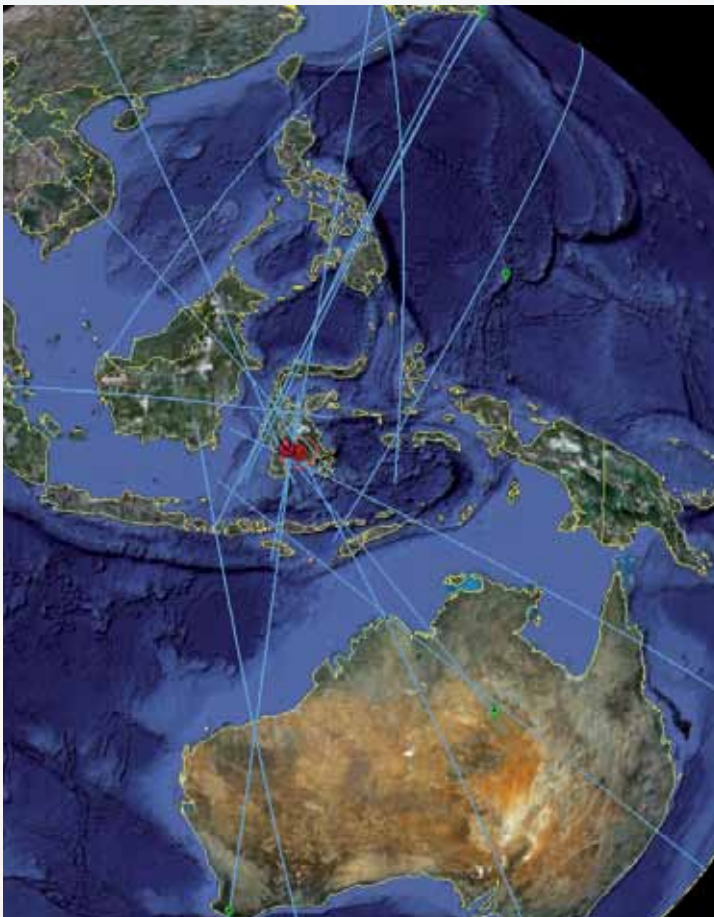


COMPREHENSIVE NUCLEAR-TEST-BAN TREATY: SCIENCE AND TECHNOLOGY 2011

ANNOUNCEMENT

TO BUILD AND STRENGTHEN ITS RELATIONSHIP WITH THE BROADER SCIENCE COMMUNITY IN SUPPORT OF THE TREATY, THE PREPARATORY COMMISSION FOR THE COMPREHENSIVE NUCLEAR-TEST-BAN TREATY ORGANIZATION (CTBTO) INVITES THE COMMUNITY TO A SCIENTIFIC CONFERENCE CTBT: SCIENCE AND TECHNOLOGY 2011 (S&T2011), TO BE HELD FROM 8 TO 10 JUNE 2011 AT THE HOFBURG PALACE IN VIENNA, AUSTRIA.



A MAP SHOWING THE SULAWESI METEOROID IN OCTOBER 2009 AND PROJECTED BACK-AZIMUTHS.

CONFERENCE GOALS

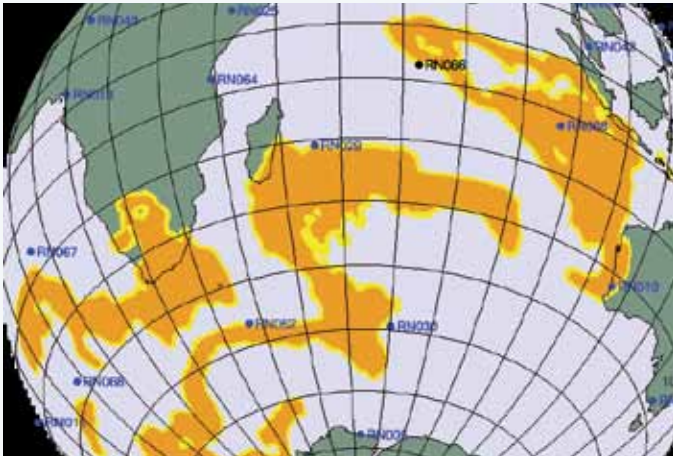
1. Discuss advances in science and technology relevant to test ban verification.
2. Explore scientific applications of the CTBT verification infrastructure.
3. Encourage partnerships and knowledge exchange between the CTBTO and the broader scientific community.

