

QB
4
.D66
S4
66
ocls

This document was produced
by scanning the original publication.

Ce document est le produit d'une
numérisation par balayage
de la publication originale.

LIBRARY / BIBLIOTHÈQUE

MAR 29 1979

GEOLOGICAL SURVEY
COMMISSION GÉOLOGIQUE



SEISMOLOGICAL SERIES OF THE EARTH PHYSICS BRANCH

No. 67

CANADIAN EARTHQUAKES-1969

R. B. Horner, W. G. Milne
and G. A. McMechan

Seismological Service of Canada
DEPARTMENT OF ENERGY MINES AND RESOURCES

Ottawa, Canada 1974

SEISMOLOGICAL SERIES
of the
EARTH PHYSICS BRANCH
No. 67

CANADIAN EARTHQUAKES – 1969
R.B. Horner, W.G. Milne and G.A. McMechan

Seismological Service
of Canada

OTTAWA, CANADA

Department of Energy, Mines and Resources
EARTH PHYSICS BRANCH
1974

©
Information Canada
Ottawa, 1974

Cat. No.: M 74-3/67

CONTENTS

	<i>Page</i>
List of Figures	iv
List of Tables	v
I. Introduction	1
1. Epicentre Determination	1
2. Magnitude Determination	3
II. Canadian Seismograph Network	5
III. Explosions	6
IV. Summary of Seismic Activity for 1969	6
1. Eastern Region	8
2. Northern Region	10
3. Western Region	15
4. Central Region	16
V. Revisions	18
1. Eastern Region	18
2. Northern Region	18
3. Western Region	18
Acknowledgments	18
References	19

LIST OF FIGURES

<i>Figure</i>	<i>Page</i>
1 Earthquakes of Eastern Canada and adjacent areas — 1969	back pocket
2 Earthquakes of Northern Canada and adjacent areas — 1969	back pocket
3 Earthquakes of Western Canada and adjacent areas — 1969	back pocket
4 The four regions of Canada	vi
5 The Canadian Seismograph Network 1969	4
6 Earthquakes in Canada during 1969 with magnitude 4 or greater	7
7 Isoseismal map of the Nominigue, Quebec, earthquake of October 10, 1969. Arabic numerals indicate observed intensities different from those between contoured isoseismals	9
8 Histogram of unlocated events recorded at INK from February 22 to December 31, 1969	11
9 Located earthquakes in the northern Yukon — Mackenzie Delta area, 1969	12
10 Histogram of daily activity for Baffin Island earthquake series — March 1969. At the top of the diagram vertical lines represent daily magnitude ranges	13
11 Log N versus magnitude for Baffin Island series — March 1969	14
12 Known seismic activity in the Central Region from 1964 to 1969 plus the Bengough, Sask., earthquake of July 26, 1972	17

LIST OF TABLES

<i>Table</i>	<i>Page</i>
1 Earthquakes in Eastern Canada and adjacent areas — 1969	20
2 Earthquakes in Northern Canada and adjacent areas — 1969	22
3 Earthquakes in Western Canada and adjacent areas — 1969	32
4 Earthquakes in Central Canada and adjacent areas — 1969	38
5 Unlocated events recorded at INK	39
6 Unlocated events recorded at FBC	40
7 Unlocated events recorded at MBC	40
8 Unlocated events recorded at ALE	41
9 Unlocated events recorded at RES	42
10 Unlocated events recorded at YKC	42
11 Unlocated events recorded at PHC	43
12 Unlocated events recorded at SES	43
13 Unlocated events recorded at VIC	44
14 Unlocated events recorded at FSJ	44
15 Unlocated events recorded at MCC	44
16 Summary of earthquakes reported felt in Canada during 1969	6

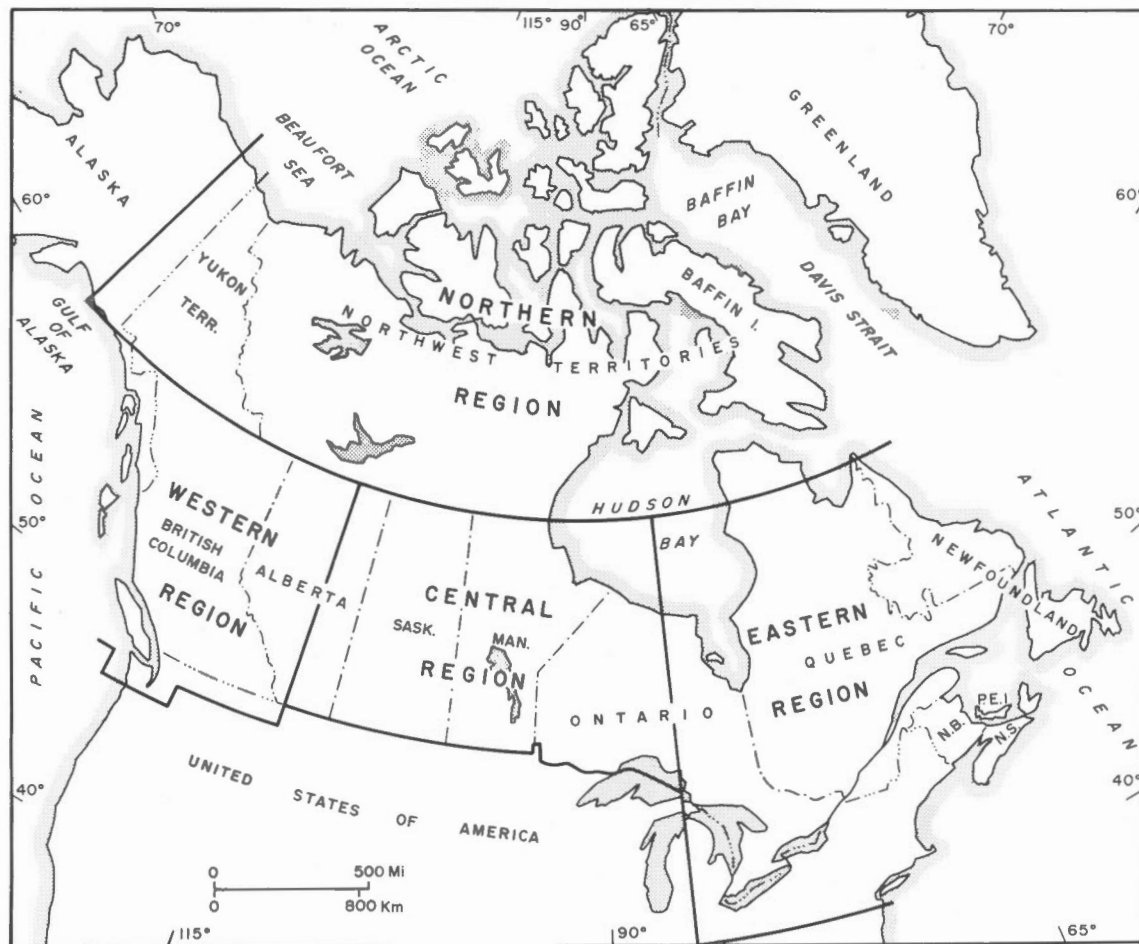


Figure 4. The four regions of Canada.

CANADIAN EARTHQUAKES – 1969

I INTRODUCTION

This catalogue continues the annual lists of earthquakes in Canada as prepared by the Earth Physics Branch, Department of Energy, Mines and Resources. An enumeration of the previous papers in this series can be found in Appendix 2 of Canadian Earthquakes – 1967 (Stevens *et al.*, 1973).

Earthquakes are listed in chronological order for each of the four regions of Canada as shown in Figure 4. The Eastern, Northern, Western and Central Regions are covered in Tables 1, 2, 3 and 4, respectively. Subsections of these Tables contain the earthquakes located outside of Canada.

The extension of the Canadian catalogue to include earthquakes offshore and into neighbouring countries is made for two reasons. Earthquakes near the international boundaries may be felt and/or do damage in Canada; thus they must be included in any practical study of Canadian seismicity. Secondly, an understanding of the patterns of Canadian seismicity requires a consideration of the tectonics of neighbouring areas. In addition, the Northern Region map and table contain events beyond its boundaries in northern Alaska and Greenland, which have been located with the Canadian network but for which epicentres have not been published by other agencies. The Canadian records are not systematically read for all such events.

Tables 1, 2, 3 and 4 have been changed in this catalogue to include only located earthquakes. In the 1967 and earlier catalogues unlocated events or those recorded at only one station were included in the chronological list of earthquakes; they are now listed separately by station in Tables 5 to 15. Whenever possible the probable epicentral region for these events is noted. These lists of unlocated events should not be considered complete. Regional detection of such events is very dependent on instrumental magnification, record quality, noise levels, etc. They are useful in indicating relative regional levels of low magnitude seismic activity.

Epicentres for earthquakes in the Eastern, Northern and Western Regions are plotted in Figures 1, 2 and 3, found in the back pocket of this catalogue. There were no Canadian earthquakes located in the Central Region in 1969; however, one American event as well as 14 other earthquakes known to have occurred in the Central Region and north-central United States are plotted in Figure 12.

There are two changes from previous catalogues; firstly, all three maps are presented with the same scale and secondly, earthquake magnitudes are illustrated by means of different symbols instead of different sized circles. This distinguishes more easily large and minor earthquakes. The symbols may be filled or open as explained in the subsection on epicentre determination. Epicentres for all earthquakes in Canada during 1969 with magnitude 4 or greater are shown on one map of Canada (Figure 6).

1. Epicentre Determination

In contrast to the method of drawing arcs previously used (Stevens *et al.*, 1972) epicentre solutions of Eastern, Northern and Central Region events in this catalogue are calculated by a version of Geiger's method using a computer program developed by R.J. Wetmiller and his colleagues at the Earth Physics Branch. The process, essentially, is to

choose a trial epicentre, calculate the residuals between observed arrival times and computed arrival times of Pn, P₁, Sn and Lg phases at all stations, then refine the trial epicentre so as to reduce the root-mean-square (RMS) residual until an acceptable minimum value is reached. This final solution, if reasonable, becomes the accepted epicentre. In this process latitude, longitude, origin time and depth can all be varied simultaneously but unless otherwise stated the focal depth has been held fixed at 18 km (half the assumed crustal thickness). Because of a general paucity of data for most earthquakes, especially at very near epicentral distances, and uncertainties in the assumed crustal model, better estimates of focal depth cannot be made at present.

The assumed crustal model adopted in these calculations (excluding the Western Region) is essentially that described in the 1966 catalogue (Stevens *et al.*, 1972). The only change is a revision in Sn velocity from 4.75 km/s to 4.7 km/s, constant over the entire distance range of observed Sn arrivals. In general Sn arrivals are observed later than predicted using a velocity of 4.75 km/s and unpublished travel-time studies suggest this revision. The travel-time equations assume a focal depth of 18 km and a single-layered crust 36 km thick as follows:

$$\begin{aligned}P_1 - H &= \Delta/6.20 \\Lg - H &= \Delta/3.57 \\Pn - H &= 5.60 + \Delta/8.2 \\Sn - H &= 9.84 + \Delta/4.7\end{aligned}$$

H is the origin time in seconds and Δ is the epicentral distance in kilometres. For a surface focus the Pn and Sn intercepts become 7.50 and 13.12 s, respectively.

In the Tables latitude and longitude are given in decimal degrees and origin time to the nearest second. Standard errors are given for these quantities as well as the RMS residual of the epicentre solution. The RMS residual is a measure of the consistency or the goodness-of-fit of the observed arrival times to the computed epicentre for the selected crustal model. The number of stations and number of phases used in each solution are given as an indication of potential accuracy and to supplement standard error information. It is important to note that standard errors are meant to indicate only precision and not accuracy.

For the Western Region only, epicentres in most cases are located by drawing arcs as described in the 1966 catalogue. They are not numerical solutions and no standard errors are given for origin time, latitude or longitude.

The quality factors "F" and "O" are presented at the right of each epicentre and represent filled or open symbols, respectively, on the epicentre maps. For events in Eastern, Northern and Central Canada (numerical solutions) a filled symbol generally represents an earthquake well recorded at a minimum of three stations with a minimum of six phases. The station geometry, in particular, and the RMS value are also considered. For Western Region events only, a filled symbol is meant to indicate an estimated uncertainty of less than $\pm 20'$ latitude.

When available, solutions determined by the International Seismological Centre (ISC) and United States Coast and Geodetic Survey (USCGS) are also given in the Tables. This information is obtained from the 1969 ISC Bulletin, Vol. 1-12. Unless otherwise stated these epicentres are calculated at a fixed model depth of 33 km. The ISC and USCGS do

not calculate an RMS value but instead calculate the standard deviation of one P-observation. This value is given in the Tables in the RMS column.

In most cases epicentres occurring within Canada and located by the ISC or USCGS have been recomputed using Canadian data augmented by P arrival times of foreign stations at distances less than 20° obtained from the ISC Bulletin. For earthquakes occurring outside of Canada but within the areas shown in Figure 4 only the ISC and/or USCGS epicentres, in most cases, are presented.

2. Magnitude Determination

In previous catalogues magnitudes have been calculated using Richter's Local Magnitude Scale (Gutenberg and Richter, 1956) extrapolated to distances beyond 600 km when near station data were missing (Stevens *et al.*, 1973). This has resulted in overcalculating magnitudes, in a few cases by as much as $1\frac{1}{2}$ units, especially at the longer distances (Stevens *et al.*, 1973).

As a result magnitudes for Eastern, Northern and Central Region earthquakes have been calculated using the equation proposed by Nuttli (1973) based on Lg waves of about 1-second period in the distance range from 400 to 3,000 km from earthquakes in North America east of the Rocky Mountains:

$$m_b = -0.10 + 1.66 \log \Delta + \log (A/T).$$

A is the maximum SPZ ground amplitude in microns, T its period in seconds and Δ the epicentral distance in kilometres. Throughout this text m_b magnitudes calculated using Nuttli's formula are designated by " m_N " in order to distinguish them from ISC or USCGS m_b 's calculated from P-wave amplitudes. In our use of Nuttli's equation Δ is restricted to greater than 500 km and T to less than or equal to 1.3 seconds. For most of our earthquakes, in fact, Lg waves exhibit periods of 0.3 to 0.7 second — somewhat below the period range defined in Nuttli's equation. Nuttli's (1973) equation for epicentral distances less than 500 km does not seem to fit our data, probably due in part to the very short Lg periods observed. Richter's M_L is retained in this case for lack of a more appropriate formula.

Magnitudes of Western Region earthquakes are calculated using Richter's M_L over the entire distance range since Nuttli's equations are defined only to the east of the Cordillera. For events in the Yukon large enough to be recorded beyond 500 km m_N was calculated only at stations to the east on the Shield.

For events from which Lg is not recorded, such as those in the Beaufort Sea and Baffin Bay, magnitudes are calculated using maximum SPZ Sn amplitudes in the extended M_L scale. Since Sn amplitudes are always less than Lg amplitudes it is believed that using Sn in the extended M_L scale does not overestimate magnitude as much as when Lg is used (see Horner *et al.*, 1973). Because Sn amplitude attenuation is not adequately known these magnitudes should be considered tentative. In such cases, where Lg is absent, and m_b magnitudes have been calculated by the ISC or USCGS, only their m_b values are given.

The standard deviation of one magnitude value is given in the Tables of Eastern, Northern and Central Region earthquakes along with the number of stations used in computing the average magnitude. It is important to note that the standard deviation is

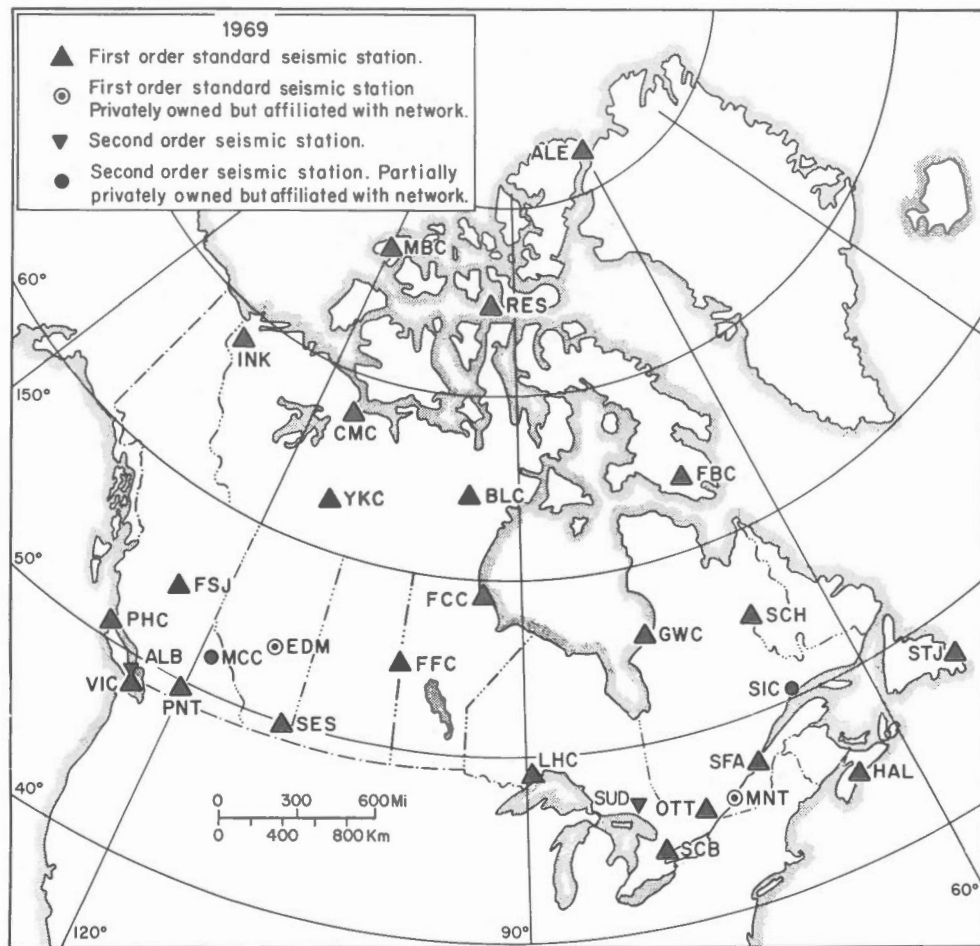


Figure 5. The Canadian Seismograph Network 1969.

simply a measure of the precision of the calculation and not a measure of the accuracy of the magnitude value. Similarly, magnitudes given in the Tables of unlocated events are quoted to 0.1 unit but do not imply such accuracy.

II CANADIAN SEISMOGRAPH NETWORK

Figure 5 shows the 29 stations of the Canadian Seismograph Network whose records are used in the preparation of this catalogue. Detailed notes regarding instrumentation and changes in instrument constants, calibrations, etc., can be found in the 1969 *Seismological Bulletin*. The following international code letters are used as station abbreviations:

ALB	Port Alberni, B.C.	MNT	Montreal, Que.
ALE	Alert, N.W.T.	OTT	Ottawa, Ont.
BLC	Baker Lake, N.W.T.	PHC	Port Hardy, B.C.
CMC ¹	Coppermine, N.W.T.	PNT	Penticton, B.C.
EDM	Edmonton, Alta.	RES	Resolute, N.W.T.
FBC	Frobisher, N.W.T.	SCB ⁴	Scarborough, Ont.
FCC	Fort Churchill, Man.	SCH	Schefferville, Que.
FFC	Flin Flon, Man.	SES	Suffield, Alta.
FSJ	Fort St. James, B.C.	SFA	Seven Falls, Que.
GWC	Great Whale River, Que.	SIC ⁵	Sept-Iles, Que.
HAL	Halifax, N.S.	STJ	Saint John's, Nfld.
INK ²	Inuvik, N.W.T.	SUD	Sudbury, Ont.
LHC ³	Thunder Bay (Lakehead), Ont.	VIC	Victoria, B.C.
MBC	Mould Bay, N.W.T.	YKC	Yellowknife, N.W.T.
MCC	Mica Creek, B.C.		

