
PROGRESS REPORT TO THE COMMITTEE ON DISARMAMENT ON THE TWELFTH SESSION
OF THE AD HOC GROUP OF SCIENTIFIC EXPERTS TO CONSIDER
INTERNATIONAL CO-OPERATIVE MEASURES TO DETECT
AND IDENTIFY SEISMIC EVENTS

1. The Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and Identify Seismic Events, initially established in pursuance of the decision taken by the Conference of the Committee on Disarmament on 22 July 1976, held its twelfth formal session from 3 to 12 August 1981 in the Palais des Nations, Geneva, under the Chairmanship of Dr. Ulf Ericsson of Sweden. This was the fourth session of the Group convened under its new mandate by the decision of the Committee on Disarmament at its 48th meeting on 7 August 1979.
2. The Ad Hoc Group continues to be open to all Member States of the Committee on Disarmament as well as upon request to non-Member States. Accordingly, scientific experts and representatives of the following Member States of the Committee on Disarmament participated in the session: Australia, Bulgaria, Canada, Czechoslovakia, Egypt, German Democratic Republic, Germany, Federal Republic of, Hungary, Italy, Japan, Netherlands, Sweden, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland and United States of America.
3. At their request and on the basis of previous invitation by the Committee on Disarmament, scientific experts from the following non-Member States of the Committee on Disarmament participated in the session: Austria, Denmark, Finland, New Zealand and Norway.
4. A representative of the World Meteorological Organization also attended the session.
5. Under the current mandate of the Ad Hoc Group, information on national investigations related to the work of the Group has been presented by experts from Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Finland, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Italy, Japan, Netherlands, New Zealand, Norway, Poland, Romania, Sweden, Union of Soviet Socialist Republics, United Kingdom and United States of America.
6. During its tenth session, the Ad Hoc Group agreed to establish five study groups in order to achieve an appropriate compilation, summarization and assessment of the experience acquired through national investigations and co-operative studies in areas relevant to its work. These open-ended study groups each deal with a specific issue, and are each headed by a convenor and a co-convenor as follows:

- (1) Seismological stations and station networks:
Dr. Basham (Canada), Dr. Schneider (German Democratic Republic)
- (2) Data to be regularly exchanged (Level I data):
Dr. Harjes (Federal Republic of Germany), Dr. Waniek (Czechoslovakia)
- (3) Format and procedures for the exchange of Level I data through WMO/GTS:
Dr. McGregor (Australia), Dr. Ichikawa (Japan)
- (4) Format and procedures for the exchange of Level II data:
Dr. Husebye (Norway), Dr. Christoskov (Bulgaria)
- (5) Procedures to be used at international data centres:
Dr. Dahlman (Sweden), Dr. Alewine (United States of America)

7. The Ad Hoc Group discussed national investigations presented by the convenors and made recommendations for the further pursuance of this work.

With regard to seismological stations and station networks and with regard to data to be regularly exchanged, the summaries were drafts toward chapters in a formal report from the Ad Hoc Group under its present mandate, reflecting a worldwide development of seismic stations and further elaborations within the Group of the specification of the so-called Level I data to be exchanged.

In this connexion, the Ad Hoc Group again expressed the need for inclusion of additional seismic stations, located in the southern hemisphere, in the global network.

With regard to the exchange of data over the WMO communication network, preparations were made for further limited tests between institutes in a number of states and with the collaboration of the WMO. The Ad Hoc Group noted that the results from these and previous such limited investigations have methodological significance.

The study group on the exchange of entire data records, so-called Level II data, considered the most recent development of facilities for the worldwide transmission of data and considered plans for a report on both the more traditional means of data transmission and on the most recent developments in the field.

The study group on data centres considered contributions both on the parameters to be calculated, on the technical requirements for data centres and on the requirements for co-operation between international data centres. The study group also considered a draft chapter towards a formal report.

8. The national investigations so far considered were seen as relevant to the further development of the scientific and technical aspects of the global system and to the further elaboration of an experimental test of that system.

9. The Group, in particular, considered the foreseen Third Report which is to be about recent developments in seismology and improvements in associated techniques to the extent that they are relevant to the envisaged international co-operative measures to detect and identify seismic events, as described in CCD/558 and CD/43. The Group has observed that certain such developments are rapid and their results can turn out to be useful for the further development of the scientific and technical aspects of the global system and for the further elaboration of an experimental test of this system. The Group noted areas in which additional scientific and technical progress is needed, including:

- (a) studies on the use of seismographs and hydroacoustic instruments on the ocean bottom to improve the detection and identification capability for seismic events in the southern hemisphere;
- (b) widespread digital recording of data from seismographs;
- (c) automation of the extraction of parameters from seismograph data;
- (d) automation of the data processing at international data centres. Organization and co-ordination of the work at these centres;
- (e) methods to accommodate reporting of large earthquake sequences and swarms.

10. The Ad Hoc Group also discussed the schedule for its further work. It considered that in the light of the time needed for national investigations and co-operative studies and for the reliable assessment of their results, it should envisage the submission of a full formal report, in compliance with its present mandate, during the second part of the 1982 session of the Committee on Disarmament or later. Under the circumstances, the Ad Hoc Group considered that it should deliver in early 1982 an extended progress report which might assist the Committee on Disarmament in reporting to the Secretary-General of the United Nations in preparation for the Second Special Session on Disarmament. The Ad Hoc Group suggested that the next session, subject to approval by the Committee on Disarmament, should be convened from 1 - 12 March 1982, in Geneva.