN	QUE.	48.770	-64.380	0
DUNCHURCH	ONT.	45.650	-79.850	0
DUNHAM	QUE.	45.133	-72.800	0
EABAMET LAKE	ONT.	51.550	-87.983	0
EAST BAY	N.S.	46.020	-60.370	0
EAST ROYALTY	P.E.I.	46.283	-63.100	0
EDDIES COVE	NFLD	51.417	-56.450	0
EDDIES COVE WEST	NFLD	50.750	-57.167	0
ELDERBANK	N.S.	44.980	-63.220	0
ELMIRA	P.E.I.	46.450	-62.070	0
ELMSDALE	P.E.I.	46.820	-64.130	0
ENGLÉE	NFLD	50.733	-56.100	0
ESKASONI	N.S.	45.930	-60.600	0
ESPANOLA	ONT.	46.250	-81.767	0
ETANG-DU-NORD	QUE.	47.370	-61.950	0
EUREKA	N.S.	45.500	-62.680	0
EVAIN	QUE.	48.230	-79.130	0
EVANSVILLE	ONT.	45.817	-82.567	0
FATIMA	QUE.	47.400	-61.880	0
FISHERMANS HARBOUR	N.S.	45.120	-61.680	0
FLEUR DE LYS	NFLD	50.117	-56.133	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
FLORENCE	N.S.	46.270	-60.270	0
FLOWER'S COVE	NFLD	51.300	-56.733	0
FOLEYET	ONT.	48.250	-82.450	0
FORTEAU	NFLD	51.467	-56.967	0
FOXBORO	ONT.	44.250	-77.430	0
FOYMOUNT	ONT.	45.430	-77.320	0
FRANKVILLE	N.S.	45.650	-61.520	0
FREEPORT	N.S.	44.280	-66.320	0
GABARUS	N.S.	45.830	-60.150	0
GAGETOWN	N.B.	45.770	-66.150	0
GANANOQUE	ONT.	44.330	-76.170	0
GASCONS	QUE.	48.200	-64.850	0
GEORGETOWN	P.E.I.	46.180	-62.530	0
GERALDTON	ONT.	49.733	-86.950	0
GLACE BAY	N.S.	46.200	-59.950	0
GLENWOOD	N.S.	43.800	-65.880	0
GOLDBORO	N.S.	45.180	-61.650	0
GOLDEN VALLEY	ONT.	45.930	-79.800	0
GOWGANDA	ONT.	47.650	-80.770	0
GRAND ETANG	N.S.	46.550	-61.030	0
GRAND PRE	N.S.	45.100	-64.300	0
GRAND RIVER	N.S.	45.650	-60.670	0
GRANDE-ANSE	N.B.	47.800	-65.180	0
GRANDE-DIGUE	N.B.	46.300	-64.570	0
GRANDE-ENTREE	QUE.	47.550	-61.570	0
GRANDE-RIVIERE	QUE.	48.400	-64.500	0
GRANVILLE FERRY	N.S.	44.750	-65.520	0
GREAT BREHAT	NFLD	51.433	-55.500	0
GREEN ISLAND BROOK	NFLD	51.400	-56.533	0
GREEN ISLAND COVE	NFLD	51.383	-56.583	0
GREENWOOD, CFB/BFC	N.S.	44.970	-64.930	0
GUYSBOROUGH	N.S.	45.380	-61.500	0
HAMPTON	N.S.	44.900	-65.350	0
HARBOUR DEEP	NFLD	50.367	-56.517	0
HARCOURT	N.B.	46.470	-65.250	0
HARRINGTON-HARBOUR	QUE.	50.500	-59.480	0
HARTY	ONT.	49.483	-82.683	0
HASTINGS	ONT.	44.300	-77.950	0
HAVELOCK	ONT.	44.430	-77.880	0
HAVRE BOUCHER	N.S.	45.680	-61.530	0
HAVRE-AUX-MAISONS	QUE.	47.400	-61.800	0
HAVRE-ST-PIERRE	QUE.	50.230	-63.600	0
HAWKE'S BAY	NFLD	50.600	-57.150	0
HEAD OF ST MARGARETS BAY	N.S.	44.680	-63.920	0
HEARST	ONT.	49.683	-83.667	0
HEBRON	N.S.	43.880	-66.080	0
HERRING COVE	N.S.	44.570	-63.570	0
HILLSBOROUGH PARK	P.E.I.	46.267	-63.100	0
HILTON BEACH	ONT.	46.250	-83.883	0
HONEY HARBOUR	ONT.	44.867	-79.817	0
HOPEWELL	N.S.	45.480	-62.700	0
HOPEWELL HILL	N.B.	45.770	-64.680	0
HORNEPAYNE	ONT.	49.217	-84.783	0
HUNTA	ONT.	49.100	-81.267	0
HUNTER RIVER	P.E.I.	46.350	-63.350	0
