



SOS Education Forum



National Oceanic and Atmospheric Administration
U.S. Department of Commerce

November 9, 2022





Agenda

- Creating datasets in Canva - Patrick Rowley, James E Richmond Science Center
- How to add Live Program datasets to your playlists; and the GOODS that are secretly hiding in the Live Programs. - Hilary, NOAA SOS
- Sneak Preview of a new tsunami dataset we are making showing the tsunami generated from the meteor that killed the dinosaurs! - Eric Hackathorn, NOAA SOS



Science On a Sphere® (SOS) and SOS Explorer® (SOSx) are unique and captivating educational tools that are used in science museums, visitor centers, zoos, aquariums, laboratories, and schools around the world. The Science On a Sphere® team and the SOS Users Collaborative Network are continually looking for ways to expand the educational capabilities of SOS and SOSx.

The educational material created to support SOS and SOS Explorer® is available here, including scripts, lessons plans, and evaluations. This is a growing section, so please check back often!



Phenomenon-based Learning

Use datasets from NOAA's Science On a Sphere® SOS Explorer® to help explore and explain science phenomena.



SOS Education Forum

A group of educators within the SOS Collaborator's Network who meet quarterly to discuss primarily how SOS can effectively educate K-12 and beyond.



SOS Resources

Resources for teachers, docents, and any educator working with Science On a Sphere®



SOS Live Programs

Live Programs are carefully crafted presentations that use SOS datasets to tell a story and teach audiences about a specific topic such as ocean currents or extreme weather events.



SOS Explorer® Resources

Links to educational resources specifically for SOS Explorer® and SOS Explorer® Mobile.



SOS Explorer® Tours

Educational activities created for a deeper dive into SOS Explorer® Mobile.

Agenda

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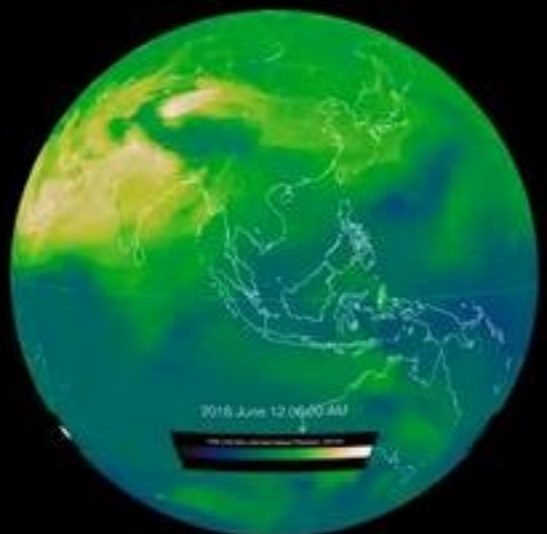
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Exploring Atmospheric Dust & Climate

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Details

Added to the Catalog

28 June 2022

Available for

SOS

Categories

Air: Live Programs

Water: Live Programs

Keywords

Atmosphere, Atmospheric Dust, Chlorophyll, Climate, Iron Fertilization, Nitrate, Ocean, Phytoplankton

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[Dataset Files \(ETP\)](#)

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Description

This facilitated program, developed in conjunction with the NSF funded project *PIRE: DUST stimulated draw-down of atmospheric CO2 as a trigger for Northern Hemisphere Glaciation*, provides an opportunity to learn about the connections between the Earth system and climate. lofted into the atmosphere, enters the

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Description [🔗](#)

