



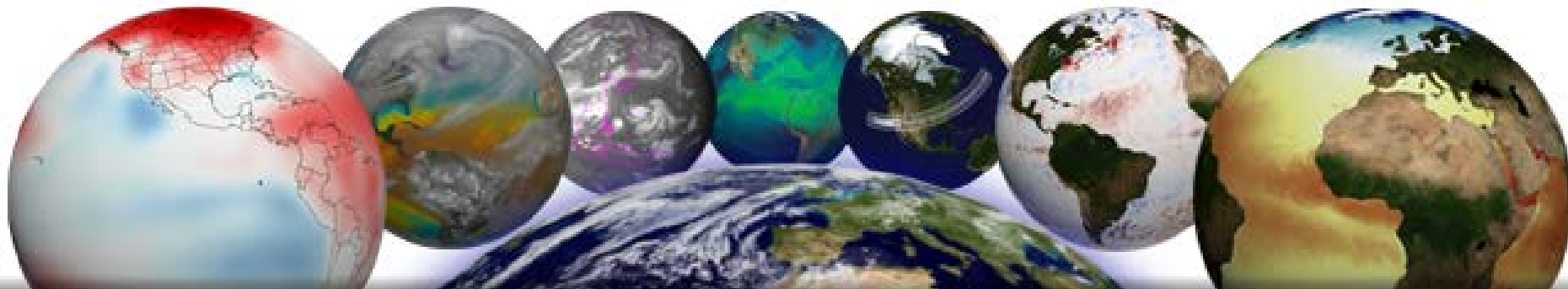
ClimateBits

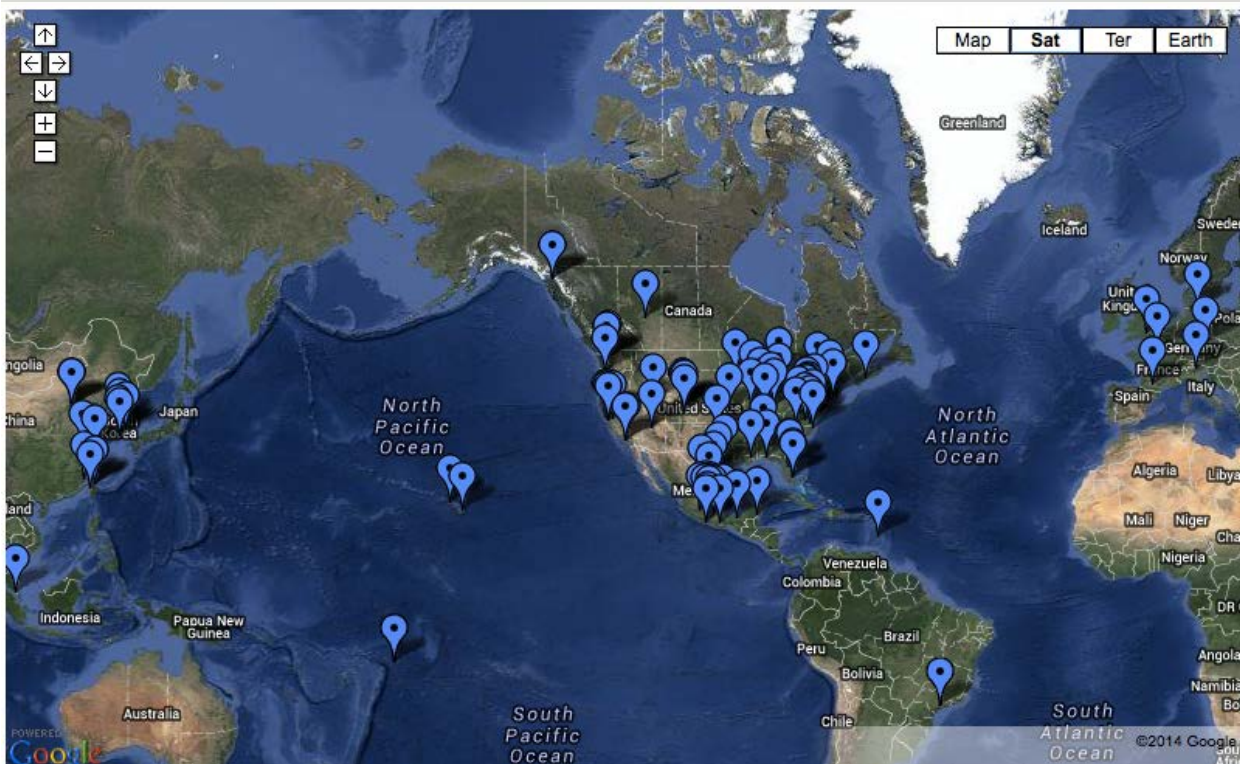
Earth Science concepts made simple

Stephanie Schollaert Uz and Phil Arkin

Goal:

