



CTBTO
PREPARATORY COMMISSION

COMPREHENSIVE
NUCLEAR-TEST-BAN
TREATY ORGANIZATION

CTBTO AND WOMEN IN SCIENCE CONTRIBUTING TO NUCLEAR DISARMAMENT AND DISASTER RISK MITIGATION

Presented by

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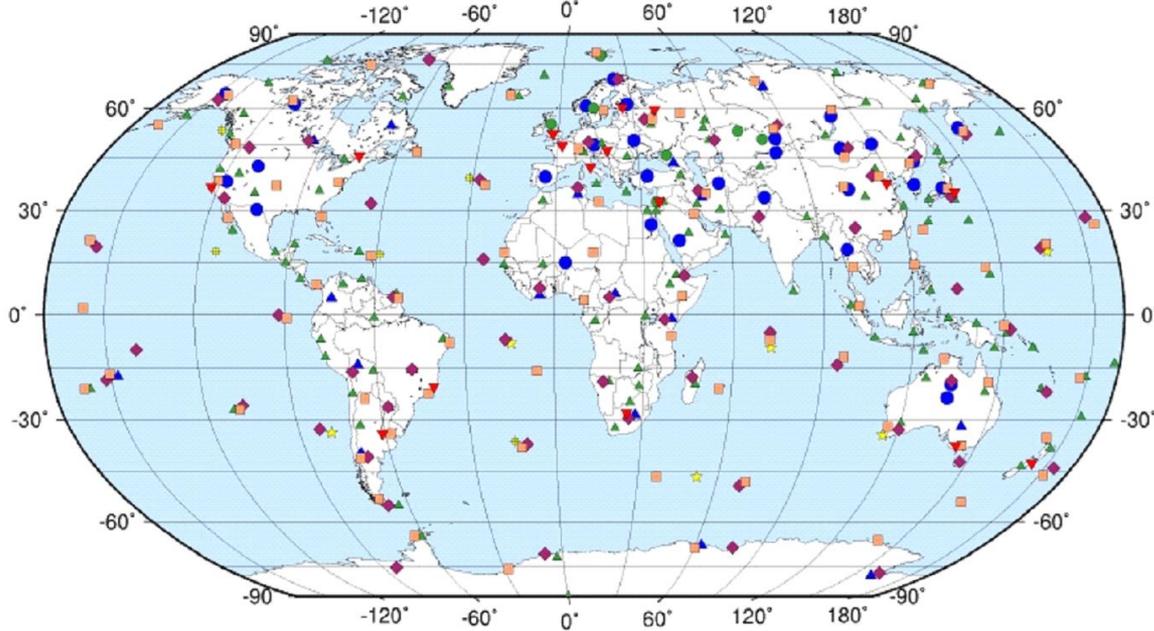
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Introduction

Gender-specific impacts

- There is substantial empiric evidence that suggests that women are disproportionately more affected by nuclear radiation and natural events in particular in regions where they do not enjoy the same economic and social conditions and benefits as men.
- There is a gender bias of negative impact from evacuation, displacement and emergency measures during natural disasters, e.g. hurricanes, flooding, tsunami-related events, earthquakes etc.



- Seismic Primary Array
- Seismic Auxiliary Array
- ★ Hydroacoustic (hydrophone) Station
- ◆ Infrasound Station
- ▲ Seismic Primary 3-comp Station
- ▲ Seismic Auxiliary 3-comp Station
- ★ Hydroacoustic (T-phase) Station
- Radionuclide
- ▼ Station Radionuclide Lab

The core mission of the CTBT's unique and comprehensive verification regime is **nuclear test monitoring**, in addition, the International Monitoring System (IMS) provides a treasure trove of data that can be used for a variety of applications, such as **climate change research** as well as **disaster warning and mitigation**.