IGNACE	ONT.	49.417	-91.667	0
ILE-MICHON	QUE.	50.220	-62.030	0
ILES-DE-LA-MADELEINE	QUE.	47.500	-61.667	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
INGOMAR	N.S.	43.570	-65.370	0
INGONISH	N.S.	46.700	-60.370	0
INGONISH BEACH	N.S.	46.630	-60.420	0
INUKJUAK (PORT HARRISON)	QUE.	58.450	-78.100	0
INVERNESS	N.S.	46.230	-61.300	0
ISAACS HARBOUR	N.S.	45.180	-61.670	0
JACKSON'S ARM	NFLD	49.867	-56.783	0
JEDDORE OYSTER PONDS	N.S.	44.780	-63.020	0
JELICOE	ONT.	49.683	-87.517	0
JOGUES	ONT.	49.600	-83.750	0
JORDAN FALLS	N.S.	43.820	-65.230	0
JUDIQUE	N.S.	45.870	-61.480	0
KAGAWONG	ONT.	45.900	-82.250	0
KAKABEKA FALLS	ONT.	48.400	-89.617	0
KAMINISTIQUIA	ONT.	48.533	-89.567	0
KANGIRSUK	QUE.	60.017	-70.033	0
KASHABOWIE	ONT.	48.650	-90.450	0
KEMPTVILLE	ONT.	45.020	-75.630	0
KENSINGTON	P.E.I.	46.430	-63.630	0
KESWICK	ONT.	44.250	-79.470	0
KETCH HARBOUR	N.S.	44.480	-63.550	0
KILLARNEY	ONT.	45.967	-81.517	0
KINGSTON	N.S.	44.980	-64.950	0
KIRKFIELD	ONT.	44.570	-78.980	0
L'ANSE-AMOUR	NFLD	51.467	-56.867	0
L'ANSE-AU-CLAIR	NFLD	51.417	-57.083	0
L'ANSE-AU-LOUP (LABRADOR)	NFLD	51.517	-56.833	0
L'ARDOISE	N.S.	45.620	-60.750	0
L'AVENIR	QUE.	45.767	-72.300	0
L'ECHOUERIE	QUE.	49.070	-64.470	0
LA SCIE	NFLD	49.950	-55.567	0
LAGACEVILLE	N.B.	47.230	-65.170	0
LAKESIDE	N.S.	44.630	-63.700	0
LANGTON	ONT.	42.750	-80.580	0
LANIEL	QUE.	47.050	-79.270	0
LARRYS RIVER	N.S.	45.220	-61.380	0
LATCHFORD	ONT.	47.330	-79.820	0
LAVIGNE	ONT.	46.330	-80.170	0
LAWRENCETOWN	N.S.	44.880	-65.170	0
LE GOULET	N.B.	47.700	-64.720	0
LEONARDVILLE	N.B.	44.970	-66.950	0
LESLIE	QUE.	47.620	-61.520	0
LISCOMB	N.S.	45.020	-62.000	0
LITTLE BROOK	N.S.	44.300	-66.120	0
LITTLE CURRENT	ONT.	45.967	-81.933	0
LITTLE DOVER	N.S.	45.280	-61.050	0
LITTLE NARROWS	N.S.	45.980	-60.980	0
LITTLE TANCOOK	N.S.	44.470	-64.130	0
LOCKEPORT	N.S.	43.700	-65.120	0
LOGGIEVILLE	N.B.	47.070	-65.380	0
LONDONDERRY	N.S.	45.480	-63.600	0
LONGLAC	ONT.	49.783	-86.533	0
LORING	ONT.	45.930	-80.000	0
LOUISBOURG	N.S.	45.920	-59.970	0
LOUISDALE	N.S.	45.600	-61.070	0
LOURDES-DE-BLANC-SABLON	QUE.	51.420	-57.200	0
LOW	QUE.	45.800	-75.950	0
LOWER EAST PUBNICO	N.S.	43.600	-65.770	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
LOWER HAINESVILLE	N.B.	46.100	-67.050	0
LOWER L'ARDOISE	N.S.	45.600	-60.730	0
LOWER WEDGEPORT	N.S.	43.720	-65.980	0
LOWER WEST PUBNICO	N.S.	43.630	-65.800	0
LOWER WOODS HARBOUR	N.S.	43.520	-65.730	0
LUNENBURG	N.S.	44.380	-64.320	0
LYDGATE	N.S.	43.720	-65.130	0
MABOU	N.S.	46.070	-61.380	0
MACDIARMID	ONT.	49.433	-88.133	0
MACTIER	ONT.	45.133	-79.783	0
MAGNETAWAN	ONT.	45.670	-79.650	0
MAGNETIC HILL	N.B.	46.130	-64.880	0
