



OCO-2 Status November 28, 2017

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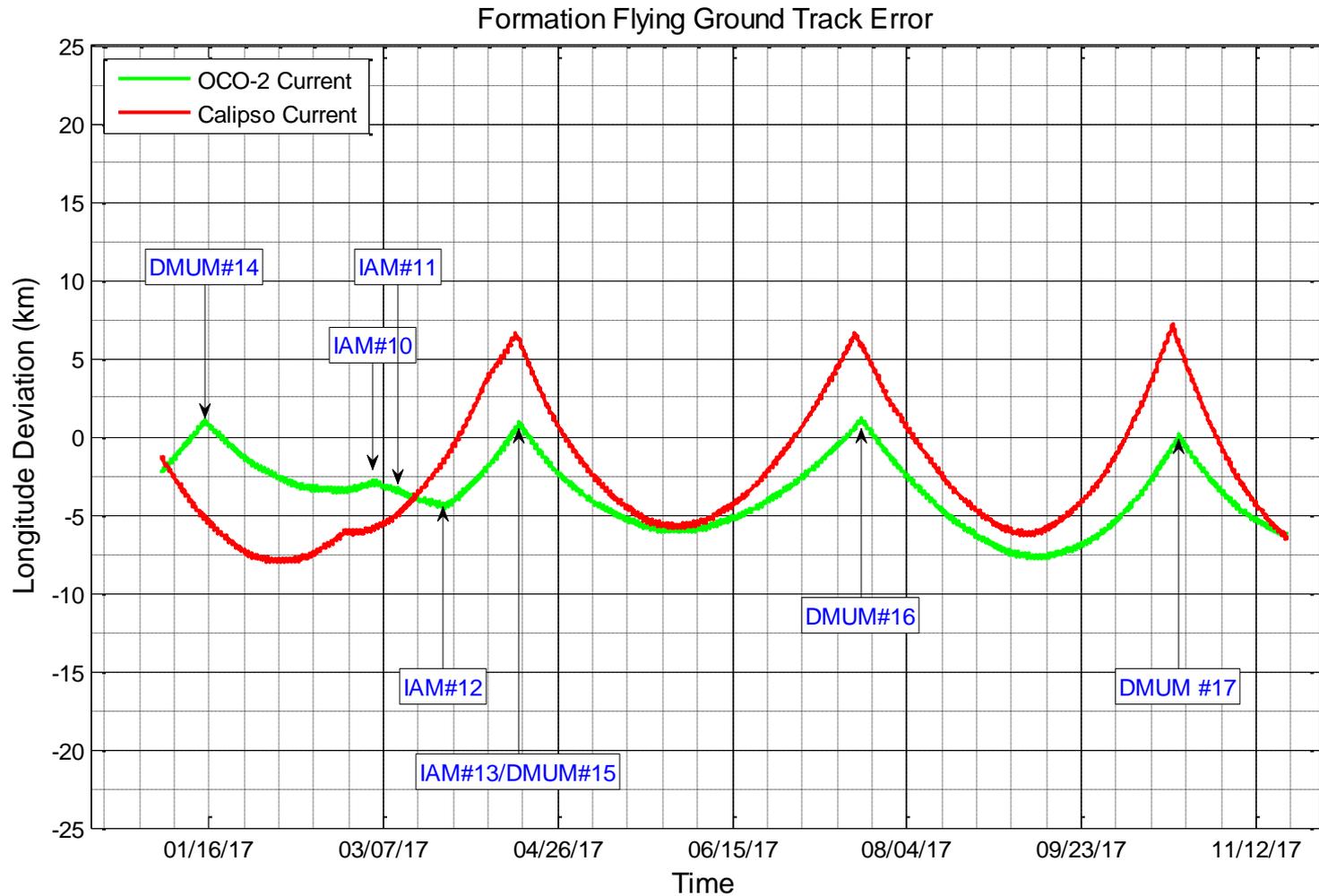
Overview