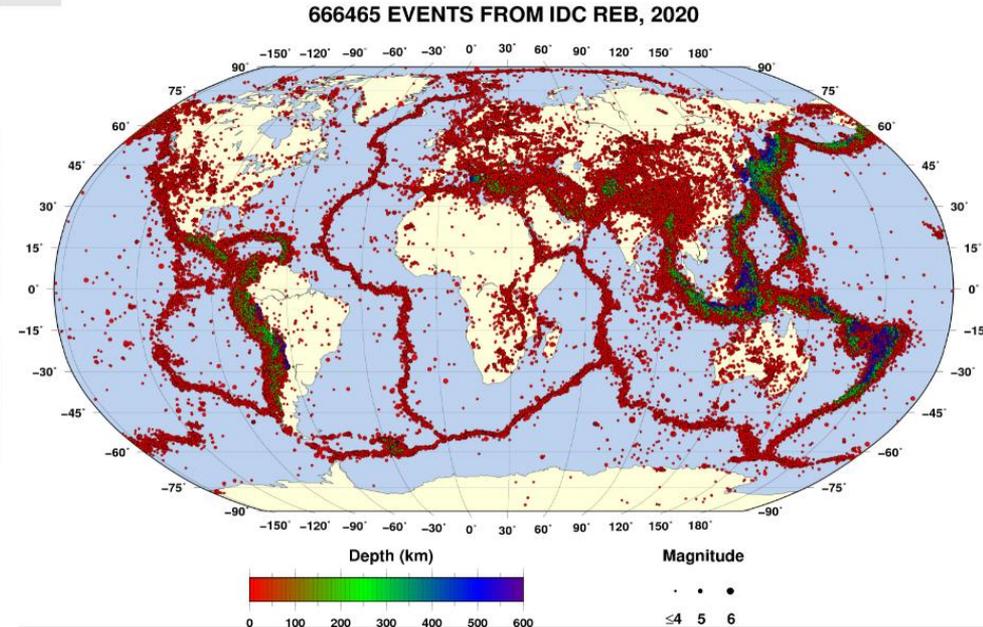
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Side benefits of the CTBT: IMS seismic data



Data on potentially damaging
earthquakes worldwide assist disaster
management and response efforts.





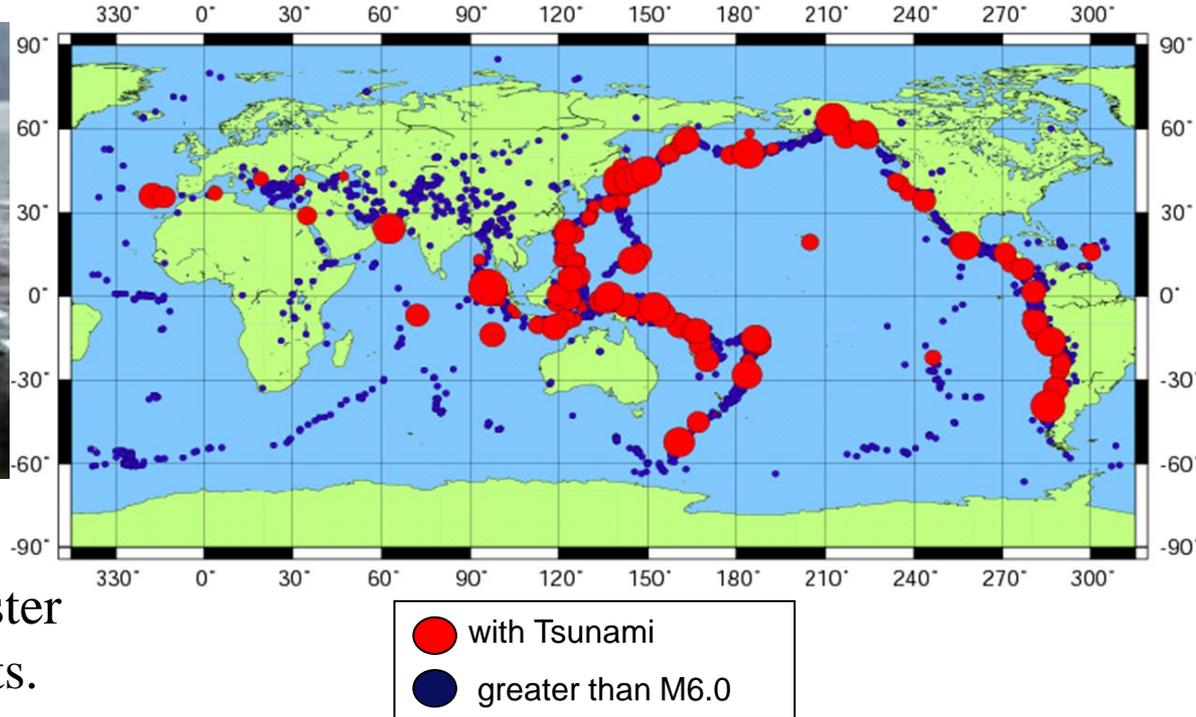
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Side benefits of the CTBT:
seismic/hydroacoustic data