MAGOG	QUE.	45.267	-72.133	0
MAHONE BAY	N.S.	44.450	-64.380	0
MAIN BROOK	NFLD	51.183	-56.017	0
MAIN-A-DIEU	N.S.	46.000	-59.850	0
MANITOWANING	ONT.	45.750	-81.817	0
MARGAREE	N.S.	46.400	-61.080	0
MARGAREE CENTRE	N.S.	46.350	-61.000	0
MARGAREE FORKS	N.S.	46.330	-61.080	0
MARGAREE HARBOUR	N.S.	46.430	-61.120	0
MARGAREE VALLEY	N.S.	46.350	-60.970	0
MARGARETSVILLE	N.S.	45.050	-65.070	0
MARKSTAY	ONT.	46.483	-80.533	0
MARTINTOWN	ONT.	45.150	-74.700	0
MARY'S HARBOUR	NFLD	52.317	-55.833	0
MATACHEWAN	ONT.	47.930	-80.650	0
MATTICE	ONT.	49.617	-83.267	0
MCGRAY	N.S.	43.480	-65.600	0
MCKELLAR	ONT.	45.500	-79.917	0
MEAGHERS GRANT	N.S.	44.920	-63.250	0
MELDRUM BAY	ONT.	45.933	-83.117	0
METEGHAN	N.S.	44.180	-66.170	0
METEGHAN CENTRE	N.S.	44.200	-66.150	0
METEGHAN RIVER	N.S.	44.220	-66.150	0
MIDDLE SACKVILLE	N.B.	45.920	-64.350	0
MIDDLE WEST PUBNICO	N.S.	43.650	-65.800	0
MILFORD STATION	N.S.	45.050	-63.430	0
MILL VILLAGE	N.S.	44.150	-64.650	0
MILLVILLE	N.B.	46.130	-67.200	0
MILTON	N.S.	44.070	-64.750	0
MINDEMOYA	ONT.	45.733	-82.167	0
MINETT	ONT.	45.167	-79.650	0
MING'S BIGHT	NFLD	49.983	-56.050	0
MISCOUCHE	P.E.I.	46.430	-63.870	0
MISSANABIE	ONT.	48.317	-84.083	0
MONETVILLE	ONT.	46.167	-80.367	0
MONTAGUE	P.E.I.	46.170	-62.650	0
MOOSELAND	N.S.	44.950	-62.800	0
MOOSONEE	ONT.	51.283	-80.650	0
MOUNT ALBERT	ONT.	44.133	-79.317	0
MOUNT STEWART	P.E.I.	46.370	-62.870	0
MOUNT UNIACKE	N.S.	44.900	-63.830	0
MURRAY HARBOUR	P.E.I.	46.000	-62.520	0
MUSQUODOBOIT HARBOUR	N.S.	44.780	-63.150	0
NAIRN CENTRE	ONT.	46.333	-81.583	0
NAKINA	ONT.	50.167	-86.700	0
NAUGHTON	ONT.	46.400	-81.200	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
NEILS HARBOUR	N.S.	46.820	-60.320	0
NEW VICTORIA	N.S.	46.250	-60.130	0
NEW WATERFORD	N.S.	46.250	-60.080	0
NEWPORT	QUE.	48.270	-64.750	0
NEWPORT	N.S.	45.020	-64.020	0
NIPPERS HARBOUR	NFLD	49.800	-55.867	0
NOEL	N.S.	45.300	-63.750	0
NORRIS POINT	NFLD	49.533	-57.867	0
NORTH BAY	ONT.	46.320	-79.467	0
NORTH EAST MARGAREE	N.S.	46.330	-61.000	0
NORTH WILTSHIRE	P.E.I.	46.300	-63.330	0
NOTRE-DAME	N.B.	46.320	-64.720	0
OLD FORT BAY	QUE.	51.420	-57.820	0
OMEMEE	ONT.	44.300	-78.550	0
OPASATIKA	ONT.	49.533	-82.867	0
ORANGEDALE	N.S.	45.900	-61.100	0
PABOS	QUE.	48.370	-64.620	0
PACQUET	NFLD	49.983	-55.883	0
PARADISE	N.S.	44.870	-65.220	0
PARADISE RIVER	NFLD	53.450	-57.283	0
PARHAM	ONT.	44.650	-76.720	0
PARSON'S POND	NFLD	50.033	-57.717	0
PASS LAKE	ONT.	48.567	-88.733	0
PEGGYS COVE	N.S.	44.500	-63.920	0
PERTH ROAD	ONT.	44.470	-76.480	0
PETIT ETANG	N.S.	46.650	-60.970	0
PETIT-CAP	QUE.	49.033	-64.450	0
PETIT-DE-GRAT	N.S.	45.500	-60.970	0