- **Observatory Status: Nominal**
 - Last drag make-up maneuver (DMUM #17) on 19 October 2017
 - Next drag make-up maneuver tentatively planned for mid January
- **Instrument Status: Nominal**
 - ABO2 currently at ~95.5% (after correcting 2.5° solar cal offset)
- **Upcoming Events**
 - **GOSAT/OCO-2 Technical Interface Meeting at AGU**
 - Tuesday, December 12 from 11 to 1:30,
 - Location TBD near New Orleans Convention Center
 - **Fall AGU: 11-15 December 2017 in New Orleans**



The OCO-2 Navigation Team Continues to Maintain Excellent Alignment with CALIPSO

EAST

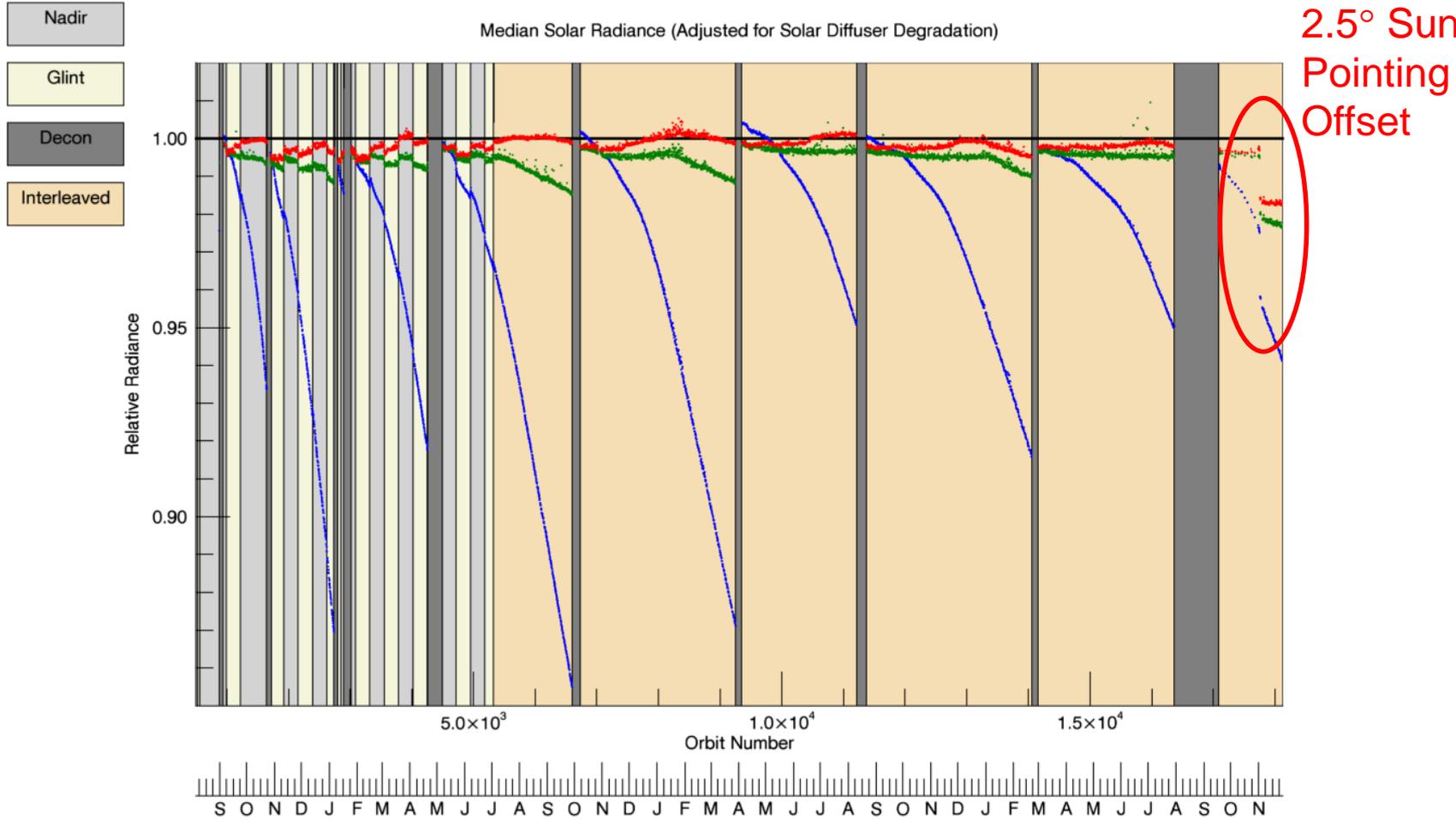


WEST





Degradation Trending

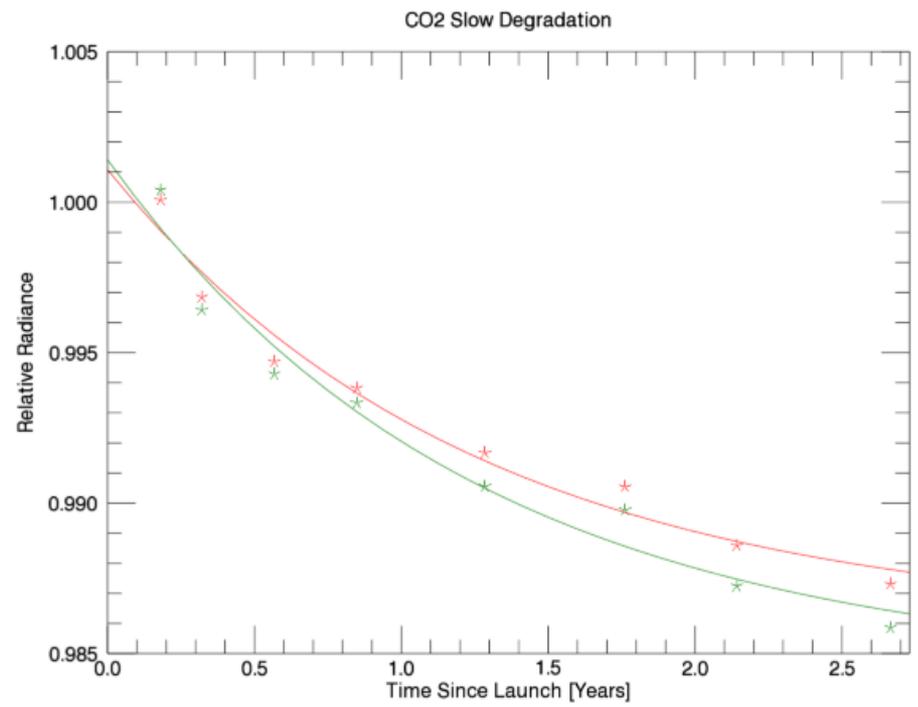
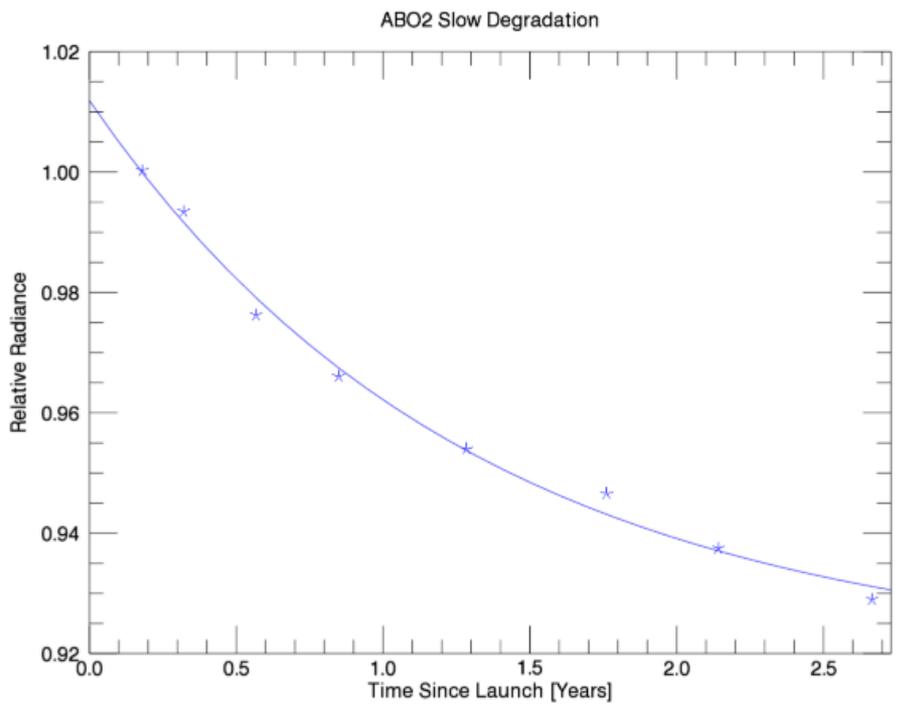