¹ Ceased operations on November 26, 1969.

² Commenced continuous operations on February 22, 1969.

³ Commenced operations on February 28, 1969.

⁴ Intermittent operation during 1969.

⁵ Not operational from March 26 to April 18, 1969; poor quality records throughout the year.

The magnification levels of the short-period seismographs of the Canadian Seismograph Network during 1969 permitted detection of most events of magnitude $3\frac{1}{2}$ or greater in Canada. The installation of INK greatly improved detection capabilities in the Northern Yukon and Mackenzie Delta areas; however, the closure of CMC in November 1969 reduced the location capability in this area, especially of smaller events (magnitude < 3). In southwestern British Columbia and the upper St. Lawrence Valley area the relatively closer seismograph spacing permitted location of events as small as magnitude 2.

III EXPLOSIONS

Seismographs of the network record many construction and mining blasts each year. Some of these blasts may have an equivalent seismic magnitude of 4 or more; most are generally much smaller. All blasts must be separated from earthquakes so that an accurate knowledge of the natural seismic activity in Canada may be obtained. In some cases, especially when the event is recorded only at one station and not locatable, the distinction on seismograms between blasts and earthquakes is very difficult. A few of the small unlocated events may be blasts but these are noted as such. On the other hand, some small earthquakes may have been inadvertently rejected as blasts.

IV SUMMARY OF SEISMIC ACTIVITY FOR 1969

The seismic activity within each of the four regions during 1969 is discussed below. Five hundred and ninety-three earthquakes were detected, 312 of these located, and in Canada, eight were reported felt. The eight earthquakes reported felt are summarized in Table 16. The Modified Mercalli Intensity Scale of 1931 is used to classify reports of felt earthquakes.

TABLE 16
A Summary of Earthquakes Reported Felt in Canada During 1969

Date and Time (GMT)	Magnitude	Epicentral Region	Felt Region*
14 Feb. 08:33	4.2	southern Strait of Georgia	Felt over 7,000 km ² of NW Washington State and SW B.C. Maximum intensity V in the U.S. No damage. Intensity IV at Victoria.
14 July 03:06	3.8	near La Malbaie, Quebec	Parc des Laurentides NE of Quebec City.
21 Aug. 05:57	2.8	near Prince George, B.C.	Felt over small area with maximum intensity III.
10 Oct. 00:07	4.2	near Nominigue, Quebec	Felt over 60,000 km ² of SW Quebec and SE Ontario. Maximum intensity V, no damage.
10 Oct. 08:16	2.8	near Nominigue, Quebec	Aftershock, felt locally. Maximum intensity IV.
01 Nov. 15:44	4.1	NW Washington State	Felt slightly in Victoria.
10 Nov. 07:38	4.3	NW Washington State	Felt slightly in Victoria.
28 Nov. 09:51	3.0	NW Washington State	Felt slightly in Victoria.

*See Tables 1A and 3B and sections IV 1 and IV 3 for more information.

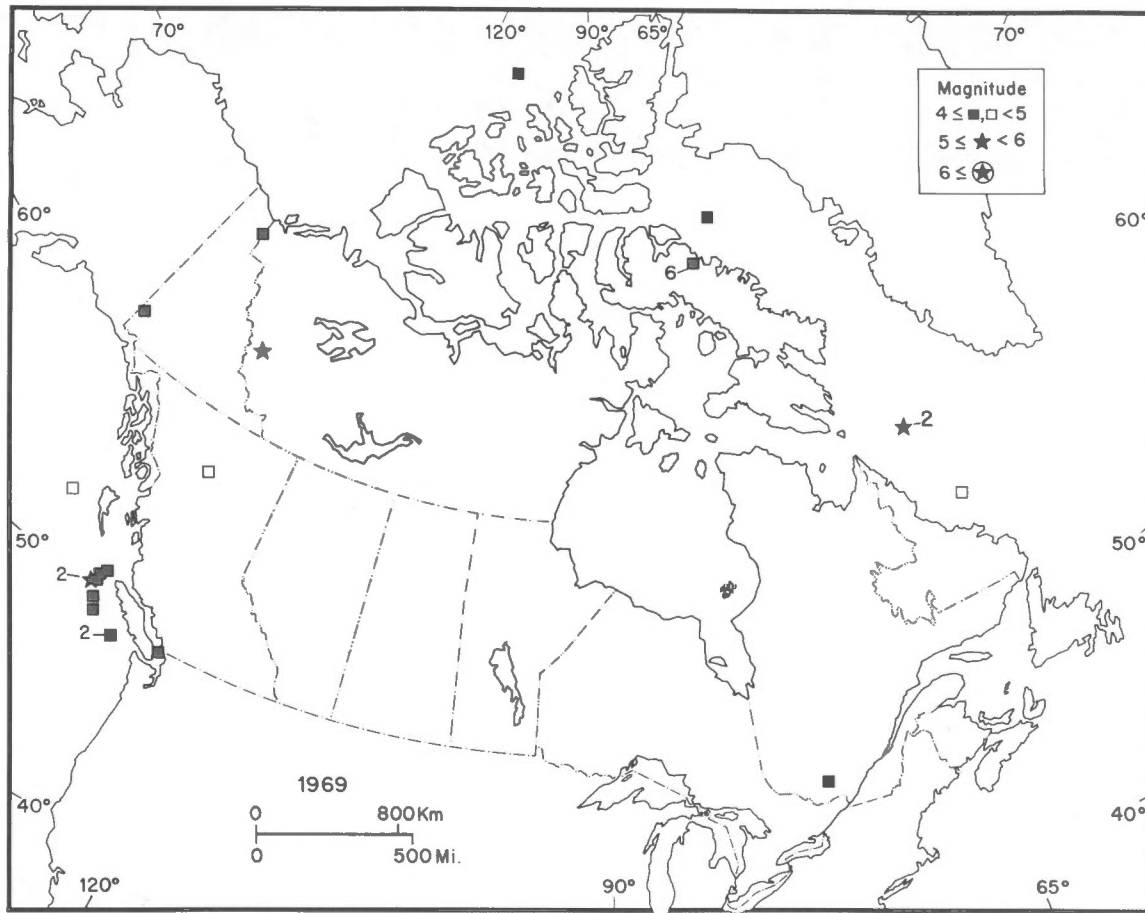


Figure 6. Earthquakes in Canada during 1969 with magnitude 4 or greater.

Figure 6 shows 27 earthquakes of magnitude 4 or greater in Canada in 1969, 13 in the Northern Region, 12 in the Western Region and two in the Eastern Region. Most of these earthquakes occur in sparsely settled areas or offshore and this explains, to a large extent, the very few reports of felt earthquakes. The actual "felt area" depends very markedly on local soil conditions, on the energy radiation pattern from the focus and, most importantly, on the population density within about 200 kilometres of the epicentre. All of these may vary considerably from one earthquake to another.

1. Eastern Region

The Eastern Region lies east of 85°W and includes Canada south of 60°N and the United States north of 40°N . Table 1 lists 22 earthquakes; 18 in Canada and one south of Greenland (Table 1A), and three in the northeastern United States (Table 1B). Epicentres for 20 events are plotted in Figure 1, which also shows the Canadian seismograph stations in the area. Two events in the Labrador Sea, 23 July (south of Greenland) and 27 September, are plotted on the Northern Region map. (The event on 27 September is also included in the Eastern map.) The Moultonboro-Ossipee, N.H., earthquake of 6 August was not instrumentally located and is not plotted.

Only minor seismic activity was recorded in eastern Canada in 1969. The two largest events, one near Nominie, Quebec, and one in the Labrador Sea were both about $m_b 4$. The most seismic area continued to be the lower St. Lawrence Valley.

No unlocated events were reported for the Eastern Region in 1969. However, the stations HAL, STJ and SCB were not routinely read for minor activity. They were read when an event was detected at any one of the other eastern stations. No event greater than magnitude 3 in the Maritimes or off the east coast should have been undetected.

Two earthquakes located near Nominie, Quebec, and one near La Malbaie, Quebec, were reported felt. The earthquake near La Malbaie, Quebec, occurred on 14 July at 03^h GMT (13 July 23^h EDT) with magnitude $m_N 3.8$. From scant information obtained at the seismograph station at Montreal it is only known to have been felt in Parc des Laurentides between Quebec City and Chicoutimi about 80 km to the northwest of La Malbaie.

On October 10 at 00^h GMT (9 October 20^h EDT) a minor but widely felt earthquake occurred near Nominie, Quebec, about 120 km northeast of Ottawa. The magnitude was $m_b 3.9$ ($m_N 4.2$). Intensities produced by the earthquake were determined from questionnaires sent to post offices throughout the felt area. This survey was carried out by the late W.E.T. Smith. The results are shown in Figure 7.

The shock was felt over an area of approximately 60,000 km² with a maximum radius of perceptibility of about 180 km, normal for minor earthquakes in eastern Canada. The highest intensity, determined from the questionnaires, was V at La Conception, approximately 50 km southeast of the epicentre. There merchandise was knocked from shelves in a store and many people were frightened. This may have been due to local soil conditions since, in general, the intensity around the epicentre itself was IV. Many people in the epicentral region reported the earthquake as a strong explosion and thought at first that their oil furnaces had exploded. One report from L'Annonciation, Quebec, approximately 25 km east of the epicentre, mentioned two foreshocks at 18:45 and 19:00 EDT on 9 October and two aftershocks at 21:00 EDT on 9 October and 04:00 EDT on 10 October. Only the latter aftershock, $M_L 2.8$, (08^h GMT on 10 October) was recorded instrumentally. It was felt at L'Annonciation with intensity IV but was not reported felt elsewhere.

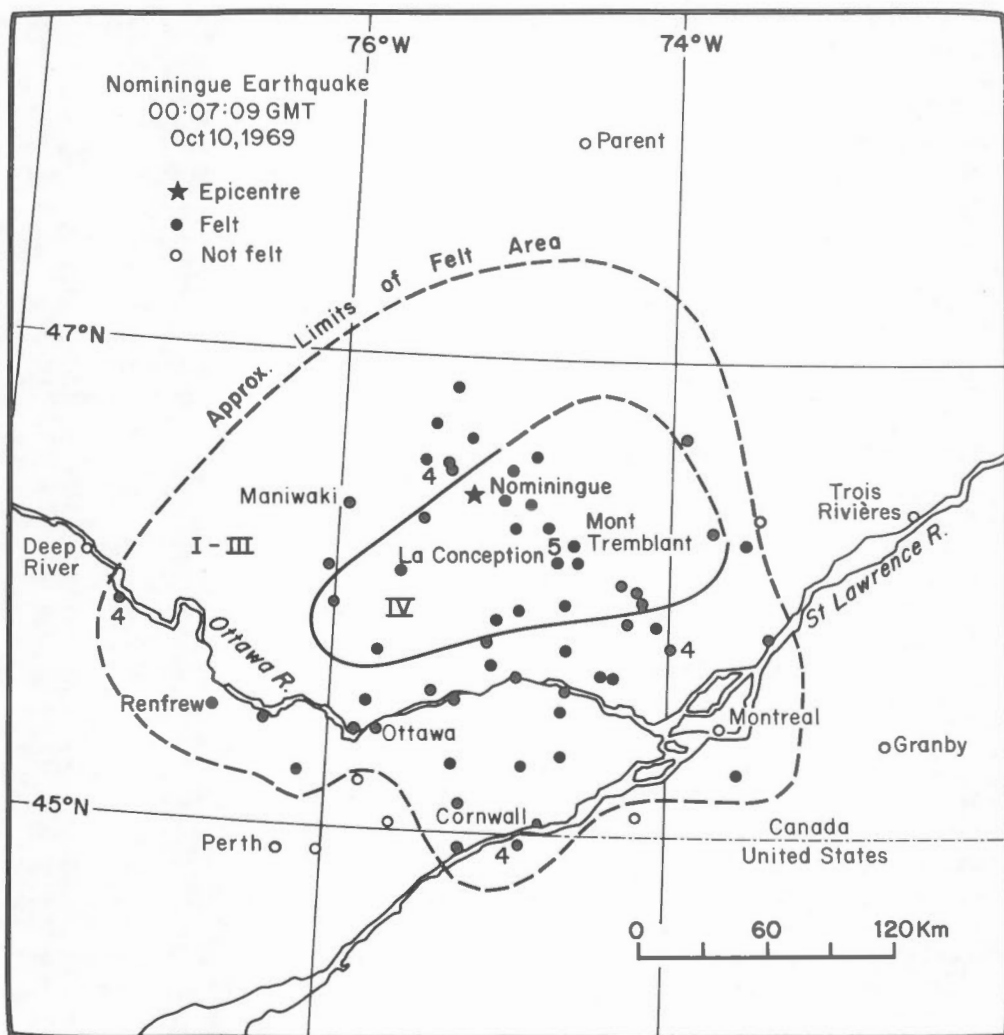


Figure 7. Isoseismal map of the Nominique, Quebec, earthquake of October 10, 1969. Arabic numerals indicate observed intensities different from those between contoured isoseismals.

The La Malbaie earthquake of 14 July was only slightly smaller than the Nominique earthquake (m_N 3.8 compared to m_N 4.2) but reportedly was not nearly as widely felt. Similarly, two earthquakes near Baie-Saint-Paul, Quebec, on 10 May at 18^h and 20^h GMT, both m_N 3.6, were apparently not felt. In fact, all three events were undoubtedly felt distinctly in the epicentral region, although such reports were not brought to the attention of the Earth Physics Branch.

2. Northern Region

The Northern Region lies north of 60°N and extends west into Alaska to 145°W and east into Greenland. Three events west of 145°W and eight events in Greenland are included since they were located by the Canadian network, but epicentres had not been published by the USCGS or the ISC.

Table 2 lists 186 earthquakes, including 11 in Alaska (Table 2B) and nine in Greenland (Table 2C). Epicentres for these events are plotted in Figure 2, which also shows the seismograph stations in the Region. In addition, 185 unlocated events are listed by station in chronological order in Tables 5 to 10. Several of these earthquakes are associated with larger located events and wherever possible the epicentral region is noted.

Figure 2 shows that the northern Yukon and northern Baffin Island contain nearly one-half of the earthquakes located in the Northern Region during 1969. Other areas of notable seismic activity were the Mackenzie Mountains west of Wrigley, the Arctic Ocean north of Borden Island, near Resolute, south of Wager Bay and Meta Incognita Peninsula on southern Baffin Island. The two largest earthquakes, both magnitude 5, occurred in Davis Strait (24 November 21^h) and west of Wrigley (13 March 18^h).

The northern Yukon Territory was one of the most seismically active areas, in terms of number of events, in 1969. The seismograph station at Inuvik (INK) began continuous operation in February and permitted the detection of smaller events in the area than previously possible. Table 5 lists 65 unlocated events, the majority being about magnitude 2. Sixty-two events lie between 110 and 450 km from Inuvik. The frequency histogram as a function of distance is shown in Figure 8. The events are grouped by 20 km intervals to show as much detail as possible within the accuracy of the calculated distances.

Figure 9 shows all the earthquakes located in the northern Yukon-Mackenzie Delta area in 1969 with circles of 100, 200, 300 and 400 km radius drawn about INK. This diagram shows that about half of the located earthquakes occurred in the area southwest of Fort McPherson, about 200 km from INK. In Figure 8, 29 of the 62 unlocated events, i.e. about half, originated at a distance of 170 to 210 km from INK. It is probable that these unlocated events also originated from the area southwest of Fort McPherson. The possibility that some of these events originated from the west or north of INK cannot be ruled out but it is unlikely that they are from the east. Events to the east most likely would have been detected at CMC and/or YKC. The relative absence of seismic activity close to INK in the Mackenzie Delta and south of INK along the lower Mackenzie River Valley is notable; however, the largest event in this area in 1969, m_N 4.0 on 28 October at 00^h, occurred approximately 140 km west of INK.

The other seismically active region in northern Canada in 1969 was southeast of Pond Inlet on northern Baffin Island at approximately 71.7°N, 75.3°W. Throughout the year 70 earthquakes were detected from this area with a series of 54 (23 of these were

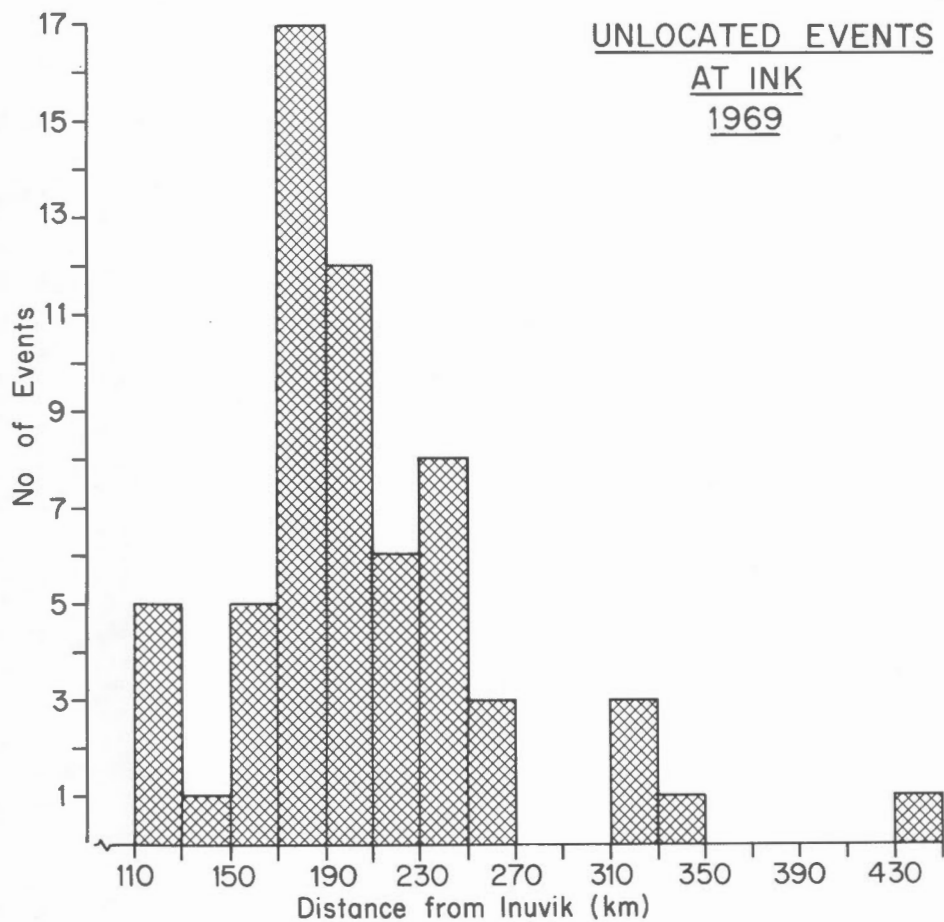


Figure 8. Histogram of unlocated events recorded at INK from February 22 to December 31, 1969.

