



# Comprehensive Nuclear Test-Ban Treaty (CTBT)



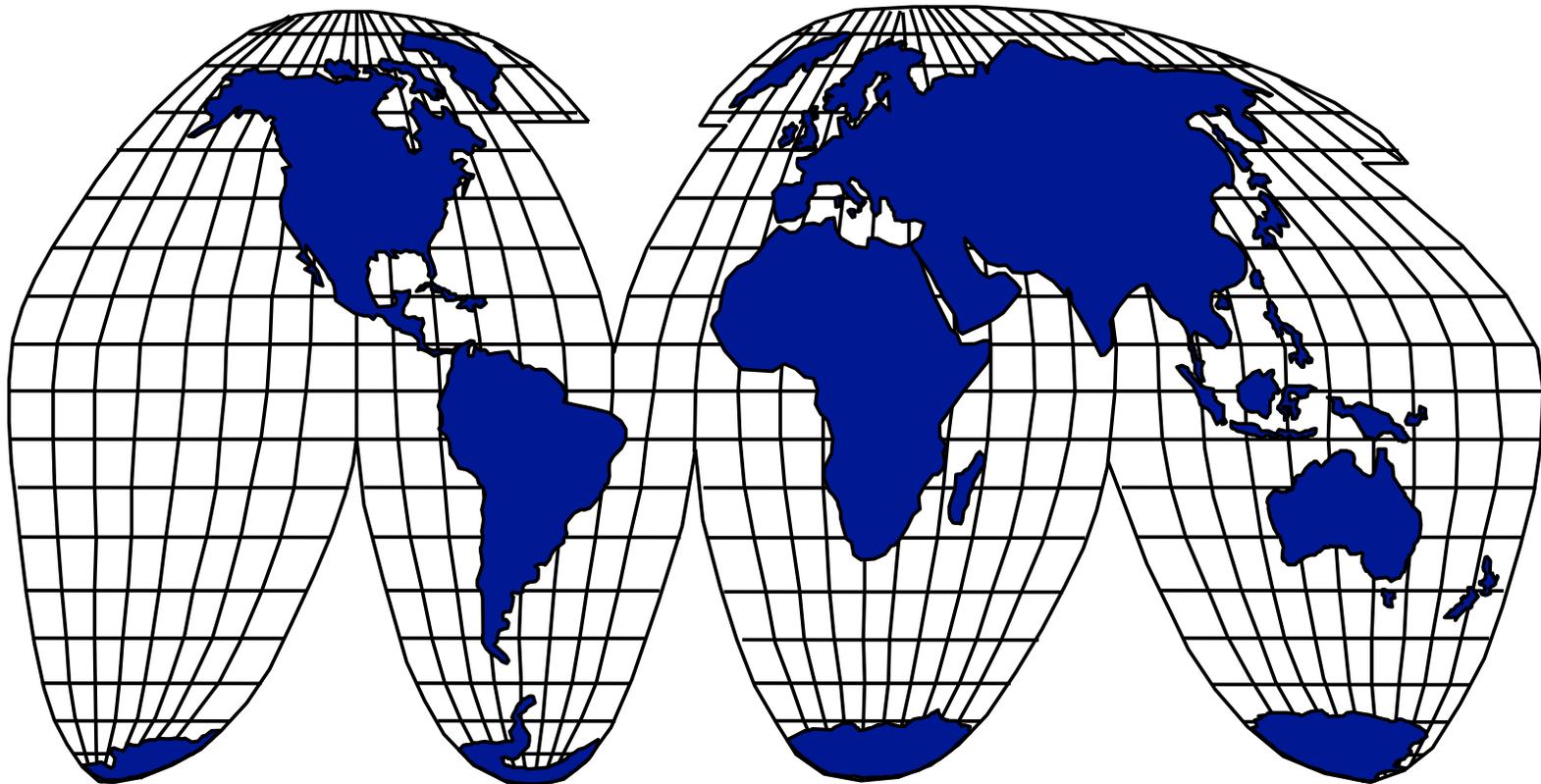
- Objectives
- Area of Application
- Signatories
- Background
- Major Provisions
- Current Issues



- Curtail nuclear warhead modernization by prohibiting countries from conducting nuclear tests where the primary nuclear core goes critical creating a nuclear explosion
  - Testing of nuclear subcomponents where there is not an explosion caused by the primary would be allowed
  
- Contribute to nuclear nonproliferation
  
- Enhance international stability



**Army G-3/5/7**





- United States signed CTBT on 24 September 1996
  - Senate refused to consent to ratification on 13 October 1999
  - 16 votes short of the required two-thirds
  
- Entry Into Force (EIF)
  - CTBT Annex II Requires ratification by 44 known nuclear-capable countries before entering into force
  
- As of March 2010:
  - 182 countries have signed or acceded
  - 153 countries have ratified
  - 9 of the 44 Annex II countries have not ratified
    - China, Egypt, Indonesia, India, Pakistan, North Korea, Iran, Israel, the United States