Changes in the solar pointing, and a possible small change in the diffuser door position are being accommodated in calibration process.





Slow Degradation



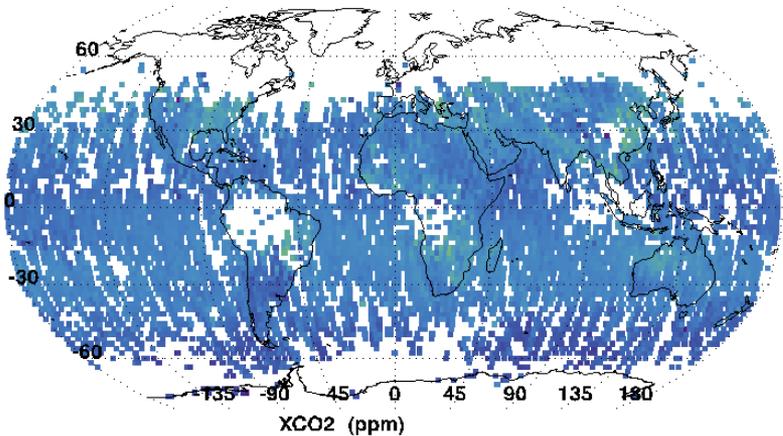
The Slow Degradation continues in all 3 channels, but has a much smaller amplitude in the WCO2 (green) and SCO2 (red) channels than in the ABO2 (blue).



