

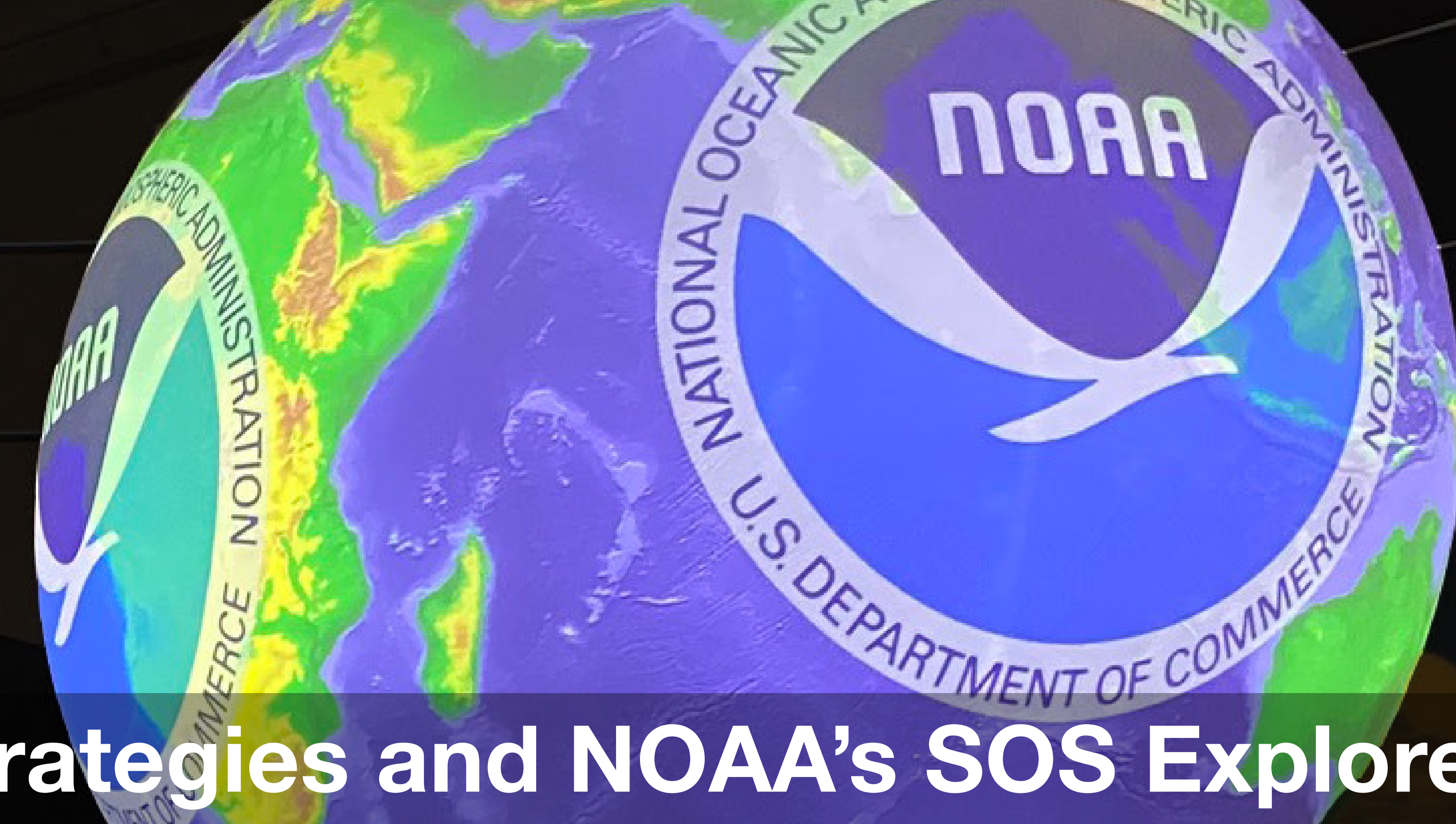


SCIENCE ON A SPHERE



DATA LENS

A new data literacy campaign using Visual Thinking Strategies and NOAA's SOS Explorer



WHAT IS DATA LENS?

After researching the efficacy of arts-based approaches to formal science education over three years, the **Science On a Sphere team** has developed a dynamic **10-20 minute activity** aimed at engaging students frequently in slow, thoughtful observation.



Data Lens uses global mapped scientific data with Visual Thinking Strategies (VTS) to improve critical thinking and data literacy skills in the 5-12th grade formal education classroom.