PETITE RIVIERE DE L'ILE	N.B.	47.870	-64.630	0
PETITE-RIVIERE	N.S.	44.230	-64.450	0
PICTON	ONT.	44.000	-77.130	0
PICTOU	N.S.	45.680	-62.720	0
PLATEAU	N.S.	46.600	-61.000	0
PLEASANT BAY	N.S.	46.820	-60.800	0
PLEASANTVILLE	N.S.	44.330	-64.430	0
PLUM POINT	NFLD	51.067	-56.883	0
PLYMPTON	N.S.	44.500	-65.920	0
POINTE AU BARIL STATION	ONT.	45.567	-80.500	0
POINTE-AUX-LOUPS	QUE.	47.530	-61.720	0
POINTE-DU-CHENE	N.B.	46.230	-64.530	0
POKEMOUCHE	N.B.	47.670	-64.880	0
PONT-LAFRANCE	N.B.	47.450	-64.980	0
PORQUIS JUNCTION	ONT.	48.700	-80.783	0
PORT CLYDE	N.S.	43.600	-65.470	0
PORT DUFFERIN	N.S.	44.920	-62.380	0
PORT HASTINGS	N.S.	45.650	-61.400	0
PORT HAWKESBURY	N.S.	45.620	-61.350	0
PORT HOOD	N.S.	46.020	-61.530	0
PORT HOWE	N.S.	45.850	-63.750	0
PORT JOLI	N.S.	43.870	-64.900	0
PORT LA TOUR	N.S.	43.500	-65.480	0
PORT MAITLAND	N.S.	43.980	-66.150	0
PORT MORIEN	N.S.	46.130	-59.870	0
PORT MOUTON	N.S.	43.930	-64.850	0
PORT SAUNDERS	NFLD	50.650	-57.300	0
PORTAGE-DU-FORT	QUE.	45.600	-76.670	0
PORTERS LAKE	N.S.	44.730	-63.320	0
PORTLAND CREEK	NFLD	50.167	-57.617	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
POSTVILLE	NFLD	54.900	-59.783	0
PRESCOTT	ONT.	44.720	-75.520	0
PUGWASH	N.S.	45.850	-63.670	0
PUGWASH JUNCTION	N.S.	45.800	-63.630	0
QUAQTAQ (KOARTAC)	QUE.	61.033	-69.617	0
RAITH	ONT.	48.833	-89.933	0
RALEIGH	NFLD	51.567	-55.733	0
REABORO	ONT.	44.320	-78.630	0
RED BAY	NFLD	51.733	-56.417	0
REEFS HARBOUR	NFLD	51.017	-57.017	0
RENFREW	ONT.	45.470	-76.680	0
RESTOULE	ONT.	46.030	-79.730	0
RICHARDSON	N.B.	45.000	-66.950	0
RICHIBUCTO	N.B.	46.680	-64.870	0
RICHIBUCTO-VILLAGE	N.B.	46.650	-64.750	0
RICHMOND	P.E.I.	46.500	-63.980	0
RIGOLET	NFLD	54.183	-58.433	0
RIVER BOURGEOIS	N.S.	45.630	-60.950	0
RIVER OF PONDS	NFLD	50.533	-57.400	0
RIVERPORT	N.S.	44.300	-64.330	0
RIVERSIDE	N.B.	45.750	-45.750	0
ROCKY HARBOUR	NFLD	49.600	-57.917	0
ROSE BAY	N.S.	44.300	-64.300	0
ROSSEAU ROAD	ONT.	45.280	-79.870	0
ROTHWELL	N.B.	46.070	-66.070	0
ROUND HARBOUR G.B.	NFLD	49.850	-55.667	0
SALLY'S COVE	NFLD	49.733	-57.933	0
SALMON RIVER	N.S.	44.050	-66.170	0
SAMBRO	N.S.	44.470	-63.600	0
SAMPSONS COVE	N.S.	45.500	-60.930	0
SAULNIERVILLE	N.S.	44.270	-66.130	0
SAYABEC	QUE.	48.570	-67.680	0
SCHREIBER	ONT.	48.800	-87.250	0
SCHUMACHER	ONT.	48.467	-81.300	0
SCOTSBURN	N.S.	45.650	-62.850	0
SEAL COVE (WHITE BAY)	NFLD	49.933	-56.383	0
SERPENT RIVER	ONT.	46.200	-82.567	0
SEVERN BRIDGE	ONT.	44.767	-79.333	0
SHAG HARBOUR	N.S.	43.500	-65.700	0
SHEARWATER, CFB/BFC	N.S.	44.630	-63.500	0
SHEBANDOWAN	ONT.	48.633	-90.067	0
SHEDIAC	N.B.	46.220	-64.530	0
SHEGUIANDAH	ONT.	45.900	-81.917	0
SHELBURNE	ONT.	44.070	-80.200	0
