Intro for episode page: We’re going to find out how researchers took an old data technique in freshwater science—physically sampling lake water—and reinvented it using satellite technology to study water quality in lakes across the U.S.

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**Eyes on Earth Episode 114 – The Color of Water with Landsat**

**Summary**: Typically, we use Landsat data to study changes on the land—you know, *Land*sat. In this episode of Eyes on Earth, we learn how satellite images and pixels of water, along with actual water samples, are helpful in determining the productivity of lakes across the U.S. We talk with Mendenhall Fellow and Research Geographer Dr. Michael Meyer about a recently released, freely accessible dataset that uses a metric called lake trophic state to validate the Landsat observations of thousands of lakes. The dataset was also named a USGS Open Science Success Story as part of the White House’s Office and Science and Technology Policy’s 2023 “Year of Open Science” campaign.

**Guests**: Dr. Michael Meyer, Mendenhall Fellow and Research Geographer, USGS

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

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

**Release date**: Monday, March 11, 2024

**More about the Lake Trophic State dataset**:

* [Published paper about the data](https://www.nature.com/articles/s41597-024-02921-0)
* [Dataset available at Environmental Data Initiative](https://portal.edirepository.org/nis/mapbrowse?scope=edi&identifier=1395)
* [EPA National Lakes Assessment](https://www.epa.gov/national-aquatic-resource-surveys/nla)
* [USGS Open Science Success Story](https://www.usgs.gov/special-topics/year-of-open-science/news/lake-trophic-state-us-dataset)

**Related Episodes:**

* [Episode 44: Landsat Water Atlas](https://www.usgs.gov/centers/eros/eyes-earth-episode-44-landsat-water-atlas)
* [Episode 57: Landsat and the Great Lakes](https://www.usgs.gov/centers/eros/eyes-earth-episode-57-landsat-and-great-lakes)
* [Episode 70: ECOSTRESS and Aquatic Ecosystems](https://www.usgs.gov/centers/eros/science/eyes-earth-episode-70-ecostress-and-aquatic-ecosystems)

**Keywords**: Earth Resources Observation and Science (EROS) Center, Eyes on Earth, Landsat, National Lakes Assessment, lakes, lake trophic state, water quality

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**Homepage descriptor**: This episode of our remote sensing podcast describes a new dataset that measures water quality in U.S. lakes.

**Topics this could go in:** Data, Ecosystems, Landsat, Remote Sensing, Water

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