Data on potentially damaging
tsunamis worldwide assist disaster
management and response efforts.





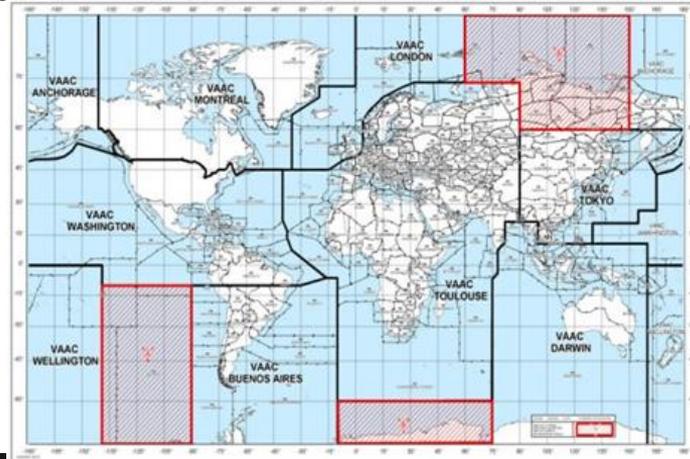
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Potential Applications

Infrasound

- Detect and locate disastrous chemical explosion near to earth's surface
 - Detect and locate meteorite impacts
 - Tracking of storms
 - Volcano ash plume warning for air flight
 - International Civil Aviation Organization, ICAO
- Volcanic Ash Advisory Centers (VAACs)