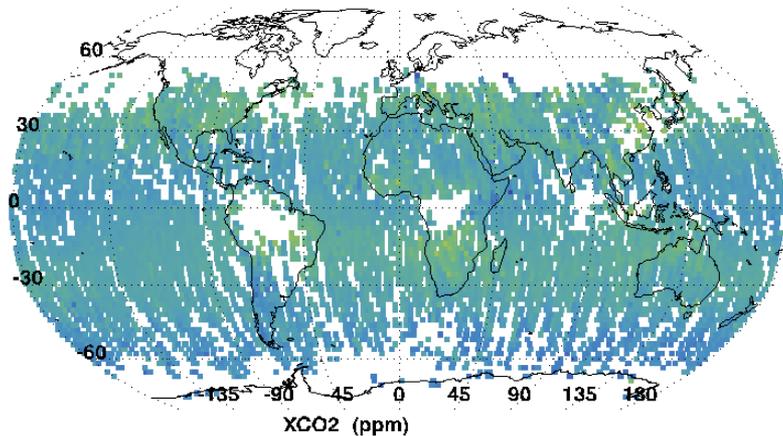


X_{CO2} for November 2014-2017

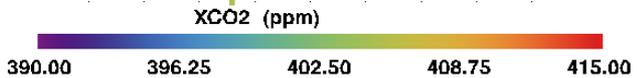
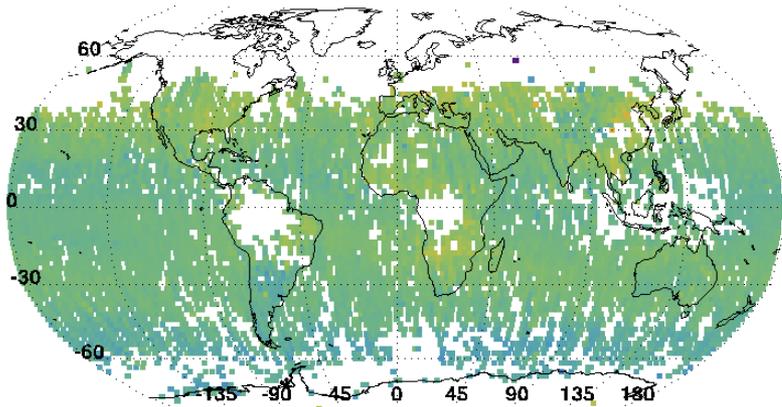
11/2014



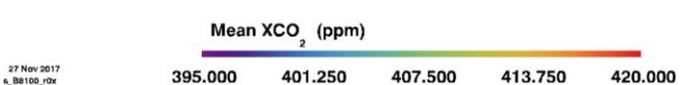
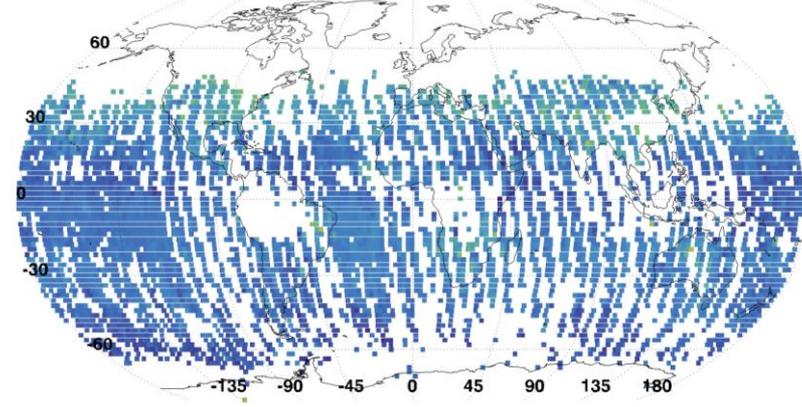
11/2015



11/2016



Mean XCO2 - Nov 2017



XCO₂ is relatively uniform in November (2017 is V8, other years V8r)





GOSAT/OCO-2 TIM at AGU

This year, we will start with the high priority Cross Calibration, L2 product development, and Validation activities and finish with very brief mission status reviews

- Tuesday 12 Dec, 11 AM -1 PM CST. Location **still TBD**
- OCO-2/GOSAT Cross Calibration and Cross Validation
 - Results from the 2017 Railroad Valley Validation Campaign
 - Coincident Measurements from OCO-2 and GOSAT
 - Integrating GOSAT-2 and OCO-3 into the vicarious calibration program
- Validation Plans and Opportunities – TCCON and EM27
- Status and near term plans for the NIES GOSAT L2 product
- Plans for an ACOS GOSAT B8.x product
- Publication status and plans
- Mission Status (10 minutes each)
 - GOSAT, OCO-2, GOSAT-2, OCO-3, GeoCarb





OCO-2 at the 2017 AGU Meeting

- OCO-2 X_{CO_2} and SIF results are featured in the abstracts of **67 presentations** in **30 AGU Sessions**, spanning the entire AGU week
 - Search Terms: “Orbiting Carbon Observatory” | “OCO-2”
 - Atmospheric Sciences (A) – 16
 - Biogeosciences (B) – 7
 - Earth and Space Informatics (IN) -3
 - Union (U) – 1
 - Global Environmental Change (GC) – 1
 - Nonlinear Geophysics (NG) – 1
 - Public Affairs (PA) – 1
- Color key for session list:
 - Black – many OCO-2 / GOSAT related presentations
 - Green – 3 or more (or 1 or more invited + other) presentations
 - Blue – 2 or more (or 1 invited) presentations
 - Grey – at least 1 relevant presentation