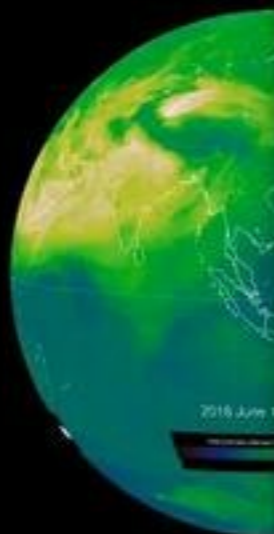
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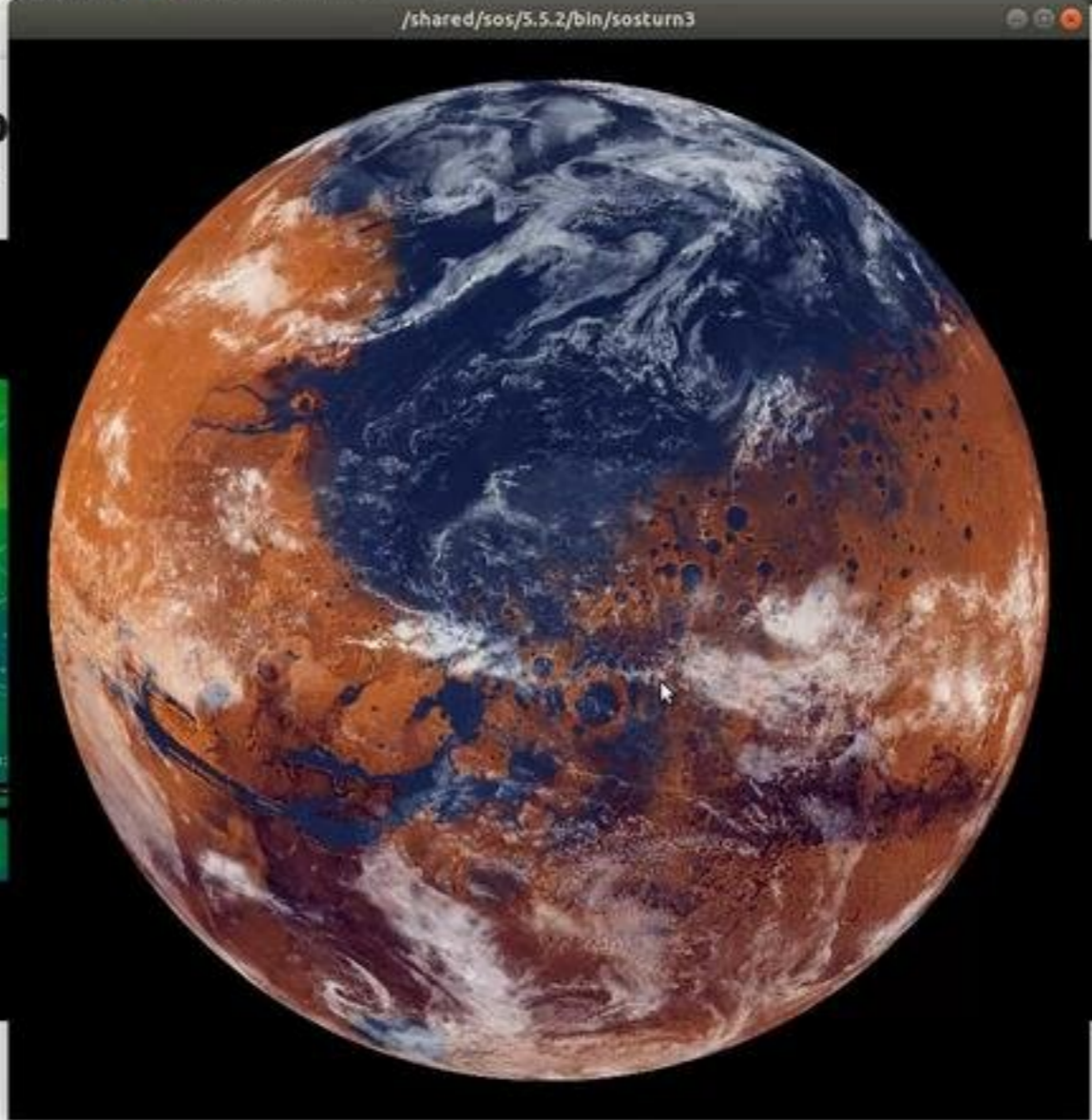


