



# Minutes from the OCO-2 / OCO-3 Science Team Telecon

David Crisp, for the OCO-2/OCO-3 Team

Jet Propulsion Laboratory, California Institute of Technology

January 22, 2019

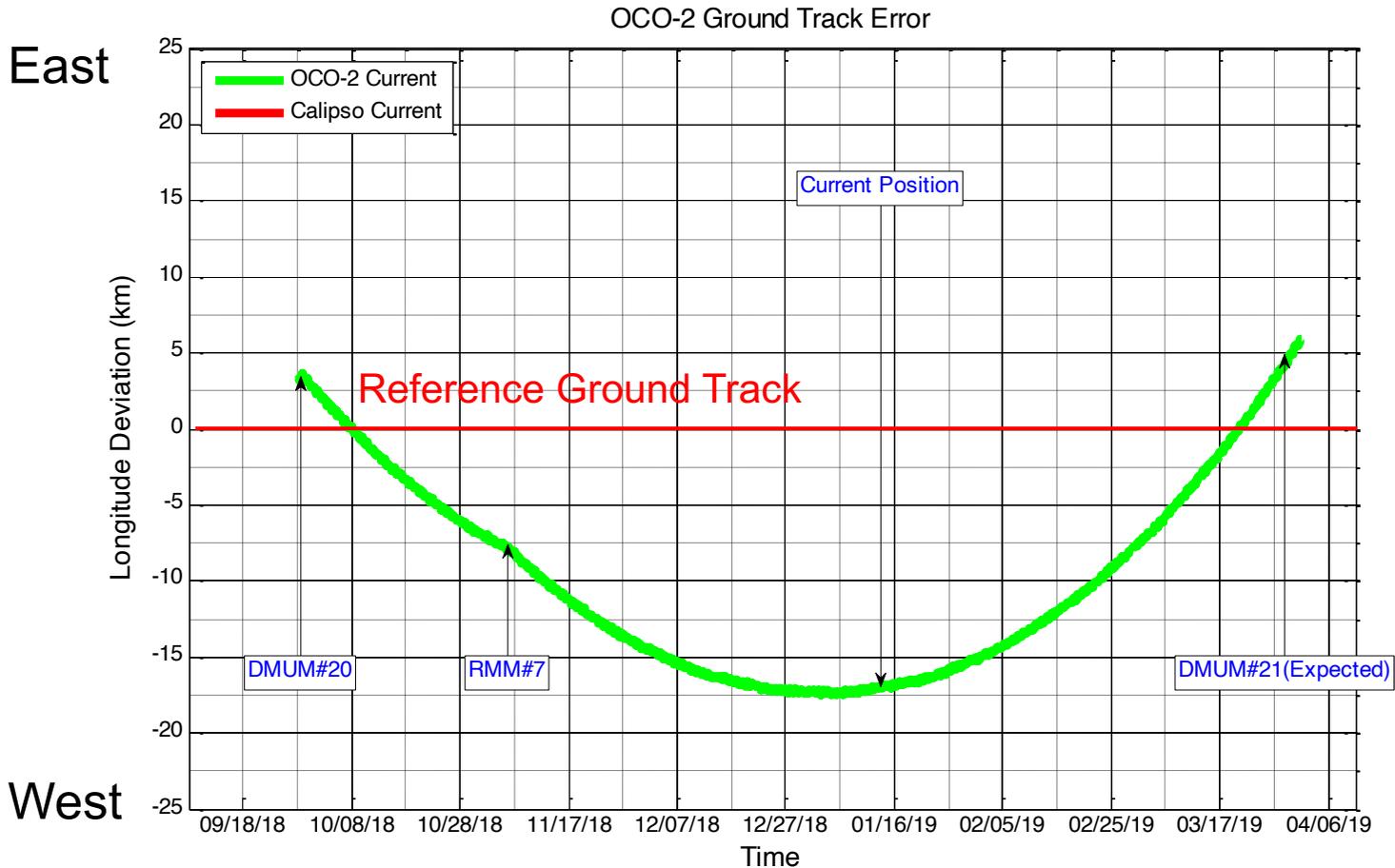


# OCO-2 Status Summary

- Observatory Status: **Nominal**
  - Next Drag Makeup Maneuver (DMM) tentatively scheduled for 21 March 2019 to coincide with a the annual Inclination Angle Maneuver (IAM)
- Instrument Status: **Nominal**
  - Most recent Decon Cycle: 10-17 November 2018
    - Return to science: November 26, restart of Forward stream
- Science Status: **Nominal**
  - “Build 10” testing plan beginning to come together
  - ACOS/GOSAT version 9, slowly coming together
- Today’s Science presentation:
  - Janne Hakkarainen - XCO<sub>2</sub> anomalies in the v8 and v9 products