Delivered bi-weekly to teachers' inboxes, **Data Lens** is an easy-to-implement resource with new maps, readings, and SOS Explorer extensions. It keeps students engaged while building essential observation and interpretation skills. With a consistent format and pedagogy, teachers can focus on content without changing their approach.

WHAT IS VTS?

Visual Thinking Strategies (VTS) is an arts-based, research-backed teaching strategy designed for building visual literacy. VTS was developed for use in art museums and has since been adapted for use in museums, schools, and universities for decades. VTS has been shown to improve critical thinking, observation, and social and emotional skills.

- Q1 – “What is going on in this image?”; after an observation is made, paraphrase and maybe follow up with Q2.
- Q2 – “What do you see that makes you say that?; paraphrase again and to obtain the next observation use Q3.
- Q3 – “What more can we find?”; this is an opening for another student to share an observation.

WHAT'S THE GOAL?

Improved observation skills: Students enhance their ability to observe deeply and make sense of complex data.

Stronger support for conclusions: Visual evidence becomes a cornerstone of student observations and inferences.

Boosted engagement: Watch as students ask more thoughtful questions, build on each other's ideas, and actively listen to their peers.

Shifted classroom culture: Create an environment where curiosity thrives, students feel heard, and the fear of “wrong answers” is replaced with open-ended exploration.

Slower-paced learning: Promote a shift away from the rush for the “right” answer, encouraging deep reflection and discovery.



WHAT IS SOS Explorer®?