Exploring Atmo

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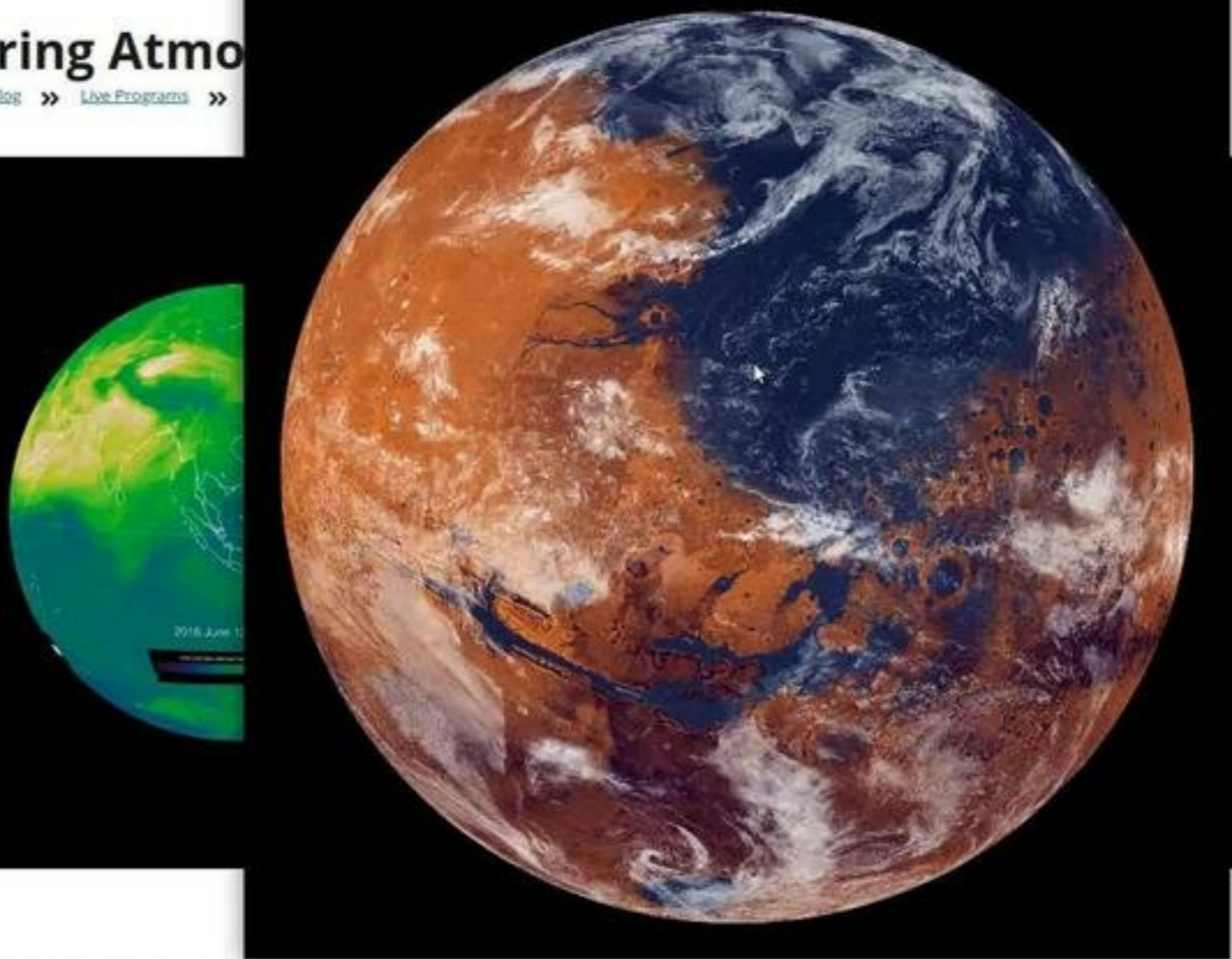
2016 June 11