SHELBURNE	N.S.	43.770	-65.320	0
SHERBROOKE	N.S.	45.130	-61.980	0
SHINING TREE	ONT.	47.550	-81.267	0
SHUBENACADIE	N.S.	45.080	-63.400	0
SKEAD	ONT.	46.667	-80.750	0
SLEMON PARK	P.E.I.	46.430	-63.830	0
SMITHS COVE	N.S.	44.620	-65.700	0
SMOOTH ROCK FALLS	ONT.	49.283	-81.633	0
SNOOKS ARM	NFLD	49.850	-55.700	0
SOP'S ARM	NFLD	49.767	-56.883	0
SOURIS	P.E.I.	46.350	-62.250	0
SOUTH BAYMOUTH	ONT.	45.550	-82.017	0
SOUTH GILLIES	ONT.	48.233	-89.700	0
SOUTH OHIO	N.S.	43.920	-66.070	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
SOUTH WEST MARGAREE	N.S.	46.280	-61.150	0
SPRINGFIELD	N.S.	44.630	-64.870	0
SPRINGHILL	N.S.	45.650	-64.050	0
ST ANTHONY	NFLD	51.367	-55.583	0
ST CHARLES	ONT.	46.367	-80.417	0
ST JOHN	N.B.	45.270	-66.050	0
ST JOSEPH DU MOINE	N.S.	46.530	-61.050	0
ST JULIEN'S	NFLD	51.100	-55.750	0
ST LEWIS	NFLD	52.367	-55.683	0
ST LUNAIRE - GRIQUET	NFLD	51.517	-55.467	0
ST MARGARET VILLAGE	N.S.	46.980	-60.480	0
ST PAULS	NFLD	49.867	-57.817	0
ST PETER'S	N.S.	45.670	-60.870	0
ST PETERS	P.E.I.	46.420	-62.580	0
ST-ALPHONSE-DE-CAPLAN	QUE.	48.180	-65.630	0
ST-ANTOINE-DE-KENT	N.B.	46.370	-64.750	0
ST-CLEMENT	QUE.	47.920	-69.100	0
ST-FORTUNAT	QUE.	45.967	-71.600	0
ST-FRANCOIS-MONTMAGNY	QUE.	46.880	-70.720	0
ST-GILBERT	QUE.	46.720	-71.980	0
ST-ISIDORE-D'AUCKLAND	QUE.	45.267	-71.517	0
ST-JEAN-BAPTISTE-DE-RESTIGOUCHE	N.B.	47.770	-67.220	0
ST-JEAN-DE-CHERBOURG	QUE.	48.830	-67.120	0
ST-LEOLIN	N.B.	47.770	-65.170	0
ST-MARC-DES-CARRIERES	QUE.	46.680	-72.050	0
ST-PAUL	N.B.	46.330	-65.000	0
ST-THARCISIUS	QUE.	48.530	-67.330	0
STE ANNE DU RUISSEAU	N.S.	43.830	-65.930	0
STE-THERESE-DE-GASPE	QUE.	48.420	-64.420	0
STELLARTON	N.S.	45.570	-62.670	0
STONEY ISLAND	N.S.	43.470	-65.570	0
SUMMERSIDE	P.E.I.	46.433	-63.817	0
SUMMERVILLE	N.S.	45.100	-64.170	0
SUNDRIDGE	ONT.	45.770	-79.400	0
SUSSEX	N.B.	45.720	-65.520	0
SYDNEY	N.S.	46.150	-60.180	0
SYDNEY, CFS/SFC	N.S.	46.170	-60.170	0
TANCOOK ISLAND	N.S.	44.470	-64.170	0
TANGIER	N.S.	44.800	-62.700	0
TATAMAGOUCHE	N.S.	45.720	-63.300	0
TEE LAKE	QUE.	46.780	-79.030	0
TEMISCAMING	QUE.	46.720	-79.100	0
TERRACE BAY	ONT.	48.783	-87.100	0
THORBURN	N.S.	45.570	-62.550	0
TIVERTON	N.S.	44.380	-66.220	0
TORY HILL	ONT.	44.970	-78.280	0
TRENT RIVER	ONT.	44.400	-77.870	0
TROIS-PISTOLES	QUE.	48.120	-69.170	0
TROUT RIVER	NFLD	49.483	-58.133	0
TWEED	ONT.	44.480	-77.320	0
TYNE VALLEY	P.E.I.	46.580	-63.930	0
UPPER GAGETOWN	N.B.	45.850	-66.230	0
UPPER MUSQUODOBOIT	N.S.	45.130	-62.950	0
UPPER RAWDON	N.S.	45.070	-63.720	0
UPSALA	ONT.	49.050	-90.467	0
VAL COTE	ONT.	49.650	-83.400	0
VAL RITA	ONT.	49.450	-82.550	0

ADDRESS	PROVINCE	LATITUDE	LONGITUDE	INT.