A general public who understands current climate issues and the importance of satellite data in monitoring the Earth System





- 110+ SOS sites around the world
- Museums, visitors centers, universities, and K-12 school systems
- Estimated 35 Million visitors per year see SOS
- Variety of programming: autorun, live shows by science staff or non-science staff

What currently exists for SOS?

- large and growing catalog of datasets managed by NOAA ESRL in Boulder
- global satellite and model data
- autorun movies
- using the sphere for science, art
- importance of storytelling



The screenshot shows the NOAA Science On a Sphere website. At the top, there are navigation tabs for Home, Getting SOS, Education, Datasets, and Support. The main header features the NOAA logo and the text "Science On a Sphere® National Oceanic and Atmospheric Administration". Below the header is a search bar and navigation links for About, Locations, Gallery, and Contact. The central content area is a large grid of 40 circular globe thumbnails, each representing a different dataset. The text "Select from over 400 datasets" is visible at the bottom of this grid. To the left of the grid are vertical labels for "SOS Locations", "First Steps", and "Data Catalog". To the right are labels for "Scripts & Lesson Plans". Below the main content area are two white boxes: "What is Science On a Sphere®?" and "SOS News". The "SOS News" box lists several news items from August 2014, including "Communicating science: NOAA's visualization technologies", "HS science center opens with fanfare", "Animated spino-saurus, glowing orbs and much more at VITM", and "GSD's SOS Team at Users Collaborative Network Workshop". A "See more" link is at the bottom right of the news box.

<http://sos.noaa.gov>

What do SOS sites want?

- fresh, relevant SOS content, *current news items even better*
- engaging format, easy for the public to understand
- autorun movies - docents not available in all locations and may lack background knowledge
- investigations to accompany SOS and enhance learning with hands-on component