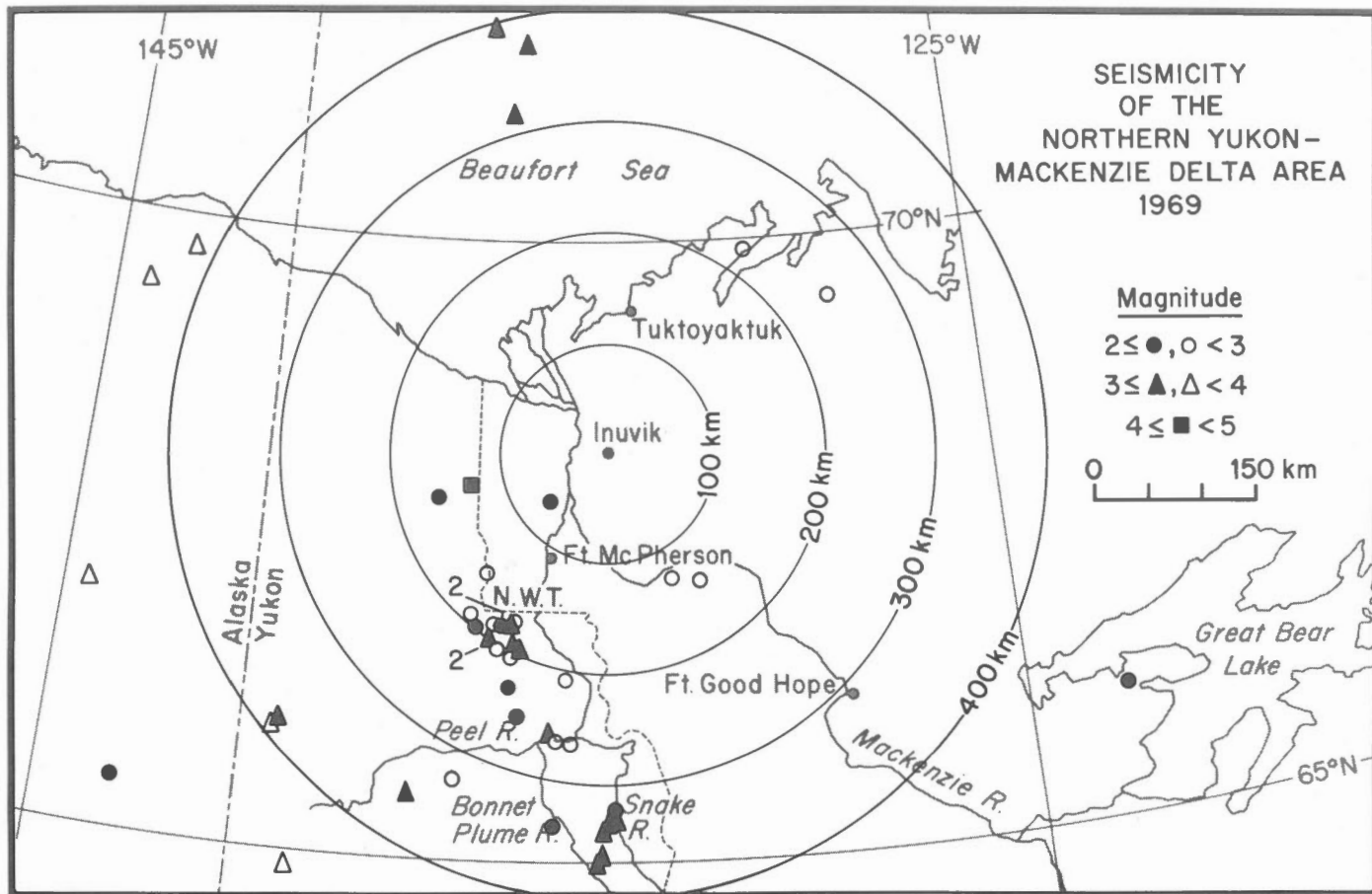


Figure 9. Located earthquakes in the northern Yukon-Mackenzie Delta area, 1969.

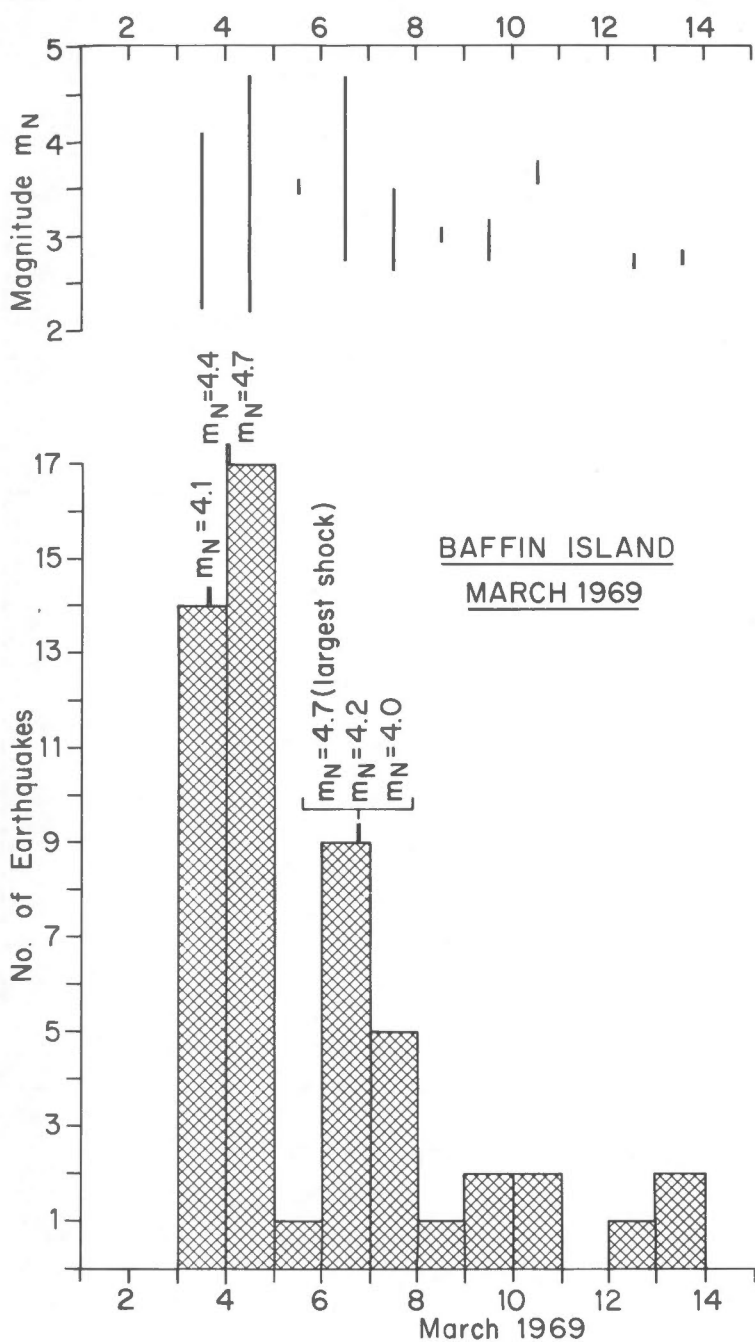


Figure 10. Histogram of daily activity for Baffin Island earthquake series—March 1969. At the top of the diagram vertical lines represent daily magnitude ranges.

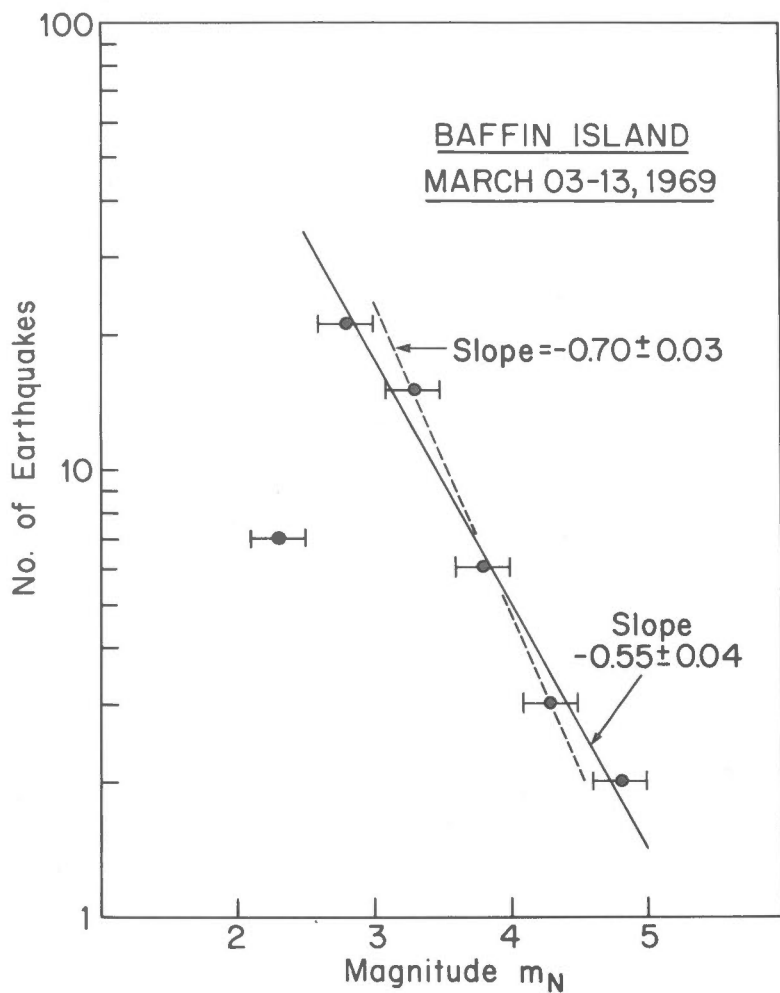


Figure 11. Log N versus magnitude for Baffin Island series—
March 1969.

recorded only at FBC) occurring between 3 and 13 March. A histogram of daily activity over this period is presented in Figure 10. Thirty-one of the 54 events occurred on March 3 and 4, followed by one event on March 5 and 14 on March 6 and 7. Six events had magnitude m_N 4 or greater with the two largest shocks, both m_N 4.7, occurring on 4 March at 02^h and 6 March at 17^h GMT. At the top of Figure 10 the daily magnitude ranges are shown. The fact that there is no single large event (six events of magnitude m_N 4 or greater) suggests this series is a swarm rather than a foreshock – main shock – aftershock sequence.

Figure 11 is a plot of the log number of earthquakes versus magnitude. The magnitude values have been grouped within $\frac{1}{2}$ unit ranges since most have standard errors of ± 0.2 unit. The slope of this curve represents the b value in the frequency-magnitude relationship

$$\log N = a - bM$$

where N is the number of earthquakes of magnitude M and a and b are constants. Two slopes have been calculated using the method of least-squares. The solid line using data in the magnitude range $2\frac{1}{2}$ to 5 yields a b value of 0.55 ± 0.04 . The dashed line calculated using data in the magnitude range 3 to $4\frac{1}{2}$ gives a b value of 0.70 ± 0.03 . Because the detection capability may fall off below magnitude 3 the latter b value is probably more accurate for this series.

For the two largest shocks on 4 and 6 March, with identical epicentres and magnitudes (m_N 4.7) averaged from 16 and 14 stations respectively, amplitudes recorded at various stations were not consistent. The latter event on 6 March produced Lg trace amplitudes at FBC, BLC, CMC, SCH and MNT double those of the former event at the same stations. At RES and YKC, on the other hand, Lg trace amplitudes were slightly less for the 6 March event. Although the epicentres were essentially identical this does suggest a difference in mechanism.

At ALE in a five-hour period between 10 September 20^h and 11 September 01^h GMT a swarm of about 40 earthquakes was detected with the characteristic 28-second S – P interval. As discussed in the 1967 catalogue, they are believed to have originated near the northern coast of Greenland about 200 km east of ALE. Only the largest event in this swarm, M_L 3.2, on 10 September 22^h GMT is listed in Table 8.

3. Western Region

The Western Region lies west of 113°W and includes Canada and Alaska south of 60°N, Montana, Idaho and Washington State north of 48°N, and the Puget Sound area of Washington State north of 47°N between 121°W and 126°W. The boundary extends westward into the Pacific Ocean between 48°N and 60°N to include earthquakes that are located along tectonic features from the Juan de Fuca Ridge to Dixon Entrance north of the Queen Charlotte Islands. Earthquakes which occur along the coast of southeastern Alaska west of 145°W are not included. In the region of the Gulf Islands and the San Juan Islands at the southern end of the Strait of Georgia, the true epicentres of some of the earthquakes that are in the Canadian section of Table 3 may be in the United States, and vice versa. Similarly, some of the unlocated events recorded at VIC may originate in the United States. Readings from stations outside the Canadian network have been used for some of the epicentral determinations. These are generally obtained from published reports, particularly the ISC listing.

Table 3 lists 103 earthquakes, 59 in Canada (Table 1A) and 44 in the United States (Table 1B). Epicentres for these events are plotted in Figure 3, which also shows the Canadian seismograph stations in the area. In addition, 96 unlocated events are listed by station in chronological order in Tables 11 to 15. SES was not routinely read for minor activity.

As in other years, the majority of the located earthquakes have epicentres west of Vancouver Island. There are, however, a few isolated earthquakes which occur on the mainland of British Columbia. The increase in open pit mining near Penticton has created a problem of differentiating between blasts and earthquakes in this region. It is possible that some of the events which appear in Table 3 are blasts, but in general, these are not listed.

The area at the south end of the Strait of Georgia including the Gulf Islands in Canada or the San Juan Islands in the United States, continues to be moderately active. The event at 08:33 GMT on 14 February, 1969 was felt over an area of 7,000 km². Intensity IV was reached at several sites in Victoria, although no damage was reported. The accelerograph on soil at the University of Victoria was triggered, although a nearby accelerograph on bedrock was not triggered. The peak acceleration recorded was 1.4%g (Milne and Rogers, 1973). Several seismoscopes in the Victoria/Vancouver area showed small amplitudes (Milne and Rogers, 1971).

4. Central Region

The Central Region lies north of 49°N and south of 60°N and between 85°W and 113°W and includes Saskatchewan, Manitoba and parts of Alberta and Ontario. No seismic activity was detected during 1969; however, one previously unpublished event in northeastern Montana is listed in Table 4B.

Figure 12 shows all the previously located earthquakes between 1964 and 1969, in the Central Region and north-central United States, plus one event in southern Saskatchewan in 1972 (Smith and Milne, 1969; Smith and Milne, 1970; Stevens *et al.*, 1972, 1973 and 1974; Coffman and Cloud, 1970; Horner *et al.*, 1973). Ten events occurred in southwestern Hudson Bay; five other epicentres are also plotted. The seismograph stations in the region and the dates of installation are also included in Figure 12. Not shown is a low gain seismograph which operated in Saskatoon, Saskatchewan, from 1915 to 1960. Prior to the mid-1960's no event less than about magnitude 4 could have been detected in central Canada. In 1909 a large earthquake, approximately m_b 5½, was felt widely over the Canadian prairies and northern United States (Horner *et al.*, 1973) but is not plotted.

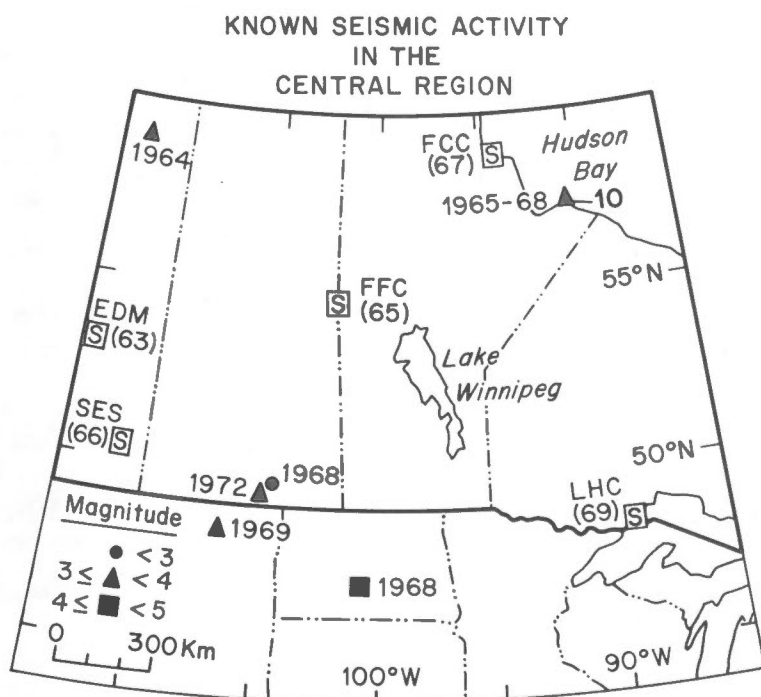


Figure 12. Known seismic activity in the Central Region from 1964 to 1969 plus the Bengough, Sask., earthquake of July 26, 1972.

V REVISIONS

This section contains previously unpublished revisions to epicentres of 1969 Canadian earthquakes given in other publications.

1. Eastern Region

15 Nov. 17 36 38 ISC Vol. 6, No. 11, event 559

This event was located in southern Ontario by SAAC/LASA. Inspection of the appropriate Canadian seismograms revealed that this event was definitely mislocated, and the LHC record, in particular, indicates the event was a blast, probably from the mining district north of Duluth, Minnesota.

2. Northern Region

30 Nov. 14 39 12 ISC Vol. 6, No. 11, event 1181

This event, located in northern Quebec by SAAC/LASA, occurred in southern Davis Strait at 13 38 06 and was an aftershock of the event of 24 Nov. 21^h (see Table 2).

12 Dec. 09 10 10 ISC Vol. 6, No. 12, event 430

This event, located in the Northwest Territories by SAAC/LASA, occurred in the Arctic Ocean north of Borden Island at 09 08 34 (see Table 2).

3. Western Region

18 Mar. 22 44 44 ISC Vol. 6, No. 3, event 768

This event, located by the ISC in the Coast Mountains north of Knight Inlet is west of Vancouver Island (see Table 3), an aftershock of the event of 18 March 20^h.

13 May 23 24 44 ISC Vol. 6, No. 5, event 429

26 May 23 22 48 ISC Vol. 6, No. 5, event 840

These events are probably strip mine explosions near the southeastern B.C.—Alberta border and have not been listed in our catalogue.

Acknowledgments

We gratefully acknowledge the co-operation of Rev. M. Buist, S.J., Collège Jean-de-Brébeuf, in supplying seismograms from the Montreal station on a routine basis. We also thank the Physics Department, University of Alberta, for loaning the records of the Edmonton Observatory.

The interpretation of many events in the Greenland area was greatly facilitated by the addition of data, both phase readings and microfilm records, generously supplied by Dr. E. Hjortenberg, Danish Geodetic Institute.

We would also like to thank Dr. A.E. Stevens, R.J. Wetmiller, Dr. G. Leblanc and Dr. M.J. Berry for critically reviewing the manuscript and for their suggestions throughout its preparation.

References

- Coffman, J.L. and W.K. Cloud. 1970. United States earthquakes 1968. National Earthquake Information Center, E.S.S.A., Washington, 111 p.
- Gutenberg, B. and C.F. Richter. 1956. Earthquake magnitude, intensity, energy and acceleration (second paper). *Bull. Seism. Soc. Amer.*, 46, pp. 105-145.
- Horner, R.B., A.E. Stevens and H.S. Hasegawa. 1973. The Bengough, Saskatchewan, earthquake of July 26, 1972. *Can. J. Earth Sci.*, 10, pp. 1805-1821.
- ISC. 1969. Bulletin of the International Seismological Centre, 6, Nos. 1 to 12.
- Milne, W.G. and G.C. Rogers. 1971. Earthquake engineering research at Victoria Geophysical Observatory. Proceedings of the First Canadian Conference on Earthquake Engineering, Vancouver, 1971, pp. 27-39.
- Milne, W.G. and G.C. Rogers. 1973. Deployment of strong motion seismographs in western Canada. Proceedings, Fifth World Conference on Earthquake Engineering, Rome, 1973.
- Nuttli, O.W. 1973. Seismic wave attenuation and magnitude relations for eastern North America. *J. Geophys. Res.*, 78, pp. 876-885.
- Seismological Bulletin, January – December 1969. 1970. *Seism. Ser. Earth Physics Br.*, No. 60, 458 p.
- Smith, W.E.T. and W.G. Milne. 1969. Canadian earthquakes – 1964. *Seism. Series Dom. Obs.* 1964-2, 28 p.
- Smith, W.E.T. and W.G. Milne. 1970. Canadian earthquakes – 1965. *Seism. Series Dom. Obs.* 1965-2, 38 p.
- Stevens, A.E., W.G. Milne, R.J. Wetmiller and R.B. Horner. 1972. Canadian earthquakes – 1966. *Seism. Ser. Earth Physics Br.*, No. 62, 55 p.
- Stevens, A.E., W.G. Milne, R.J. Wetmiller and G. Leblanc. 1973. Canadian earthquakes – 1967. *Seism. Ser. Earth Physics Br.*, No. 65, 65 p.
- Stevens, A.E., W.G. Milne, R.J. Wetmiller, G. Leblanc and R.B. Horner. 1974. Canadian earthquakes – 1968. *Seism. Ser. Earth Physics Br.*, in preparation.
- von Hake, C.A. and W.K. Cloud. 1971. United States earthquakes 1969. U.S. Dept. of Commerce, N.O.A.A., 80 p.