Guagua Pichincha
Volcano



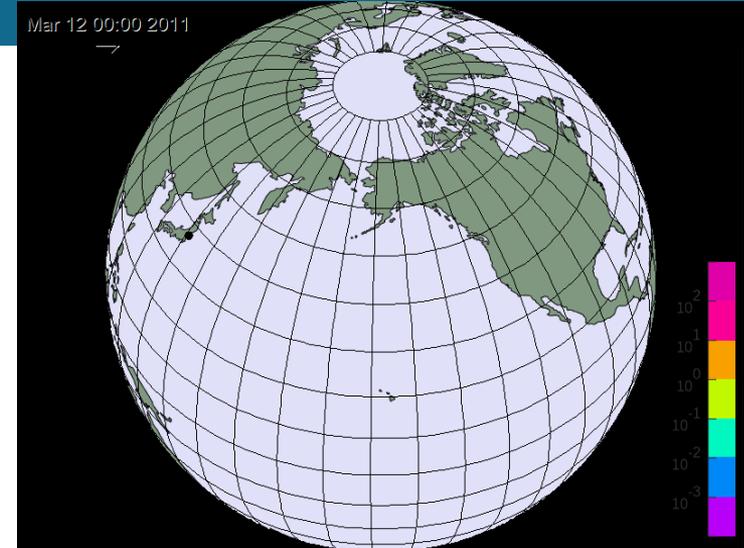
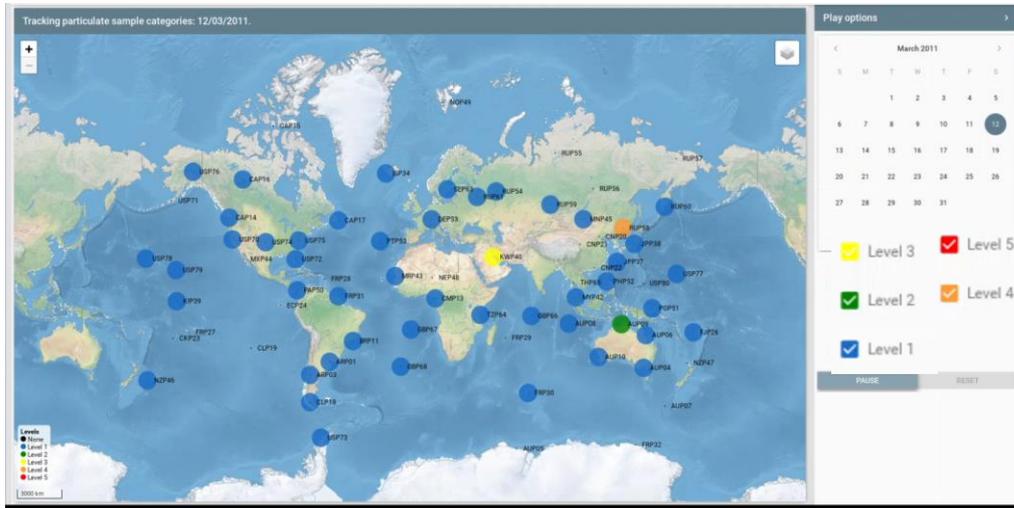


Potential Civil Applications

Radionuclides

- Fukushima accident**

The animation shows IMS sample categories in the time between 12 March and 30 May 2011.



Forward ATM for the seismic event on 12 March 2011

In the aftermath of the Fukushima incident, atmospheric transport forward modelling has been used to predict which of the IMS radionuclide stations are likely to be affected by a radioactive release and to estimate the time of a first detection for each of those.



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How to access IMS data on vDEC?



- The virtual Data Exploitation Centre (vDEC) provides scientists and researchers from many different disciplines and from around the globe with access to our data to conduct research and to publish new findings.
- vDEC is a zero-cost contract. It is a contract which does not contain any monetary remuneration between the parties for services or property, but contains legal requirements.
- Strong relationship between the scientific and technological community and the CTBTO helps to ensure that the IMS remains at the forefront of technological innovation and that no nuclear explosion goes undetected.



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Searching for Talented Women



- Upcoming Virtual Career Fair for Women in STEM (22 March)
- Executive Secretary's Commitment to Achieving Gender Parity and Supporting the Next Generation
- Join us!

Note: STEM-science, technology, engineering, and mathematics



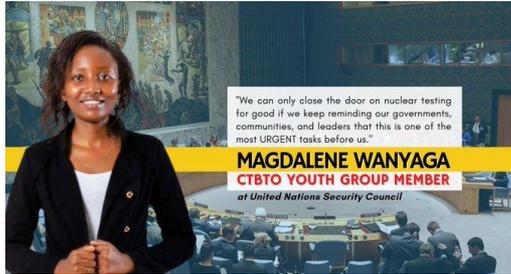
1. CTBTO Youth Group:

1124 members

CTBTO YOUTH GROUP
GENDER DISTRIBUTION



- FEMALE - 520
- MALE - 558



CYG member Magdalene Wanyaga delivering a speech at the UN Security Council 27 September 2021

2. Pilot project

The pilot project is an initiative of the CTBTO to facilitate the participation of experts from developing countries in official technical meetings of the Preparatory Commission.

Since 2007, the Project has now supported a total of 81 experts from 52 States.

24 of the supported experts are women.

Thank you!