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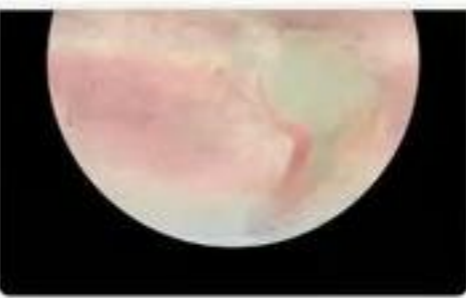
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Energy Poverty

SOS

Added on June 5, 2017

Exploring Atmospheric Dust & Climate

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Added on June 28, 2022

Extreme Events - A Water Falls Docent Script

SOS

Added on June 5, 2015

Feats and Footprints: Our Relationship with

Forecast

Cyclone Live Program

asts


sos.noaa.gov/catalog/live-programs/?category=Space



Earth, our Goldilocks Planet Live Program

SOS

Added on October 28, 2013



G is for Galaxy

SOS

Added on June 20, 2014



Invisible Mars

SOS

Added on May 9, 2017



Mega Moons

There's N

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The Chicxulub crater is an impact crater buried underneath the Yucatan Peninsula in Mexico. Its center is offshore near the community of Chicxulub, after which it is named.

It was formed slightly over 66 million years ago when a large asteroid, about ten kilometers (six miles) in diameter, struck Earth. The crater is estimated to be 180 kilometers (110 miles) in diameter and 20 kilometers (12 miles) in depth.

The date of the impact coincides with the Cretaceous–Paleogene boundary (commonly known as the K–Pg or K–T boundary). It is now widely accepted that the resulting devastation and climate disruption was the cause of the Cretaceous–Paleogene extinction event, a mass extinction of 75% of plant and animal species on Earth, including all non-avian dinosaurs.



October 19, 2022

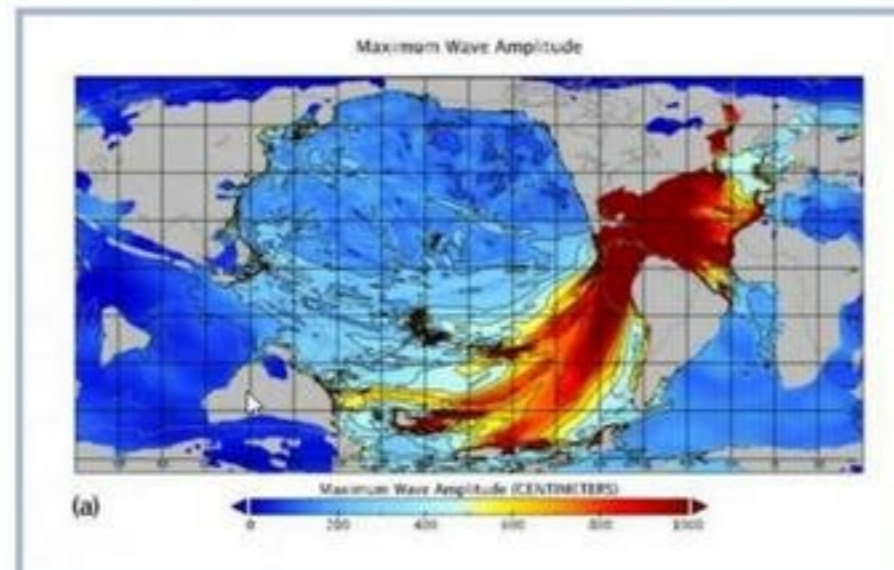


Chicxulub Asteroid Impact

A New Dataset for SOS

The Backstory

First global tsunami simulation of the Chicxulub Asteroid Impact 66 million years ago



Maximum tsunami wave amplitude, in centimeters, following the asteroid impact 66 million years ago. Credit: From Range et al. in *AGU Advances*, 2022.

our understanding of the geology of this period.

