



OCO-2 Status October 4, 2018

David Crisp, for the OCO-2 Team

Jet Propulsion Laboratory, California Institute of Technology

October 4, 2018

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Government sponsorship acknowledged.



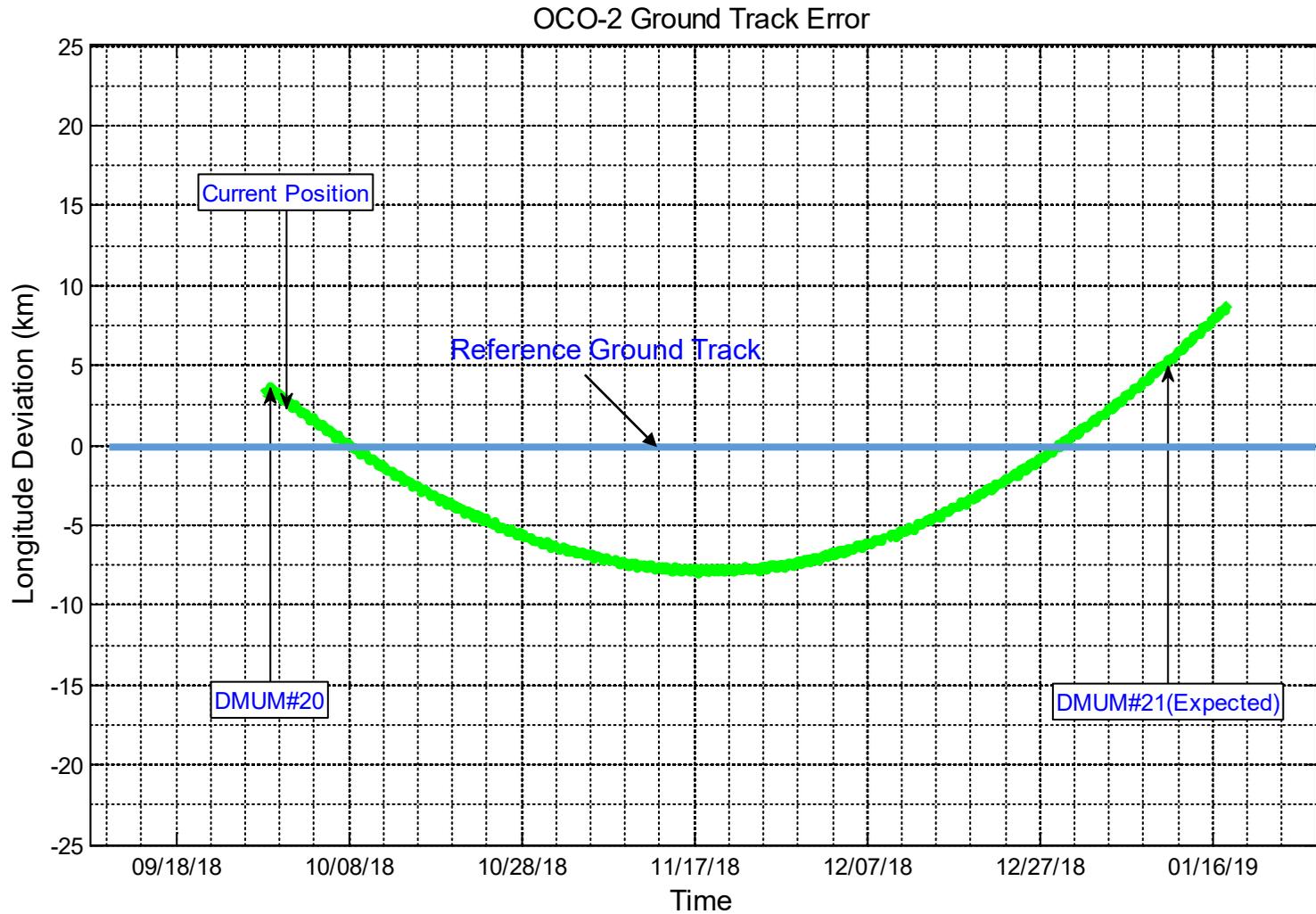
Status Summary

- Observatory Status: **Nominal**
 - CALIPSO exited the A-Train on 13 September 2018, as expected
 - OCO-2 is the only spacecraft flying the A-Train track 217 km East of Aqua
 - OCO-2 Drag Makeup Maneuver(DMUM) #20 performed on 27 September
- Instrument Status: **Nominal**
 - Next Decontamination Cycle targeted for 10-17 November 2018
 - Bad Pixel Map 11 upload on 9 August 2018
- Science Status: **Nominal**
 - “Version 9” Lite file updates (geolocation, met re-sampler fix)
 - Plans for October 23-25 Science Team Meeting advancing





