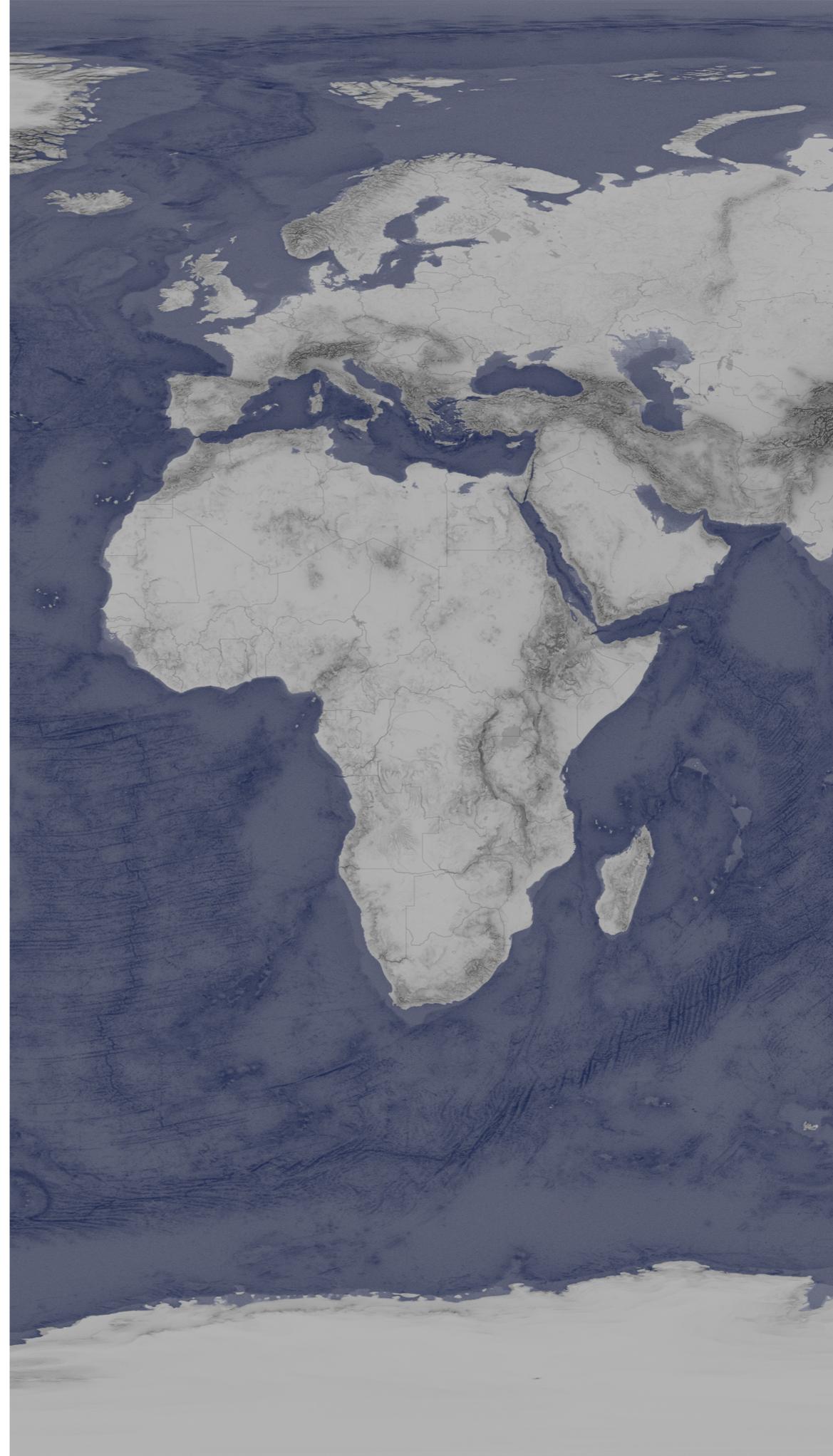


SCIENTIFIC VISUALIZATION STUDIO: VISUALIZING TOPEX/ POSEIDON SEA- LEVEL CHANGE IN BLENDER

*Presenter: Devika S. Elakara (Code 586)
Mentor: Lori K. Perkins (Code 587)*