VAL-D'ESPOIR	QUE.	48.530	-64.320	0
VERONA	ONT.	44.480	-76.700	0
VICKERS HEIGHTS	ONT.	48.367	-89.333	0
VICTORIA	P.E.I.	46.220	-63.480	0
VILLE-MARIE	QUE.	47.330	-79.430	0
WABUSH	NFLD	52.917	-66.867	0
WAHNAPITEI	ONT.	46.783	-80.850	0
WALLACE	N.S.	45.800	-63.480	0
WALTON	N.S.	45.230	-64.000	0
WARSAW	ONT.	44.430	-78.130	0
WAVERLEY	N.S.	44.780	-63.600	0
WAWA	ONT.	47.983	-84.783	0
WEBEQUIE	ONT.	52.983	-87.350	0
WELLINGTON	ONT.	43.950	-77.350	0
WEST ARICHAT	N.S.	45.520	-61.080	0
WEST BAY ROAD	N.S.	45.730	-61.250	0
WEST DOVER	N.S.	44.480	-63.870	0
WEST PUBNICO	N.S.	43.670	-65.800	0
WEST RIVER STATION	N.S.	45.450	-62.920	0
WEST ST MODESTE	NFLD	51.600	-56.700	0
WESTPORT	N.S.	44.270	-66.350	0
WESTPORT	NFLD	49.783	-56.633	0
WESTVILLE	N.S.	45.570	-62.720	0
WHITE RIVER	ONT.	48.600	-85.283	0
WHITEFISH	ONT.	46.383	-81.317	0
WHITEFISH FALLS	ONT.	46.117	-81.733	0
WHYCOCOMAGH	N.S.	45.980	-61.120	0
WILD COVE	NFLD	50.000	-56.333	0
WILMONT	P.E.I.	46.400	-63.767	0
WINDERMERE	ONT.	45.167	-79.550	0
WINDSOR	N.S.	44.980	-64.130	0
WINDSOR JUNCTION	N.S.	44.780	-63.630	0
WINSLOE	P.E.I.	46.300	-63.180	0
WOODSTOCK	NFLD	49.967	-55.883	0
WOOLER	ONT.	44.150	-77.700	0
WYEBRIDGE	ONT.	44.700	-79.880	0
YARKER	ONT.	44.380	-76.770	0

**INTENSITY 0
(UNITED STATES)**

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
39.400	-74.367	0	39.683	-75.483	0
39.450	-74.733	0	39.700	-75.750	0
39.533	-74.633	0	39.717	-75.100	0
39.550	-74.233	0	39.733	-75.133	0
39.650	-75.100	0	39.733	-75.450	0
39.650	-75.317	0	39.783	-75.967	0
39.650	-75.517	0	39.800	-74.933	0
39.667	-75.567	0	39.800	-75.467	0
39.683	-74.983	0	39.800	-75.067	0

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
39.833	-75.250	0	40.100	-76.083	0
39.833	-75.067	0	40.117	-75.067	0
39.850	-74.200	0	40.117	-76.050	0
39.850	-75.033	0	40.117	-75.183	0
39.850	-75.200	0	40.117	-77.033	0
39.867	-75.133	0	40.117	-76.500	0
39.867	-75.350	0	40.117	-76.367	0
39.867	-75.317	0	40.133	-74.333	0
39.867	-75.300	0	40.150	-74.033	0
39.879	-75.063	0	40.150	-75.217	0
39.883	-75.517	0	40.150	-76.300	0
39.883	-75.133	0	40.150	-76.600	0
39.883	-75.317	0	40.155	-74.200	0
39.900	-75.317	0	40.160	-74.840	0
39.900	-74.917	0	40.167	-76.400	0
39.900	-75.350	0	40.183	-76.183	0
39.900	-75.267	0	40.183	-74.833	0
39.900	-76.167	0	40.183	-75.100	0
39.905	-74.820	0	40.183	-75.533	0
39.908	-75.327	0	40.183	-74.917	0
39.917	-75.300	0	40.183	-74.017	0
39.950	-74.200	0	40.200	-74.017	0
39.950	-75.600	0	40.200	-75.450	0
39.967	-74.950	0	40.200	-74.033	0
39.983	-76.367	0	40.200	-76.733	0
39.983	-76.283	0	40.200	-75.100	0
39.983	-75.817	0	40.200	-74.017	0
39.990	-75.400	0	40.217	-74.250	0
40.000	-75.017	0	40.217	-77.017	0
40.000	-75.267	0	40.217	-74.750	0
