



Evaluation

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Introduction

Evaluation activities of the PTS consist of defining a set of specific acceptance tests to validate each phase of the implementation plans for the IMS, GCI, IDC and OSI regime and ensuring that continuous, reportable quality measures are implemented in order that the PTS can provide its customers with the necessary confidence in its functioning and its products.

HIGHLIGHTS OF ACTIVITIES IN 2006

On 26 August 2006, the Executive Secretary endorsed a quality policy for the PTS which includes the commitment to continually improve the effectiveness of the Quality Management System (QMS) and which provides a framework for establishing and reviewing quality objectives. Significant progress was also achieved in developing the Quality Manual.

The evaluation of SPT1, including the independent evaluation by external experts, was concluded. All the evaluations agreed on the need for the PTS to reinforce a process based framework, to develop key performance indicators further, to abide by quality management standards by adopting intercomparison exercises as a means to test the 'proficiency' of the PTS, and to conduct further testing at the subsystem level. The PTS acknowledged the need to take into account the evaluation objectives at the design stage of future system tests and exercises in order to better coordinate the various evaluation inputs.

The 2006 NDC Evaluation Workshop considered the small scale focused exercises for 2006 to 2008 proposed by the PTS to be appropriate from a system development perspective and proposed a number of additional tests incorporating a user perspective.

A system to facilitate tracking of the implementation of recommendations from NDC evaluation workshops was started and further developed on the basis of a recommendation of the 2006 Quality Management Workshop. This system also provides a repository for evaluation recommendations.

With regard to OSI activities, the evaluation of DE06 concluded that its objectives were met and that it made a significant contribution to the development of logistical aspects of the OSI regime that were of particular relevance for the IFE. The evaluation recommended that a more structured approach be used by the PTS to prepare the pre-inspection planning and point of entry activities by developing standard operating procedures, formats and checklists.

EXTERNAL EVALUATION OF FIRST SYSTEM-WIDE PERFORMANCE TEST

During June and July 2006, the reports on the external evaluation of SPT1, covering waveform and radionuclide technologies, were completed. These reports were made available to States Signatories on the IDC secure web site and presentations on the evaluation were given to Part II of the Twenty-Seventh Session of Working Group B. The general conclusion of the reports is that SPT1 has provided a useful benchmark for future performance tests, and was successful in testing many elements of the verification system and in identifying weaknesses and areas of the system that need attention and improvement.

Some major conclusions and recommendations were as follows. (a) The Operations Centre established in support of SPT1 was an important step in improving the performance of the verification system. (b) In order to assess the cost–performance relationship, the PTS should develop accounting procedures that relate expenditures to system functions and performance. (c) Attempts should be made to develop and document metrics for the overall performance of the entire system. This implies the need to develop a ‘map’ linking the key performance issues with these metrics.

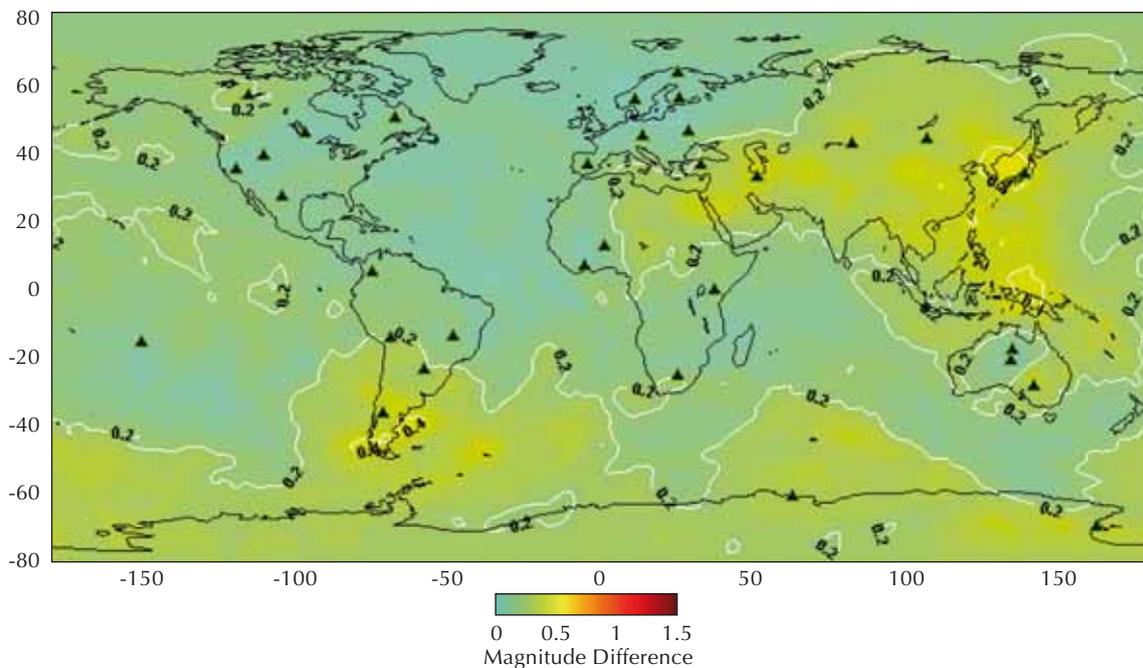
An independent evaluation by a radionuclide expert produced a number of comments and recommendations to the PTS and NDCs. These are summarized as follows. (a) The intercomparison exercise was an invaluable tool to indicate and benchmark the current performance capability of the whole radionuclide network. (b) Future intercomparison exercises, whether partial or system-wide, must be designed, conducted and evaluated in accordance with international best practice as espoused in the norms for evaluation in the United Nations system and in extant standards of the International Organization for Standardization and the International Electrotechnical Commission. (c) The system of communication between the PTS, NDCs and IMS radionuclide laboratories needs to be improved to ensure transparency on a real time basis with regard to ongoing developments. (d) Mechanisms must be sought to maximize the ‘capture’ of existing experience and expertise in the overall community and to ensure the transfer of this skill base by means of a successor training programme.