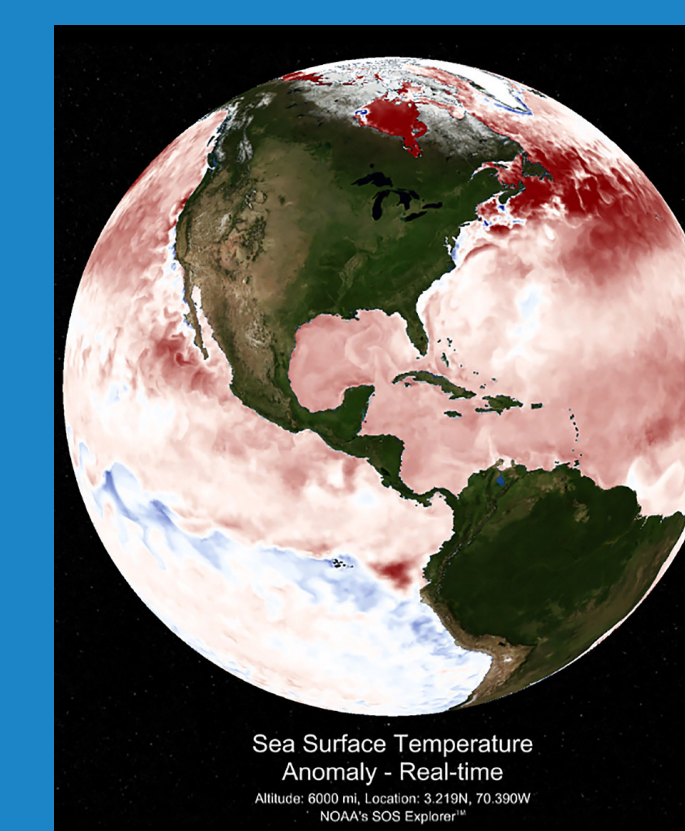
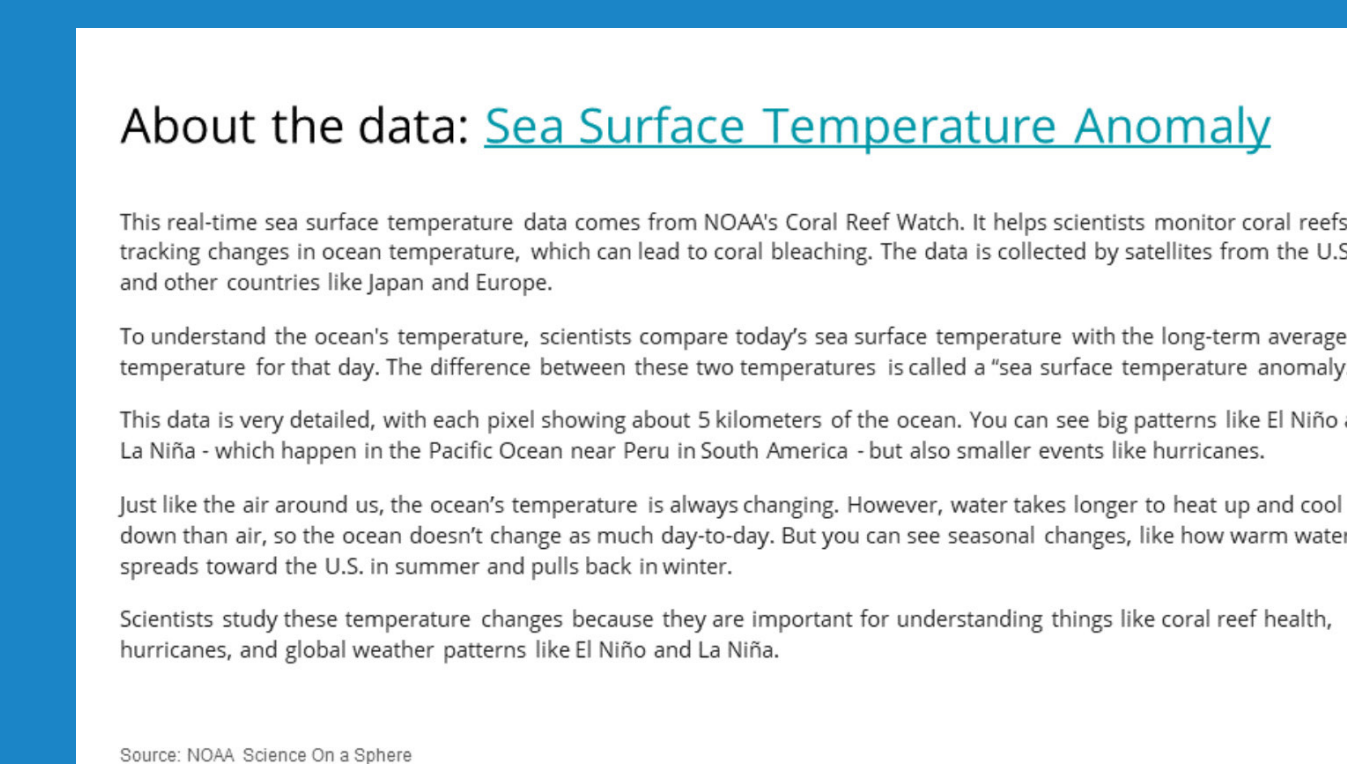
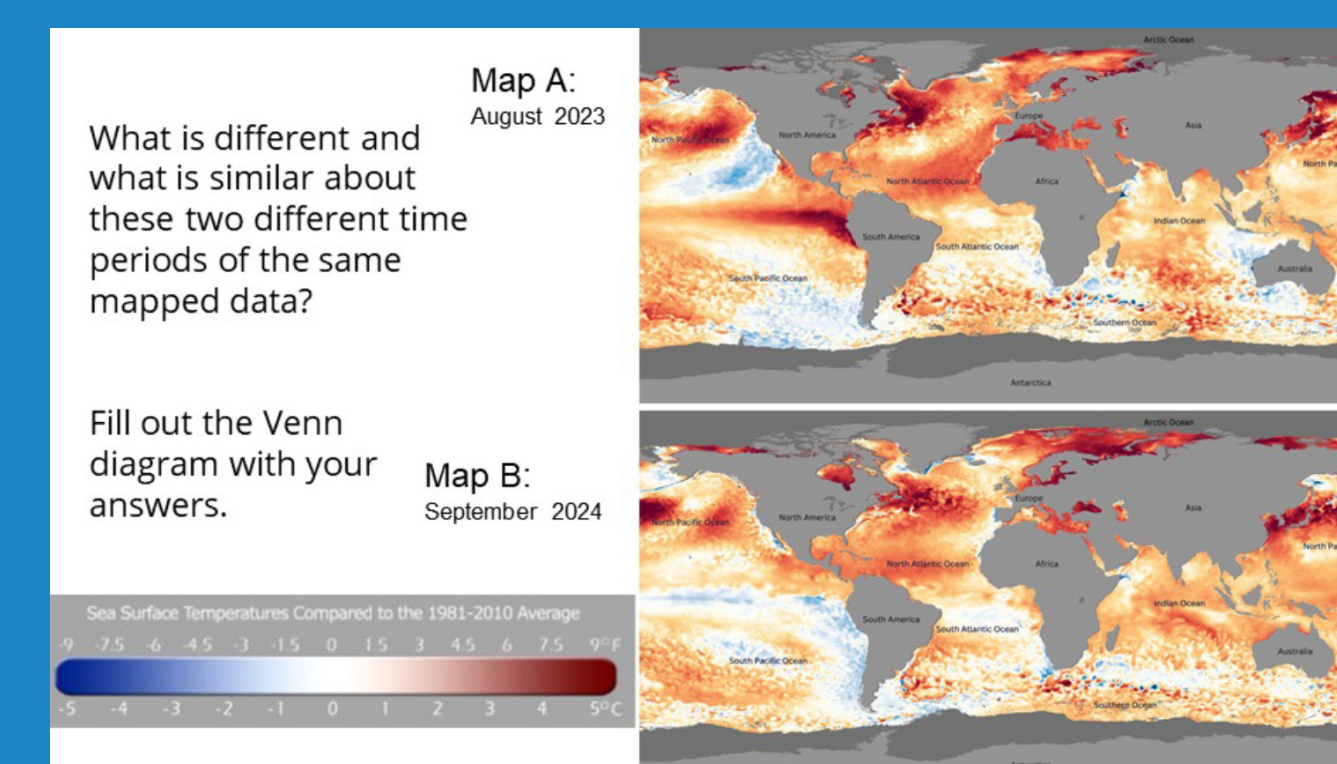
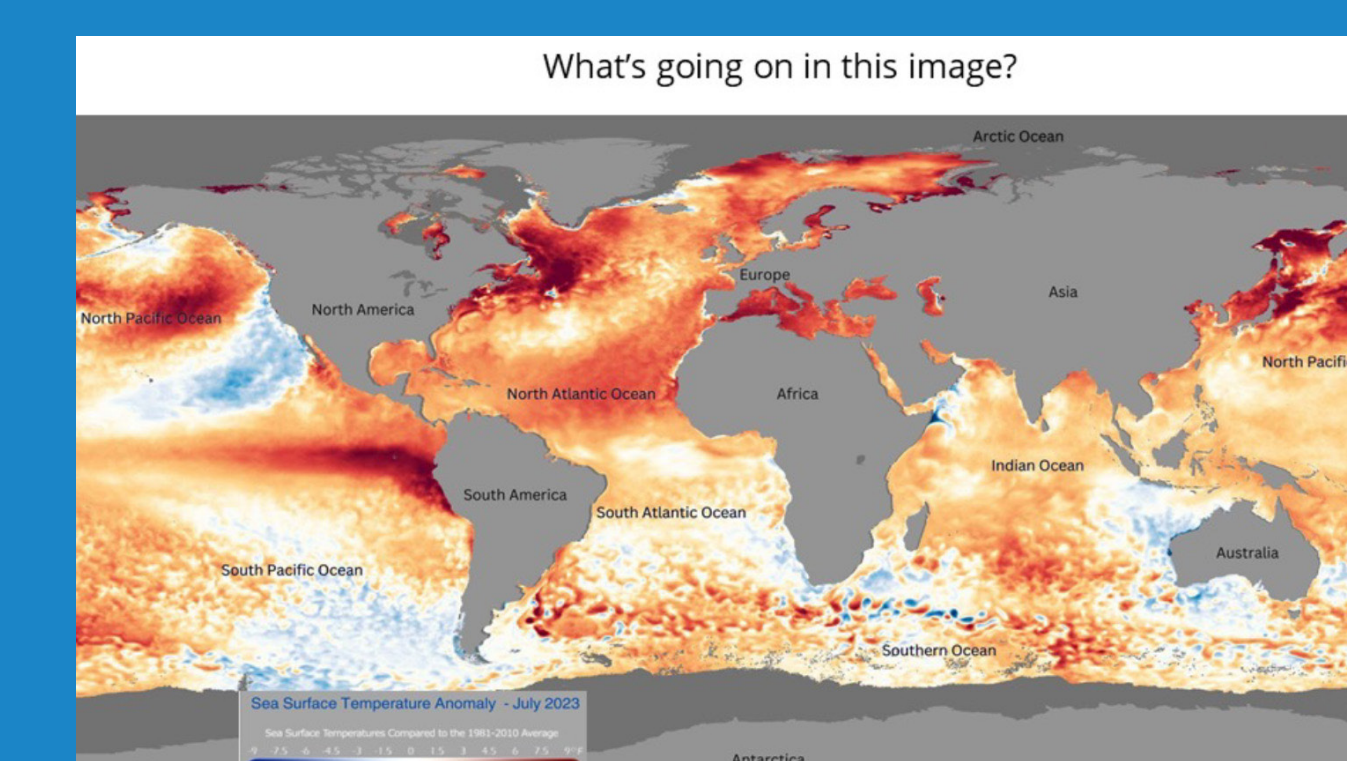
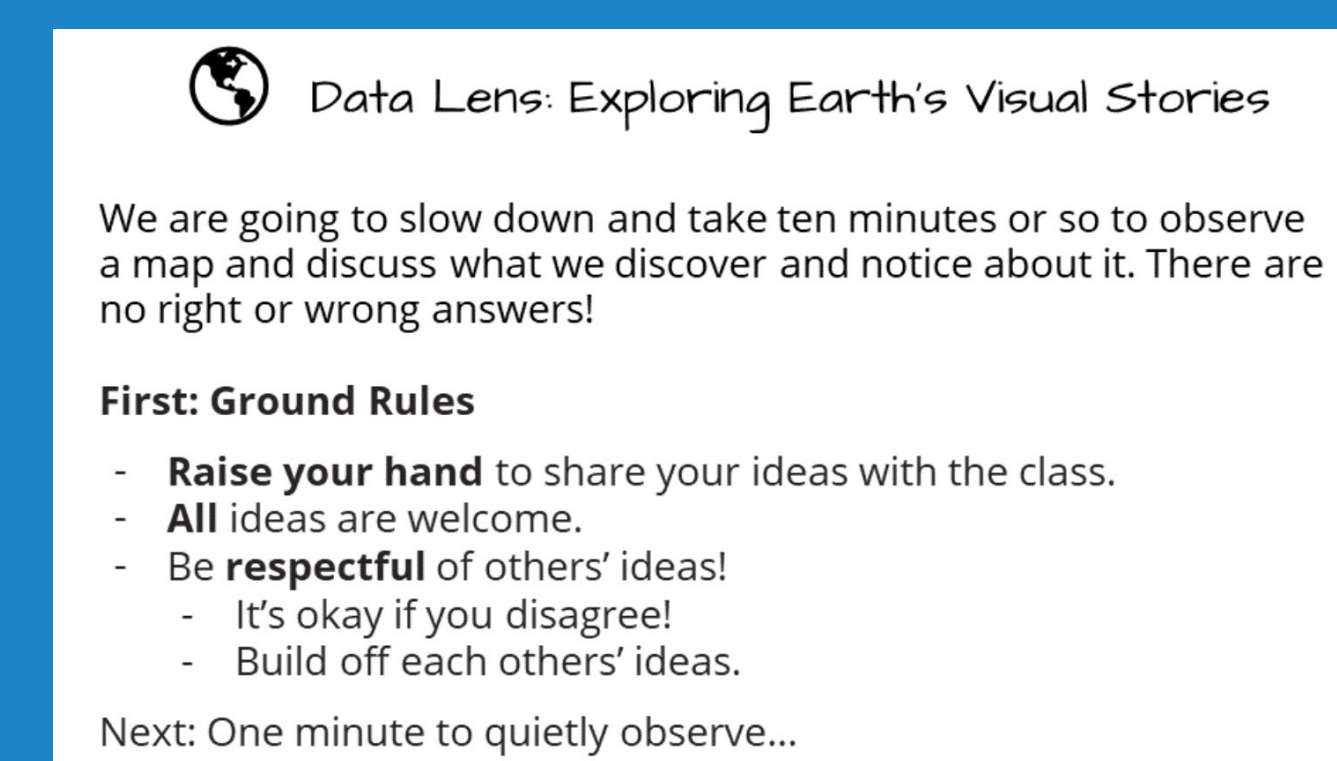
NOAA collects data about our Earth, including ocean, weather, and climate systems. NOAA *Science On a Sphere (SOS) Explorer® (SOSx)*, lets you interact with data visualizations from NOAA, NASA, and many other trusted sources, making concepts like ocean currents, climate change, and weather patterns available in an intuitive and captivating format.



Scan to learn more
and install SOSx

HOW IT WORKS

- Teachers are given slides, a teacher guide, and a student worksheet. First, set the environment for slow and thoughtful observation.
- Students take a minute to observe, another minute to jot down their ideas. Then, teacher begins with VTS questions, first without the title and colorbar, then add them in and continue VTS.
- Students are shown two maps of the same data and asked to fill out a Venn diagram with similarities and differences, then asked to write two questions that scientists could study based on their observations.
- To add scientific literacy and temper the mystery, students read the dataset description as well as optional article extensions and digital activities.



How is SOS Explorer used in this Data Lens?

The maps used in this exercise are a snapshot in time. Sea Surface Temperature and many other data are updated daily and are animated on NOAA's SOS Explorer® application. We encourage teachers to install SOSx on their mobile device or Windows computer. Then, browse for the “Sea Surface Temperature Anomaly - Real-time” dataset in the app.

Benefits to subscribing

In addition to practice with NOAA data using VTS, you'll regularly receive other NOAA and CIRES Center for Education, Engagement and Evaluation (CEEE) educational materials including Data Puzzles, NOAA Data in the Classroom and others.

Scan to
receive
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