PARTICIPATION

This multidisciplinary scientific conference, designed to foster partnerships on many levels, will be of interest to working scientists and technologists, science administrators, scientific representatives to the CTBTO's policy-making organs, and representatives of agencies that fund research and development in areas potentially relevant to the Treaty's verification system.

If you are interested in contributing to any of the themes listed overleaf or would like more background information, please visit the S&T2011 webpage at www.ctbto.org or contact sandt@ctbto.org. Information regarding online registration and abstract submission is available on the webpage and on the back page of this brochure.

CONFERENCE THEMES



THEME 1. EVER-CHANGING WIND PATTERNS DICTATE WHERE THE AIR REACHING A RADIONUCLIDE DETECTOR COULD HAVE ORIGINATED. ORANGE/YELLOW REGIONS SHOW THE HIGH/LOW IMPACT ON THE DETECTED CONCENTRATION.



THEME 2. 'TRUCKEE' NUCLEAR TEST, CHRISTMAS ISLAND, 9 JUNE 1962.

The CTBTO welcomes contributions from participants in the following areas:

1. THE EARTH AS A COMPLEX SYSTEM

- Studies of the Earth system that may improve signal interpretation and thus contribute to verification effectiveness
- The application of Treaty data to understanding the natural environment
- Possible contributions of the Treaty's verification regime to the mitigation of natural hazards
- The potential role of the Treaty's verification technologies in addressing important scientific questions of the day.

2. UNDERSTANDING THE NUCLEAR EXPLOSION SOURCE

- Discrimination methods between natural events and anthropogenic explosions across the technologies used in the Treaty's verification system - seismic, infrasound, hydroacoustic, and global radionuclide detection
- Topics relevant to enhancing on-site inspection methodology, such as microseismicity at local scales, mechanisms of release and transport of particulates and gases from underground test environments, strategies for noble gas sampling, the temporal evolution of nuclear test signatures,

and geophysical and radionuclide characterization of nuclear test sites from measurements and from modelling

- Observational techniques not now in the Treaty's technical portfolio.

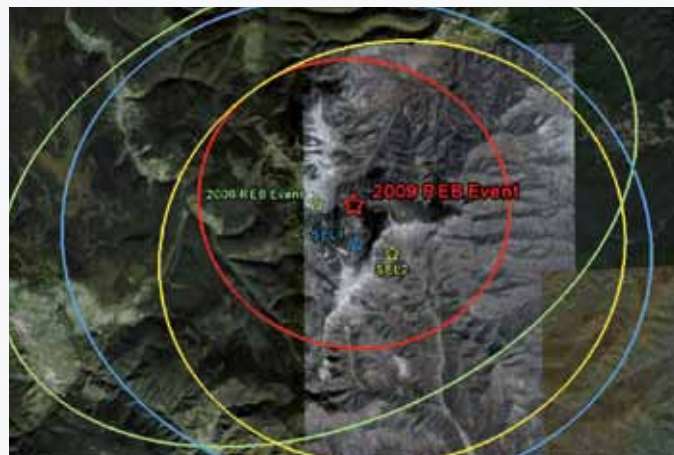
3. ADVANCES IN SENSORS, NETWORKS, AND OBSERVATIONAL TECHNOLOGY

- Relevant areas of sensor network design and observational technology
- Next-generation sensors and networks
- Increasing the reliability, robustness, and potential of sensor networks through their calibration sensitivity, sustainment, power and communication systems, and technical specifications
- Improving data quality
- Strategies for sampling and tuning network sensitivity
- Improving networks through performance modelling
- Mitigating background noise
- Physical layout of networks and sensor distribution
- Complementing permanent networks with dense deployments and instrument campaigns .