October 04, 2022

The 6+ miles-wide asteroid that struck Earth 66 million years ago wiping out nearly all the dinosaurs and roughly three-quarters of the planet's plant and animal species also triggered a megatsunami with mile-high waves that new research confirms its global impact.

A new study, published today in the journal *AGU Advances*, presents the first global simulation of the Chicxulub asteroid impact tsunami. An international group of researchers from academic institutions and government agencies, including NOAA's Pacific Marine Environmental Lab and Geophysical Fluid Dynamics Lab combined numerical modeling and analysis of geological records to recreate global impact of the tsunami generated by the impact.

Simulation of the megatsunami triggered by the asteroid has provided unlikely verifications for numerical models and improves



<https://pmel.noaa.gov/news-story/first-global-tsunami-simulation-chicxulub-asteroid-impact-66-million-years-ago>

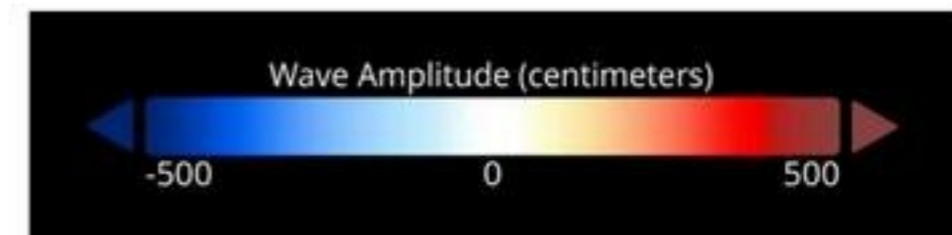
The Dataset

Highlights

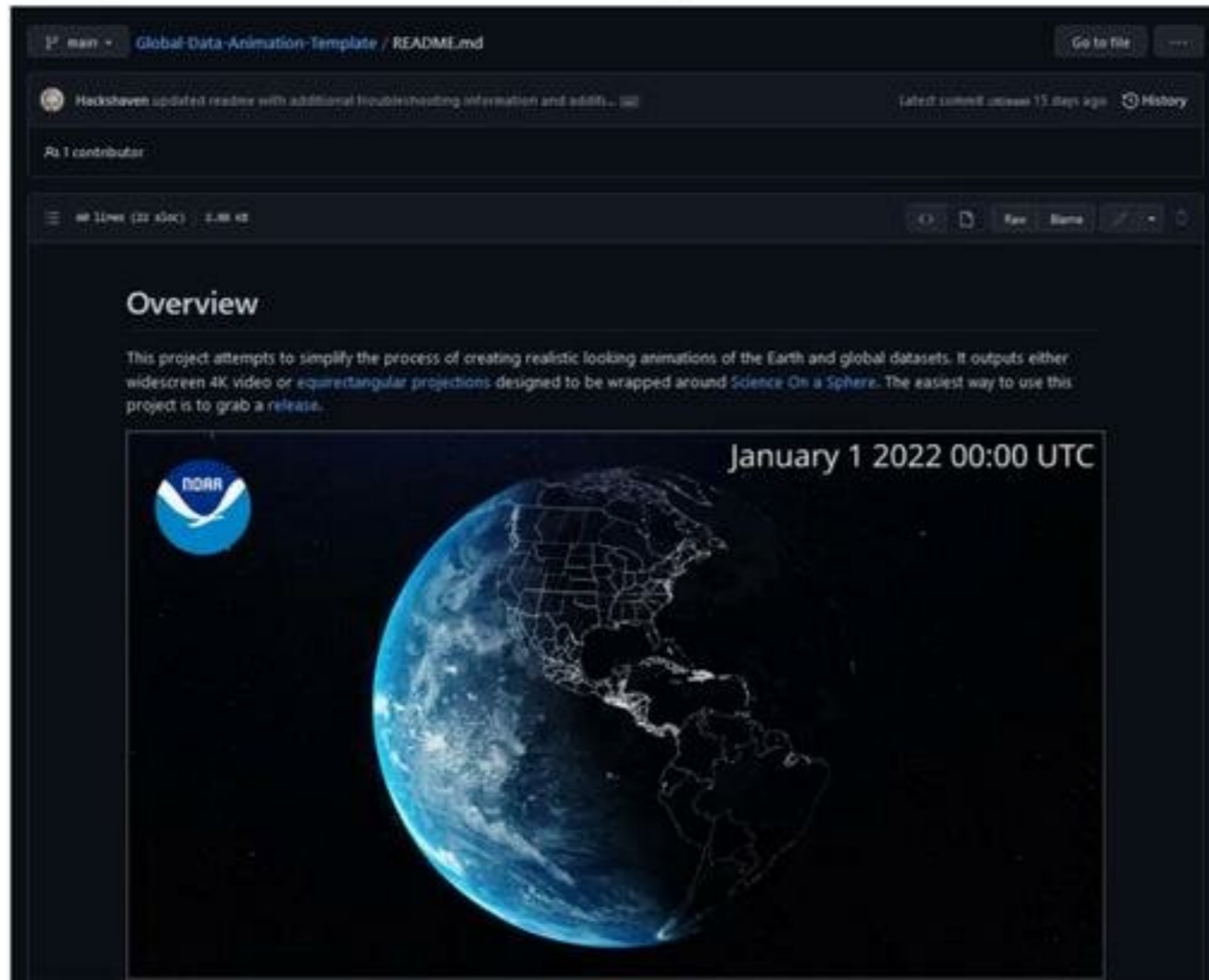
- At impact the wave was 1.2 km tall
- The entire gulf of Mexico significantly drained and re-flooded over the course of 48 hours
- You can make out the outline of where Florida will eventually appear in the wave patterns