TABLE 1
EARTHQUAKES OF EASTERN CANADA AND ADJACENT AREAS
1969

(F=FILLED, O=OPEN SYMBOL ON EPICENTRE MAPS)

A. CANADIAN EPICENTRES

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
FEB 2	04 24 28.(1)	49.71 N(0.06)	55.13 W(0.09)	3.1	MN=3.5(0.3)	7	19	6	F
	NOTRE DAME BAY, NORTH COAST OF NEWFOUNDLAND								
FEB 19	03 40 28.(1)	47.62 N(0.04)	70.72 W(0.06)	0.7	ML=2.6(0.4)	4	5	2	O
	NEAR BAIE ST PAUL QUEBEC								
MAR 19	07 00 37.(1)	45.64 N(0.05)	76.22 W(0.04)	0.9	ML=2.8(0.3)	4	7	4	F
	GATINEAU PARK NEAR LAC LAPECHE QUEBEC								
MAY 10	18 43 29.(1)	47.47 N(0.06)	70.65 W(0.08)	2.9	MN=3.6(0.1)	7	12	3	F
	NEAR BAIE ST PAUL QUEBEC								
MAY 10	20 01 55.(1)	47.47 N(0.05)	70.65 W(0.07)	2.7	MN=3.6(0.2)	7	12	3	F
	NEAR BAIE ST PAUL QUEBEC								
JUN 4	09 36 02.(1)	49.67 N(0.07)	81.45 W(0.12)	4.1	MN=3.1(0.1)	8	12	6	F
	NORTHEAST OF KAPUSKASING ONTARIO								
JUN 12	11 00 11.(2)	46.92 N(0.05)	75.95 W(0.08)	0.6	ML=2.9(0.3)	3	5	3	F
	BASKATONG RESERVOIR SOUTHWESTERN QUEBEC								
JUL 14	03 06 59.(1)	47.83 N(0.08)	70.09 W(0.13)	3.6	MN=3.8(0.3)	9	17	6	F
	NEAR LA MALBAIE QUEBEC. REPORTED FELT IN PARC DES LAURENTIDES BETWEEN QUEBEC CITY AND CHICOUTIMI								
JUL 23	08 34 35.(3)	56.51 N(0.12)	46.49 W(0.30)	2.5		6	10	0	F
ISC	08 34 38.(1)	56.0 N(0.20)	47.0 W(0.13)	2.1	MB=4.1	11	11	4	
	LABRADOR SEA (SOUTH OF GREENLAND) (PLOTTED ON NORTHERN REGION MAP)								
AUG 5	21 53 23.(2)	47.66 N(0.08)	52.29 W(0.15)	1.0	MN=3.4(0.1)	4	6	3	F
	OFF THE SE COAST OF NEWFOUNDLAND NEAR ST JOHNS								
AUG 7	04 57 38.(2)	46.41 N(0.10)	75.14 W(0.08)	2.1	ML=2.7(0.3)	4	6	4	F
	NEAR NOMININGUE QUEBEC								
AUG 31	07 20 27.(1)	47.49 N(0.10)	70.07 W(0.12)	1.4	ML=3.2(0.1)	5	7	3	F
	SOUTH SHORE ST LAWRENCE NEAR RIVIERE OUELLE QUEBEC								
SEP 27	22 53 58.(2)	56.52 N(0.23)	57.49 W(0.22)	0.9	MN=4.1()	2	5	1	O
	LABRADOR SEA								
OCT 10	00 07 07.(1)	46.42 N(0.03)	75.20 W(0.05)	2.8	MN=4.2(0.2)	18	34	8	F
ISC	00 07 05.(0)	46.39 N(0.04)	75.05 W(0.07)	2.0	MB=3.9	27	27	3	
USCGS	00 07 07.	46.2 N	75.1 W	1.1	MB=3.9	14	14	4	
	NEAR NOMININGUE QUEBEC. MAIN SHOCK. FELT OVER AN AREA OF APPROX. 60,000 SQ KM. MAXIMUM INTENSITY V AT LA CONCEPTION. ONLY SLIGHT DAMAGE. SEE TEXT AND FIG 7. 2 FORESHOCKS AND 2 AFTERSHOCKS WERE REPORTED FELT - ONLY 1 WAS LARGE ENOUGH TO BE DETECTED INSTRUMENTALLY. BOTH ISC AND USCGS GIVE DEPTH = 21 KM								
OCT 10	08 16 12.(1)	46.38 N(0.08)	75.05 W(0.06)	1.6	ML=2.8(0.4)	4	6	4	F
	NEAR NOMININGUE QUEBEC. FELT AFTERSHOCK OF EVENT OF 18 OCT 00H								
NOV 4	12 06 31.(0)	45.78 N(0.02)	74.26 W(0.01)	0.3	ML=2.3(0.3)	3	5	3	O
	SOUTHERN QUEBEC NEAR MORIN HEIGHTS								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA			
						STN	PHA	MAG	
NOV 17	07 32 27.(1)	53.42 N(0.05)	82.81 W(0.07)	3.5	MN=3.5(0.2)	11	25	10	F
WEST SIDE OF JAMES BAY, NORTHWEST OF FORT ALBANY									
DEC 15	09 20 22.(1)	46.46 N(0.01)	76.04 W(0.02)	0.1	ML=2.3(0.2)	3	4	3	0
NEAR MANIWAKI QUEBEC									
DEC 15	10 54 30.(2)	54.92 N(0.14)	73.44 W(0.11)	2.6	MN=2.6()	3	6	1	0
EAST OF GWC NEAR LAC BIENVILLE QUEBEC									

B. UNITED STATES EPICENTRES

APR 25									
ISC	00 14 42.(1)	40.8 N(0.11)	74.2 W(0.11)	2.2		7	7	0	F
USCGS	00 14 41.	40.7 N	74.3 W	1.5		6	6	0	
FELT AT HOPEWELL AND PRINCETON, NEW JERSEY									
(REFERENCE-UNITED STATES EARTHQUAKES 1969, PAGE 12)									
AUG 6									
NESA	16 02 55.	CENTRAL NEW HAMPSHIRE							
FELT LOCALLY IN MOULTONBORO-OSSIPPE AREA.									
MAXIMUM INTENSITY V. VERY MINOR DAMAGE.									
(REFERENCE-UNITED STATES EARTHQUAKES 1969, PAGE 12)									
AUG 13	02 42 24.(3)	43.30 N(0.15)	78.22 W(0.06)	1.9	MN=2.5()	5	8	1	F
EAST OF ROCHESTER NY. FELT AT ATTICA WITH INTENSITY IV									
AND AT VARYSBURG AND WARSAW WITH INTENSITY I-III									
(REFERENCE-UNITED STATES EARTHQUAKES 1969, PAGE 12)									

TABLE 2
EARTHQUAKES OF NORTHERN CANADA AND ADJACENT AREAS
1969

(F=FILLED, O=OPEN SYMBOL ON EPICENTRE MAPS)

A. CANADIAN EPICENTRES

DATE		H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
JAN 1	1	08 41 04.(1) SOUTHWEST OF PELLY BAY NWT	67.55 N(0.05)	92.45 W(0.14)	2.2	MN=2.7(0.2)	6	8	5	F
JAN 2	2	00 27 19.(1) EASTERN MELVILLE ISLAND NWT	75.76 N(0.04)	106.34 W(0.11)	1.5	MN=2.9(0.3)	5	14	2	F
JAN 2	2	20 38 54.(2) HOME BAY, EAST COAST OF BAFFIN ISLAND NWT	68.14 N(0.09)	67.39 W(0.34)	2.5	MN=3.0(0.2)	4	7	3	F
JAN 5	5	03 28 30.(1) BONNET PLUME RIVER, NORTHEASTERN YUKON TERRITORY	65.27 N(0.03)	134.71 W(0.06)	0.4	MN=2.6()	3	7	1	F
JAN 20		10 35 00.(1) ARCTIC OCEAN, NORTHWEST OF BORDEN ISLAND NWT	80.14 N(0.08)	114.46 W(0.24)	0.4	ML=3.2(0.1)	2	4	2	O
JAN 22		18 57 07.(1) NORTH OF WRIGLEY NWT	63.71 N(0.03)	123.70 W(0.10)	0.7	MN=2.7(0.1)	3	8	2	F
JAN 28		02 06 53.(2) BONNET PLUME RIVER, NORTHEASTERN YUKON TERRITORY	65.08 N(0.07)	133.73 W(0.17)	1.9	MN=3.2(0.2)	5	14	4	F
FEB 2		05 14 14.(1) FROBISHER BAY, SOUTHERN BAFFIN ISLAND NWT	62.52 N(0.02)	66.39 W(0.11)	0.6	MN=2.7(0.0)	3	5	2	O
FEB 2		21 55 38.(1) BORDEN ISLAND, FORESHOCK OF EVENT OF 03 FEB 06H	78.26 N(0.11)	110.71 W(0.12)	0.4	ML=2.5(0.3)	2	4	2	O
FEB 3		02 02 03.(1) NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON	66.79 N(0.06)	135.98 W(0.15)	1.3	MN=3.3(0.2)	5	11	3	F
FEB 3		06 38 59.(2) BORDEN ISLAND. MAIN SHOCK. THIS EVENT IS ASSOCIATED WITH 1 FORESHOCK AND 3 AFTERSHOCKS	78.66 N(0.14)	110.61 W(0.45)	1.8	ML=3.4(0.1)	4	7	2	F
FEB 3		07 28 30.(3) BEAUFORT SEA	71.70 N(0.06)	136.37 W(0.49)	1.4	ML=3.1(0.0)	4	7	2	F
FEB 3		21 26 03.(2) BORDEN ISLAND. AFTERSHOCK OF EVENT OF 03 FEB 06H	78.60 N(0.12)	110.64 W(0.42)	1.7	ML=3.2(0.2)	3	7	2	F
FEB 19		16 26 28.(5) HUDSON STRAIT NEAR RESOLUTION ISLAND	61.58 N(0.12)	65.34 W(0.73)	2.8	MN=2.4(0.1)	3	4	2	O
FEB 23		08 10 55.(1) SOUTHWEST OF FT NORMAN NWT	63.53 N(0.07)	127.14 W(0.12)	1.5	MN=2.4(0.1)	3	9	3	F
FEB 26		17 39 16.(5) OFF NORTHERN TIP OF LABRADOR NEAR KILLINEK ISLAND	60.49 N(0.11)	64.68 W(0.61)	2.5	MN=2.9()	3	4	1	O
MAR 2		12 19 20.(1) SOUTH OF WAGER BAY NWT	64.60 N(0.04)	88.60 W(0.09)	3.3	MN=3.2(0.1)	10	26	9	F
MAR 3		08 49 42.(1) NORTHERN BAFFIN ISLAND SE OF POND INLET THIS IS THE FIRST OF A SERIES OF 54 EARTHQUAKES DETECTED IN THIS AREA FROM 03 MAR TO 13 MAR. THE TWO LARGEST EVENTS, BOTH MN=4.7, OCCURRED ON 04 MAR AT 02H AND 06 MAR AT 17H. THROUGHOUT THE YEAR 70 EVENTS WERE DETECTED IN THIS AREA.	71.68 N(0.05)	75.31 W(0.19)	3.7	MN=3.9(0.2)	15	33	13	F

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA			
						STN	PHA	MAG	
MAR 3	08 57 24.(3)	71.61 N(0.11)	75.53 W(0.31)	3.1	MN=3.1(0.3)	7	9	7	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	09 08 55.(2)	71.62 N(0.07)	75.44 W(0.25)	3.4	MN=3.5(0.2)	10	16	9	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	09 15 08.(1)	71.66 N(0.05)	75.27 W(0.21)	3.4	MN=3.8(0.2)	13	20	11	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	10 19 05.(2)	71.63 N(0.06)	75.30 W(0.23)	2.4	MN=3.1(0.3)	6	10	6	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	11 19 19.(3)	71.62 N(0.11)	75.32 W(0.37)	3.0	MN=2.9(0.2)	5	7	5	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	12 26 13.(3)	71.73 N(0.13)	75.17 W(0.42)	2.5	MN=2.8(0.3)	4	5	4	0
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	15 35 05.(1)	71.67 N(0.04)	75.22 W(0.15)	3.3	MN=4.1(0.2)	17	36	11	F
ISC	15 35 02.(1)	71.92 N(0.08)	74.8 W(0.30)	3.1		17	17	0	
USCGS	15 35 01.	72.0 N	73.8 W	1.4	MB=3.8	7	7	3	
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 3	21 16 13.(4)	71.73 N(0.16)	75.26 W(0.54)	2.1	MN=2.5(0.2)	3	4	3	0
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 4	01 52 09.(1)	71.65 N(0.04)	75.88 W(0.17)	4.1	MN=4.4(0.2)	20	40	14	F
ISC	01 52 08.(1)	72.01 N(0.09)	74.8 W(0.29)	3.4	MB=4.0	23	23	3	
USCGS	01 52 10.	72.2 N	74.7 W	0.7	MB=4.1	8	8	3	
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 4	02 05 00.(1)	71.65 N(0.04)	75.21 W(0.15)	3.6	MN=4.7(0.2)	20	43	16	F
ISC	02 04 59.(1)	71.97 N(0.10)	74.5 W(0.31)	3.5	MB=4.3	23	23	3	
USCGS	02 05 00.	72.2 N	74.6 W	1.0	MB=4.5	12	12	5	
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 4	02 21 25.(3)	71.63 N(0.14)	75.33 W(0.47)	1.9	MN=3.1(0.2)	3	4	3	0
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 4	02 26 41.(2)	71.58 N(0.06)	75.52 W(0.22)	2.3	MN=3.3(0.2)	6	10	6	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 4	02 35 11.(2)	71.61 N(0.08)	75.55 W(0.28)	2.9	MN=3.2(0.2)	6	10	6	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 4	02 55 16.(2)	71.59 N(0.08)	75.44 W(0.28)	2.3	MN=2.9(0.3)	4	7	4	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 5	03 17 55.(1)	65.25 N(0.06)	133.69 W(0.14)	1.2	MN=3.0()	3	9	1	F
		BONNET PLUME RIVER, NORTHEASTERN YUKON TERRITORY							
MAR 5	08 54 38.(1)	71.69 N(0.05)	75.24 W(0.20)	3.2	MN=3.5(0.2)	11	21	9	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 6	16 37 53.(1)	71.69 N(0.05)	75.08 W(0.21)	3.5	MN=3.9(0.2)	13	24	10	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 6	17 03 24.(1)	71.66 N(0.04)	75.25 W(0.16)	4.2	MN=4.7(0.3)	20	49	14	F
ISC	17 03 22.(1)	71.92 N(0.08)	74.6 W(0.27)	3.4	MB=4.3	32	32	4	
USCGS	17 03 24.	72.2 N	74.4 W	1.5	MB=4.6	15	15	6	
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
		THIS WAS THE LARGEST EVENT IN THE SERIES							
MAR 6	17 08 03.(2)	71.74 N(0.05)	75.34 W(0.20)	2.6	MN=4.2(0.2)	10	11	8	F
		NORTHERN BAFFIN ISLAND SE OF POND INLET							
MAR 6	17 32 22.(4)	71.73 N(0.18)	75.04 W(0.62)	2.4	MN=2.9(0.2)	3	4	3	0
		NORTHERN BAFFIN ISLAND SE OF POND INLET							