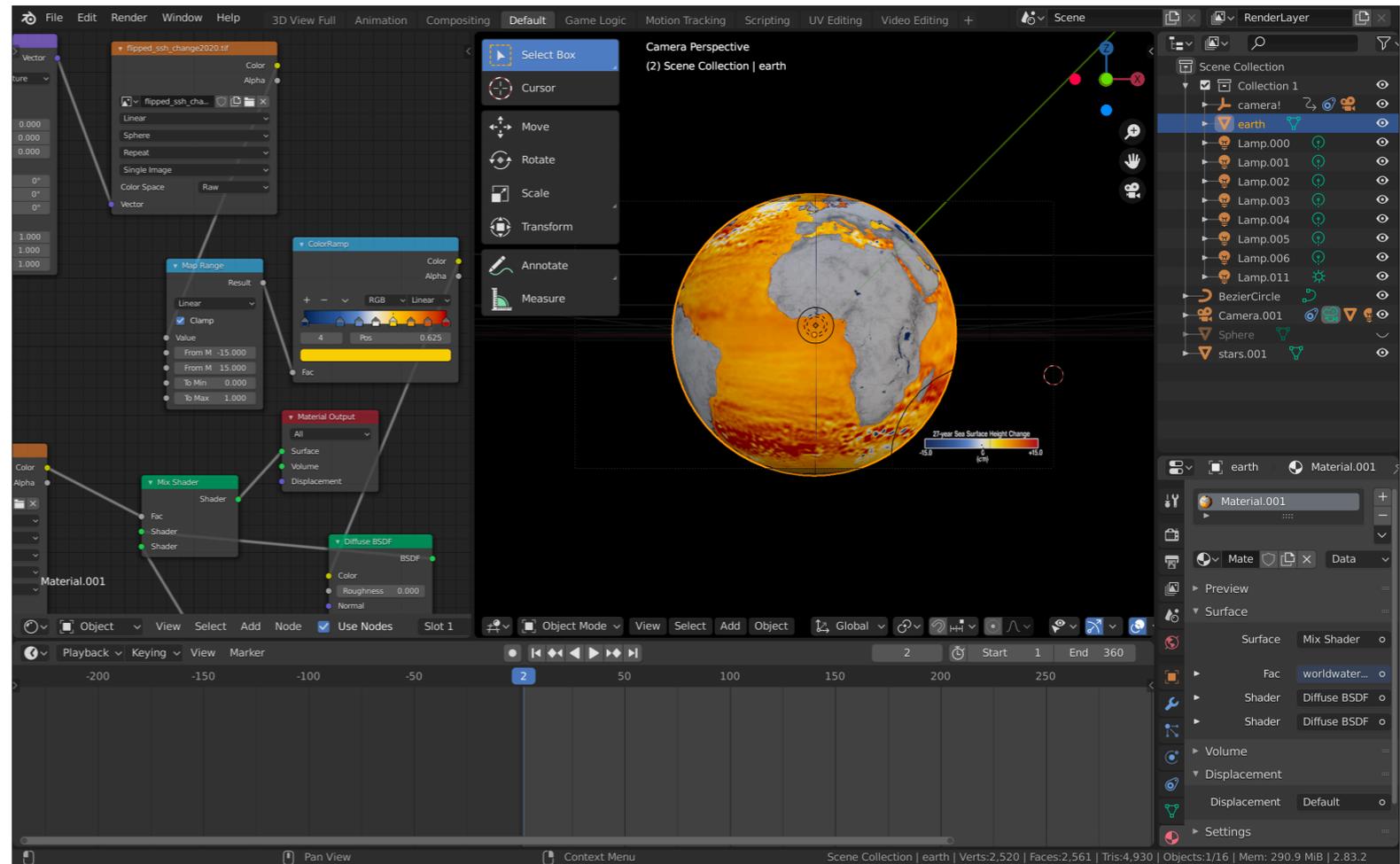


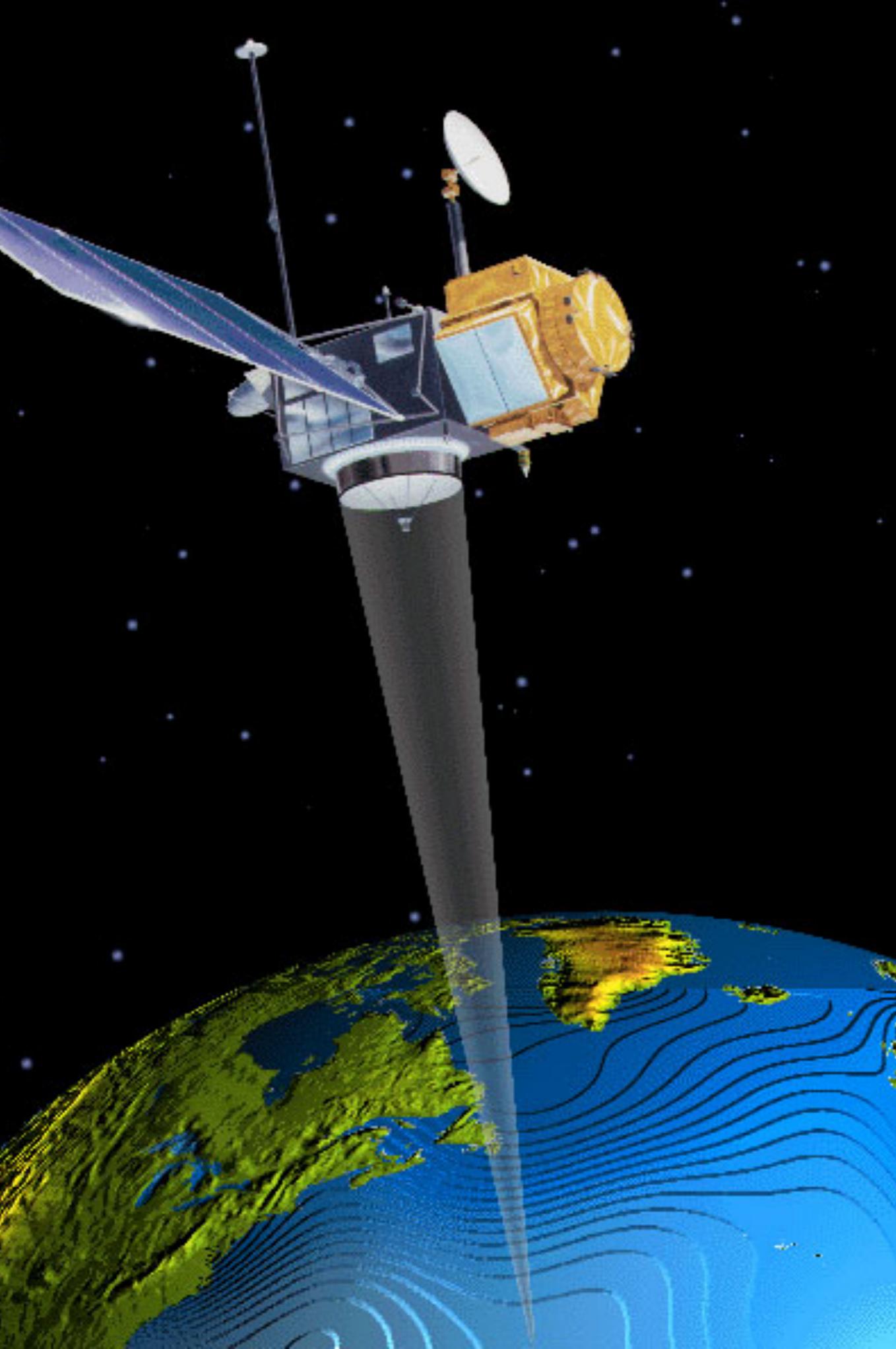
SCIENTIFIC VISUALIZATION STUDIO (SVS)

- Goddard Space Flight Center
- Work closely with scientists to create visualizations, animations, and images in order to promote a greater understanding of Earth and Space Science at NASA
- Conceptual Image Labs
- Goddard Media Studios

WHAT IS BLENDER?