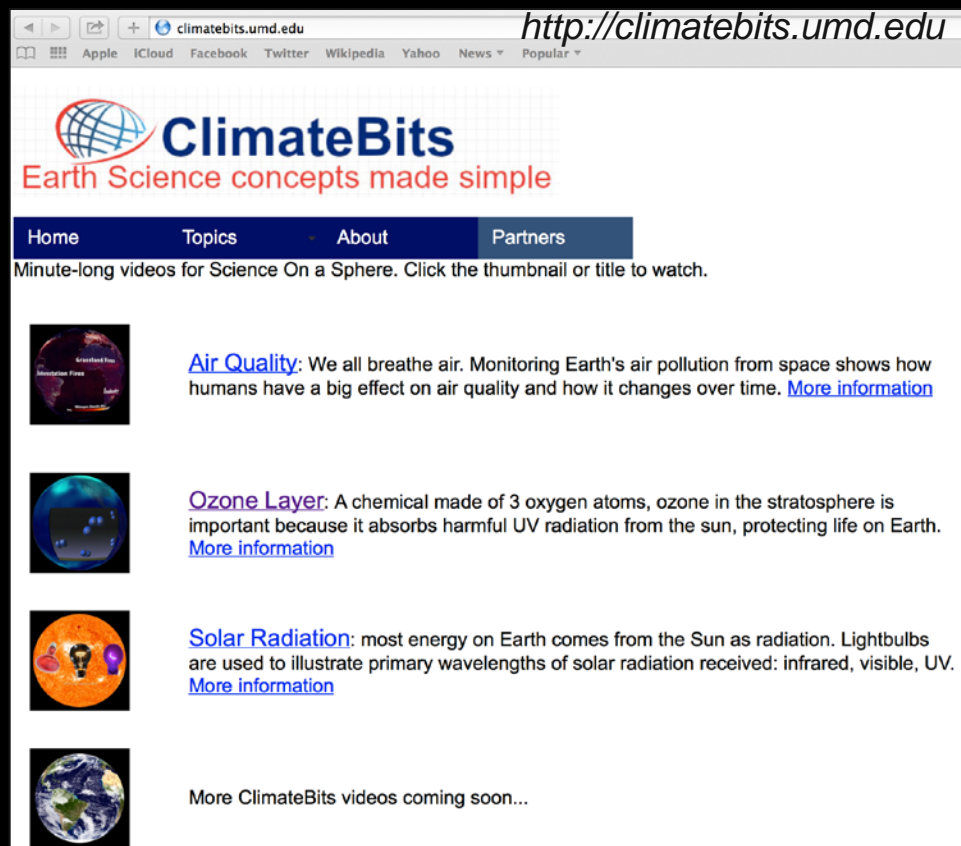


Maryland Science Center, Baltimore MD

Our answer?

Short videos to explain global phenomenon and relevance to society

- Collaboration between UMD, NOAA, NASA
- Play on SOS or as a web reference for docents, teachers, public, policymakers
- Evaluation guides development
- Supporting Climate Central's May, 2014 Climate Matters Day at the Maryland Science Center
- Entering the DC Environmental Film Festival March, 2014
- Possible inclusion in TV weather segments




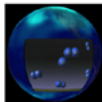
http://climatebits.umd.edu

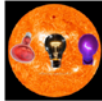
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Home Topics About Partners

Minute-long videos for Science On a Sphere. Click the thumbnail or title to watch.

- 

Air Quality: We all breathe air. Monitoring Earth's air pollution from space shows how humans have a big effect on air quality and how it changes over time. [More information](#)
- 

Ozone Layer: A chemical made of 3 oxygen atoms, ozone in the stratosphere is important because it absorbs harmful UV radiation from the sun, protecting life on Earth. [More information](#)
- 

Solar Radiation: most energy on Earth comes from the Sun as radiation. Lightbulbs are used to illustrate primary wavelengths of solar radiation received: infrared, visible, UV. [More information](#)
- 

More ClimateBits videos coming soon...

Example: Air Quality for NASA (Aura 10th anniversary)

What does the public learn from Science On a Sphere?

**In a case study, groups who saw SOS gained certain concepts better
(e.g. atmospheric and oceanic circulation, changes over time)**

JOURNAL OF GEOSCIENCE EDUCATION 62, 000–000 (2014)

The Effectiveness of Science On a Sphere Stories to Improve Climate Literacy Among the General Public

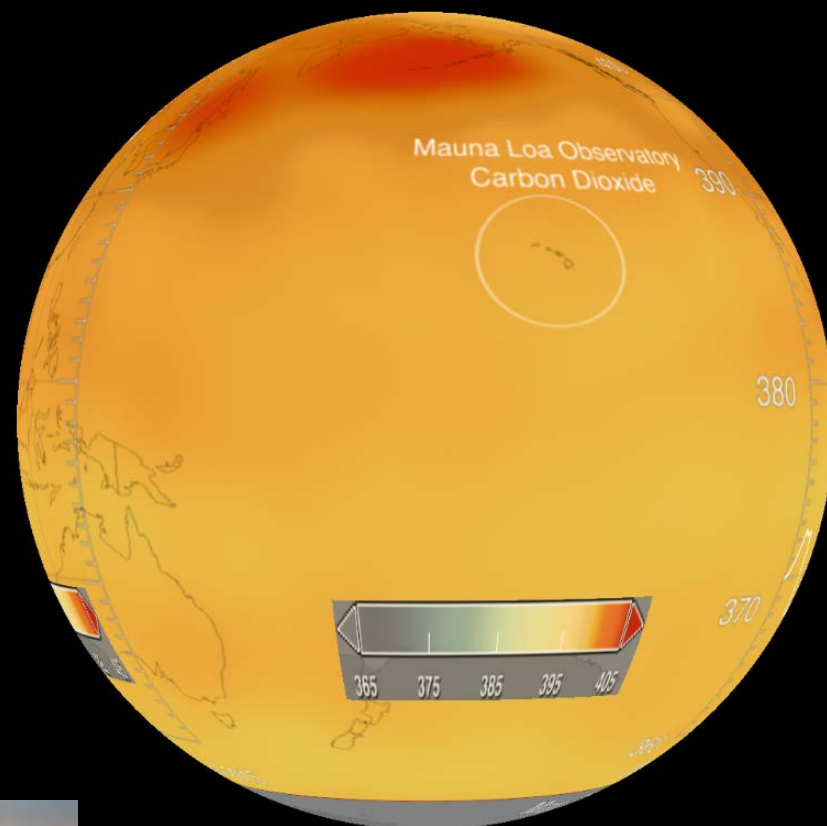
Stephanie Schollaert Uz,^{1,a} Wendy Ackerman,² Jim O’Leary,² Britta Culbertson,³ Patrick Rowley,⁴ and Phillip A. Arkin¹