OCO-2 Sessions at AGU (1 of 6)

- **A11A: Calibration and Validation of Passive Satellite Earth Observations and Products I Posters**
 - Monday, 11 December 2017, 08:00 - 12:20, Poster Hall D-F
- **IN12C: Recent Advances in Deep Learning and Data Analytics in Earth, Atmospheric, and Planetary Sciences III: Machine Learning, Quantum Computing, and Big Data Platforms**
 - Monday, 11 December 2017, 10:20 - 12:20 (10:20), 228-230
- **U13A: Climate Dynamics: Theory, Modeling, and Breakthroughs**
 - Monday, 11 December 2017, 13:40 - 15:40, E2
- **IN13B: Recent Advances in Deep Learning and Data Analytics in Earth, Atmospheric, and Planetary Sciences I Posters**
 - Monday, 11 December 2017, 13:40 – 1800, Poster Hall
- **GC14A: Carbon Feedbacks in Earth's Climate System: Using Ocean and Land Variability to Diagnose Critical Carbon Cycle Processes I**
 - Monday, 11 December 2017, 16:00 - 18:00 (16:30), 260-262



OCO-2 Sessions at AGU (2 of 6)

- **A14G: Understanding and Attributing Greenhouse Gas Fluxes from Urban Systems and Major Hot Spots**
 - Monday, 11 December 2017, 16:00 - 18:00 (1700-1800), R09
- **A21M: Lidar Investigations of Greenhouse Gases, Aerosols, and Clouds I**
 - Tuesday, 12 December 2017, 08:00 - 10:00, 391
- **A21A: Advances in Atmospheric Remote Sensing Techniques and Theories III Posters**
 - Tuesday, 12 December 2017, 08:00 - 12:20, Poster Hall
- **A21B: Advances in Spectral and Polarimetric Remote Sensing of the Atmosphere, Land, and Ocean III Posters**
 - Tuesday, 12 December 2017, 08:00 - 12:20 Poster Hall
- **B23G: Remote Sensing in Terrestrial Ecosystems: Cross-Scale Approaches to Understanding Structure, Function, and Process II**
 - Tuesday, 12 December 2017, 13:40 - 15:40 (15:10), 383-385
- **NG23A: Advances in Data Assimilation, Predictability, and Uncertainty Quantification I**
 - Tuesday, 12 December 2017, 13:40 - 15:40, 238-239



OCO-2 Sessions at AGU (3 of 6)

- **A23C: Lidar Investigations of Greenhouse Gases, Aerosols, and Clouds II Posters**
 - Tuesday, 12 December 2017, 13:40 - 18:00, Poster Hall
- **A23G: Understanding and Attributing Greenhouse Gas Fluxes from Urban Systems and Major Hot Spots II Posters**
 - Tuesday, 12 December 2017, 13:40 - 18:00, Poster Hall
- **B23E: Vegetation Canopies: Physiology, Structure, Function II Posters**
 - Tuesday, 12 December 2017, 13:40 - 18:00, Poster Hall
- **A31K: Advances in Atmospheric Data Assimilation and Inverse Modeling II**
 - Wednesday, 13 December 2017, 08:00 - 10:00 (9:15-10:00), 392
- **A31O: Remote Sensing of CH₄ and CO₂ from Space: The Advancing Observing System I**
 - Wednesday, 13 December 2017, 08:00 - 10:00 (8-9 CO₂; 9-10 CH₄), 391
- **B31A: Advances in Uncertainty Assessment and Reduction for Terrestrial Carbon Cycle Diagnosis and Prediction I Posters**
 - Wednesday, 13 December 2017, 08:00 - 12:20, Poster Hall