ASSESSMENT OF OSI ACTIVITIES

The objectives of DE06 were to develop and test procedures to establish and operate the base of operations for an inspection team in the field and to examine whether the lessons from the 2002 field exercise and later OSI activities



Opening of 2006 NDC Evaluation Workshop, Kiev, October 2006.



The maps show simulations of the estimated detection capability of certified primary seismic monitoring stations at the end of 2005 and 2006 relative to that of the complete IMS primary seismic network under ideal conditions (full station availability and low background noise).

Relative detection capability is shown as a difference in body wave magnitudes. An event is considered detected when its signal exceeds the noise level by a factor of 3 at three or more stations.

At the end of 2005, when only 32 stations had been certified, magnitude differences above 0.4 were apparent in three areas: around the Sea of Japan, north of Papua New Guinea and in southern Argentina. The same areas showed differences below 0.4 at the end of 2006, when there were 36 certified stations. Overall, at the end of 2006, magnitude differences in several parts of the globe fell to below 0.2.

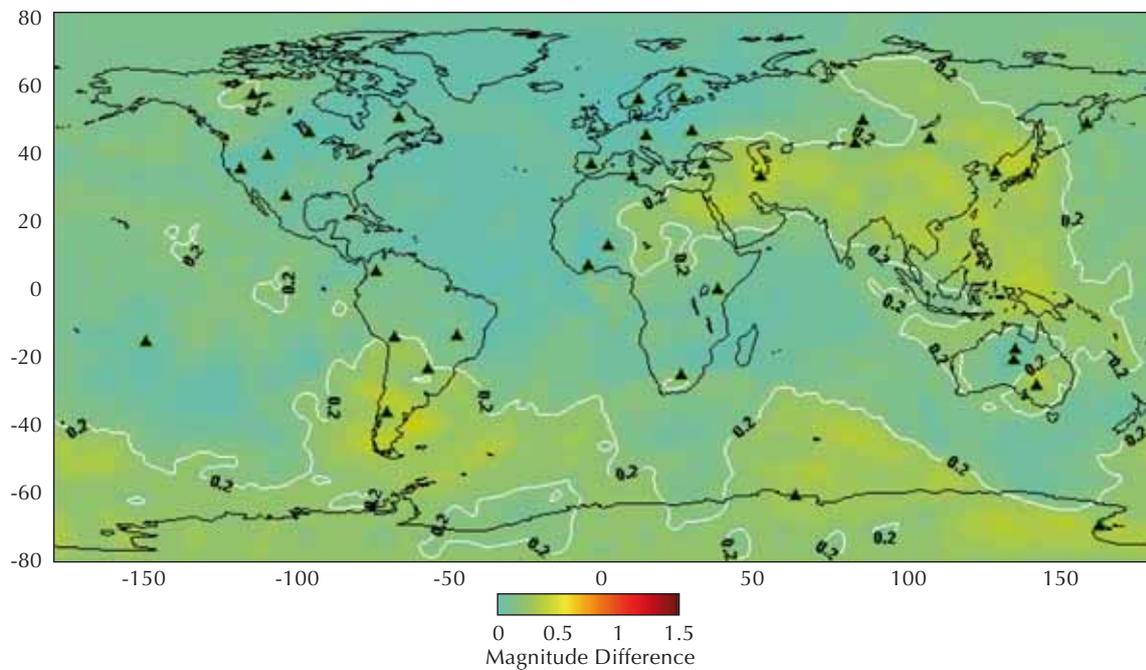
had been adequately incorporated into the OSI regime. The evaluation of DE06 found that the objectives were met and that it contributed to the development of fundamental logistical aspects of the OSI element of the CTBT verification regime, which are of particular relevance to the IFE. It was judged that several important lessons learned will need to be addressed in preparation for the conduct of the IFE. In particular, and in order to strengthen the inspection team, the evaluation team recommended that a more structured approach be used by the PTS to prepare, inter alia, standard operating procedures regarding the pre-inspection planning and point of entry activities as well as formats and checklists.