DATE	H-TIME (GHT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
MAR 6	18 36 24.(2)	71.65 N(0.07)	75.52 W(0.24)	3.4	MN=3.7(0.2)	10	19	9	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 6	18 53 22.(1)	71.72 N(0.05)	75.17 W(0.19)	3.5	MN=4.0(0.2)	13	26	10	F
ISC	18 53 19.(1)	71.89 N(0.06)	74.8 W(0.26)	2.1		10	10	0	
USCGS	18 53 20.	72.1 N	73.8 W	0.6	MB=4.4	5	5	1	
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 6	23 57 43.(2)	71.57 N(0.08)	135.53 W(0.22)	0.7	ML=3.3(0.1)	3	6	2	F
	BEAUFORT SEA								
MAR 7	05 15 23.(2)	71.60 N(0.06)	75.55 W(0.22)	2.6	MN=3.1(0.3)	7	11	7	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 7	08 53 39.(3)	78.90 N(0.09)	91.46 W(0.72)	1.1	ML=2.7()	2	5	1	0
	AXEL HEIBERG ISLAND NWT								
MAR 7	09 55 04.(2)	71.64 N(0.06)	75.51 W(0.22)	2.6	MN=3.1(0.3)	7	12	7	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 7	11 13 51.(1)	71.63 N(0.04)	75.35 W(0.16)	2.2	MN=3.5(0.2)	9	16	8	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 9	01 17 34.(2)	71.67 N(0.08)	75.46 W(0.29)	3.7	MN=3.2(0.3)	8	14	8	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 10	11 35 51.(1)	71.66 N(0.05)	75.13 W(0.18)	3.3	MN=3.8(0.2)	12	28	9	F
ISC	11 35 49.(3)	71.9 N(0.17)	75.2 W(0.88)	3.8		10	10	0	
USCGS	11 35 41.	72.5 N	71.6 W	0.9	MB=4.0	6	6	3	
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 10	11 54 02.(1)	71.65 N(0.06)	75.18 W(0.21)	3.0	MN=3.5(0.2)	10	19	9	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 11	02 47 47.(3)	65.30 N(0.13)	133.57 W(0.28)	4.1	MN=3.4(0.1)	7	18	4	F
ISC	02 47 46.(1)	65.7 N(0.12)	133.2 W(0.19)	2.9		10	10	0	
USCGS	02 47 48.	65.7 N	133.3 W	1.6	MB=3.7	6	6	2	
	BONNET PLUME RIVER, NORTHEASTERN YUKON TERRITORY								
MAR 12	10 08 50.(4)	71.69 N(0.16)	75.13 W(0.55)	2.1	MN=2.7(0.2)	3	4	3	0
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 13	03 58 46.(2)	71.57 N(0.07)	75.43 W(0.29)	2.1	MN=2.8(0.2)	4	8	3	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 13	11 28 38.(2)	71.53 N(0.08)	75.50 W(0.31)	2.2	MN=2.7(0.3)	4	7	3	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 13	18 43 50.(1)	63.56 N(0.04)	128.36 W(0.07)	2.9	MN=5.0(0.2)	31	52	7	F
ISC	18 43 49.(0)	63.57 N(0.04)	128.62 W(0.09)	2.5	MB=4.8	102	102	13	
USCGS	18 43 49.	63.5 N	129.0 W	1.2	MB=4.8	48	48	13	
	WEST OF WRIGLEY NEAR NWT-YUKON BORDER. MAIN SHOCK								
MAR 13	23 14 25.(0)	63.53 N(0.02)	129.00 W(0.03)	0.1	MN=2.7(0.3)	2	4	2	0
	WEST OF WRIGLEY NWT. AFTERSHOCK OF EVENT OF 13 MAR 18H								
MAR 14	02 13 29.(2)	63.42 N(0.09)	128.64 W(0.15)	1.8	MN=3.4(0.2)	5	13	3	F
	WEST OF WRIGLEY NWT. AFTERSHOCK OF EVENT OF 13 MAR 18H								
MAR 21	07 05 47.(3)	71.66 N(0.13)	75.22 W(0.40)	2.2	MN=2.8(0.4)	4	5	3	0
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAR 22	23 23 09.(1)	65.06 N(0.08)	86.95 W(0.14)	2.2	MN=2.5(0.1)	4	6	2	F
	ROES WELCOME SOUND NWT								
MAR 23	10 29 31.(2)	61.59 N(0.10)	126.40 W(0.13)	2.0	MN=2.8(0.1)	4	12	3	F
	WEST OF FT SIMPSON NEAR NWT-YUKON BORDER								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
MAR 26	12 20 41.(2)	71.70 N(0.09)	75.68 W(0.28)	3.4	MN=3.1(0.2)	8	12	8	F
		NORTHERN BAFFIN ISLAND SE OF	POND INLET						
MAR 31	06 19 49.(3)	71.55 N(0.10)	75.11 W(0.44)	2.1	MN=2.9(0.4)	3	5	3	0
		NORTHERN BAFFIN ISLAND SE OF	POND INLET						
APR 2	04 08 08.(1)	61.19 N(0.05)	139.78 W(0.07)	2.3	MN=3.5(0.2)	15	24	5	F
ISC	04 08 07.(1)	61.36 N(0.07)	139.7 W(0.11)	2.5		22	22	0	
USCGS	04 08 06.	61.3 N	139.6 W	1.6	MB=3.5	11	11	1	
		WEST OF HAINES JUNCTION, SW	YUKON TERRITORY						
APR 5	09 25 21.(3)	71.59 N(0.12)	75.70 W(0.37)	3.1	MN=2.9(0.3)	5	7	4	F
		NORTHERN BAFFIN ISLAND SE OF	POND INLET						
APR 8	06 03 56.(2)	71.63 N(0.07)	75.47 W(0.30)	2.8	MN=3.1(0.3)	6	10	6	F
		NORTHERN BAFFIN ISLAND SE OF	POND INLET						
APR 9	15 36 09.(3)	67.22 N(0.09)	67.27 W(0.36)	2.8	MN=2.9(0.3)	5	7	2	F
		CUMBERLAND PENINSULA, BAFFIN ISLAND							
APR 10	02 19 44.(1)	66.80 N(0.05)	136.01 W(0.12)	0.7	MN=2.9()	3	7	1	F
		NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON							
APR 13	13 49 48.(2)	71.61 N(0.06)	75.34 W(0.21)	2.1	MN=3.4(0.1)	6	9	5	F
		NORTHERN BAFFIN ISLAND SE OF	POND INLET						
APR 18	20 00 59.(3)	71.66 N(0.09)	75.45 W(0.28)	3.0	MN=3.2(0.3)	7	10	7	F
		NORTHERN BAFFIN ISLAND SE OF	POND INLET						
APR 20	00 52 24.(1)	66.16 N(0.04)	135.43 W(0.08)	0.5	MN=2.5()	3	6	1	F
		PEEL RIVER, NORTHERN YUKON TERRITORY							
APR 21	23 19 34.(1)	62.77 N(0.03)	67.83 W(0.11)	1.1	MN=2.9(0.2)	5	6	3	F
		META INCOGNITA PENINSULA, SOUTHERN BAFFIN ISLAND							
APR 22	23 48 27.(1)	70.19 N(0.06)	71.92 W(0.20)	2.9	MN=3.7(0.2)	9	19	8	F
		CENTRAL BAFFIN ISLAND WEST OF	CLYDE						
APR 23	18 59 42.(1)	75.64 N(0.05)	102.22 W(0.19)	3.2	MN=3.9(0.2)	11	25	7	F
		BATHURST ISLAND NWT							
APR 24	23 10 27.(2)	62.77 N(0.10)	78.74 W(0.17)	2.9	MN=3.0(0.2)	7	11	7	F
		NORTHEASTERN HUDSON BAY							
APR 26	20 01 38.(1)	81.55 N(0.07)	88.75 W(0.36)	1.0	ML=3.2()	3	7	1	F
		NORTHWESTERN ELLESMERE ISLAND NWT							
APR 30	01 11 24.(4)	74.84 N(0.18)	93.95 W(0.29)	2.3	MN=3.0(0.1)	5	7	4	F
		SOUTHEASTERN CORNWALLIS ISLAND NWT							
APR 30	09 05 24.(2)	60.39 N(0.08)	136.90 W(0.17)	0.7	MN=3.0(0.0)	2	4	2	0
		SOUTHERN YUKON TERRITORY							
APR 30	12 25 11.(0)	79.76 N(0.02)	115.31 W(0.09)	0.2	ML=3.4(0.2)	4	7	2	F
		ARCTIC OCEAN NORTHWEST OF BORDEN ISLAND							
MAY 2	02 28 35.(2)	66.39 N(0.06)	135.59 W(0.15)	0.9	MN=2.7()	3	7	1	F
		NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON							
MAY 3	09 50 38.(2)	64.99 N(0.07)	133.76 W(0.16)	1.4	MN=3.1()	3	9	1	F
		BONNET PLUME RIVER, NORTHEASTERN YUKON TERRITORY							
MAY 4	10 11 11.(1)	62.31 N(0.02)	66.85 W(0.14)	0.7	MN=2.8(0.1)	3	5	2	0
		META INCOGNITA PENINSULA SOUTHERN BAFFIN ISLAND							
MAY 6	19 41 16.(1)	66.76 N(0.11)	135.54 W(0.11)	2.2	MN=3.4(0.1)	9	14	4	F
ISC	19 41 12.(0)	66.84 N(0.05)	135.35 W(0.09)	1.2		10	10	0	
USCGS	19 41 12.	66.8 N	135.2 W	0.9	MB=4.6	7	7	1	
		NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON							

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
MAY 11	21 00 17.(1)	62.37 N(0.03)	66.06 W(0.16)	0.6	MN=2.8(0.0)	3	4	2	0
	FROBISHER BAY, SOUTHERN BAFFIN ISLAND								
MAY 14	03 35 56.(1)	71.62 N(0.03)	75.23 W(0.13)	1.4	MN=3.2(0.1)	6	10	5	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAY 14	09 15 59.(1)	71.65 N(0.04)	75.21 W(0.16)	1.6	MN=3.2(0.1)	6	10	5	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAY 16	18 34 19.(2)	71.69 N(0.06)	75.10 W(0.24)	2.1	MN=3.3(0.1)	5	8	4	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
MAY 22	17 30 34.(0)	66.93 N(0.01)	135.91 W(0.04)	0.1	ML=2.3()	3	5	1	0
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
MAY 23	02 27 47.(1)	66.08 N(0.04)	122.99 W(0.07)	1.4	MN=2.9(0.2)	6	14	5	F
	NORTHEAST OF FT NORMAN NWT								
MAY 24	00 46 57.(2)	66.28 N(0.05)	93.23 W(0.12)	0.7	MN=2.6(0.1)	3	7	2	F
	WEST OF WAGER BAY NWT								
MAY 24	20 12 34.(2)	65.36 N(0.10)	133.41 W(0.24)	2.1	MN=2.7(0.3)	3	9	2	F
	SNAKE RIVER, NORTHEASTERN YUKON TERRITORY								
MAY 27	08 01 12.(1)	66.78 N(0.05)	135.84 W(0.13)	0.6	MN=2.2()	3	5	1	0
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
MAY 30	15 09 29.(3)	66.87 N(0.11)	136.30 W(0.35)	2.1	MN=2.4(0.1)	3	8	2	F
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
MAY 30	23 53 22.(4)	67.33 N(0.11)	136.09 W(0.38)	1.7	MN=2.7()	3	6	1	0
	YUKON-NWT BORDER WEST OF FT MCPHERSON								
MAY 30	23 58 54.(3)	62.39 N(0.09)	122.84 W(0.28)	1.6	MN=2.4()	3	6	1	F
	BETWEEN WRIGLEY AND FT SIMPSON NWT								
MAY 31	10 56 11.(2)	76.54 N(0.07)	94.03 W(0.43)	1.4	ML=2.5()	3	6	1	0
	GRINNELL PENINSULA, NORTHWESTERN DEVON ISLAND NWT								
JUN 4	17 16 06.(3)	66.71 N(0.08)	135.39 W(0.29)	1.5	MN=3.0(0.3)	4	7	2	F
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
JUN 6	03 32 51.(2)	66.48 N(0.09)	134.50 W(0.24)	1.3	MN=2.4()	3	6	1	0
	NORTHERN YUKON TERRITORY SOUTH OF FT MCPHERSON POSSIBLE AFTERSHOCK OF EVENT OF 04 JUN 17H								
JUN 10	16 39 02.(0)	71.97 N(0.00)	75.45 W(0.00)	0.0	MN=3.2(0.0)	3	3	2	0
	NORTHERN BAFFIN ISLAND SE OF POND INLET FORESHOCK OF EVENT OF 10 JUN 18H								
JUN 10	18 23 30.(1)	71.75 N(0.05)	75.66 W(0.21)	3.5	MN=3.8(0.2)	10	18	9	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET. MAIN SHOCK								
JUN 10	19 17 22.(1)	71.79 N(0.05)	75.62 W(0.20)	3.2	MN=3.3(0.2)	9	15	8	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET AFTERSHOCK OF EVENT OF 10 JUN 18H								
JUN 12	00 17 15.(1)	74.04 N(0.04)	95.42 W(0.16)	2.7	MN=3.4(0.3)	10	19	8	F
	BARROW STRAIT, SOUTHEAST OF RESOLUTE NWT								
JUN 13	19 41 52.(4)	62.15 N(0.08)	123.11 W(0.37)	2.5	MN=2.8(0.1)	4	7	2	F
	NORTHWEST OF FT SIMPSON NWT								
JUN 14	08 45 50.(4)	66.67 N(0.12)	135.55 W(0.33)	1.7	MN=2.4()	4	6	1	0
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
JUN 16	23 08 40.(3)	68.10 N(0.14)	58.83 W(0.38)	3.6	MN=3.2(0.2)	6	9	3	0
	DAVIS STRAIT NWT								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
JUN 20	14 15 57.(7)	66.95 N(0.21)	135.44 W(0.67)	2.7	MN=2.8()	3	5	1	0
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
JUN 23	11 40 22.(1)	65.52 N(0.04)	137.59 W(0.11)	1.1	MN=3.1(0.2)	5	12	2	F
	PEEL RIVER, NORTHERN YUKON TERRITORY								
JUN 24	16 35 32.(2)	65.66 N(0.08)	136.65 W(0.17)	0.6	MN=2.8()	2	4	1	0
	PEEL RIVER, NORTHERN YUKON TERRITORY								
JUN 28	15 04 02.(0)	65.98 N(0.00)	140.36 W(0.00)	0.0	ML=3.3()	2	3	1	0
	NORTH-CENTRAL YUKON TERRITORY NEAR YUKON-ALASKA BORDER POSSIBLE FORESHOCK OF EVENT OF 03 JUL 21 H								
JUL 3	21 30 26.(2)	66.03 N(0.12)	140.26 W(0.27)	1.6	ML=3.8()	4	7	1	F
	NORTH-CENTRAL YUKON TERRITORY NEAR YUKON-ALASKA BORDER								
JUL 5	13 25 09.(0)	69.91 N(0.01)	130.25 W(0.02)	0.1	MN=2.2()	3	5	1	0
	NORTHEAST OF TUKTOYAKTUK NWT								
JUL 8	18 32 03.(6)	61.20 N(0.31)	140.30 W(0.38)	2.5	MN=3.1(0.2)	3	5	2	0
	SOUTHWESTERN YUKON TERRITORY WEST OF HAINES JUNCTION								
JUL 11	00 53 23.(2)	73.89 N(0.07)	94.02 W(0.64)	3.1	MN=3.0(0.2)	5	8	2	F
	SOMERSET ISLAND NWT								
JUL 12	15 13 00.(0)	74.54 N(0.00)	95.20 W(0.00)	0.0	MN=2.9()	3	3	1	0
	NEAR RESOLUTE NWT								
JUL 17	20 22 45.(1)	81.21 N(0.08)	86.24 W(0.41)	1.2	ML=3.2()	3	7	1	F
	NORTHERN ELLESMERE IS NORTH OF EUREKA NWT. MAIN SHOCK								
JUL 18	00 51 12.(1)	81.23 N(0.08)	86.38 W(0.43)	1.2	ML=2.7()	3	7	1	F
	NORTH OF EUREKA NWT. AFTERSHOCK OF EVENT OF 17 JUL 20H								
JUL 19	03 30 30.(3)	67.93 N(0.09)	134.83 W(0.34)	1.9	MN=2.9()	3	8	1	F
	MACKENZIE RIVER DELTA SOUTHWEST OF INUVIK NWT								
JUL 21	15 30 06.(2)	71.68 N(0.09)	75.74 W(0.25)	2.5	MN=3.1(0.3)	5	9	5	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
JUL 28	09 13 01.(1)	61.44 N(0.07)	79.66 W(0.11)	3.7	MN=2.9(0.2)	6	16	6	F
	NEAR MANSEL ISLAND IN NORTHEASTERN HUDSON BAY								
AUG 4	15 03 50.(2)	69.29 N(0.06)	95.44 W(0.28)	2.5	MN=3.0(0.3)	5	8	2	F
	WEST OF SPENCE BAY NWT								
AUG 5	23 17 26.(1)	63.47 N(0.07)	126.52 W(0.11)	1.4	MN=2.8(0.3)	3	8	3	F
	SOUTHWEST OF FT NORMAN NWT								
AUG 8	00 55 30.(1)	65.12 N(0.04)	89.04 W(0.10)	2.7	MN=3.2(0.2)	10	16	9	F
	WAGER BAY NWT								
AUG 8	01 45 31.(2)	62.37 N(0.09)	72.59 W(0.20)	2.9	MN=2.9(0.2)	4	6	3	0
	HUDSON STRAIT NWT								
AUG 18	10 41 39.(5)	72.88 N(0.12)	90.30 W(0.99)	2.5	MN=2.7(0.4)	3	4	2	0
	PRINCE REGENT INLET NWT								
AUG 20	15 58 52.(8)	64.71 N(0.19)	89.90 W(0.82)	2.2	ML=3.0()	3	4	1	0
	SOUTH OF WAGER BAY NWT								
AUG 29	20 42 55.(1)	73.10 N(0.05)	70.47 W(0.26)	1.2	ML=3.7(0.3)	4	5	2	0
	BAFFIN BAY								
SEP 4	11 25 27.(4)	66.91 N(0.15)	135.58 W(0.36)	3.0	MN=3.7(0.1)	7	12	5	F
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
SEP 5	15 58 07.(1)	66.90 N(0.04)	94.53 W(0.14)	2.6	MN=3.1(0.2)	8	14	6	F
	SOUTHWEST OF PELLBY BAY NWT								
SEP 10	01 46 58.(3)	77.30 N(0.20)	116.01 W(0.40)	2.1	ML=3.7()	5	7	1	F
	NORTHERN END OF PRINCE PATRICK ISLAND NWT								
SEP 11	22 43 19.(1)	76.17 N(0.04)	93.56 W(0.30)	1.4	MN=3.0()	4	8	1	F
	NORTHEASTERN DEVON ISLAND NWT								
SEP 12	16 11 08.(1)	66.91 N(0.06)	135.66 W(0.12)	0.5	MN=2.4()	2	5	1	0
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
SEP 20	15 32 06.(2)	70.57 N(0.07)	73.63 W(0.08)	0.5	MN=3.5(0.0)	3	5	3	0
	CENTRAL BAFFIN ISLAND, WEST OF CLYDE NEAR CONN LAKE								
OCT 3	19 04 13.(2)	67.27 N(0.10)	131.59 W(0.22)	1.3	ML=2.6()	3	6	1	0
	EAST OF ARCTIC RED RIVER NWT								
OCT 4	19 20 21.(0)	71.59 N(0.00)	72.12 W(0.00)	0.0	MN=3.1(0.1)	3	3	2	0
	CAPE ADAIR, NORTHEASTERN BAFFIN ISLAND								
OCT 5	21 35 02.(2)	67.31 N(0.10)	132.13 W(0.12)	0.9	ML=2.3()	3	6	1	0
	EAST OF ARCTIC RED RIVER NWT								
OCT 10	15 15 38.(2)	63.87 N(0.09)	87.11 W(0.13)	2.7	MN=3.2(0.1)	5	9	4	F
	ROES WELCOME SOUND NWT								
OCT 12	20 17 15.(2)	65.95 N(0.07)	134.34 W(0.13)	0.8	MN=2.6()	3	6	1	0
	PEEL RIVER, NORTHEASTERN YUKON TERRITORY								
OCT 14	15 53 02.(2)	65.32 N(0.08)	133.35 W(0.19)	1.8	MN=3.3()	4	11	1	F
	SNAKE RIVER, NORTHEASTERN YUKON TERRITORY								
OCT 16	18 47 17.(1)	80.61 N(0.04)	110.83 W(0.32)	1.4		9	15	0	F
ISC	18 47 16.(1)	80.62 N(0.08)	110.6 W(0.64)	2.4	MB=4.5	32	32	7	
USCGS	18 47 16.	80.8 N	112.1 W	1.1	MB=4.5	19	19	9	
	ARCTIC OCEAN NORTH OF BORDEN ISLAND. MAIN SHOCK								
OCT 16	21 20 46.(2)	67.93 N(0.08)	137.22 W(0.25)	1.4	MN=2.9()	3	7	1	F
	NORTHERN YUKON TERRITORY WEST OF AKLAVIK								
OCT 18	10 59 41.(1)	75.14 N(0.08)	96.61 W(0.28)	1.3	ML=2.2()	3	6	1	0
	CORNWALLIS ISLAND NNW OF RES								
OCT 20	00 43 46.(2)	80.68 N(0.12)	111.67 W(0.33)	0.5	ML=3.0(0.1)	2	4	2	0
	ARCTIC OCEAN NORTH OF BORDEN ISLAND AFTERSHOCK OF EVENT OF 16 OCT 18H								
OCT 28	00 46 04.(0)	68.03 N(0.03)	136.46 W(0.05)	1.0	MN=4.0(0.1)	10	17	3	F
ISC	00 46 02.(1)	68.27 N(0.07)	136.8 W(0.17)	2.2	MB=4.1	15	15	3	
USCGS	00 46 01.	68.2 N	136.5 W	1.2	MB=4.2	8	8	4	
	YUKON-NWT BORDER WEST OF AKLAVIK								
OCT 31	03 52 16.(1)	61.59 N(0.07)	77.46 W(0.12)	3.6	MN=3.2(0.2)	6	13	5	F
	NORTHWESTERN QUEBEC NORTH OF POVUNGNITUK								
OCT 31	05 06 28.(2)	71.08 N(0.05)	135.86 W(0.32)	1.4	ML=3.3(0.3)	5	8	3	F
	BEAUFORT SEA								
NOV 1	09 23 10.(1)	61.56 N(0.07)	77.40 W(0.11)	3.3	MN=3.2(0.1)	6	13	5	F
	NORTHWESTERN QUEBEC NORTH OF POVUNGNITUK								
NOV 1	18 45 55.(1)	65.97 N(0.02)	134.67 W(0.05)	0.2	MN=2.9()	2	5	1	0
	PEEL RIVER, NORTHEASTERN YUKON TERRITORY								
NOV 9	11 53 29.(2)	71.08 N(0.08)	73.21 W(0.27)	1.4	MN=3.1(0.3)	3	5	3	0
	BAFFIN ISLAND WEST OF CAPE ADAIR								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA			
						STN	PHA	MAG	
NOV 13	05 50 52.(4)	63.48 N(0.19)	127.75 W(0.28)	3.2	MN=2.7(0.2)	3	8	3	0
	WEST OF WRIGLEY NMT								
NOV 14	05 21 51.(2)	66.00 N(0.09)	134.78 W(0.20)	2.4	MN=3.5(0.3)	6	15	4	F
	PEEL RIVER, NORTHEASTERN YUKON TERRITORY								
NOV 15	13 00 19.(4)	64.89 N(0.17)	139.89 W(0.59)	2.2	ML=3.4()	3	7	1	0
	NORTHWEST OF DAWSON CITY YUKON TERRITORY								
NOV 19	07 17 19.(0)	69.51 N(0.04)	128.31 W(0.05)	0.6	MN=2.4()	3	6	1	0
	NEAR MOUTH OF ANDERSON RIVER EAST OF INUVIK NMT								
NOV 19	19 15 41.(0)	67.00 N(0.00)	136.41 W(0.00)	0.0	ML=2.2()	2	3	1	0
	NORTHERN YUKON TERRITORY SOUTHWEST OF FT MCPHERSON								
NOV 20	08 19 39.(2)	65.09 N(0.14)	88.15 W(0.19)	2.9	MN=2.8()	4	7	1	0
	WAGER BAY NMT								
NOV 24	21 14 12.(1)	60.54 N(0.03)	59.13 W(0.09)	2.0		19	32	0	F
ISC	21 14 13.(0)	60.49 N(0.04)	58.88 W(0.06)	2.0	MB=4.9	98	98	22	
USCGS	21 14 14.	60.6 N	58.8 W	0.8	MB=5.0	58	58	16	
	SOUTHERN DAVIS STRAIT. MAIN SHOCK								
NOV 27	08 25 24.(1)	73.50 N(0.04)	70.64 W(0.21)	1.9	ML=4.2(0.4)	8	13	5	F
	BAFFIN BAY								
NOV 30	14 38 06.(2)	60.55 N(0.05)	59.22 W(0.20)	1.4	ML=4.2(0.3)	6	11	2	F
	SOUTHERN DAVIS STRAIT AFTERSHOCK OF EVENT OF 24 NOV 21H								
DEC 3	05 58 35.(3)	80.80 N(0.16)	109.25 W(0.43)	0.7	ML=3.0(0.2)	2	4	2	0
	ARCTIC OCEAN NORTH OF BORDEN ISLAND NMT								
DEC 11	09 52 41.(1)	62.77 N(0.04)	67.16 W(0.17)	2.5	MN=3.4(0.3)	6	15	5	F
	META INCOGNITA PENINSULA, SOUTHERN BAFFIN ISLAND								
DEC 12	09 08 34.(1)	79.89 N(0.03)	111.85 W(0.22)	1.1	ML=3.7(0.3)	7	14	4	F
	ARCTIC OCEAN NORTH OF BORDEN ISLAND NMT								
DEC 14	01 32 35.(2)	62.77 N(0.05)	66.90 W(0.27)	1.8	MN=2.7(0.2)	5	6	3	F
	FROBISHER BAY, SOUTHERN BAFFIN ISLAND								
DEC 22	12 24 47.(1)	61.52 N(0.05)	140.42 W(0.10)	2.3		14	22	0	F
ISC	12 24 42.(0)	61.66 N(0.03)	140.22 W(0.07)	1.1	MB=4.8	46	46	8	
USCGS	12 24 41.	61.6 N	140.3 W	1.3	MB=4.6	33	33	11	
	BOTH ISC AND USCGS GIVE DEPTH = 4 KM SOUTHWESTERN YUKON TERRITORY. MAIN SHOCK								
DEC 23	09 31 49.(1)	66.91 N(0.03)	135.80 W(0.12)	0.6	MN=2.9()	3	7	1	F
	NORTHERN YUKON TERRITORY SOUTHWEST OF FORT MCPHERSON MAIN SHOCK								
DEC 25	10 21 02.(1)	62.87 N(0.05)	125.30 W(0.12)	2.4	MN=3.6(0.3)	8	23	6	F
	WEST OF WRIGLEY NMT. MAIN SHOCK								
DEC 25	12 03 32.(1)	62.72 N(0.05)	125.49 W(0.13)	2.5	MN=3.0(0.2)	8	21	6	F
	WEST OF WRIGLEY NMT. AFTERSHOCK OF EVENT OF 25 DEC 10H								
DEC 28	07 33 36.(1)	64.62 N(0.03)	89.33 W(0.10)	0.6	MN=2.5(0.1)	4	7	2	F
	SOUTH OF WAGER BAY NMT								
DEC 29	15 14 45.(4)	71.66 N(0.07)	76.24 W(0.55)	2.6	MN=3.4(0.3)	4	9	4	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								
DEC 29	21 47 54.(3)	71.66 N(0.10)	75.20 W(0.31)	2.6	MN=2.8(0.3)	6	7	5	F
	NORTHERN BAFFIN ISLAND SE OF POND INLET								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA			
						STN	PHA	MAG	
DEC 30	09 34 07.(1)	62.84 N(0.04)	125.34 W(0.08)	1.5	MN=2.9(0.2)	7	18	5	F
WEST OF WRIGLEY NWT. AFTERSHOCK OF EVENT OF 25 DEC 10H									