# OCO-2 Ground Track

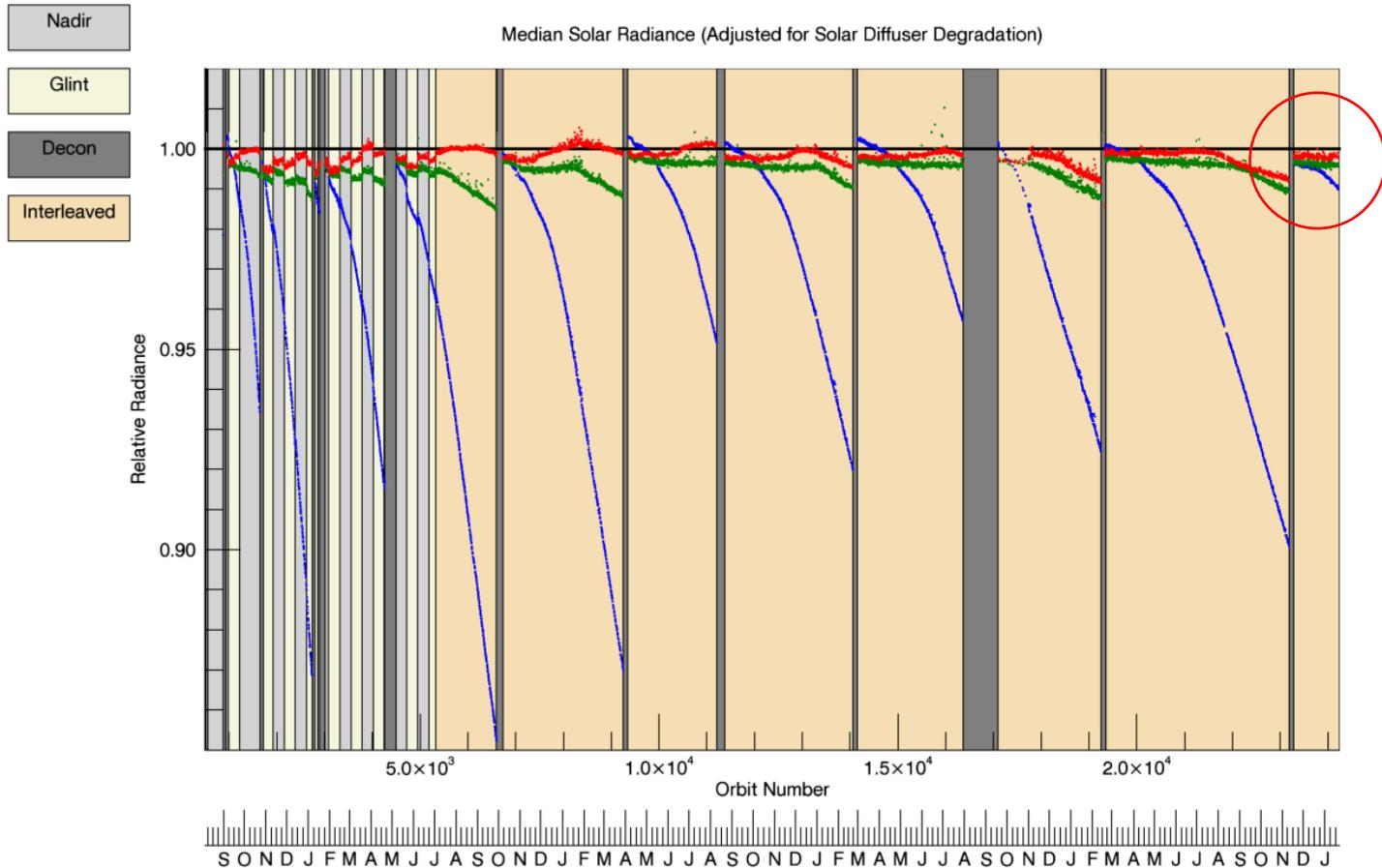


OCO-2 is currently ~17 km west of its reference ground track.  
The next drag make-up maneuver is scheduled for 28 March