40.017	-75.317	0	40.217	-74.933	0
40.017	-75.717	0	40.217	-74.017	0
40.017	-75.000	0	40.217	-75.283	0
40.017	-75.283	0	40.233	-75.317	0
40.017	-75.300	0	40.233	-74.000	0
40.017	-75.300	0	40.233	-76.133	0
40.017	-74.317	0	40.233	-76.883	0
40.033	-76.167	0	40.234	-74.002	0
40.033	-74.950	0	40.250	-76.917	0
40.033	-76.500	0	40.250	-75.650	0
40.033	-76.317	0	40.250	-74.017	0
40.033	-75.283	0	40.250	-76.883	0
40.033	-74.617	0	40.250	-75.733	0
40.042	-75.382	0	40.267	-76.650	0
40.050	-76.567	0	40.267	-75.250	0
40.050	-75.417	0	40.267	-76.717	0
40.067	-74.050	0	40.267	-74.267	0
40.067	-74.917	0	40.283	-75.383	0
40.067	-74.950	0	40.283	-74.033	0
40.075	-74.120	0	40.283	-75.300	0
40.083	-76.183	0	40.285	-76.940	0
40.083	-75.150	0	40.300	-74.033	0
40.100	-75.250	0	40.300	-74.367	0
40.100	-76.417	0	40.300	-73.983	0
40.100	-74.850	0	40.300	-74.017	0
40.100	-74.200	0	40.300	-76.600	0
40.100	-75.133	0	40.317	-75.133	0

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
40.317	-75.317	0	40.667	-75.490	0
40.317	-74.750	0	40.667	-73.583	0
40.333	-74.050	0	40.667	-73.700	0
40.333	-75.633	0	40.667	-73.633	0
40.333	-76.517	0	40.675	-74.496	0
40.333	-74.067	0	40.683	-75.500	0
40.350	-75.317	0	40.683	-74.450	0
40.350	-76.133	0	40.683	-73.367	0
40.367	-74.000	0	40.700	-73.317	0
40.367	-74.450	0	40.700	-73.333	0
40.367	-75.933	0	40.700	-76.250	0
40.367	-74.517	0	40.717	-73.750	0
40.367	-74.950	0	40.717	-73.750	0
40.367	-76.317	0	40.733	-73.250	0
40.400	-74.750	0	40.733	-73.083	0
40.400	-75.500	0	40.733	-73.117	0
40.417	-74.250	0	40.733	-73.533	0
40.417	-74.367	0	40.733	-73.433	0
40.450	-75.800	0	40.733	-73.183	0
40.450	-74.133	0	40.750	-73.367	0
40.450	-74.200	0	40.750	-72.933	0
40.450	-75.333	0	40.750	-73.900	0
40.467	-74.667	0	40.750	-73.483	0
40.483	-74.283	0	40.750	-73.900	0
40.500	-75.717	0	40.750	-73.033	0
40.517	-74.283	0	40.750	-75.300	0
40.517	-74.867	0	40.758	-74.983	0
40.533	-75.500	0	40.767	-73.650	0
40.533	-74.600	0	40.767	-73.633	0
40.533	-75.767	0	40.767	-74.600	0
40.550	-75.550	0	40.767	-73.567	0
40.550	-75.983	0	40.774	-74.391	0
40.550	-74.383	0	40.783	-77.867	0
40.567	-74.550	0	40.783	-73.533	0
40.567	-74.317	0	40.783	-73.650	0
40.567	-75.100	0	40.783	-73.200	0
40.570	-74.638	0	40.783	-77.050	0
40.577	-74.502	0	40.783	-76.550	0
40.580	-74.440	0	40.783	-75.667	0
40.583	-74.467	0	40.783	-75.967	0
40.583	-75.333	0	40.783	-73.650	0
40.600	-73.760	0	40.783	-76.350	0
40.600	-77.583	0	40.783	-76.417	0
40.617	-73.717	0	40.783	-77.867	0
40.617	-75.383	0	40.790	-73.700	0
40.620	-73.970	0	40.800	-72.867	0
40.633	-77.567	0	40.800	-75.200	0
40.633	-74.900	0	40.800	-72.700	0
40.633	-73.750	0	40.800	-73.617	0
40.633	-73.650	0	40.817	-73.000	0
40.650	-73.583	0	40.817	-73.633	0