B. UNITED STATES EPICENTRES

MAY 27	16 28 30.(1)	60.07 N(0.05)	140.76 W(0.07)	1.8		14	20	0	F
ISC	16 28 26.(2)	60.38 N(0.04)	140.68 W(0.06)	1.3	MB=4.5	47	47	10	
USCGS	16 28 26.	60.4 N	140.7 W	1.2	MB=4.3	33	33	8	
DEPTH = 5(11) KM (ISC)									
DEPTH = 2 KM (USCGS)									
SOUTHEASTERN ALASKA NEAR ALASKA-YUKON BORDER									
JUN 11	12 53 15.(2)	65.41 N(0.11)	143.40 W(0.22)	1.2	MN=2.8(0.1)	3	7	2	F
EASTERN ALASKA									
JUN 22	07 53 29.(0)	61.71 N(0.06)	141.6 W(0.11)	2.4	MB=4.1	34	34	3	F
ISC	07 53 29.	61.7 N	141.4 W	1.1	MB=4.0	20	20	5	
USCGS									
SOUTHEASTERN ALASKA NEAR ALASKA-YUKON BORDER									
JUN 22	15 24 43.(2)	69.40 N(0.06)	144.32 W(0.28)	0.7	ML=3.4(0.1)	3	5	2	0
NORTHEASTERN ALASKA									
SEP 7	07 18 42.(0)	60.57 N(0.05)	144.98 W(0.10)	1.3		10	10	0	F
ISC	07 18 41.	60.5 N	144.9 W	1.2	MB=3.5	9	9	1	
USCGS									
SOUTHEASTERN ALASKA									
NOV 7	06 10 37.(2)	68.67 N(0.08)	148.09 W(0.21)	0.8	ML=2.6()	3	6	1	0
NORTHEASTERN ALASKA									
NOV 7	06 22 24.(3)	68.68 N(0.11)	147.81 W(0.30)	1.2	ML=3.0()	3	6	1	0
NORTHEASTERN ALASKA									
NOV 9	18 14 54.(0)	60.68 N(0.03)	143.61 W(0.08)	1.3	MB=3.9	19	19	3	F
ISC	18 14 54.	60.6 N	143.7 W	1.4	MB=3.8	16	16	4	
USCGS									
SOUTHEASTERN ALASKA									
DEC 11	11 54 12.(2)	69.72 N(0.06)	143.36 W(0.37)	0.7	ML=3.0(0.3)	3	5	2	0
NORTHEASTERN ALASKA									
DEC 14	14 59 13.(2)	66.98 N(0.05)	144.50 W(0.36)	0.3	ML=3.6()	3	4	1	0
EAST-CENTRAL ALASKA NEAR FT YUKON									
DEC 14	22 40 41.(2)	71.89 N(0.04)	148.49 W(0.37)	0.5	ML=3.5(0.1)	2	4	2	0
BEAUFORT SEA NORTH OF ALASKA									

C. GREENLAND EPICENTRES

JAN 27	23 41 01.(2)	79.93 N(0.34)	3.58 W(1.54)	1.4	ML=4.0()	4	7	1	F
OFF NORTHEASTERN COAST OF GREENLAND									
FEB 11	10 24 07.(3)	84.74 N(0.15)	0.26 W(2.22)	1.4	ML=3.5()	4	5	1	0
NORTH OF SPITSBERGEN									
FEB 16	12 21 08.(2)	85.03 N(0.10)	3.75 E(1.55)	0.9	ML=3.6()	4	5	1	0
NORTH OF SPITSBERGEN									
APR 12	01 37 44.(6)	83.30 N(0.29)	15.80 W(3.21)	2.6	ML=3.2()	3	6	1	0
NORTH OF GREENLAND									
MAY 1	00 38 50.(7)	80.36 N(0.37)	13.77 W(2.03)	3.4	ML=3.4()	3	6	1	0
NORTHEAST COAST OF GREENLAND									
AUG 16	10 48 45.(0)	84.68 N(0.00)	9.32 E(0.00)	0.0	ML=3.3()	2	3	1	0
NORTH OF SPITSBERGEN									

DATE	H-TIME (GMT)			LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA				
	HR	NN	SEC					STN	PHA	MAG		
DEC 5	11	01	51.(1)	80.15 N(0.07)	12.63 W(0.52)	0.6	ML=4.2()	4	6	1	F	
ISC	11	02	09.(1)	81.7 N(0.30)	19.3 W(0.82)	2.2		7	7	0		
LAO	11	02	02.	82.3 N	11.5 W		MB=3.8					
BOTH ISC AND LAO GIVE DEPTH = 30 KM												
OFF COAST OF NORTHEASTERN GREENLAND												
DEC 27	10	36	16.(3)	78.49 N(0.15)	19.71 W(0.60)	2.1	ML=4.2()	5	9	1	F	
NORTHEAST COAST OF GREENLAND SOUTH OF NORD												
DEC 27	15	00	40.(5)	78.24 N(0.35)	21.09 W(1.51)	3.7	ML=4.1()	4	7	1	0	
NORTHEAST COAST OF GREENLAND												
POSSIBLE AFTERSHOCK OF EVENT OF 27 DEC 10H												

TABLE 3
EARTHQUAKES IN WESTERN CANADA AND ADJACENT AREAS
1969

(F=FILLED, O=OPEN SYMBOL ON EPICENTRE MAPS)

A. CANADIAN EPICENTRES

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
JAN 25	10 21 44.	49.5 N	129.9 W		ML=3.2	2	3	2	0
	WEST OF VANCOUVER ISLAND								
JAN 26	14 27 06.	49.6 N	129.8 W		ML=3.2	2	3	2	0
	WEST OF VANCOUVER ISLAND								
JAN 28	03 24 30.	49.1 N	129.0 W		ML=3.9	8	9	3	0
ISC	03 24 30.(1)	49.30 N(0.06)	128.8 W(0.12)	1.8		21	21	0	
USCGS	03 24 29.	49.2 N	128.8 W	1.1	MB=3.9	12	12	8	
	WEST OF VANCOUVER ISLAND								
FEB 22	20 12 06.	50.2 N	119.0 W		ML=2.6	4	8	3	0
	NORTHEAST OF PENTICTON BC								
FEB 24	17 57 14.	50.6 N	130.0 W		ML=2.8	2	3	2	0
	WEST OF VANCOUVER ISLAND								
FEB 25	08 03 35.	50.0 N	132.0 W		ML=3.1	2	4	2	0
	215 KM WEST OF VANCOUVER ISLAND								
FEB 25	08 09 34.	49.5 N	132.4 W		ML=3.5	4	8	4	0
	WEST OF VANCOUVER ISLAND								
FEB 25	12 47 45.	50.5 N	133.0 W		ML=3.0	2	3	2	0
	WEST OF VANCOUVER ISLAND								
FEB 27	08 42 19.	51.0 N	133.0 W		ML=3.3	2	4	2	0
	NORTHWEST OF VANCOUVER ISLAND								
FEB 27	09 58 57.	51.0 N	133.0 W		ML=3.4	2	4	2	0
	NORTHWEST OF VANCOUVER ISLAND								
FEB 27	16 15 46.	51.0 N	133.0 W		ML=3.4	2	4	2	0
	NORTHWEST OF VANCOUVER ISLAND								
MAR 10									
ISC	22 50 50.(2)	50.93 N(0.09)	129.2 W(0.16)	2.1		11	11	0	F
USCGS	22 50 47.	50.5 N	129.6 W	1.6	MB=4.1	7	7	3	
	ISC GIVES DEPTH = 37(34) KM WEST OF VANCOUVER ISLAND								
MAR 18									
ISC	19 45 04.(1)	50.27 N(0.05)	129.5 W(0.11)	1.9		38	38	0	F
USCGS	19 45 01.	50.1 N	129.7 W	1.1	MB=4.5	19	19	6	
	ISC GIVES DEPTH = 41(11) KM WEST OF VANCOUVER ISLAND								
MAR 18									
ISC	20 31 28.(0)	50.17 N(0.03)	129.88 W(0.05)	1.3	MB=5.1	86	86	6	F
USCGS	20 31 27.	50.1 N	130.0 W	1.2	MB=5.0	55	55	14	
	WEST OF VANCOUVER ISLAND THIS EVENT HAS ABOUT 13 AFTERSHOCKS IN THE NEXT 2 DAYS. ISC LISTS 2 ON MAR 18, 22H AND MAR 19, 02H								
MAR 23	18 58 55.	53.3 N	126.0 W		ML=3.0	5	8	4	0
	SE OF PRINCE RUPERT NEAR EUTSUK LAKE								
APR 6	06 40 10.	50.0 N	129.3 W		ML=2.9	6	8	4	0
	WEST OF VANCOUVER ISLAND								
APR 10	19 31 08.	49.0 N	128.0 W		ML=2.3	5	6	3	0
	WEST OF VANCOUVER ISLAND								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA			
						STN	PHA	MAG	
MAY 4	15 40 01.	53.7 N	118.0 W		ML=3.2	5	9	4	0
	NORTH OF JASPER ALBERTA. POSSIBLE BLAST								
MAY 5	04 35 05.	53.3 N	117.0 W		ML=2.9	3	9	3	0
	NORTHEAST OF JASPER ALBERTA. POSSIBLE BLAST								
MAY 10	10 49 55.	48.0 N	127.1 W		ML=2.5	5	12	5	0
	WEST OF VANCOUVER ISLAND								
MAY 10	17 48 49.(1)	49.14 N(0.07)	118.77 W(0.07)	1.2		7	7	0	0
USCGS	17 48 50.	49.1 N	118.7 W	1.3	MB=3.4	7	7	1	
	BOTH ISC AND USCGS GIVE DEPTH = 20 KM SE OF PNT. POSSIBLE BLAST AT PHOENIX MINE								
MAY 16	08 40 15.	55.3 N	120.0 W		ML=2.7	4	6	3	0
	BC-ALBERTA BORDER SOUTH OF DAWSON CREEK								
MAY 21	07 55 50.(3)	50.60 N(0.05)	129.5 W(0.11)	1.4	MB=3.8	27	27	3	F
USCGS	07 55 51.	50.5 N	129.5 W	1.0	MB=3.9	22	22	8	
	ISC DEPTH = 30(21) KM USCGS DEPTH = 37 KM WEST OF VANCOUVER ISLAND								
MAY 21	09 20 27.(3)	50.68 N(0.05)	129.5 W(0.11)	1.4	MB=3.9	30	30	3	F
USCGS	09 20 27.	50.6 N	129.5 W	0.9	MB=3.9	25	25	9	
	ISC DEPTH = 22(20) KM USCGS DEPTH = 27 KM WEST OF VANCOUVER ISLAND								
JUN 5	13 52 13.(2)	56.30 N(0.06)	118.05 W(0.23)	2.6	MN=3.0	5	11	4	F
	NORTHWESTERN ALBERTA NEAR MANNING								
JUN 8	07 45 56.	50.9 N	130.1 W		ML=2.7	2	3	1	0
	WEST OF VANCOUVER ISLAND								
JUN 12	10 59 16.	49.2 N	130.8 W		ML=3.5	2	3	2	0
	WEST OF VANCOUVER ISLAND								
JUN 18	16 42 25.	49.6 N	128.2 W		ML=2.3	2	3	1	0
	WEST OF VANCOUVER ISLAND								
JUN 22	08 16 53.	49.8 N	116.8 W		ML=2.7	3	4	1	0
	WNW OF KIMBERLEY BC NEAR KOOTENAY LAKE								
JUL 13	05 30 27.	48.9 N	124.0 W		ML=1.5	3	4	2	0
	SOUTHERN VANCOUVER ISLAND. POSSIBLE BLAST								
JUL 17	01 03 04.(1)	49.11 N(0.05)	128.6 W(0.15)	1.9		28	28	0	F
USCGS	01 03 04.	49.2 N	128.3 W	1.4	MB=4.2	12	12	6	
	ISC GIVES DEPTH = 38(15) KM WEST OF VANCOUVER ISLAND								
JUL 17	19 10 15.	49.0 N	119.0 W		ML=2.5	4	6	4	0
	SE OF PNT ON BC-WASHINGTON BORDER POSSIBLE BLAST AT PHOENIX MINE								
JUL 18	20 45 35.	49.5 N	126.0 W		ML=1.8	3	4	2	0
	WEST COAST OF VANCOUVER ISLAND								
JUL 24	23 30 31.	49.5 N	129.1 W		ML=2.5	3	4	3	0
	WEST OF VANCOUVER ISLAND								
JUL 24	23 06 40.	49.0 N	118.5 W		ML=2.3	3	5	3	0
	SE OF PNT ON BC-WASHINGTON BORDER POSSIBLE BLAST AT PHOENIX MINE								
AUG 2	16 00 12.	49.0 N	121.3 W		ML=2.5	2	3	2	0
	ON BC-WASHINGTON BORDER SOUTH OF HOPE								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA			
						STN	PHA	MAG	
AUG 12	14 55 55.	49.7 N	126.1 W		ML=2.6	3	5	3	0
WEST COAST OF VANCOUVER ISLAND									
AUG 13									
ISC	16 12 18.(0)	48.46 N(0.03)	126.49 W(0.06)	1.4	MB=4.6	65	65	6	F
USCGS	16 12 17.	48.5 N	126.5 W	1.1	MB=4.6	24	24	8	
SOUTHWEST OF VANCOUVER ISLAND									
AUG 21	05 57 55.	53.8 N	122.8 W		ML=2.8	4	9	2	0
SOUTH OF PRINCE GEORGE. FELT OVER SMALL AREA WITH MAXIMUM INTENSITY OF III. THERE WAS A SIGHTING OF A METEORITE IN THIS AREA AT THE TIME OF THE EARTHQUAKE BUT NONE OF THE LONG PERIOD RECORDS SHOW ANY DISTURBANCE AND THE INITIAL MOTION AT FSJ IS DOWN.									
AUG 26	01 25 21.	51.9 N	120.0 W		ML=3.0	4	5	2	0
WELLS GRAY PROVINCIAL PARK NORTH OF KAMLOOPS BC									
SEP 04									
ISC	13 22 58.(3)	49.51 N(0.05)	129.1 W(0.12)	1.4		20	20	0	F
USCGS	13 22 58.	49.4 N	129.2 W	0.9	MB=4.2	9	9	3	
ISC GIVES DEPTH = 31(28) KM WEST OF VANCOUVER ISLAND									
SEP 6	14 18 36.	52.5 N	135.0 W		ML=3.7	3	7	3	0
WEST OF QUEEN CHARLOTTE ISLANDS									
SEP 8	03 41 12.	49.0 N	129.5 W		ML=2.9	3	5	3	0
WEST OF VANCOUVER ISLAND									
SEP 9	21 53 00.	51.5 N	131.5 W		ML=3.5	3	4	3	0
SOUTH OF QUEEN CHARLOTTE ISLANDS									
SEP 21	15 47 05.	48.5 N	128.5 W		ML=3.0	5	8	5	0
WEST OF VANCOUVER ISLAND									
OCT 1									
ISC	17 11 11.(0)	48.49 N(0.02)	126.51 W(0.05)	1.2	MB=4.9	56	56	6	F
USCGS	17 11 11.	48.5 N	126.5 W	1.2	MB=4.7	31	31	11	
BOTH ISC AND USCGS GIVE DEPTH = 23 KM WEST OF VANCOUVER ISLAND									
OCT 12	13 58 48.	50.0 N	126.4 W		ML=2.7	4	6	3	0
NORTH-CENTRAL VANCOUVER ISLAND									
OCT 19									
ISC	10 45 17.(1)	50.62 N(0.09)	129.5 W(0.17)	2.2		18	18	0	F
USCGS	10 45 17.	50.6 N	129.4 W	1.5	MB=3.9	11	11	8	
BOTH ISC AND USCGS GIVE DEPTH = 7 KM WEST OF VANCOUVER ISLAND									
OCT 20	01 48 55.	57.3 N	126.6 W		ML=4.4	6	8	3	0
SW OF FORT NELSON IN NORTHERN BC									
OCT 23	21 36 41.	50.4 N	129.9 W		ML=4.1	4	5	3	0
WEST OF VANCOUVER ISLAND									
NOV 3	01 36 55.	51.0 N	132.0 W		ML=3.2	3	6	3	0
WEST OF VANCOUVER ISLAND									
NOV 3									
ISC	14 58 34.(1)	50.77 N(0.04)	129.52 W(0.08)	1.5	MB=4.6	41	41	5	F
USCGS	14 58 33.	50.7 N	129.5 W	1.0	MB=4.5	21	21	10	
ISC GIVES DEPTH = 40(8.9) KM WEST OF VANCOUVER ISLAND									
NOV 14	20 10 39.	49.0 N	119.0 W		ML=2.7	4	5	4	0
SE OF PNT ON BC-WASHINGTON BORDER									
NOV 28	08 13 15.	48.0 N	128.0 W		ML=3.2	5	7	3	0
WEST OF VANCOUVER ISLAND. FOUR OTHER EVENTS OCCURRED AT THE SAME LOCATION WITHIN 3 HOURS WITH MAGNITUDES 3.0, 2.8, 2.6, AND 2.3									

