The International Monitoring System uses seismic, hydroacoustic, infrasound and radionuclide monitoring technologies capable of detecting evidence of nuclear explosions in underground, in water and in the atmosphere in order to monitor compliance with the Comprehensive Nuclear-Test-Ban. These verification technologies, together with the data, technologies and products of the International Data Centre, have potential civil and scientific applications which can provide significant benefits to States and the international scientific community.

How IMS seismic data can support earthquake research

Access to IMS seismic data is one of the principal civil benefits available to Member States. The data, from a globally distributed network of modern seismic stations, could be used to improve the accuracy and timeliness of reports on potentially damaging seismic events, especially in countries lacking a national seismic network.

IDC bulletins can provide reports of the location and magnitude of large earthquakes rapidly and could also be used to support emergency response and relief efforts. IDC products can also be used to compute statistics on the aftershocks following large earthquakes, and to provide estimates of the size and frequency of further aftershocks.

For example, the IDC has estimated the locations and magnitudes of several aftershocks that followed the main shock of the very destructive earthquake that took place near Izmit, Turkey, in August 1999. More recently, the IDC prepared special event analyses for 19 earthquakes that occurred over a six day period in January 2002 around Goma in the Democratic Republic of the Congo. These earthquakes were probably related to the volcanic activity observed during the same time period.

Vienna seminar

A seminar on the potential civil and scientific applications of the four IMS verification technologies, sponsored by the Permanent Missions of Australia, Japan, the Netherlands and the United Kingdom, took place at the Vienna International Centre on 15 October 2002. The seminar focused on the technologies’ potential to assist national authorities and researchers in diverse scientific and civil fields, and was a follow-up to the senior experts’ discussion on civil and scientific applications of the CTBT verification technologies held in London, 9-10 May 2002. Fifteen senior experts and scientists from thirteen States representing all six geographical regions of the Treaty had participated in the London discussion.

Peter Marshall, a United Kingdom seismology expert and chairman of the London seminar, presented an overview of potential IMS technology applications in the fields of earthquake monitoring, tsunami prediction, monitoring of underwater volcanoes and ocean processes, and meteorology relevant to continued on page 15
climate change and nuclear accidents, as well as the potential use of findings deriving from geological mapping conducted during an on-site inspection.

Mr. Marshall stressed the fact that all potential civil and scientific applications of International Monitoring System technologies depend on data availability. The International Data Centre processes IMS raw data and makes it available to States in the form of Event Bulletins. It is up to the States to make the data available for civil and scientific applications. Mr. Marshall underlined also the importance of synergies with other technologies in the discussed fields, which have not yet been exploited.

Ambassador Liviu Aurelian Bota of Romania, Chairman of the Preparatory Commission, presented the concluding remarks. He encouraged further expert discussions, increased exchange of information and technical knowledge between States Signatories and increased State participation to upgrade national technological capacities.

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Publications of the Provisional Technical Secretariat

The following publications are currently available in hard copy or can be downloaded electronically from our web site at www.ctbto.org:

- 2001 ANNUAL REPORT of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization
  - AVAILABLE IN ARABIC, CHINESE, ENGLISH, FRENCH, RUSSIAN AND SPANISH.

- BASIC FACTS: SIX BOOKLET SERIES
  - Booklet 1: The Comprehensive Nuclear-Test-Ban Treaty (CTBT) at a Glance
  - Booklet 2: The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization

- Booklet 3: The Global Verification Regime and the International Monitoring System
- Booklet 4: The Global Communications Infrastructure and the International Data Centre
- Booklet 5: On-Site Inspections
- Booklet 6: Membership Benefits
  - AVAILABLE IN ENGLISH, FRENCH AND SPANISH.

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Calendar of Meetings 2003

Preparatory Commission:
- 20th Session: 24 – 27 June 2003
- 21st Session: 10 – 14 November 2003

Working Group A:
- 23rd Session: 10 – 13 June 2003

Working Group B:
- 20th Session: 17 Feb. – 7 March 2003
- 21st Session: 26 May – 6 June 2003
- 22nd Session: 1 – 12 September 2003

Advisory Group:
- 20th Session: 22 – 25 April 2003
- 21st Session: 27 – 30 May 2003
- 22nd Session: 22 – 26 September 2003