# Throughput Trending

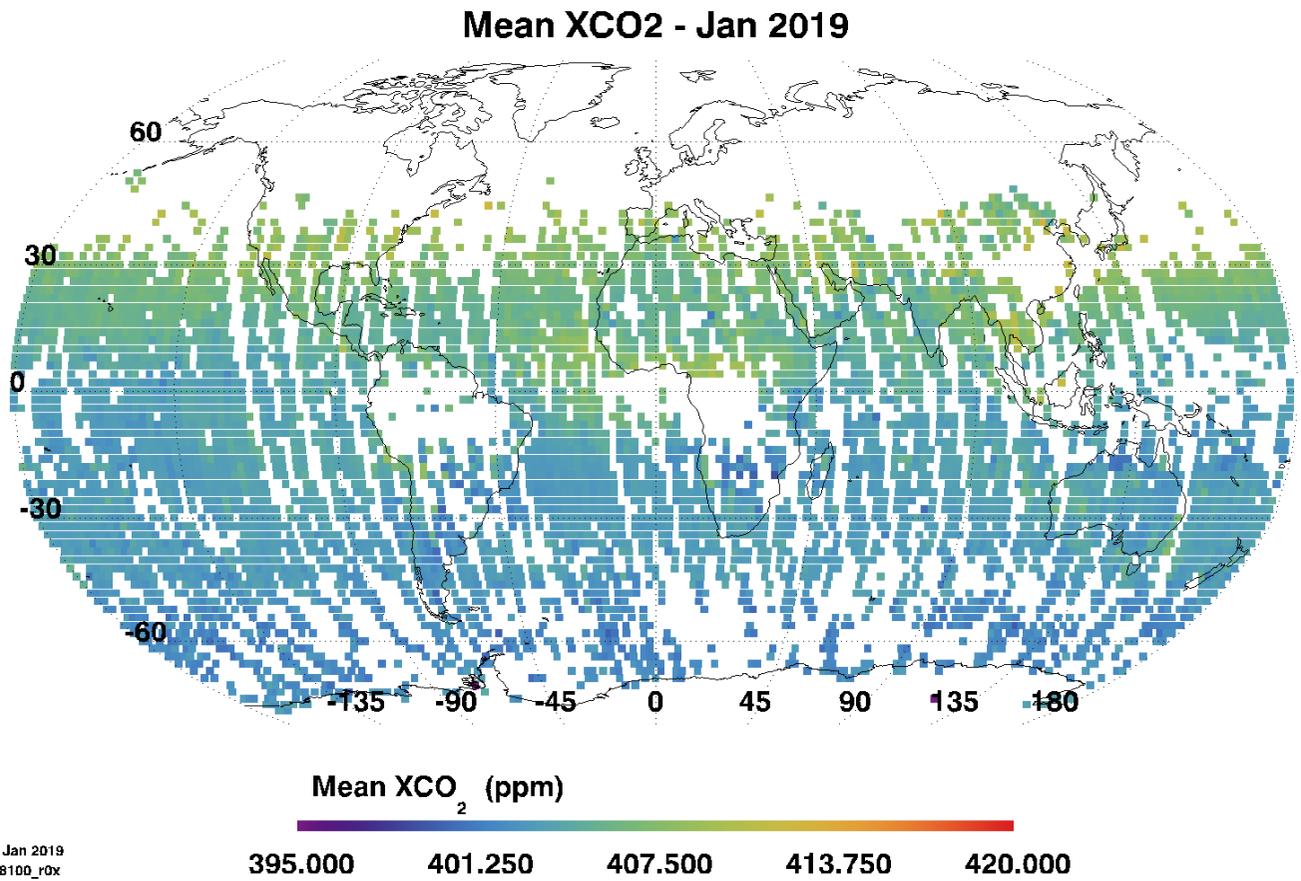
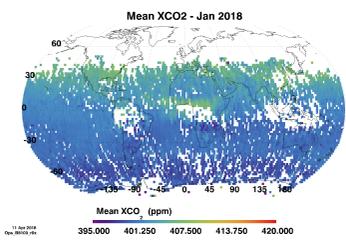
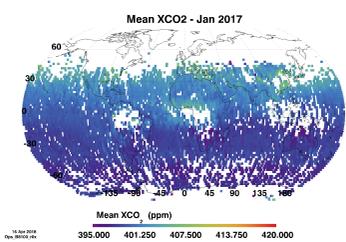
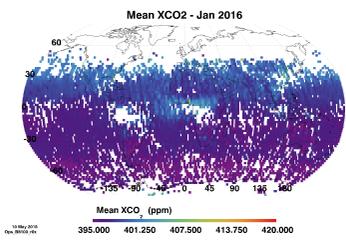
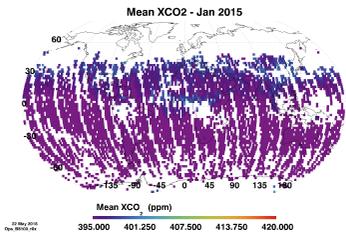