- The Soviet Union first proposed banning nuclear testing in the 1950s
- Numerous Cold War-era treaties limited nuclear testing:
  - Limited Test-Ban Treaty (EIF 10 October 1963)
  - Threshold Test-Ban Treaty (EIF 11 December 1990)
  - Peaceful Nuclear Explosions Treaty (EIF 11 December 1990)
- End of Cold War and need to enhance the Nuclear Non-proliferation regime reinvigorated CTBT initiative
- For the U.S., enhanced conventional strategic capabilities has decreased reliance on nuclear weapons for deterrence and holding a potential adversary's strategic assets at risk



- United Nations (UN) Conference on Disarmament (CD) negotiations began in 1994
- Negotiations broke down in June 1996
  - EIF
  - Verification
  - Composition of Executive Council
- Compromise text by CD Chairman
- Approved by the UN General Assembly in 1996
- Implementation oversight by Comprehensive Nuclear Test-Ban Treaty Organization (CTBTO)



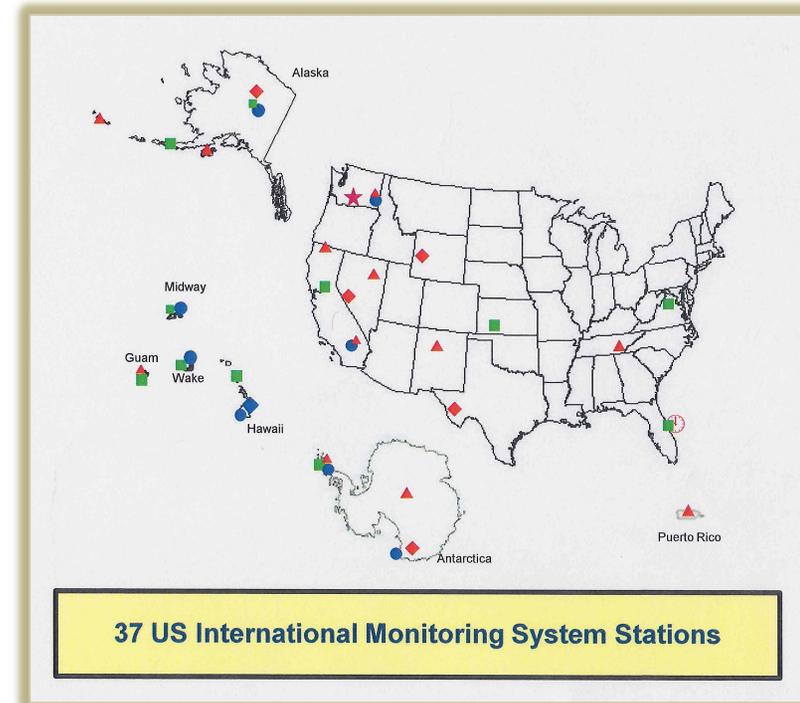
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- Prohibits all nuclear explosive testing
  - Testing of nuclear subcomponents is allowed
  
- Verification
  - International Monitoring System (IMS)
    - Currently, a system of 321 primary and secondary stations located in 89 countries
    - IMS stations will use either seismic, hydroacoustic, infrasound, or radionuclide technology
  - On-Site Inspection regime
    - An ambiguous event identified by the IMS could trigger a potential on-site inspection
    - 31 of the 51 members of the CTBT Organizations Executive Council must approve
    - Inspection area can cover 1000 square kilometers
  - Confidence-Building Measures (CBMs) to monitor verification
  
- Treaty is of unlimited duration



## Army G-3/5/7

- Although the United States has not ratified the CTBT, U.S. Army supports the IMS
- Commander, USASMDC/ARSTRAT serves as OSD executive agent for technological aspects of U.S. monitoring activities
  - USASMDC/ARSTRAT responsible for integrated life cycle management program for all U.S. IMS stations
    - The U.S. currently host 37 stations
    - 10 additional station planned





- Obama Administration announced support for CTBT ratification
  - Intent to resubmit CTBT to Senate for reconsideration
  
- The United States is a major contributor to CTBTO Preparatory Commission for IMS Stations
  - U.S. funded 100-ton conventional explosion to facilitate calibration of systems  
Infrasound monitoring facilities in August 2009



- Tsunami warning agreements between CTBTO and certain countries using the IMS
- U.S. Reliable Replacement Warhead (RRW) Program cancelled
  - DOE 2010 budget requires cessation of the RRW program
- U.S. has shifted focus to the Stockpile Stewardship Program
  - Monitoring and testing of warhead subcomponents to maintain confidence in existing weapons
  - Maintain personnel and infrastructure to resume nuclear explosive testing if required
  - 10% budget increase expected in FY11
  - 80% budget increase to ~\$11 billion over the next five years