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Comprehensive Nuclear-Test-Ban Treaty

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Why in News

Recently, the **United States State Department** has accused **China** and **Russia** of conducting nuclear tests with low yields, in violation of the **Comprehensive Nuclear-Test-Ban Treaty (CTBT)**.

Key Points

- CTBT was negotiated at the **Conference on Disarmament in Geneva** and **adopted by the United Nations General Assembly** in 1996.
- The Treaty intends to **ban all nuclear explosions** - everywhere, by everyone. It was opened for signature in 1996 and since then 182 countries have signed the Treaty, most recently Ghana has **ratified** the treaty in 2011.
 - A comprehensive test ban has been defined as a **“zero yield”** test ban that would prohibit **supercritical hydro-nuclear tests** but not **sub-critical hydrodynamic nuclear tests**.
 - **Hydronuclear tests** study nuclear materials under the conditions of explosive shock compression. Their yield ranges from negligible all the way up to a substantial fraction of full weapon.
 - **Subcritical (or cold) tests** are types of tests involving nuclear materials and possibly high-explosives that purposely result in no yield.
- The **Treaty will enter into force after all 44 States listed in Annex 2** to the Treaty **will ratify it**.

These States had nuclear facilities at the time the Treaty was negotiated and adopted.

- As of August 2011, **36** of these States have **ratified** the Treaty. Eight States still need to do so: **China, North Korea, Egypt, India, Iran, Israel, Pakistan and the United States**.
 - **India, North Korea and Pakistan have not yet signed the Treaty.**
 - All three have also undertaken tests after 1996; India and Pakistan in May 1998 and North Korea six times between 2006 and 2017.
 - The **CTBT has therefore not entered into force and lacks legal authority.**
- **Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO):**
 - The organization **promotes the Treaty** so that it can enter into force.
 - It establishes a **verification regime** to monitor adherence to the Treaty. The verification system is built around a network of over 325 seismic, radionuclide, infrasound and hydroacoustic (underwater) monitoring stations.
 - The organization was founded in 1996. It is **headquartered in Vienna**. It employs a staff of roughly 260 from the CTBT's Member States.

Source: TH