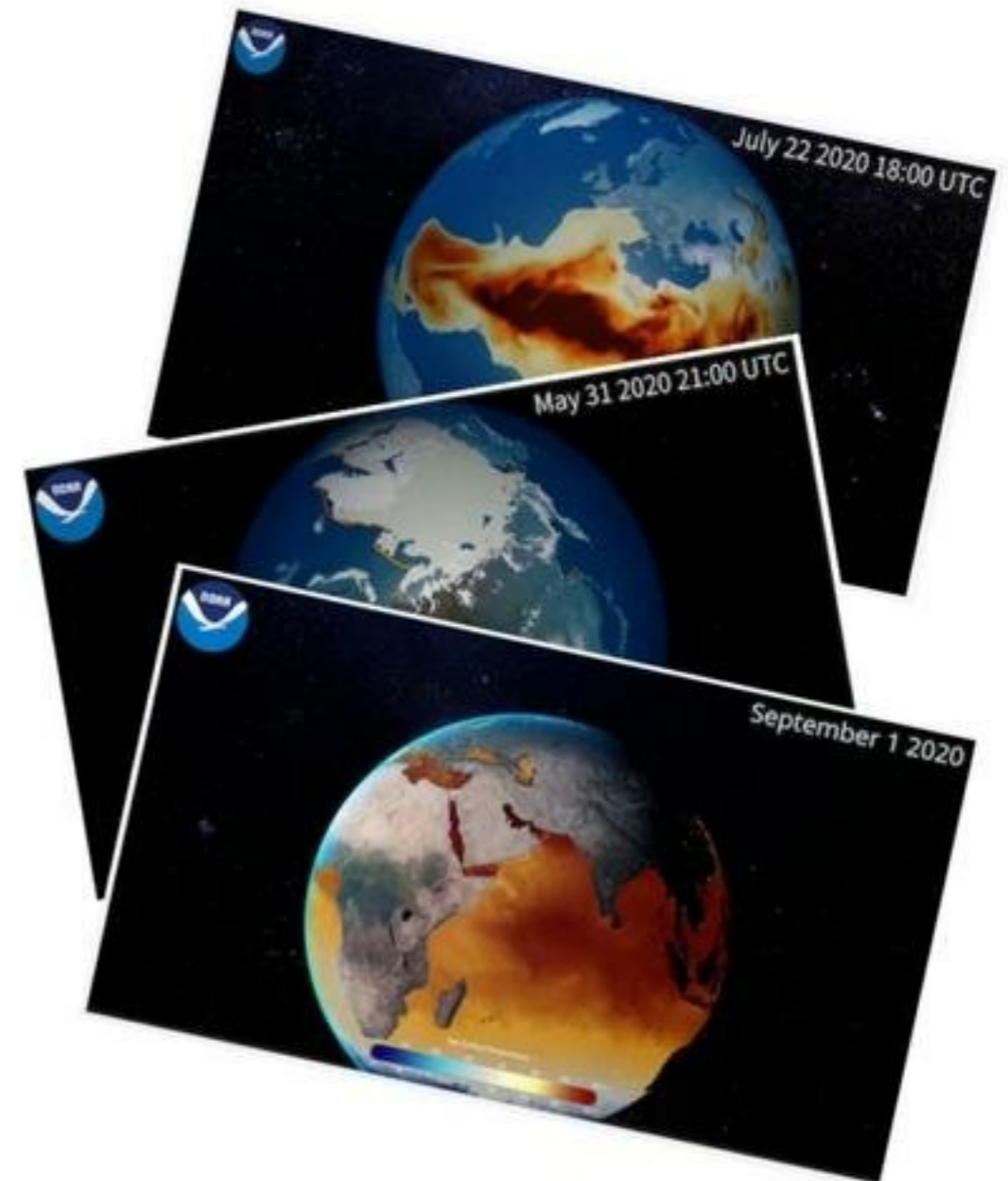
The arrows on either side of the colorbar indicate that values sometimes exceeded those seen in the label.