November 2018 Decon restored throughput to > 99% in all 3 channels.





# L2 V8 Forward Product



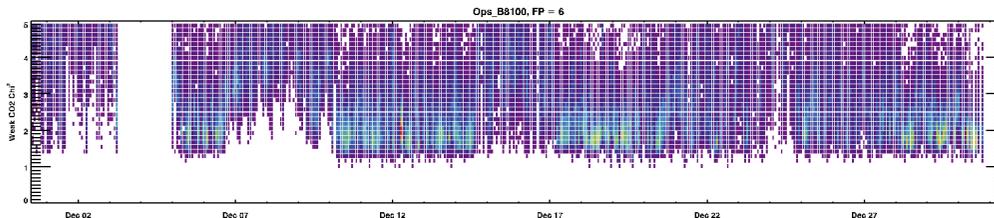
As the January v8 forward product fills in, it is looking a lot like previous years – with more CO<sub>2</sub>.





# Status of the V8r and V9 Lite Products

- Some of you have noticed that we have not yet delivered the V8 retrospective product (V8r) or the V9 Lite products for November and December 2018 to the GES-DISC
- This delay resulted from 2 factors:
  - We planned to use the NASA Pleiades Cluster to process these data. That cluster has not been available since December 21<sup>st</sup>, due to the government shutdown.
  - The Calibration Team identified some bad samples in the weak CO<sub>2</sub> band that are producing high  $\chi^2$  values in the L2 fits. They requested that we exploit the processing delay to correct these issues
- The SDOS team now expects to deliver the November and December 2018 retrospective products to the GES-DISC by the following dates:
  - November V8r and V9 Lite files - mid-February
  - December V8r and V9 Lite files - end of February



$\chi^2$  values for the weak CO<sub>2</sub> footprint 6. The high values are caused by a few bad pixels.



# Publication Statistics

## As of Jan 14 2019

- 2014: OCO-2: 7 refereed papers, 1 book chapter
- 2015: OCO-2: 8 refereed papers
- 2015: ACOS: 3 refereed papers, 1 book chapter
- 2016: OCO-2: 18 refereed papers
- 2016: ACOS: 12 refereed papers
- 2017: OCO-2: 48 refereed papers
- 2017: ACOS: 2 refereed papers
- 2018: OCO-2: 32 refereed papers
- 2018: ACOS: 4 refereed papers





# Publications in Review

- Kiel, M., O'Dell, C. W., Fisher, B., Eldering, A., Nassar, R., MacDonald, C. G., and Wennberg, P. O.: How bias correction goes wrong: Measurement of XCO<sub>2</sub> affected by erroneous surface pressure estimates, *Atmos. Meas. Tech. Discuss.*, <https://doi.org/10.5194/amt-2018-353>, in review, 2018.
- Nelson, R. R. and O'Dell, C. W.: The Impact of Improved Aerosol Priors on Near-Infrared Measurements of Carbon Dioxide, *Atmos. Meas. Tech. Discuss.*, <https://doi.org/10.5194/amt-2018-366>, in review, 2018.
- Kulawik, S. S., O'Dell, C., Nelson, R. R., and Taylor, T. E.: Validation of OCO-2 error analysis using simulated retrievals, *Atmos. Meas. Tech. Discuss.*, <https://doi.org/10.5194/amt-2018-368>, in review, 2018.
- Eldering, A., Taylor, T. E., O'Dell, C. W., and Pavlick, R.: The OCO-3 mission; measurement objectives and expected performance based on one year of simulated data, *Atmos. Meas. Tech. Discuss.*, <https://doi.org/10.5194/amt-2018-357>, in review, 2018.
- Wang, H., Jiang, F., Wang, J., Ju, W., and Chen, J. M.: Differences of the inverted terrestrial ecosystem carbon flux between using GOSAT and OCO-2 XCO<sub>2</sub> retrievals, *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2018-1175>, in review, 2018.