ABSTRACT

Engaging the general public on climate topics and deepening their understanding of key discoveries by the Earth Science community requires a collaborative approach between scientists, developers, and museum educators to converge on the most effective format. Large Science On a Sphere (SOS) displays of Earth attract attention to global data at museums worldwide, yet just looking at raw data does not generally lead to new insights by the public. Working closely with the Maryland Science

What else?

- Additional ClimateBits in preparation
 - seasons
 - Intertropical Convergence Zone
 - monsoons
 - ozone hole
 - UV index
 - acid rain
 - carbon sources and sinks

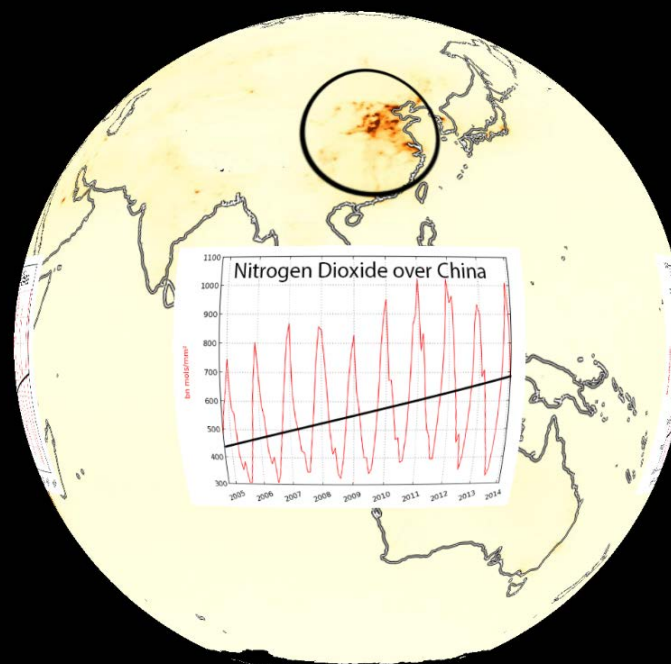
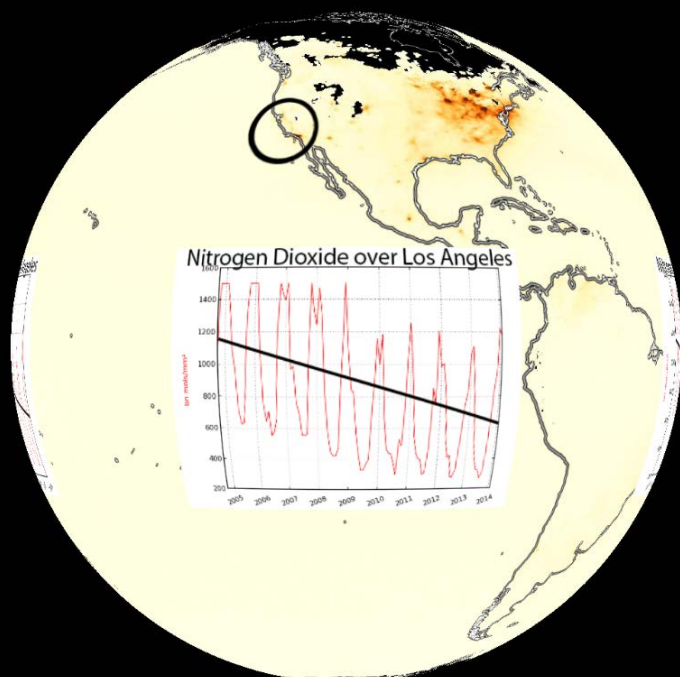


Mauna Loa Observatory

What else?

Creating hands-on investigations in collaboration with NASA GSFC using NESO (NASA Earth & Space Observations):

- works with data displayed on SOS using an iPad app
- answer questions about SOS data: How does it vary over time and space?
- data analysis tool (point, line, region)



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Please contact us if you would like to highlight your research or data sets in ClimateBits

Thank you!