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
NOV 29	21 56 58.	54.0 N	116.5 W		ML=2.7	4	6	3	0
	NE OF JASPER ALBERTA. POSSIBLE BLAST								
DEC 4	21 46 11.	48.5 N	127.5 W		ML=3.2	4	6	4	0
	WEST OF VANCOUVER ISLAND								
DEC 9	15 15 30.	49.5 N	130.3 W		ML=2.7	6	7	5	0
	WEST OF VANCOUVER ISLAND								
DEC 11	09 55 03.	50.0 N	133.0 W		ML=3.5	4	5	4	0
ISC	09 54 49.(4)	51.8 N(0.28)	133.3 W(0.58)	4.0		8	8	0	
	WEST OF VANCOUVER ISLAND								
DEC 15	08 31 30.	53.0 N	135.0 W		ML=4.0	4	7	4	0
ISC	08 31 29.(2)	52.3 N(0.11)	132.2 W(0.28)	2.0		5	5	0	
	WEST OF QUEEN CHARLOTTE ISLANDS								

B. UNITED STATES EPICENTRES

JAN 12	12 21 49.(2)	58.57 N(0.09)	135.95 W(0.16)	0.5	MN=2.9	2	4	2	0
	ALASKAN PANHANDLE NORTHEAST OF JUNEAU								
FEB 14	08 33 37.	48.9 N	123.1 W			28	29	0	F
ISC	08 33 36.(0)	48.94 N(0.03)	123.07 W(0.06)	1.8	MB=4.3	46	46	4	
USCGS	08 33 36.	48.9 N	123.1 W	1.3	MB=4.2	21	21	8	
	ISC GIVES DEPTH = 52(6) KM STRAIT OF GEORGIA SOUTH OF VANCOUVER. FELT THROUGHOUT NORTHWESTERN WASHINGTON AND SOUTHWESTERN BC. MAXIMUM INTENSITY WAS V BUT NO DAMAGE WAS REPORTED.								
FEB 18	04 24 47.	47.3 N	126.4 W		ML=2.6	4	7	4	0
	PACIFIC OCEAN WEST OF OLYMPIC PENINSULA								
FEB 28	00 37 04.	48.0 N	120.0 W		ML=2.6	3	5	2	0
	CENTRAL WASHINGTON STATE EAST OF SEATTLE								
MAR 6	10 25 23.	47.5 N	124.0 W		ML=2.1	3	4	3	0
	OLYMPIC PENINSULA WEST OF SEATTLE								
MAR 7	00 55 25.	48.9 N	120.0 W		ML=2.2	3	6	2	0
	NORTH-CENTRAL WASHINGTON STATE SOUTH OF PNT								
MAR 20	00 39 12.	48.1 N	121.0 W		ML=3.2	3	5	2	0
	CENTRAL WASHINGTON STATE EAST OF SEATTLE								
MAR 21	00 40 30.	48.4 N	124.4 W		ML=1.5	3	6	3	0
	IN JUAN DE FUCA STRAIT NEAR CAPE FLATTERY								
MAR 27	00 35 42.	48.8 N	119.8 W		ML=2.7	3	5	2	0
	NORTH-CENTRAL WASHINGTON STATE SOUTH OF PNT								
APR 1	16 45 10.(0)	48.01 N(0.03)	114.14 W(0.05)	1.9		48	48	0	F
USCGS	16 45 09.	47.9 N	114.3 W	1.0	MB=4.7	21	21	9	
	BOTH ISC AND USCGS GIVE DEPTH = 10 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT OVER APPROX. 26,000 SQ. KM WITH MAXIMUM INTENSITY VII IN BIG ARM-DAYTON-PROCTOR AREA. SOME DAMAGE. MANY MINOR SHOCKS WERE FELT IN THIS REGION THROUGHOUT THE YEAR. SEE REFERENCE - UNITED STATES EARTHQUAKES 1969.								
APR 1	17 05 20.(4)	48.04 N(0.05)	114.34 W(0.08)	1.9		11	11	0	F
USCGS	17 05 18.	48.0 N	114.4 W	1.4	MB=4.5	7	7	1	
	ISC DEPTH = 29(43) KM USCGS DEPTH = 15 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT AT PROCTOR								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
APR 1									
ISC	18 44 52.(1)	47.97 N(0.09)	114.3 W(0.11)	1.9		8	8	0	F
USCGS	18 44 52.	47.9 N	114.3 W	0.7		5	5	0	
BOTH ISC AND USCGS GIVE DEPTH = 11 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT AT PROCTOR									
APR 10	23 55 03.	48.5 N	119.0 W		ML=2.5	4	7	4	0
NORTH OF SPOKANE WASHINGTON. POSSIBLE BLAST									
APR 13									
ISC	20 25 38.(1)	47.98 N(0.05)	114.27 W(0.08)	2.0		12	12	0	F
USCGS	20 25 38.	47.9 N	114.3 W	1.4	MB=4.0	7	7	1	
BOTH ISC AND USCGS GIVE DEPTH = 16 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA FELT AT POLSON									
APR 13									
ISC	23 00 08.(0)	48.02 N(0.04)	114.26 W(0.06)	1.6		12	12	0	F
USCGS	23 00 07.	47.9 N	114.3 W	0.9		8	8	0	
ISC DEPTH = 45(9.1) KM USCGS DEPTH = 13 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA									
APR 15	22 25 41.	47.5 N	124.3 W		ML=2.1	3	5	3	0
OLYMPIC PENINSULA WEST OF SEATTLE									
JUN 9									
ISC	08 53 31.(0)	47.96 N(0.05)	114.18 W(0.09)	2.6		29	29	0	F
USCGS	08 53 31.	47.9 N	114.3 W	1.4	MB=4.2	20	20	8	
BOTH ISC AND USCGS GIVE DEPTH = 5 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT OVER 10,000 SQ. KM WITH MAXIMUM INTENSITY V IN BIG ARM-DAYTON AREA.									
JUN 9									
ISC	15 47 15.(1)	47.96 N(0.06)	114.37 W(0.09)	1.8		8	8	0	F
USCGS	15 47 15.	47.9 N	114.4 W	1.0		7	7	0	
BOTH ISC AND USCGS GIVE DEPTH = 5 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT WITH MAXIMUM INTENSITY IV AT BIG ARM.									
JUN 11									
ISC	13 03 57.(1)	48.1 N(0.12)	114.1 W(0.25)	4.0		6	6	0	F
USCGS	13 03 57.	47.9 N	114.2 W	0.3	MB=4.1	5	5	1	
BOTH ISC AND USCGS GIVE DEPTH = 31 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT WITH MAXIMUM INTENSITY IV AT BIG ARM.									
JUN 11									
ISC	21 45 08.(2)	48.8 N(0.24)	122.1 W(0.31)	6.1		10	10	0	F
USCGS	21 45 05.	48.8 N	122.0 W	0.7	MB=3.6	5	5	2	
NORTHWESTERN WASHINGTON STATE									
JUN 12	16 45 20.	48.9 N	122.3 W		ML=2.2	2	3	2	0
NORTHWESTERN WASHINGTON STATE									
JUN 12	16 54 13.	48.9 N	122.3 W		ML=2.3	2	4	2	0
NORTHWESTERN WASHINGTON STATE									
JUN 21									
ISC	11 06 49.(1)	47.9 N(0.10)	114.39 W(0.10)	2.4		7	7	0	F
USCGS	11 06 49.	47.9 N	114.5 W	1.5	MB=3.1	6	6	1	
NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. MAXIMUM INTENSITY V AT PROCTOR.									
JUN 25									
ISC	02 16 01.(1)	47.95 N(0.07)	114.36 W(0.09)	2.2		8	8	0	F
USCGS	02 16 01.	47.9 N	114.3 W	1.4	MB=3.8	6	6	1	
BOTH ISC AND USCGS GIVE DEPTH = 8 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT AT BIG ARM.									
JUN 25									
ISC	11 35 54.(0)	47.94 N(0.04)	114.31 W(0.07)	1.5		9	9	0	F
USCGS	11 35 54.	48.0 N	114.3 W	1.6	MB=4.3	7	7	1	
BOTH ISC AND USCGS GIVE DEPTH = 24 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT WITH MAXIMUM INTENSITY IV AT BIG ARM.									

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG			
JUL 9	16 34 58.	48.3 N	125.6 W		ML=2.6	4	5	3	0
OFF COAST NEAR OLYMPIC PENINSULA									
JUL 12	11 40 54.	47.0 N	122.4 W		ML=2.0	3	4	3	F
NEAR SEATTLE									
AUG 3	12 57 39.(2)	48.2 N(0.31)	114.7 W(0.27)	7.0		6	6	0	0
ISC	12 57 36.	47.8 N	114.2 W	0.6		5	5	0	
USCGS	BOTH ISC AND USCGS GIVE DEPTH = 7 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT AT DAYTON								
AUG 13	16 04 44.	48.6 N	122.8 W		ML=2.7	3	5	2	0
SAN JUAN ISLANDS REGION. INTENSITY III AT ANACORTES AND LA CONNER.									
AUG 13	18 53 54.	48.7 N	122.9 W		ML=2.9	3	5	2	0
SAN JUAN ISLANDS REGION. INTENSITY III AT ANACORTES AND LA CONNER.									
AUG 19	15 42 53.	48.8 N	122.6 W		ML=2.8	4	6	2	0
SAN JUAN ISLANDS REGION. INTENSITY III AT ANACORTES AND LA CONNER.									
AUG 22	20 41 12.	47.9 N	123.5 W		ML=2.3	3	4	2	0
OLYMPIC PENINSULA WEST OF SEATTLE									
SEP 12	19 11 40.	48.8 N	118.5 W		ML=2.6	5	6	4	0
NE WASHINGTON STATE SE OF PNT									
SEP 15	00 02 39.(0)	47.94 N(0.04)	114.25 W(0.07)	1.8		17	17	0	F
ISC	00 02 39.	47.9 N	114.2 W	0.9	MB=4.3	10	10	4	
USCGS	BOTH ISC AND USCGS GIVE DEPTH = 19 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT OVER 5,100 SQ. KM IN BIG ARM - DAYTON - PROCTOR AREA. MAXIMUM INTENSITY VI.								
SEP 15	03 22 41.(0)	47.94 N(0.04)	114.29 W(0.05)	1.2		12	12	0	F
ISC	03 22 41.	47.9 N	114.2 W	0.5	MB=4.0	7	7	2	
USCGS	BOTH ISC AND USCGS GIVE DEPTH = 10 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT WITH MAXIMUM INTENSITY IV AT BIG ARM.								
OCT 2	10 09 40.	48.6 N	121.7 W		ML=3.0	3	4	2	F
NORTHWESTERN WASHINGTON STATE									
OCT 2	11 17 43.	48.8 N	121.7 W		ML=2.5	2	3	2	0
NORTHWESTERN WASHINGTON STATE									
OCT 9	17 07 58.(0)	46.80 N(0.04)	121.61 W(0.06)	1.8		33	33	0	F
ISC	17 07 58.	46.9 N	121.6 W	1.4	MB=4.4	21	21	6	
USCGS	SOUTHERN WASHINGTON STATE. FELT OVER 3000 SQUARE KM WITH MAXIMUM INTENSITY V AT ELBE AND PACKWOOD.								
OCT 14	05 15 56.(5)	47.96 N(0.06)	114.2 W(0.11)	2.2		10	10	0	F
ISC	05 15 54.	47.8 N	114.2 W	0.1	MB=4.4	6	6	1	
USCGS	ISC DEPTH = 15(40) KM USCGS DEPTH = 8 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT WITH MAXIMUM INTENSITY V AT PROCTOR.								
NOV 1	15 44 24.(0)	47.89 N(0.04)	121.81 W(0.06)	1.6		23	23	0	F
ISC	15 44 25.	47.9 N	121.7 W	1.0	MB=4.1	18	18	2	
USCGS	BOTH ISC AND USCGS GIVE DEPTH = 5 KM NORTHWESTERN WASHINGTON STATE. FELT OVER APPROX. 18,000 SQ. KM WITH MAXIMUM INTENSITY V. ALSO FELT IN SEATTLE AND VICTORIA.								

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG
NOV 7						
ISC	00 11 28.(1)	48.02 N(0.06)	114.25 W(0.09)	2.1		11 11 0 F
USCGS	00 11 29.	47.9 N	114.3 W	1.1	MB=4.3	8 8 2
BOTH ISC AND USCGS GIVE DEPTH = 4 KM NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT WITH MAXIMUM INTENSITY VI AT DAYTON.						
NOV 10						
ISC	07 38 45.(0)	48.55 N(0.02)	121.51 W(0.04)	1.5	MB=4.3	7 9 7 0
USCGS	07 38 44.	48.5 N	121.5 W	1.0	MB=4.3	54 54 3
NORTHWESTERN WASHINGTON STATE. FELT OVER APPROX. 18,000 SQ. KM WITH MAXIMUM INTENSITY V IN ROCKPORT AREA. ALSO FELT IN SEATTLE AND VICTORIA. 6 AFTERSHOCKS OCCURRED AT THE SAME LOCATION WITHIN 24 HOURS. THESE HAD MAGNITUDES 3.3, 3.5, 2.4, 2.4, 2.8, 2.4						
NOV 28						
ISC	09 51 27.	47.5 N	122.5 W		ML=3.0	4 5 3 0
USCGS	09 51 33.(1)	47.40 N(0.06)	122.7 W(0.10)	1.2		13 13 0
USCGS	09 51 34.	47.4 N	122.5 W	1.1		11 11 0
NORTHWESTERN WASHINGTON STATE. FELT WITH INTENSITY IV AT POULSBORO, BREHERTON AND PORT ORCHARD. ALSO FELT IN VICTORIA.						
DEC 26						
ISC	05 28 34.(1)	47.98 N(0.07)	114.2 W(0.11)	2.2		7 7 0 F
USCGS	05 28 34.	48.0 N	114.1 W	1.7		6 6 0
NORTHWESTERN MONTANA. FLATHEAD LAKE AREA. FELT AT BIG ARM WITH INTENSITY IV.						

TABLE 4

EARTHQUAKES IN CENTRAL CANADA AND ADJACENT AREAS
1969

(F=FILLED, O=OPEN SYMBOL ON EPICENTRE MAPS)

A. CANADIAN EPICENTRES

DATE	H-TIME (GMT) HR MN SEC	LATITUDE DEG	LONGITUDE DEG	RMS SEC	MAGNITUDE	NO. OF DATA STN PHA MAG
------	---------------------------	-----------------	------------------	------------	-----------	----------------------------

NO EARTHQUAKES DETECTED IN 1969

B. UNITED STATES EPICENTRES

OCT 6	20 24 53.(2)	48.29 N(0.08)	106.58 W(0.07)	1.3	MN=3.1(0.0)	3 9 2 F
NEAR GLASGOW MONTANA						

TABLE 5

UNLOCATED EVENTS RECORDED AT INK

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
APR 5	02 36 11.	202	ML=2.3	
APR 7	15 49 18.	174	ML=2.3	
APR 22	03 08 22.	171	ML=1.8	SOUTHWEST OF INUVIK
APR 22	06 12 58.	167	ML=1.9	
MAY 2	17 31 49.	201	ML=2.1	
MAY 6	03 19 01.	247	ML=2.5	
MAY 29	19 14 57.	184	ML=2.1	
JUN 9	09 28 11.	205	ML=1.9	POSSIBLE AFTERSHOCK OF EVENT OF 04 JUN 17H SOUTHWEST OF FT MCPHERSON
JUN 16	01 45 46.	183	ML=1.8	
JUN 16	16 55 06.	197	ML=2.3	POSSIBLE AFTERSHOCK OF EVENT OF 14 JUN 08H SOUTHWEST OF FT MCPHERSON
JUN 17	01 08 11.	193	ML=2.2	
JUN 29	12 40 45.	205	ML=2.2	
JUL 7	06 48 48.	1081	MN=3.2	EVENT IS WEST OR SOUTHWEST OF INK
JUL 10	04 13 11.	192	ML=1.8	
JUL 16	22 15 35.	242	ML=2.1	
JUL 27	14 34 17.	344	ML=2.7	
AUG 4	22 22 37.	167	ML=1.7	
AUG 9	20 49 11.	200	ML=1.7	
AUG 19	04 44 48.	219	ML=2.3	
AUG 27	15 36 35.	258	ML=2.5	SOUTH OF FT MCPHERSON OR NE OF INK IN THE MACKENZIE DELTA
AUG 31	00 21 04.	176	ML=1.9	
SEP 2	06 12 10.	186	ML=1.6	
SEP 4	12 41 13.	179	ML=1.2	
SEP 4	19 15 39.	176	ML=1.7	
SEP 8	10 20 48.	179	ML=1.8	
SEP 12	01 11 13.	221	ML=2.0	
SEP 15	01 54 51.	186	ML=1.8	
SEP 16	16 59 34.	176	ML=1.4	
SEP 18	11 56 22.	184	ML=1.5	
SEP 19	04 26 47.	202	ML=1.6	
SEP 20	04 46 00.	228	ML=2.5	
SEP 23	17 01 12.	237	ML=2.4	
SEP 24	14 05 42.	146	ML=1.7	
SEP 26	18 59 02.	159	ML=1.4	
SEP 28	08 11 58.	319	ML=2.3	
SEP 29	06 37 39.	167	ML=1.6	
SEP 30	21 12 54.	232	ML=2.5	
OCT 3	14 38 52.	186	ML=2.4	
NOV 1	19 41 45.	221	ML=2.4	
NOV 2	03 15 54.	125	ML=1.2	
NOV 4	09 22 21.	311	ML=2.0	POSSIBLY BEAUFORT SEA
NOV 11	02 19 21.	202	ML=2.0	
NOV 11	23 39 37.	205	ML=1.8	
NOV 13	05 30 51.	220	ML=2.1	
NOV 18	07 08 37.	121	ML=1.7	
NOV 18	11 51 37.	125	ML=1.3	
NOV 19	00 26 28.	265	ML=2.1	
NOV 20	00 44 42.	269	MN=2.5	PROBABLY SOUTHWEST OF FT MCPHERSON APPROXIMATELY 990 KM FROM CMC
NOV 20	05 27 46.	180	ML=1.8	
NOV 29	03 10 44.	844	MN=3.0	SOUTHERN OR CENTRAL ALASKA
DEC 4	14 59 56.	230	ML=2.4	
DEC 4	15 05 54.	226	ML=2.2	
DEC 8	03 35 06.	125	ML=1.5	POSSIBLY WEST OF INUVIK
DEC 9	05 27 18.	248	ML=1.9	
DEC 14	05 47 59.	230	ML=2.7	SSW OF INUVIK. MAIN SHOCK
DEC 14	09 01 15.	230	ML=1.9	AFTERSHOCK OF EVENT OF 14 DEC 05H
DEC 14	14 41 22.	125	ML=1.7	
DEC 20	12 21 48.	438	ML=3.0	POSSIBLY BEAUFORT SEA
DEC 22	22 43 16.	838	MN=2.9	SW YUKON TERRITORY. AFTERSHOCK OF 22 DEC 12H
DEC 23	10 29 14.	178	ML=2.2	THIS AND THE NEXT EVENT ARE AFTERSHOCKS OF EVENT OF 23 DEC 09H. SW OF FT MCPHERSON
DEC 23	15 31 48.	179	ML=1.8	
DEC 24	05 31 24.	204	ML=1.9	
DEC 28	15 22 19.	178	ML=2.0	SW OF FT MCPHERSON. AFTERSHOCK OF 23 DEC 09H
DEC 31	02 29 01.	326	ML=2.5	
DEC 31	07 13 25.	150	ML=1.8	