After Effects Template

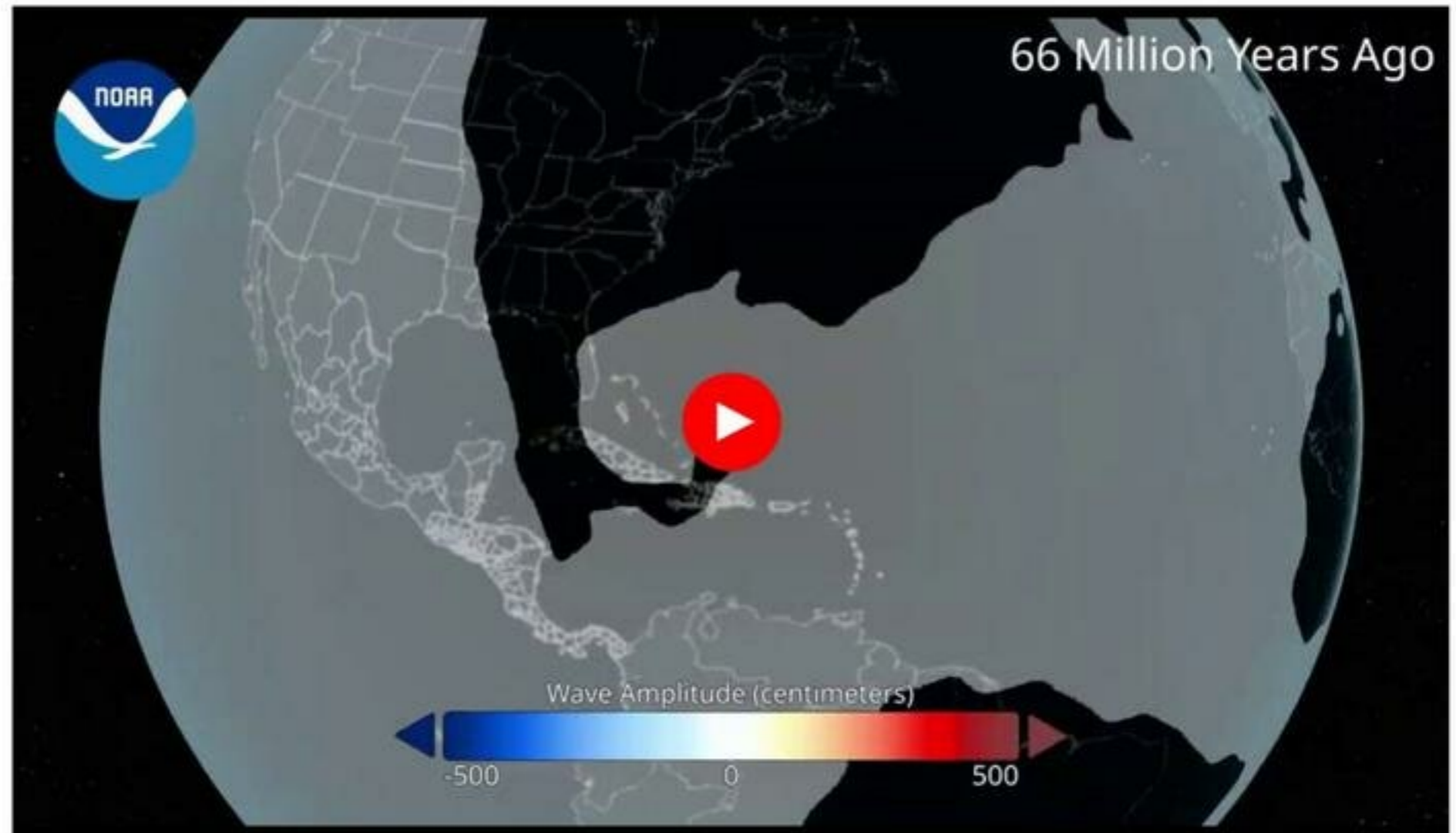


<https://github.com/NOAA-GSL/Global-Data-Animation-Template/>



<https://gsl.noaa.gov/focus-areas/data-visualization>

Impact Animation



File Presentation Dataset Help

New Open... Save

Mode Presentation Dataset

CURRENT Name: About Global Animation Description

PLAYBACK Name (required) Beth's Movie

0 Major category

Sub category


Keywords

Creator

Publisher

URL

Select dataset thumbnail



Remove

Add Layer PIP Label Caption Audio

Time (seconds) 0 Frame # 0

Dataset:

Add Layer

Select a File (image or movie) or a Directory (of images).

File Directory Cancel

Desktop icons: Start-SOS, SOS Utilities, SOS Visual Playlist Editor, SHARED, Trash, trans_new, 4096.jpg, composite, 4096, Code42 CrashPlan

Desktop icons and sidebar:

- SOS
- Start SOS
- SOS Utilities
- SOS Visual Playlist Editor
- SHARED
- Trash
- trans_new
- 4096.jpg
- composite
- 4096
- 4096.mp4
- Code42
- CrashPlan

NOAA SOS Visual Playlist Editor Version: 5.5.1

Mode: Presentation | Dataset

File Presentation Dataset Help

- New (Alt+N)
- Open... (Alt+O)
- Save (Alt+S)
- Save As... (Alt+Shift+S)
- Save As Variation... (Alt+V)
- Update Catalog (Alt+U)
- Update Translations (Alt+T)

PLAYBACK: 0

Keywords:

Creator:

Publisher:

URL:

Select dataset thumbnail

 Remove

Time (seconds): 0 | Frame #: 0

Layer: precip.mp4

Dataset: /shared/sos/media/site-custom/beths-movie/playlist.sos