**Intro for episode page:** Artificial intelligence (AI) is helping to make EROS data products better and more efficient.

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**Eyes on Earth Episode** **131 – Using AI in Geospatial Work**

**Summary**: Eyes on Earth tackles artificial intelligence (AI) in a 2-part episode. AI is quickly becoming a necessary part of geospatial work at EROS, helping us efficiently do science to better manage our world. In Part 1, EROS Director Pete Doucette discusses AI and its current and upcoming impact on our work at EROS. To help clarify AI terminology such as machine learning, deep learning, neural networks, transformers, and foundation models, we also talk to scientists who are using AI. And we learn about how AI enabled the National Land Cover Database (NLCD) to become an annual product.

Part 2 will discuss one more potential application of AI—keeping Landsat satellites safe and healthy in orbit. We also have all of our guests comment on AI’s challenges and benefits.

**Guests**:

Pete Doucette, USGS EROS

Terry Sohl, USGS EROS

Neal Pastick, USGS EROS

Rylie Fleckenstein, contractor for USGS EROS

**Host:** Tom Adamson, contractor for USGS EROS

**Producer:** Tom Adamson, contractor for USGS EROS

**Release date:** Monday, March 3, 2025

**More about AI and NLCD:**

[USGS Center of Excellence for Geospatial Information Science—Artificial Intelligence (AI)](https://www.usgs.gov/centers/cegis/science/artificial-intelligence-ai)

[Annual NLCD](https://www.usgs.gov/centers/eros/science/annual-national-land-cover-database)

[Annual NLCD Fact Sheet](https://pubs.usgs.gov/publication/fs20253001)

[Ronneberger et al. paper on Convolutional Networks](https://doi.org/10.48550/arXiv.1505.04597)

**Related episodes:**

[Episode 126 – Annual NLCD](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-126-annual-nlcd)

[Episode 120 – Mapping the California Coastline](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-120-mapping-california-coastline)

[Episode 113 – EROS Science Leader’s Vision](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-113-eros-science-leaders-vision)

[Episode 101 – EROS 50th: Director Pete Doucette Looks Ahead](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-101-eros-50th-director-pete-doucette-looks-ahead)

**Keywords:** Earth Resources Observation and Science (EROS) Center, Eyes on Earth, Remote Sensing, Landsat, Artificial Intelligence, AI, Machine Learning, Deep Learning, Neural Networks, Transformers, Foundation Models, NLCD

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**Homepage image:**<https://cms.usgs.gov/media/images/homepage-image-eoe-episode-131-using-ai-geospatial-work>

**Homepage descriptor**: This episode of our remote sensing podcast covers what artificial intelligence (AI) is and discusses its use at EROS.

**Topics:** Data, EROS, Remote Sensing

\*See <https://www.usgs.gov/centers/eros/eyes-earth-topics> for list of topics.

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