# Call for Contributions to a Special Issue of Remote Sensing on Calibration/Validation of Hyperspectral Imagery



*remote sensing*



*Special Issue*

## Calibration/Validation of Hyperspectral Imagery

**Guest Editors:**

**Dr. Aaron Pearlman**

GeoThinkTank LLC / NASA Goddard Space Flight Center Biospheric Sciences Lab

**Dr. Shihyan Lee**

SAIC / NASA Ocean Biological Processing Group

Deadline for manuscript submissions: 30 April 2019

**Website:** [www.mdpi.com/journal/remotesensing/special\\_issues/calibration\\_validation\\_Hyperimage](http://www.mdpi.com/journal/remotesensing/special_issues/calibration_validation_Hyperimage)

The issue will cover a broad range of areas of the calibration and validation of space-based, aircraft-based, or unmanned aircraft-based hyperspectral sensors used in remote sensing. These topics include but are not limited to the following:

- Pre-launch calibration—radiometric, spectral, spatial
- Post-launch vicarious validation field campaigns
- Hyperspectral imagery artefact identification and mitigation
- Cross-comparison of hyperspectral imagers with other satellite sensors



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# Call for Contributions to a Special Issue of Remote Sensing on CO<sub>2</sub> and CH<sub>4</sub>



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## Special Issue

### Remote Sensing of Carbon Dioxide and Methane in Earth's Atmosphere

#### Special Issue Editor:

**Dr. Prabir K. Patra**

Japan Agency for Marine-Earth Science and Technology

**Dr. David Crisp**

Jet Propulsion Laboratory, California Institute of Technology

**Dr. Thomas Lauvaux**

Pennsylvania State University

**Website:** [www.mdpi.com/si/18603](http://www.mdpi.com/si/18603)

**Submission Deadline:** 31 May 2019

Carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) are the two most important greenhouse gases that have led to a significant fraction of the increase in earth's surface temperature in the past 100 years. This Special is dedicated to the past progress and new developments in satellite remote sensing of long-lived greenhouse gases, with a focus on CO and CH<sub>4</sub>.



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# Key Near Term Activities

Blue text indicates items that have been updated since the last report. Red text indicates that there may be a changes.

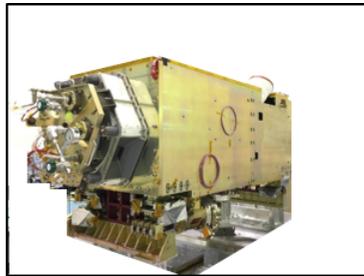
Planned Date	Activity Description
26-27 Feb	Flux Inversion Mini Meeting, Boulder, CO
11-13 Mar	UQ Breakout meeting, Pasadena, CO
End of Mar (TBC)	OCO-3 Launch, Cape Canaveral, FL
End of Mar (TBC)	OCO-2/OCO-3 Spring Science Team Meeting, Coco Beach, FL
7-12 Apr	EGU General Assembly, Vienna
13-17 May	ESA Living Planet Symposium, Milan, Italy
21-22 May	NOAA ESRL GMD Annual Conference, Boulder
4-6 Jun	IWGGMS-15, Sapporo, Hokkaido
17-20 Jun	CALCON - Characterization and Radiometric Calibration for Remote Sensing, Logan Utah
7-18 Jul	27th IUGG General Assembly 8-18 July, Montreal, Canada
30 Jun-5 July	2019 RRV Campaign
26-29 Aug 2019	Chapman Conference: Carbon-Climate Feedbacks, San Diego





# OCO-3 Status Summary

- OCO-3 is currently in storage at Cape Canaveral
  - February 8 transfer to Dragonland for integration into the Dragon trunk and deployment on the Falcon 9 launch vehicle.
  - Current launch date: **Currently under revision**
  - **Impact of partial Government shutdown unknown**
- **More as we know it**



The OCO-3 Team

