



FEATURE

SOS Releases Solar Eclipse Datasets

Just in time for the August 21 total solar eclipse, NOAA has released two new datasets for Science On a Sphere® showing the path and coverage of the moon's shadow as it passes in front of the sun. ESRL's GSD Science On a Sphere® (SOS) team created one dataset; NASA's Goddard Space Flight Center, which has an SOS on display in their visitor center, created the other. When viewed on a flat map, the path of the total eclipse seems to arc, but when viewed on Science On a Sphere®, it clearly follows a straight line. The last time a total solar eclipse was visible in the continental United States was 1979, and the 2017 eclipse is the first coast-to-coast total eclipse track since 1918.

SPOTLIGHT

Experimental model predicted tornado's path hours, not minutes, before it formed

This spring, a new experimental Warn on Forecast model, developed by the NOAA National Severe Storms Laboratory, predicted the path of a dangerous tornado 90 minutes before it formed, allowing the NWS to give ample warning to Elk City, Oklahoma. The Warn on Forecast runs off of GSD's HRRR, and is a great example of how research is advancing forecasting skill.

Two degrees F already baked in: New study measures the "climate commitment" of greenhouse gas emissions to date

A new study in Nature Climate Change by CIRES/PSD's Robert Pincus and a co-author from the Max Planck Institute uses observations to quantify for the first time the warming to which the planet is already committed due to anthropogenic greenhouse gas emissions. "This 'committed warming' is critical to understand because it can tell us and policy makers how long we have, at current emission rates, before the planet will warm to certain thresholds," said Pincus.

Alaska's North Slope snow-free season is lengthening

On the North Slope of Alaska, snow is melting earlier in the spring and arriving later in the fall, according to a new study by researchers from CIRES/PSD and ESRL/GMD. Atmospheric dynamics and sea ice conditions are behind this lengthening of the growing season, the scientists found, and the consequences are far reaching--including birds laying eggs sooner and iced-over rivers flowing earlier.

IN OUR COMMUNITY AND NEWS YOU CAN USE

- Accurate depictions of clouds is essential for weather and climate modeling, but it takes an inordinate amount of computational resources to make them behave realistically. Now, a team from CIRES, ESRL/ CSD, and the University of Wisconsin-Milwaukee has proposed a solution and, in a test, their new clouds even produced credible drizzle.
- Later this month, eight CIRES and NOAA researchers from ESRL's GMD are attending and presenting at two international conferences: *19th WMO/IAEA Meeting on Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques* (GGMT-2017), and the *10th International Carbon Dioxide Conference*.
- NIDIS welcomes two new regional drought information coordinators: Elizabeth Weight and Amanda Sheffield.
- From mid-August to mid-September scientists from ESRL's CSD will ship instruments to Palmdale, CA, and integrate them onto the NASA DC-8 aircraft. This activity will be the prelude to the third deployment for the Atmospheric Tomography (ATom) mission, a circumpolar campaign to map the composition of the background atmosphere.

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- From August 7–18, CIRES/PSD’s Chris Cox and Sara Morris will deploy instruments for the De-Icing Comparison Experiment (D-ICE) at NOAA’s Atmospheric Baseline Observatory in Utqiagvik (formerly Barrow), Alaska. The purpose of this yearlong study led by PSD and GMD (in collaboration with national/international institute and industry partners) is to test strategies developed by research institutes and industry for preventing radiometer icing.
- ESRL/GSD SOS team released their 2.0 version of SOSx Lite, a free version of SOSx.
- Feeling tired or weak from the heat? Move to a cool place and drink water. Get tips from the NWS on heat exhaustion.

AWARDS

- The AMS and AGU recently announced their 2017 awards and Fellows. NOAA also announced the 2017 NOAA Administrator’s Award and Technology Transfer Award recipients.

TRENDING

SWPC’s July 14 Facebook post predicting a G2 geomagnetic storm from a coronal mass ejection reached the biggest audience to date, due in part the possibility of a rare “Northern Lights” show in southern regions. The FB post reached more than 52K people and the Tweet had some 6,000 impressions.



NOAA NWS Space Weather Prediction Center ✓

July 14 at 7:15am · 🌐

Region 2665 erupted with an M2 (R1-Minor radio blackout) level, long-duration flare at 14/0209 UTC. This event also resulted in the arrival of energetic protons and an S1 (Minor) radiation storm began at 14/0900 UTC. The flare was associated with an asymmetric-halo coronal mass ejection (CME). Analysis indicates the CME is Earth-directed and modeling shows an arrival of the CME mid to late on the July 16, 2017 UTC-day. A G2 (Moderate) geomagnetic storm watch has been issued for the 16 and 17 July UTC-days in anticipation of CME arrival. Keep checking the nation’s official source for space weather forecasts and warnings swpc.noaa.gov for the latest information.



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BLDC: Boulder Labs Diversity Council
BOCC: Boulder Outreach and Coordinating Council
CCOG: Center for Coasts, Oceans, and Geophysics
CSD: Chemical Sciences Division
CWC: Center for Weather and Climate
EEO: Equal Employment Opportunity
ESRL: Earth System Research Laboratory
GMD: Global Monitoring Division
GSD: Global Systems Division
NCEI: National Centers for Environmental Information
NESDIS: National Environmental Satellite, Data, and Information Service

NIDIS: National Integrated Drought Information System
NOAA: National Oceanic and Atmospheric Administration
NOS: National Ocean Service
NWS: National Weather Service
OAR: Office of Oceanic and Atmospheric Research or NOAA Research
PSD: Physical Sciences Division
SWPC: Space Weather Prediction Center
WFO: Weather Forecast Office