QUALITY ASSURANCE

The 2006 Quality Management Workshop endorsed the recommendations of the 2005 workshop and recommended that the revised quality policy and the document describing the revised QMS, namely the revised Quality Manual, be issued immediately. The 2006 workshop clearly expressed the need to move forward rapidly and, if necessary, to revise the QMS as experience is gained in its implementation. This would be an indication that the QMS was a utilized and 'living' system. As a result, the PTS quality policy was approved on 26 August 2006 by the Executive Secretary and the final draft of the revised Quality Manual was distributed for review within the PTS.

2006 NDC EVALUATION WORKSHOP: CUSTOMER FEEDBACK

The 2006 NDC Evaluation Workshop was hosted and actively supported by the National Space Agency of Ukraine. Over 55 participants representing 25 States Signatories, NDCs and the PTS gathered in Kiev from 17 to 21 October, primarily to develop testing and evaluation proposals as requested by Working Group B at Part II of its Twenty-Seventh Session.



The workshop considered the proposals by the PTS for components of future focused exercises and tests, and developed further proposals from an NDC perspective for consideration and possible approval at the Twenty-Eighth Session of Working Group B.

In addition, the workshop identified communication and information sharing between the PTS and the NDCs as two fundamental issues. It proposed that the PTS develop the concept of an 'integrated information portal' to provide all relevant information to NDCs in relation to the IMS as well as to provide them with an automatic connection to the external database.

The workshop recommended that the status of implementation of recommendations from previous evaluation workshops be reported and be a basis for discussion at the next NDC Evaluation Workshop.

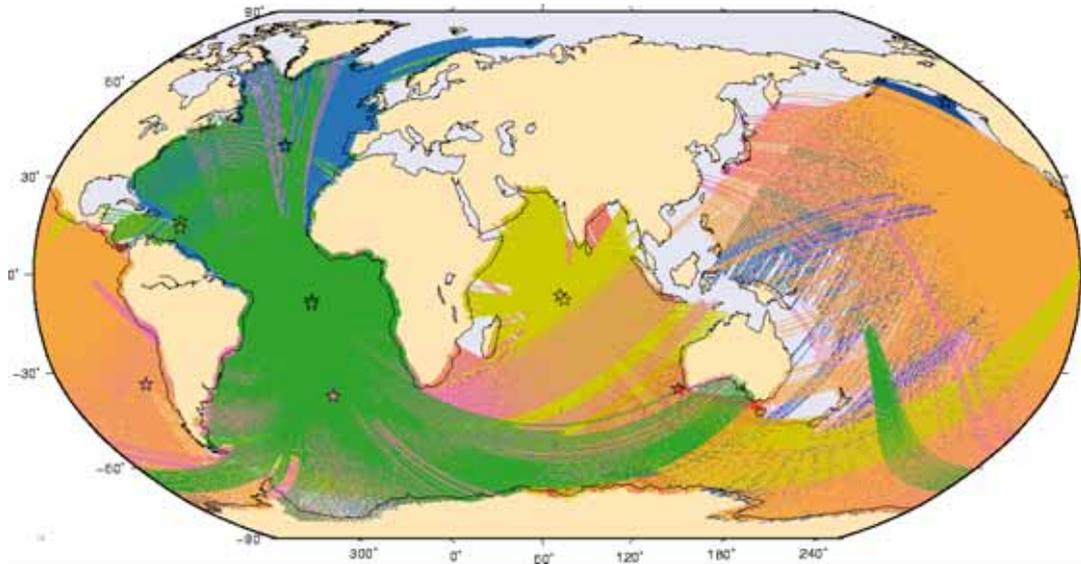
TRACKING OF IMPLEMENTATION OF RECOMMENDATIONS

A system to facilitate tracking the implementation of recommendations from NDC evaluation workshops was started and further developed on the basis of a recommendation of the 2006 Quality Management Workshop. This system also provides a repository for evaluation recommendations and all recommendations from the 1999 Evaluation Workshop have been entered into the system.

COOPERATION WITH UNITED NATIONS EVALUATION GROUP

The PTS continued to support the activities of the United Nations Evaluation Group regarding the exchange of the results based management and evaluation practices adopted by the United Nations agencies in the annual meeting in March 2006.

2006 Hydroacoustic Coverage



The maps show the oceanic areas which are 'visible' to hydroacoustic monitoring stations of the IMS (because there is no topographical blockage). A star shows the location of a monitoring sensor and different colours represent different stations. Each coloured area represents the oceanic region that is 'seen' by the station of that colour. Many parts of the oceans can be monitored by more than one hydroacoustic station, causing an overlap of colours and the disappearance of some colours in the overlapping areas.

The upper map shows the coverage by operational stations at the end of 2006. The lower map presents the expected coverage of the complete network of hydroacoustic stations and clearly shows a higher overlap in coverage by the stations.

Expected Coverage of Complete Hydroacoustic Network