40.650	-73.617	0	40.833	-76.217	0
40.650	-75.083	0	40.833	-75.867	0
40.650	-73.550	0	40.833	-75.717	0
40.650	-75.467	0	40.833	-73.617	0
40.667	-73.617	0	40.833	-73.533	0
40.667	-78.250	0	40.850	-73.200	0
40.667	-73.667	0	40.850	-74.017	0

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
40.850	-73.117	0	41.167	-79.067	0
40.850	-73.283	0	41.167	-73.767	0
40.867	-73.417	0	41.167	-74.033	0
40.867	-77.067	0	41.183	-75.417	0
40.867	-74.817	0	41.183	-74.183	0
40.867	-75.250	0	41.200	-76.783	0
40.867	-76.783	0	41.200	-73.650	0
40.867	-73.533	0	41.200	-77.267	0
40.867	-74.000	0	41.217	-73.000	0
40.883	-73.600	0	41.217	-73.583	0
40.883	-73.450	0	41.217	-79.383	0
40.883	-74.567	0	41.233	-73.983	0
40.883	-72.517	0	41.250	-76.917	0
40.883	-76.783	0	41.250	-73.933	0
40.883	-74.483	0	41.250	-78.783	0
40.900	-73.350	0	41.317	-74.783	0
40.900	-73.350	0	41.317	-73.850	0
40.900	-72.400	0	41.317	-75.817	0
40.900	-78.233	0	41.333	-75.950	0
40.917	-73.433	0	41.350	-74.267	0
40.917	-72.667	0	41.367	-74.683	0
40.917	-77.767	0	41.417	-78.717	0
40.933	-73.133	0	41.433	-78.567	0
40.933	-74.050	0	41.450	-74.017	0
40.950	-73.733	0	41.500	-78.233	0
40.950	-76.883	0	41.500	-75.533	0
40.950	-73.117	0	41.500	-74.000	0
40.950	-76.617	0	41.550	-75.933	0
40.950	-73.050	0	41.567	-75.250	0
40.950	-74.050	0	41.567	-73.617	0
40.967	-73.783	0	41.583	-73.800	0
40.967	-72.183	0	41.600	-74.183	0
40.967	-75.967	0	41.650	-73.950	0
40.983	-75.150	0	41.650	-74.683	0
41.000	-73.667	0	41.667	-78.800	0
41.000	-75.183	0	41.750	-77.300	0
41.017	-73.950	0	41.767	-78.017	0
41.017	-78.433	0	41.783	-76.783	0
41.017	-76.850	0	41.783	-74.750	0
41.033	-74.033	0	41.800	-77.083	0
41.050	-73.833	0	41.800	-78.283	0
41.050	-73.783	0	41.833	-79.133	0
41.050	-74.750	0	41.833	-75.883	0
41.050	-73.833	0	41.867	-80.133	0
41.067	-73.767	0	41.900	-79.850	0
41.067	-72.433	0	41.917	-74.000	0
41.067	-74.033	0	41.917	-73.900	0
41.100	-72.350	0	42.017	-80.333	0
41.117	-74.033	0	42.067	-75.433	0
41.117	-77.450	0	42.100	-79.317	0
41.117	-73.783	0	42.100	-76.067	0
41.117	-73.800	0	42.100	-76.783	0
41.117	-78.750	0	42.167	-75.867	0
41.133	-75.367	0	42.167	-76.833	0
41.133	-73.717	0	42.217	-79.833	0
41.150	-73.983	0	42.367	-73.600	0
41.150	-73.833	0	42.533	-79.167	0
41.150	-74.183	0	42.650	-78.933	0

LATITUDE	LONGITUDE	INT.	LATITUDE	LONGITUDE	INT.
42.650	-73.733	0	43.100	-74.767	0
42.683	-74.500	0	43.117	-75.350	0
42.767	-78.750	0	43.117	-75.300	0
42.900	-78.500	0	43.200	-77.800	0
42.900	-78.683	0	43.217	-78.450	0
42.933	-76.583	0	43.217	-77.933	0
42.983	-78.000	0	43.283	-77.783	0
42.983	-76.450	0	44.517	-73.483	0
42.983	-74.583	0	44.800	-74.783	0
43.033	-76.017	0	48.633	-73.550	0
43.067	-77.300	0			