OCO-2 Sessions at AGU (4 of 6)

- **A32D: Remote Sensing of CH₄ and CO₂ from Space: The Advancing Observing System II**
 - Wednesday, 13 December 2017, 10:20 - 12:20, 391
- **PA33D: Science to Action: Building Novel and Transformative Partnerships Toward Decision-Relevant Science I**
 - Wednesday, 13 December 2017, 13:40 - 15:40 (14:35), 255-257
- **A33G: Remote Sensing of CH₄ and CO₂ from Space: The Advancing Observing System III Posters**
 - Wednesday, 13 December 2017 13:40 - 18:00, Poster Hall D-F
- **A41N: Leveraging Inventories, Observations, and Models to Improve the Scientific Basis of Emissions I**
 - Thursday, 14 December 2017, 08:00 - 10:00, 393-394
- **A43B: Boundary Layer Clouds and Climate Change II Posters**
 - Thursday, 14 December 2017, 13:40 - 18:00, Poster Hall
- **A43C: Constraining Biosphere-Atmosphere Exchange Processes Using Remote Sensing and in Situ Observations II Posters**
 - Thursday, 14 December 2017, 13:40 - 18:00, Poster Hall





OCO-2 Sessions at AGU (5 of 6)

- **B43L: Sun-Induced Chlorophyll Fluorescence as a Proxy of Photosynthesis: Measurements, Modeling, and Applications from Field, Airborne, and Satellite Platforms I**
 - Thursday, 14 December 2017, 13:40 - 15:40 (13:40, 14:10), 383-385
- **B43I: Advances and Opportunities in Forecasting and Data-Model Integration: Approaches for Reducing Complexity and Improving Predictive Understanding in Biogeochemical Models of the Earth System I**
 - Thursday, 14 December 2017, 13:40 - 15:40 (15:10), 356-357
- **B44C: Sun-Induced Chlorophyll Fluorescence as a Proxy of Photosynthesis: Measurements, Modeling, and Applications from Field, Airborne, and Satellite Platforms II**
 - Thursday, 14 December 2017, 16:00 - 18:00 (16:00-16:30), 383-385
- **A51M: Constraining Biosphere-Atmosphere Exchange Processes Using Remote Sensing and in Situ Observations I**
 - Friday, 15 December 2017, 08:00 - 10:00, 391



OCO-2 Sessions at AGU (6 of 6)

- **B51H: Sun-Induced Chlorophyll Fluorescence as a Proxy of Photosynthesis: Measurements, Modeling, and Applications from Field, Airborne, and Satellite Platforms III Posters**
 - Friday, 15 December 2017, 08:00 - 12:20
- **A53A: Advances in an Integrated Observing System for Air Quality III Posters**
 - Friday, 15 December 2017, 13:40 - 18:00, Poster Hall
- **IN54A: Applications of Geospatial Data and Remote Sensing for Food Security II**
 - Friday, 15 December 2017, 16:00 - 18:00, 228-230



Hyperwall at AGU

The Hyperwall will be featured in the NASA Booth (#1645)

- **Monday**, 6:10-6:25 PM, Michael Freilich: NASA's Earth Observation Capabilities: Meeting the Challenges of Climate and Environmental Change
 - Replaying 11:45-12:00 on Tuesday
- **Tuesday**, 4:15-4:30, Jack Kaye, NASA Global Climate Observations: Discover How Satellites See Climate Change
- **Wednesday**, 4:45-5:00, Peter Griffith, Chip Miller, Liz Hoy, The Arctic-Boreal Vulnerability Experiment Airborne Campaign
- **Thursday**, 11:45-12:00 Dave Crisp, OCO-2 Observed the Response of the carbon cycle to the 2015-2016 El Niño
- **Thursday**, 4:45 – 5:00 PM, Kevin Bowman, A tale of 3 continents: record CO₂ growth during the 2015 El Niño