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THEME 3. COMPLETION OF SITE PREPARATION FOR INFRASOUND STATION IS42, AZORES, PORTUGAL, AUGUST 2010.



THEME 4. THE FINAL LOCATION ESTIMATE FOR THE NUCLEAR TEST (RED) ANNOUNCED BY THE DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA IN 2009 WAS MORE PRECISE THAN FOR THE 2006 TEST (GREEN). THE BLUE AND YELLOW ELLIPSES SHOW PRELIMINARY AUTOMATIC LOCATION ESTIMATES FOR THE 2009 EVENT. STANDARD EVENT LISTS 1 AND 2 (SEL1 AND SEL2) ARE AUTOMATIC BULLETINS (SEL2 IS SUBSEQUENT TO SEL1 AND CONTAINS THE AUXILIARY SEISMIC STATIONS). THE REVIEWED EVENT BULLETIN (REB) IS REVIEWED BY AN ANALYST.

4. ADVANCES IN COMPUTING, PROCESSING, AND VISUALIZATION FOR VERIFICATION APPLICATIONS

- Computer system architecture and design
- Adaptive machine learning
- Autonomic systems
- Modern visualization and human-computer interaction techniques
- Knowledge discovery techniques applied to extensive detection and event databases
- Signal processing, association and detection algorithms
- Cloud computing and storage.

5. CREATING KNOWLEDGE THROUGH PARTNERSHIPS, TRAINING, AND INFORMATION/COMMUNICATION TECHNOLOGY

- Open-source learning
- Ground truth data sets and experiments
- Training and capacity development
- International and regional data centres
- Regional cooperation in science and technology
- Wider civil use of the verification regime (in practice or in principle)
- Prototype projects that could be a model for enhancing participation in the CTBT.



THEME 5: NATIONAL DATA CENTRE TRAINING COURSE ORGANIZED BY THE CTBTO IN BRAZZAVILLE, CONGO, 6 TO 13 OCTOBER 2010

CALL FOR PAPERS

PANEL DISCUSSIONS

S&T2011 will feature two panel discussions. The first will highlight potential partnership projects using data from the CTBT verification system as enabled by the new virtual Data Exploitation Centre (vDEC) platform. The second panel will discuss ideas for underlying technology support programmes and possible opportunities for external research and development funding. These sessions will be designed by the CTBTO.

REGISTRATION AND ABSTRACT SUBMISSION

Authors are invited to register and submit abstracts of proposed contributions through the online registration and abstract submission forms available on the S&T2011 webpage at www.ctbto.org. No registration fee will be charged.

While authors can indicate their preference for an oral or poster presentation, the final choice will be made by the Programme Committee. By submitting an abstract, authors implicitly agree to the publication of their abstract and presentation materials by the CTBTO.

DEADLINES

25 FEBRUARY 2011: deadline for abstract submission

1 APRIL 2011: notification of abstract acceptance and release of the initial scientific programme for S&T2011

ABSTRACTS

Abstracts will be made available on our website and in a Book of Abstracts. A conference proceedings volume will be published by the CTBTO after S&T2011.

FINANCIAL SUPPORT

Financial support may be available to a limited number of participants. Such assistance must be requested at the time of registration and no later than 1 April 2011. Financial support will be considered only for those who have submitted an abstract. Participants are strongly encouraged to first seek travel and participation funds from non-CTBTO sources.

PROGRAMME COMMITTEE

ACHACHE José, Director,
Group on Earth Observations (GEO) Secretariat, Switzerland

BRATT Steven, Chief Executive Officer,
World Wide Web Foundation, United States of America (USA)

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SHLACHTER Jack, Deputy Division Leader of Theoretical Division,
Los Alamos National Laboratory, USA

SUÁREZ REYNESO Gerardo, Professor,
National Autonomous University of Mexico, Mexico

SUYEHIRO Kiyoshi, President and Chief Executive Officer,
Integrated Ocean Drilling Program, Japan

LANGUAGE

English is the working language of the conference. All conference presentations and documents are expected to be submitted in English.