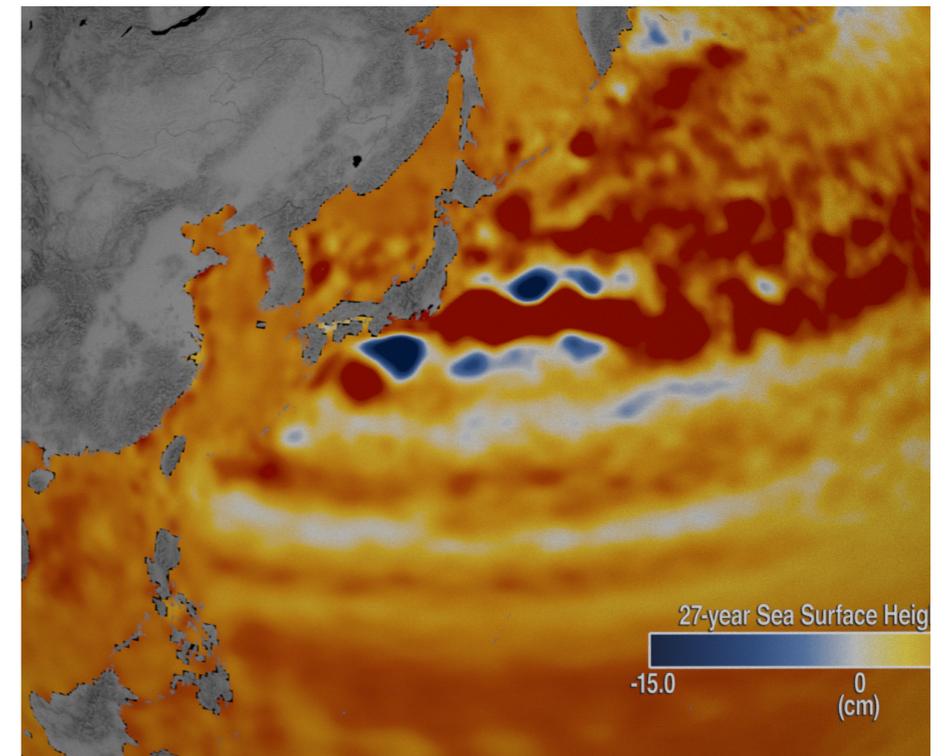
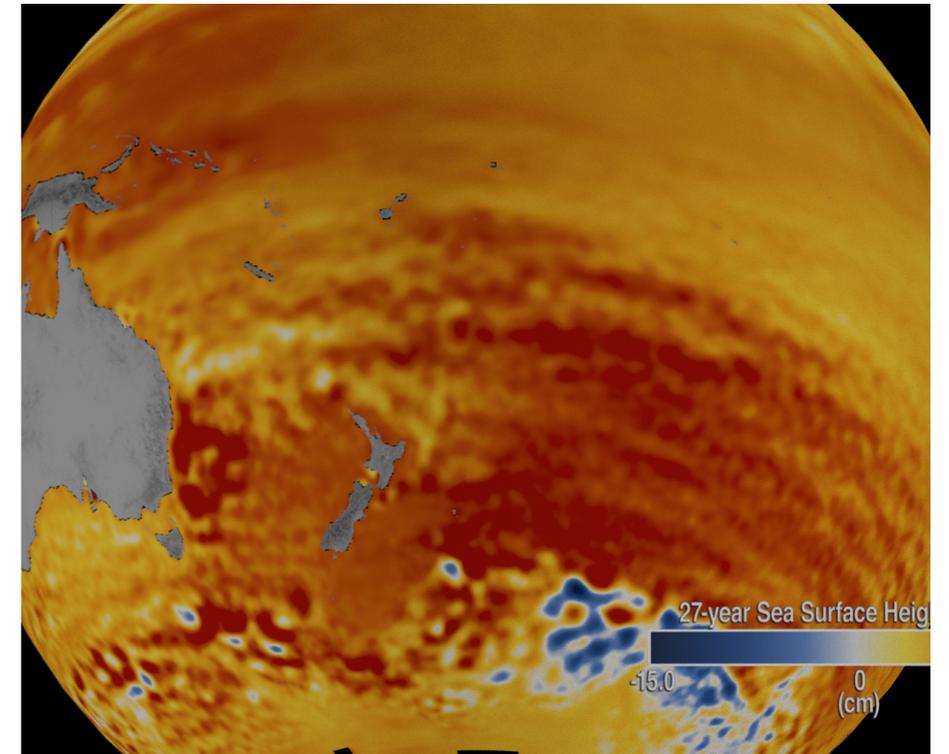
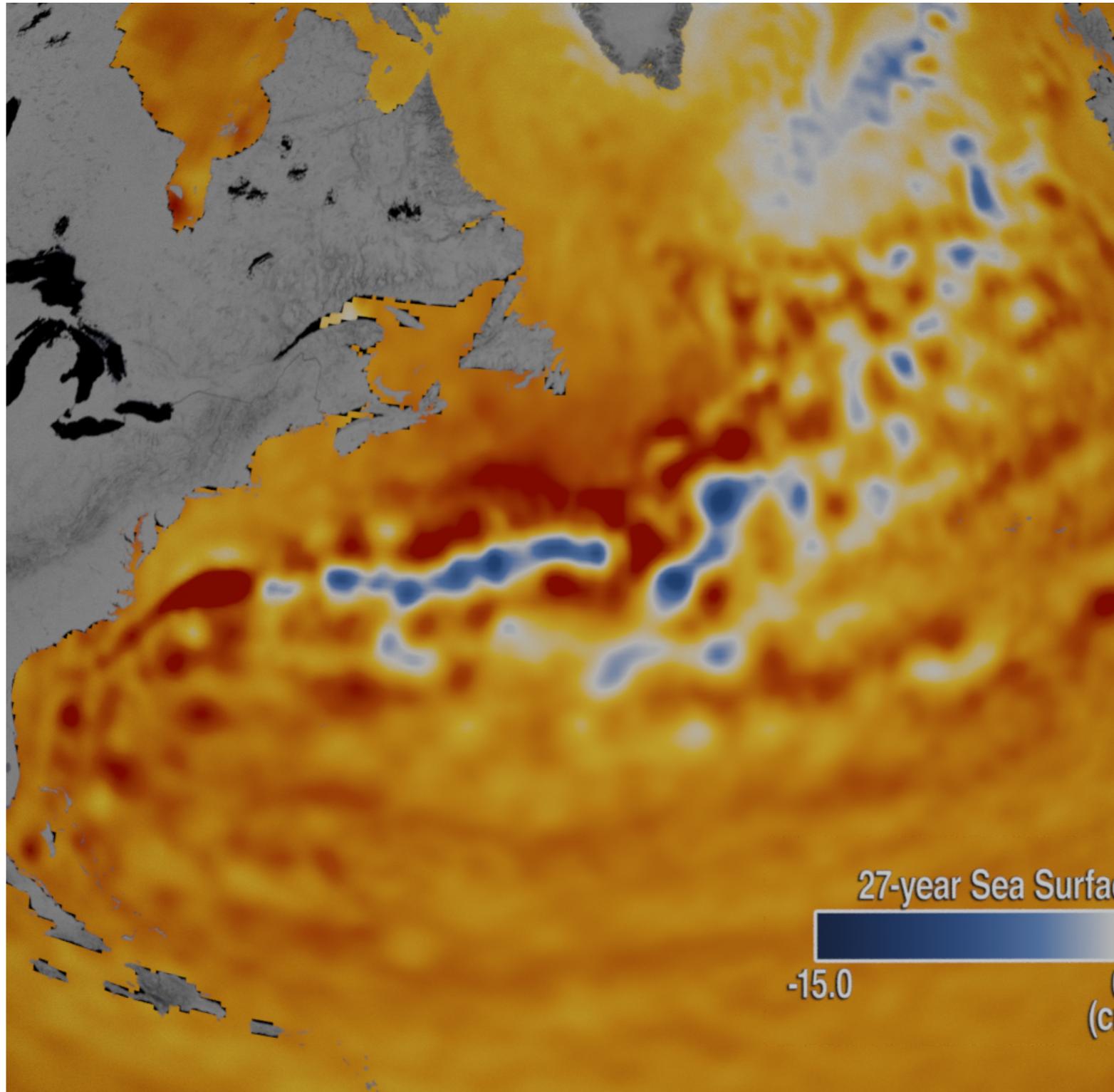
- Open source 3D Graphics software
- Similar but different to Maya and Renderman



