CERES Meeting (Tuesday)

Review Status of CERES Instruments and Data Products:
- State of CERES
- Earth Venture Continuity-1 (EVC-1) Update
- CERES Terra, Aqua, S-NPP, NOAA-20 Instrument Calibration Update
- MODIS & VIIRS Cloud Algorithm & Validation Status
- ADM, SARB and TISA Working Group Reports
- FLASHFLUX Update
- EBAF Update
- Data Management Team Update
- Atmospheric Science Data Center (ASDC) Update
- Currently, 6 CERES instruments fly on 4 satellites: Terra (L1999), Aqua (L2002), S-NPP(L2011), NOAA-20 (L2017)
Global Mean All-Sky TOA Flux Anomalies & Multivariate ENSO Index
(CERES EBAF Ed4.1; 03/2000 – 12/2019)
Global Mean TOA Flux Anomalies
(Relative to Climatology for 02/2012-09/2019)

- RMS differences between Terra, Aqua and SNPP monthly anomalies for common period are: < 0.2 Wm\(^{-2}\) for SW and LW, and < 0.25 Wm\(^{-2}\) for net TOA flux.

- EBAF Trends
  - SW Up: \(-0.73 \pm 0.17\) Wm\(^{-2}\) per decade
  - LW Up: \(0.25 \pm 0.16\) Wm\(^{-2}\) per decade
  - Net Down: \(0.43 \pm 0.19\) Wm\(^{-2}\) per decade
COVID-19 Global Shutdown: CERES Clear-Sky SW TOA Flux & MODIS AOD Anomalies (March 2020 vs. climatology)

Acknowledgements: Zach Eitzen, Wenying Su
Clear-Sky SW TOA Flux Anomalies Over East Asian Marginal Seas

(26°N-41°N; 117°-132°E; March Only)

Climatology

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CERES Clear-Sky SW TOA Flux & MODIS AOD Over E. Asian Marginal Seas (26°-41°N; 117°-132°E; March Only)

March 2020:
30% decrease in AOD
8% decrease in SW TOA Flux
CERES Journal Publications and Citation Counts

(For Papers Between 1993-2019; Updated April 20, 2020)

- Total number of peer-reviewed journal articles: 1,898
- Total number of citations to CERES papers: 70,632

(Compiled by Anne Wilber & Dave Kratz)
# Number of Unique Users by CERES Data Product
(through March 31, 2020)

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CRAVE — CERES Radiation and Validation Experiments

Challenging Winter conditions again at Granite Island:

- Communication link broken with AERONET. Hoping data remains in local buffer.
- November 27: Storm dirtied SW direct measurements, which remained uncleaned throughout Winter. Still had global and diffuse.
- April 2: Tech cleaned instruments, restoring direct measurements and acceptable residuals. \( R = \text{Global} - \text{Diffuse} - \text{Direct} \times \cos(SZA) \).
- April 12: Ice storm severed connecting arm that was crucial to vertical motion. Now have only global; no SW direct or diffuse, no LW.
- April 26: SW direct, diffuse, and LW restored by Ducky the boat captain
- Met data always stable

Ice storm damaged tracker

Tracker link to T-bar severed on Apr 12, disabling vertical motion.

CRAVE — LaRC

All systems good, except:
- MPLNET radar interlock broken 3/2020
- MPLNET off until we can return to LaRC

The Science Directorate at NASA’s Langley Research Center
CERES Webpage Redesign

CERES Science Team Meeting

What is CERES?
Climate is controlled by the amount of sunlight absorbed by Earth and the amount of infrared energy emitted to space. These quantities—together with their difference—define Earth’s radiation budget (ERB). The Clouds and the Earth’s Radiant Energy System (CERES) project provides satellite-based observations of ERB and clouds. It uses measurements from CERES instruments flying on several satellites along with data from many other instruments to produce a comprehensive set of ERB data products for climate, weather and applied science research.
Other News

- NASA ESD 2020 Senior Review
  - Terra & Aqua proposals were submitted in March
  - Panel meeting postponed to July 8-10, 2020

- Release of new FluxByCldTyp1deg-day, -month product within the next two weeks

- Edition 2 S-NPP and Edition 1 NOAA-20 SSF & SSF1deg to be released this spring.

- CERES FM5 (S-NPP) in full bi-axial (RAP) mode. CERES FM2 taking targeted PAP measurements over MOSAIC site.

- MDPI Special Issue (new deadline is August 31, 2020):
  "Analysis of Decadal-Scale Continuous Data Products from Weather Satellite Platforms"

- Next CERES meeting: Sept 15-18, 2020, Max-Planck-Institute for Meteorology, Hamburg, Germany (Joint with ScaRaB & GERB)

- Earth Venture-Continuity Selection: Libera