

Using Satellite Imagery to Map Russia's Underground Nuclear Test Site on Novaya Zemlya

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In 1997, the United States accused Russia of conducting a secret nuclear test at its underground test site on Novaya Zemlya. Despite admitting later that the August 17, 1997, event was an earthquake in the Kara Sea, U.S. officials maintained that activity observed at the test site prior to the earthquake was similar to activity observed before previous nuclear tests. The activity the United States observed was actually preparations for a subcritical nuclear experiment on August 14, highlighting the need to better differentiate between observables associated with subcritical and full-scale nuclear tests. CNS used a combination of declassified historical satellite imagery and contemporary high-resolution commercial satellite imagery to map the evolution of the Soviet Union's underground nuclear test campaign on Novaya Zemlya, as well as record signatures associated with underground nuclear tests at the site. Establishing a visual baseline of historical activity allows for better assessment of on-going activity and potential treaty-relevant events at the test site.

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