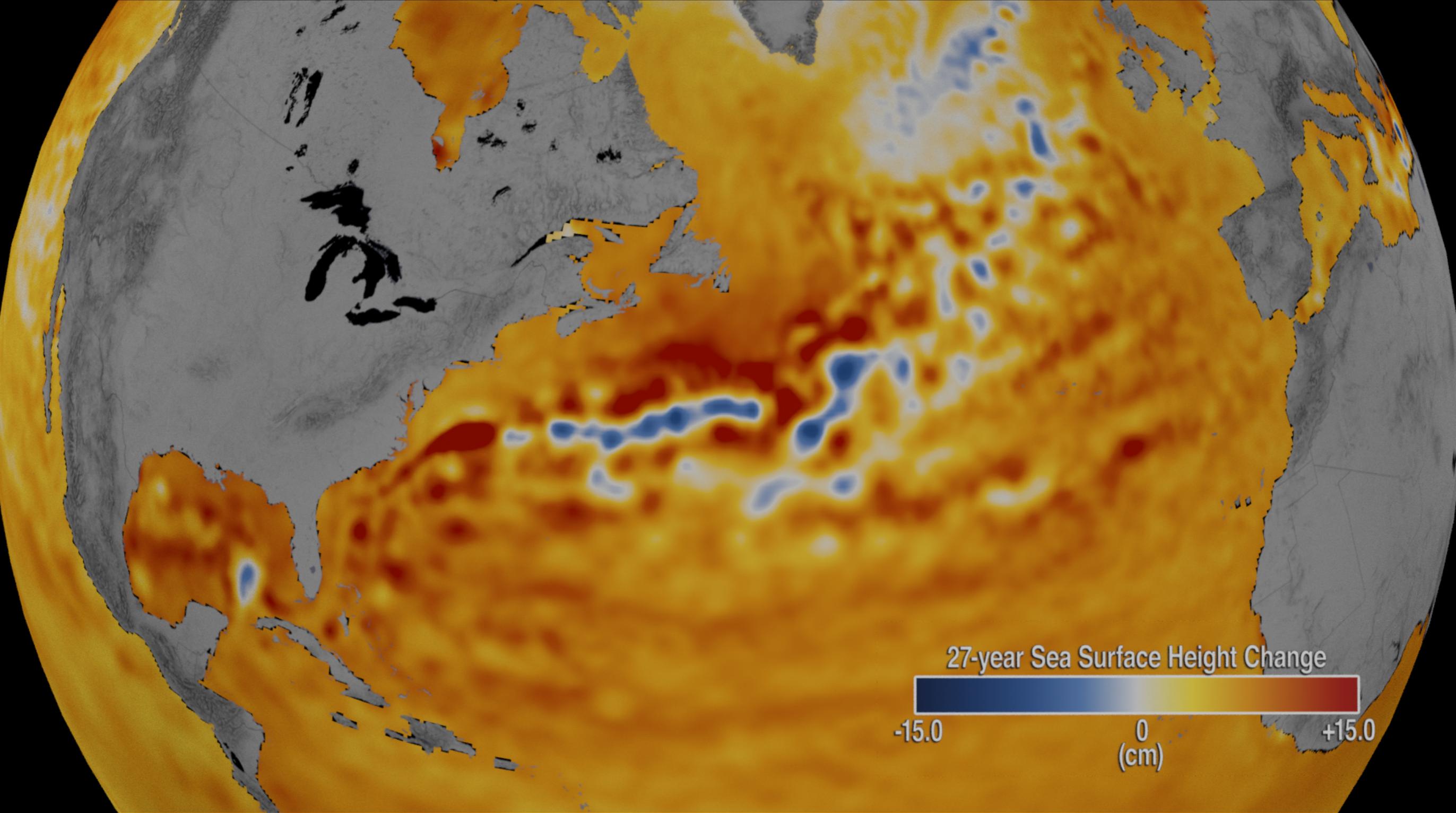


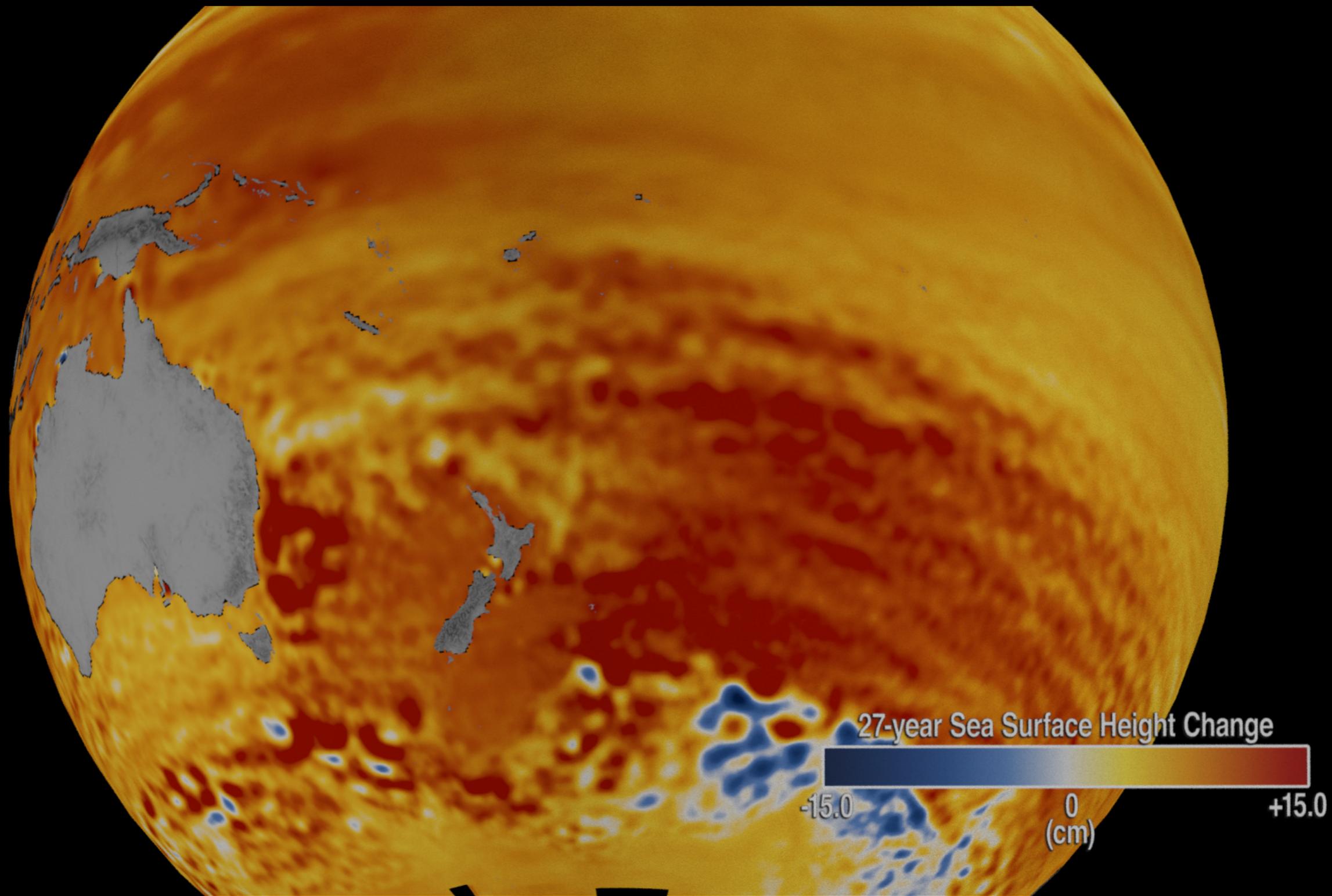
UPDATING A VISUALIZATION

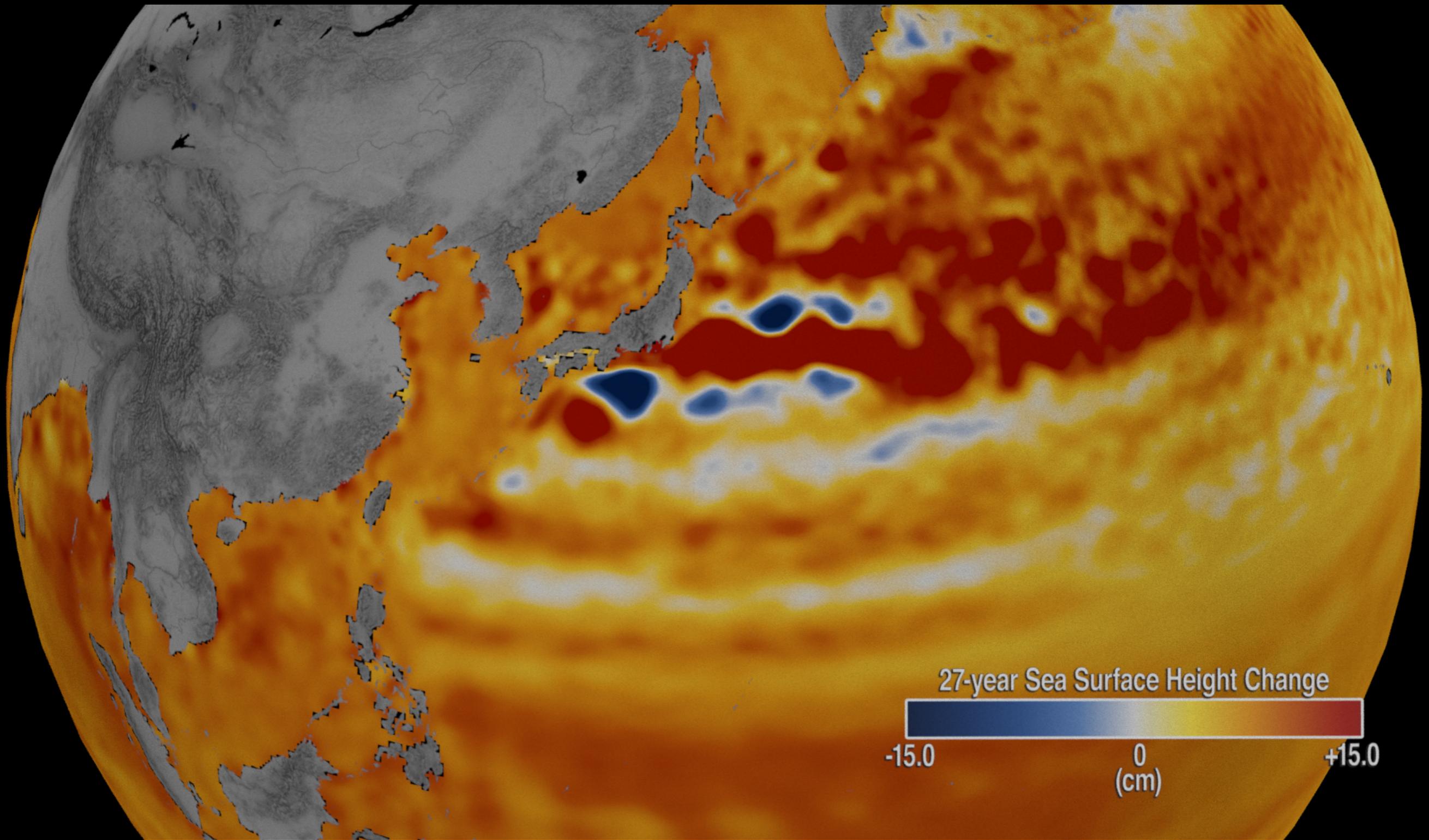
- Updating a previous animation of sea level rise
- The new animation is using data collected from TOPEX/Poseidon, Jason-1, Jason-2, and Jason-3 satellites
- Joint US and European collaboration (NASA, NOAA, CNES, EUMETSAT)



Rendered Images of 27-year Sea Level Rise - TOPEX/JASON









WHAT NEXT?

- ▶ NASA Sea Level Rise Campaign in November 2020
- ▶ European Space Agency is continuing the TOPEX/Poseidon and Jason series by launching the *Sentinel-6 Michael Freilich* Satellite
- ▶ Michael Freilich was the Director of NASA's Earth Science Division and a career oceanographer

WHY THIS MATTERS

- Sea level has been rising over the past century, but has accelerated in recent decades
- Ice-sheet loss at both poles (Greenland and Antarctica) is a huge contributor to rising sea levels
- Rising sea levels leads to flooding, coastal habitat loss, stronger storms (2020 Atlantic Storm season)

“

Life on this earth first emerged from the sea. And as the polar ice melts and sea level rises, we humans find ourselves facing the prospect that once again we may quite literally become **ocean**.

-John Luther Adams