TABLE 6

UNLOCATED EVENTS RECORDED AT F8C

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 18	02 19 49.	240	ML=2.2	SOUTHERN BAFFIN ISLAND
MAR 3	09 46 39.	925	MN=2.5	THESE 23 EVENTS IN MARCH ARE ASSOCIATED WITH THE SERIES OF EARTHQUAKES ON BAFFIN ISLAND SOUTHEAST OF POND INLET
MAR 3	10 59 16.	925	MN=2.6	
MAR 3	13 27 44.	925	MN=2.3	
MAR 3	13 54 48.	925	MN=2.3	
MAR 3	18 36 28.	925	MN=2.7	
MAR 4	02 01 07.	925	MN=3.3	
MAR 4	02 22 44.	925	MN=3.0	
MAR 4	03 05 28.	925	MN=2.5	
MAR 4	03 31 28.	925	MN=2.7	
MAR 4	03 34 56.	925	MN=2.5	
MAR 4	04 15 46.	925	MN=2.7	
MAR 4	06 13 40.	925	MN=3.0	
MAR 4	06 28 13.	925	MN=3.0	
MAR 4	09 09 15.	925	MN=2.2	
MAR 4	09 41 09.	925	MN=2.8	
MAR 4	20 30 41.	925	MN=3.1	
MAR 6	17 15 45.	925	MN=3.2	
MAR 6	17 22 46.	925	MN=2.9	
MAR 6	19 05 31.	925	MN=2.7	
MAR 7	09 58 04.	925	MN=2.9	
MAR 7	10 42 40.	925	MN=2.6	
MAR 8	22 28 24.	925	MN=3.0	
MAR 9	18 47 56.	925	MN=2.7	
AUG 16	21 28 28.	184	ML=1.9	SOUTHERN BAFFIN ISLAND
AUG 22	10 45 11.	256	ML=2.1	PROBABLY FROM DAVIS STRAIT
AUG 23	16 53 25.	477	ML=3.2	

TABLE 7

UNLOCATED EVENTS RECORDED AT M9C

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 12	21 08 59.	86	ML=1.5	ON OR NEAR PRINCE PATRICK ISLAND
JAN 13	03 54 03.	19	ML=0.7	EAST OF MOULD BAY NWT
JAN 18	19 22 28.	255	ML=1.9	POSSIBLY NEAR MACKENZIE KING ISLAND
JAN 18	19 39 18.	254	ML=2.2	FORESHOCK OF EVENT OF 18 MAR 19H
				POSS NEAR MACKENZIE KING ISLAND. MAIN SHOCK
FEB 3	08 41 03.	288	ML=2.2	BORDEN ISLAND. AFTERSHOCK OF 03 FEB 06H
FEB 6	22 00 09.	300	ML=1.9	BORDEN ISLAND. AFTERSHOCK OF 03 FEB 06H
FEB 15	16 02 17.	150	ML=1.0	
MAY 22	19 31 35.	40	ML=1.2	PRINCE PATRICK ISLAND. WEST OF M8C
JUL 10	10 21 50.	97	ML=1.9	
AUG 30	19 09 21.	332	ML=2.4	PROBABLY ARCTIC OCEAN
SEP 23	05 14 54.	409	ML=2.5	PROBABLY ARCTIC OCEAN NORTH OF M8C
NOV 7	11 26 03.	116	ML=1.8	THESE 9 EVENTS IN NOVEMBER, EXCLUDING THE EVENT OF 10 NOV 22H, PROBABLY ARE LOCATED NEAR THE NE COAST OF PRINCE PATRICK ISLAND
NOV 7	15 06 22.	133	ML=2.3	
NOV 7	16 35 32.	125	ML=1.9	
NOV 8	08 13 14.	125	ML=2.0	
NOV 8	16 15 47.	131	ML=1.6	
NOV 9	14 13 14.	129	ML=1.6	
NOV 10	15 00 52.	125	ML=2.2	
NOV 10	22 34 17.	155	ML=1.6	
NOV 15	18 05 17.	125	ML=2.1	
NOV 21	06 26 45.	133	ML=1.5	PROBABLY ARCTIC OCEAN
DEC 18	22 26 44.	70	ML=2.3	NORTHERN PRINCE PATRICK ISLAND
DEC 27	13 04 24.	156	ML=1.5	

TABLE 8

UNLOCATED EVENTS RECORDED AT ALE

DATE 1969	H-TIME(GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 6	19 40 05.	716	ML=3.2	PROBABLY NORTH OF GREENLAND APPROX. 180 KM FROM NOR
JAN 12	01 59 08.	128	ML=1.5	NORTHERN ELLESMERE ISLAND
JAN 12	13 11 18.	1105	MN=3.2	
JAN 21	17 01 33.	218	MN=2.4	NORTHERN ELLESMERE ISLAND OR NW GREENLAND
JAN 24	09 30 52.	23	ML=1.4	NORTHERN ELLESMERE ISLAND WNW OF ALERT
JAN 25	20 14 35.	45	ML=0.8	NORTHERN ELLESMERE ISLAND
FEB 26	04 04 58.	44	ML=0.9	
MAR 5	07 20 08.	642	ML=3.2	PROBABLY NORTH OF GREENLAND APPROX. 210 KM FROM NOR
MAR 17	02 07 33.	192	ML=1.7	POSSIBLY NORTH OF GREENLAND
MAR 22	14 29 05.	973	ML=4.0	PROBABLY NORTHEAST OF GREENLAND APPROX. 280 KM FROM NOR
MAR 25	07 27 31.	948	ML=3.4	PROBABLY NORTHEAST OF GREENLAND APPROX. 260 KM FROM NOR
MAY 21	09 08 17.	868	ML=3.7	PROBABLY NORTHEAST OF GREENLAND APPROX. 190 KM FROM NOR
MAY 29	23 01 14.	575	ML=3.2	NEAR NORTH COAST OF GREENLAND APPROX. 110 KM FROM NOR
JUN 9	01 04 26.	911	ML=3.8	PROBABLY NORTHEAST OF GREENLAND APPROX. 210 KM FROM NOR
JUN 23	22 27 28.	167	ML=1.9	NORTHERN ELLESMERE ISLAND OR NW GREENLAND
JUN 29	05 42 57.	235	ML=2.2	PROBABLY NORTH OF GREENLAND
JUN 29	17 06 24.	95	ML=1.6	NORTHWESTERN GREENLAND
JUL 2	09 51 45.	97	ML=1.2	NORTHWESTERN GREENLAND
JUL 4	00 24 33.	823	ML=2.7	PROBABLY NORTHEAST OF GREENLAND
JUL 19	00 29 21.	852	MN=2.6	
JUL 20	09 34 46.	680	ML=3.2	NORTH COAST OF GREENLAND APPROX. 50 KM FROM NOR
JUL 20	23 26 18.	686	ML=3.4	NORTH COAST OF GREENLAND APPROX. 50 KM FROM NOR
AUG 17	17 51 56.	156	ML=1.8	NORTHERN ELLESMERE ISLAND OR NW GREENLAND
SEP 10	22 03 23.	205	ML=3.2	THIS IS THE LARGEST OF A SWARM OF EARTHQUAKES (ABOUT 40) OCCURRING BETWEEN 10 SEP 20H AND 11 SEP 01H. THEY ARE BELIEVED TO BE FROM NORTHERN GREENLAND AT APPROX. 81.7 N 49 W. THIS IS THOUGHT TO BE THE SOURCE REGION OF THE FREQUENT 28 SEC S-P INTERVAL EVENTS AT ALE. SEE CANADIAN EARTHQUAKES 1967, PAGES 7 AND 49 (STEVENS ET AL 1973)
SEP 21	05 21 50.	142	ML=1.4	NORTHERN ELLESMERE ISLAND OR NW GREENLAND
SEP 21	14 43 25.	792	ML=4.1	PROBABLY NORTHEAST OF GREENLAND
OCT 9	17 29 42.	388	ML=2.6	
NOV 7	03 53 10.	812	ML=3.4	PROBABLY NORTHEAST OF GREENLAND
NOV 9	15 18 20.	210	ML=2.1	NORTHERN ELLESMERE ISLAND OR NW GREENLAND
NOV 13	23 10 13.	179	ML=1.4	POSSIBLY NORTH OF GREENLAND
NOV 23	10 35 55.	801	ML=3.4	PROBABLY NORTHEAST OF GREENLAND APPROX. 280 KM FROM NOR
DEC 5	05 24 12.	138	ML=1.3	OFF NORTH COAST OF GREENLAND
DEC 6	02 07 55.	125	ML=1.6	POSSIBLY OFF NORTH COAST OF GREENLAND
DEC 27	23 02 48.	433	ML=2.6	NORTHERN ELLESMERE ISLAND
DEC 31	08 55 00.	812	ML=3.5	PROBABLY NORTHEAST OF GREENLAND APPROX. 150 KM FROM NOR

TABLE 9

UNLOCATED EVENTS RECORDED AT RES

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 28	16 48 23.	174	ML=1.7	
FEB 6	03 57 59.	47	ML=1.4	
FEB 24	01 42 52.	133	ML=1.3	
MAR 6	14 30 53.	205	ML=1.9	
MAR 10	04 00 20.	47	ML=1.2	
MAR 10	15 56 33.	73	ML=1.1	
MAR 20	23 08 44.	295	ML=2.0	
APR 13	22 56 33.	9	ML=0.5	BARROW STRAIT
APR 13	23 49 20.	9	ML=0.7	
APR 14	18 34 07.	7	ML=0.4	BARROW STRAIT
APR 20	21 51 08.	7	ML=0.5	BARROW STRAIT
APR 20	22 40 20.	7	ML=0.2	BARROW STRAIT
MAY 19	17 46 58.	18	ML=1.1	BARROW STRAIT, SOUTHWEST OF RES
MAY 28	09 41 12.	68	ML=1.6	
JUN 6	05 45 16.	205	ML=1.6	
JUN 17	08 06 44.	68	ML=1.5	
JUN 17	16 21 47.	91	ML=1.5	
JUN 30	21 42 00.	14	ML=0.6	CORNWALLIS ISLAND, NNE OF RES
JUL 5	16 51 26.	45	MN=2.7	EVENT IS APPROX. 1115 KM FROM BLC
JUL 7	03 37 39.	78	MN=2.4	EVENT IS APPROX. 1142 KM FROM BLC
JUL 9	05 28 08.	150	ML=2.2	EVENT IS APPROX. 985 KM FROM BLC
JUL 9	14 03 38.	179	ML=2.0	
JUL 11	05 36 48.	87	MN=2.3	POSSIBLE AFTERSHOCK OF EVENT OF 11 JUL 00H SOMERSET ISLAND NWT
JUL 23	18 44 16.	213	ML=2.2	
JUL 25	06 47 00.	201	ML=1.7	
SEP 6	03 52 03.	28	MN=2.6	PROBABLY SOUTH OF RES IN BARROW STRAIT
OCT 4	14 09 44.	263	ML=2.2	
OCT 23	18 43 40.	159	ML=1.8	
OCT 27	07 14 25.	52	ML=1.2	
OCT 31	22 33 55.	173	ML=1.7	
NOV 16	01 10 09.	167	ML=2.1	
NOV 21	08 53 15.	208	ML=2.0	
NOV 28	14 14 50.	167	ML=1.7	
NOV 28	15 05 26.	230	ML=1.9	

TABLE 10

UNLOCATED EVENTS RECORDED AT YKC

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
NOV 17	01 45 06.	499	MN=2.9	WEST OF YKC. PROBABLY SW OF WRIGLEY NWT

TABLE 11

UNLOCATED EVENTS RECORDED AT PHC

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 7	21 51 37.	220	ML=2.4	
JAN 19	19 36 44.	174	ML=2.3	
JAN 25	23 39 23.	172	ML=2.9	
JAN 26	14 51 07.	180	ML=3.0	
FEB 1	13 03 25.	165	ML=2.4	
FEB 6	07 46 48.	260	ML=2.8	
FEB 7	14 18 44.	170	ML=2.4	
FEB 16	06 16 06.	160	ML=2.4	
FEB 25	13 40 25.	225	ML=2.5	
FEB 25	23 38 00.	145	ML=2.1	
MAR 1	05 22 51.	170	ML=2.3	
MAR 8	21 42 30.	65	ML=1.6	
MAR 29	19 48 11.	185	ML=2.4	
APR 21	08 55 41.	75	ML=1.9	
MAY 21	22 47 38.	87	ML=2.1	
JUN 2	06 10 34.	182	ML=2.3	
JUN 8	15 11 46.	183	ML=2.6	PROBABLY WEST OF VANCOUVER ISLAND
JUN 24	21 37 47.	169	ML=2.9	
JUL 4	12 52 08.	190	ML=2.9	620 KM FROM FSJ
JUL 8	05 08 57.	65	ML=2.5	
JUL 9	18 38 31.	180	ML=2.6	
JUL 11	19 25 04.	180	ML=2.4	270 KM FROM FSJ
JUL 29	06 45 55.	175	ML=2.8	
SEP 20	08 48 28.	170	ML=2.5	
SEP 21	22 53 59.	170	ML=2.5	
SEP 22	05 47 22.	170	ML=2.7	
SEP 25	02 36 15.	170	ML=3.0	
OCT 12	06 00 45.	270	ML=2.8	
OCT 23	13 26 58.	112	ML=2.5	
OCT 28	09 43 53.	185	ML=3.1	
NOV 3	01 28 06.	155	ML=2.3	
NOV 5	01 12 15.	12	ML=1.4	POSSIBLE BLAST (ISLAND COPPER)
NOV 15	04 21 35.	125	ML=3.0	
NOV 15	18 24 55.	120	ML=2.2	
NOV 25	00 29 17.	30	ML=1.4	
NOV 25	16 08 56.	250	ML=2.4	
NOV 25	16 23 16.	250	ML=3.0	
NOV 25	16 45 46.	250	ML=3.1	
NOV 25	23 45 38.	250	ML=2.8	
NOV 25	23 59 17.	250	ML=3.1	
NOV 28	15 15 21.	125	ML=2.6	
NOV 28	15 36 03.	125	ML=3.1	
DEC 1	05 15 46.	120	ML=2.6	
DEC 1	05 17 37.	120	ML=3.0	
DEC 1	07 44 57.	180	ML=2.4	
DEC 1	11 14 24.	180	ML=2.4	
DEC 5	03 50 46.	170	ML=2.8	
DEC 17	14 00 56.	200	ML=2.4	
DEC 27	02 42 54.	130	ML=2.1	
DEC 31	09 55 31.	180	ML=2.3	

TABLE 12

UNLOCATED EVENTS RECORDED AT SES

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
APR 29	10 13 22.	120	ML=2.3	EVENT IS APPROX. 310 KM FROM EDM EITHER WEST OR NE OF SES

TABLE 13

UNLOCATED EVENTS RECORDED AT VIC

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 3	03 14 56.	85	ML=2.1	
FEB 3	06 30 30.	60	ML=1.9	50 KM FROM PORT ALBERNI
FEB 17	09 04 04.	60	ML=1.8	
FEB 17	20 18 16.	45	ML=2.0	
FEB 21	00 11 40.	25	ML=0.8	
MAR 4	09 22 03.	120	ML=2.1	
MAR 4	11 09 59.	30	ML=1.3	
MAR 4	23 11 10.	30	ML=1.4	
MAR 8	19 20 07.	15	ML=1.0	
MAR 10	03 23 32.	35	ML=1.7	
MAR 13	00 12 17.	30	ML=1.3	
MAR 21	23 32 24.	60	ML=2.0	
MAR 22	04 34 19.	65	ML=1.9	
MAR 28	01 06 14.	30	ML=1.5	80 KM FROM PORT ALBERNI
MAR 28	11 57 21.	80	ML=2.0	
MAR 29	09 04 01.	90	ML=1.6	
APR 27	01 11 03.	30	ML=1.3	
MAY 13	21 26 36.	3	ML=0.5	
MAY 16	22 30 09.	155	ML=2.1	
MAY 21	23 26 06.	20	ML=0.7	
MAY 22	21 55 54.	25	ML=1.7	
JUN 6	20 11 17.	20	ML=1.1	120 KM FROM PORT ALBERNI
JUL 2	03 10 09.	85	ML=1.6	
JUL 4	20 11 22.	12	ML=1.1	
JUL 11	05 29 36.	85	ML=2.1	
JUL 12	18 10 16.	170	ML=2.4	
JUL 30	15 17 30.	20	ML=1.3	SIMILAR EVENT AT 0107 SAME DAY AND AT 0217 JUL 31, AND 1502 JUL 31
AUG 13	11 10 28.	35	ML=1.3	
SEP 6	15 22 52.	117	ML=2.8	
SEP 23	23 30 31.	30	ML=1.2	
NOV 21	23 54 17.	80	ML=2.2	
NOV 25	03 50 57.	125	ML=2.5	
NOV 25	09 28 16.	125	ML=2.0	
DEC 6	16 54 22.	170	ML=2.4	
DEC 13	05 53 49.	60	ML=1.8	
DEC 14	14 59 54.	140	ML=2.4	280 KM FROM PNT
DEC 17	23 40 48.	120	ML=2.0	

TABLE 14

UNLOCATED EVENTS RECORDED AT FSJ

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JAN 7	00 56 26.	148	ML=2.2	
JAN 8	21 11 51.	143	ML=2.3	
JAN 17	10 32 31.	454	ML=3.8	NORTHWEST OF FSJ

TABLE 15

UNLOCATED EVENTS RECORDED AT MCC

DATE 1969	H-TIME (GMT) HR MN SEC	DELTA KM	MAGNITUDE	REMARKS
JUN 17	05 56 04.	124	ML=2.5	POSSIBLY NORTHWEST OF MICA CREEK
AUG 7	15 03 22.	46	ML=2.8	352 KM FROM PENTICTON
AUG 14	22 40 03.	144	ML=2.3	
OCT 21	17 04 23.	47	ML=1.8	
DEC 10	08 58 36.	50	ML=1.5	

