Intro for episode page: No longer used for spying, declassified spy satellite imagery is finding fascinating new uses.

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**Eyes on Earth Episode 133 – Vietnam War Bomb Craters**

**Summary**: Declassified spy satellite imagery, distributed by the USGS EROS Center, is finding fascinating uses since being made available to the public starting in the 1990s. In this episode of Eyes on Earth, we talk with Philipp Barthelme from the University of Edinburgh, who used imagery from the declassified HEXAGON and CORONA satellites to map bomb craters and herbicide spray lines from the Vietnam War. These features appear in the black and white photos quite clearly, so Barthelme worked out machine learning methods to automatically detect them. This method can help narrow down where to search for unexploded weapons and focus on the areas that are most contaminated.

**Guests**: Philipp Barthelme, University of Edinburgh, Edinburgh, United Kingdom

**Host**: Tom Adamson (contractor for USGS EROS)

**Producer**: Tom Adamson (contractor for USGS EROS)

**Release date**: Monday, April 14, 2025

**More about Declassified Satellite Imagery and Philipp’s Studies**:

* [Philipp’s journal article](https://doi.org/10.1016/j.srs.2024.100143)
* [Blog post about Philipp’s Agent Orange study](https://ceobs.org/new-data-on-agent-orange-use-during-the-uss-secret-war-in-laos/)
* [USGS EarthExplorer](https://earthexplorer.usgs.gov/)
* [The Last Bucket Catch](https://www.youtube.com/watch?v=Sdsn4snbzjo)
* [Catch a Falling Star](https://www.youtube.com/watch?v=kIf8nJsq0Vo)
* [Sample HEXAGON image from Philipp’s study](https://www.usgs.gov/media/images/hexagon-satellite-image-vietnam-war-bomb-craters)

**Related Episodes:**

* [Episode 93 – EROS 50th: Film Scanning](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-93-eros-50th-film-scanning)
* [Episode 86 – Tours at EROS](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-86-tours-eros)
* [Episode 5 – Declassified Data at EROS](https://www.usgs.gov/centers/eros/eyes-earth-episode-5-declassified-data-eros)

**Keywords**: Earth Resources Observation and Science (EROS) Center, Eyes on Earth, HEXAGON, CORONA, Declassified satellite imagery, Vietnam War, bomb craters, machine learning, Vietnam, Cambodia, Laos

<https://cms.usgs.gov/media/images/thumbnail-image-eoe-episode-133-vietnam-war-bomb-craters>

**Homepage descriptor**: This episode of our remote sensing podcast discusses the use of declassified spy satellite imagery to map the locations of Vietnam War era bomb craters to help narrow down where to search for unexploded weapons.

**Topics this could go in:** Data, Land Change, Remote Sensing

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