MONTHLY SEISMIC EVENT BULLETINS

Each month, a bulletin of worldwide seismic events has been prepared at the request of the Arms Control and Disarmament Division of the Department of External Affairs. The bulletin is issued about three weeks after the end of each month. This report summarises the monthly bulletins issued during 1987.

GLOBAL SEISMIC ACTIVITY

There were 3199 seismic events listed in the bulletin during the year. Fig. 1 shows all these events, most of which are earthquakes. The highly seismically active regions of the world can be clearly seen on this map.

Fifty-one percent of the events in the bulletin were detected by the Yellowknife Array; the locations of these are shown in Fig. 2. In comparing Figures 1 and 2, it should be realised that events within 11,000 km. of the array, corresponding to the distance to which the direct P wave can be observed, are those most likely to be detected. Figure 3, which shows the world to a distance of 11,000 km. from the array, illustrates the region for which the Yellowknife system is most effective. At greater distances the seismic waves are influenced by the core of the earth, and only larger events produce signals big enough to be detected by the array.

The effectiveness of the array in monitoring global seismic activity varies seasonally, due to noise caused by wave action on Great Slave Lake. This is demonstrated in table 1 below, which show the total number of events listed in each monthly bulletin, together with the number and percentage of these detected by the array. It can be seen quite clearly that the proportion of events detected is highest during the winter months, when the lake is frozen over.

TABLE 1.
NUMBER OF EVENTS IN GLOBAL BULLETIN BY MONTH IN 1987

Month	Number of events	Number detected at YKA	Percent detected at YKA
Jan.	208	157	75%
Feb.	251	171	68%
Mar.	300	248	83%
Apr.	262	194	74%
May	299	181	61%
June	290	101	35%
July	296	93	31%
Aug.	258	77	30%
Sept.	248	88	35%
Oct.	275	69	25%
Nov.	264	96	36%
Dec.	248	144	58%