OCO-2 Ground Track

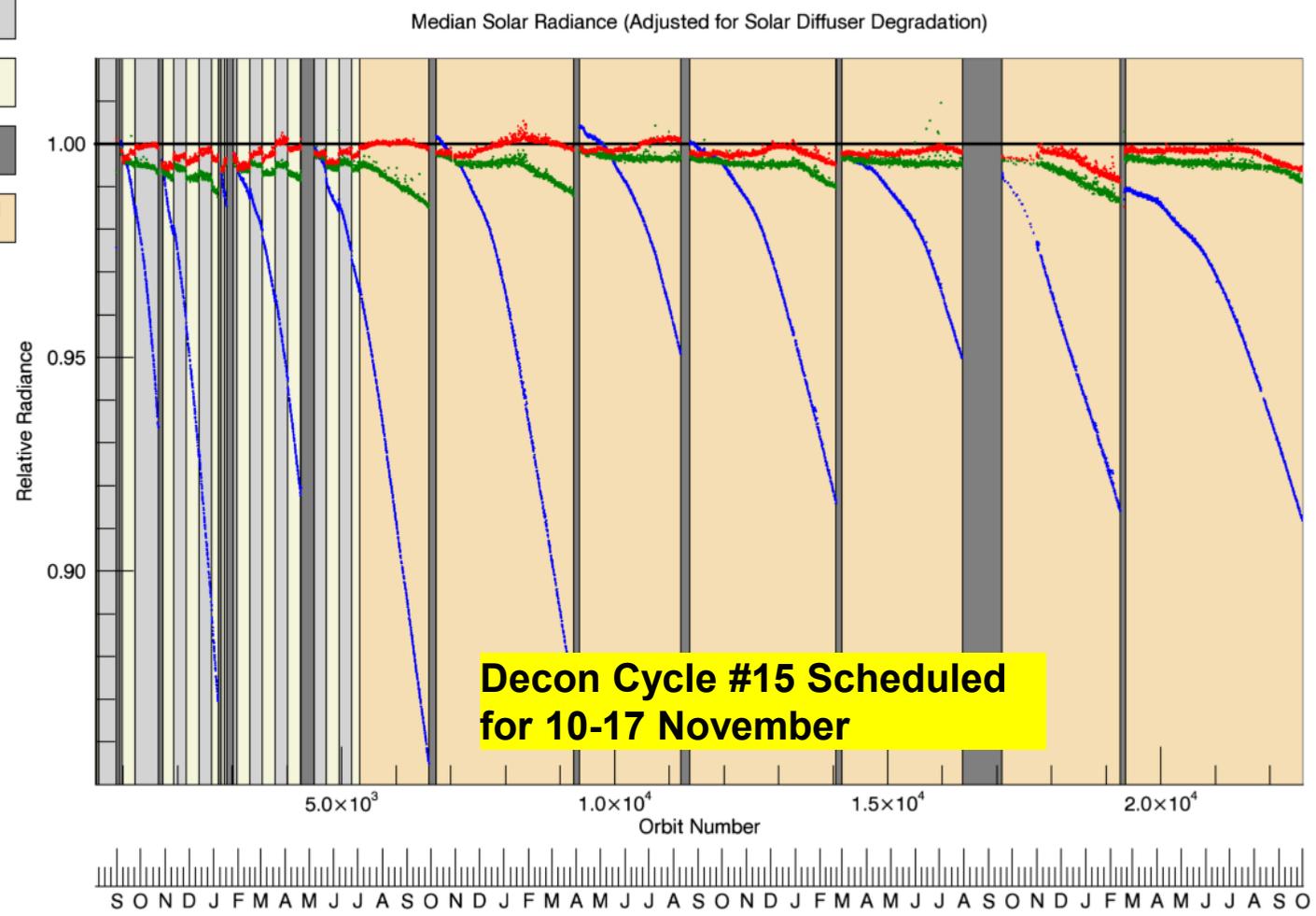




Contamination Trending

A-band Currently at 91%

- Nadir
- Glint
- Decon
- Interleaved



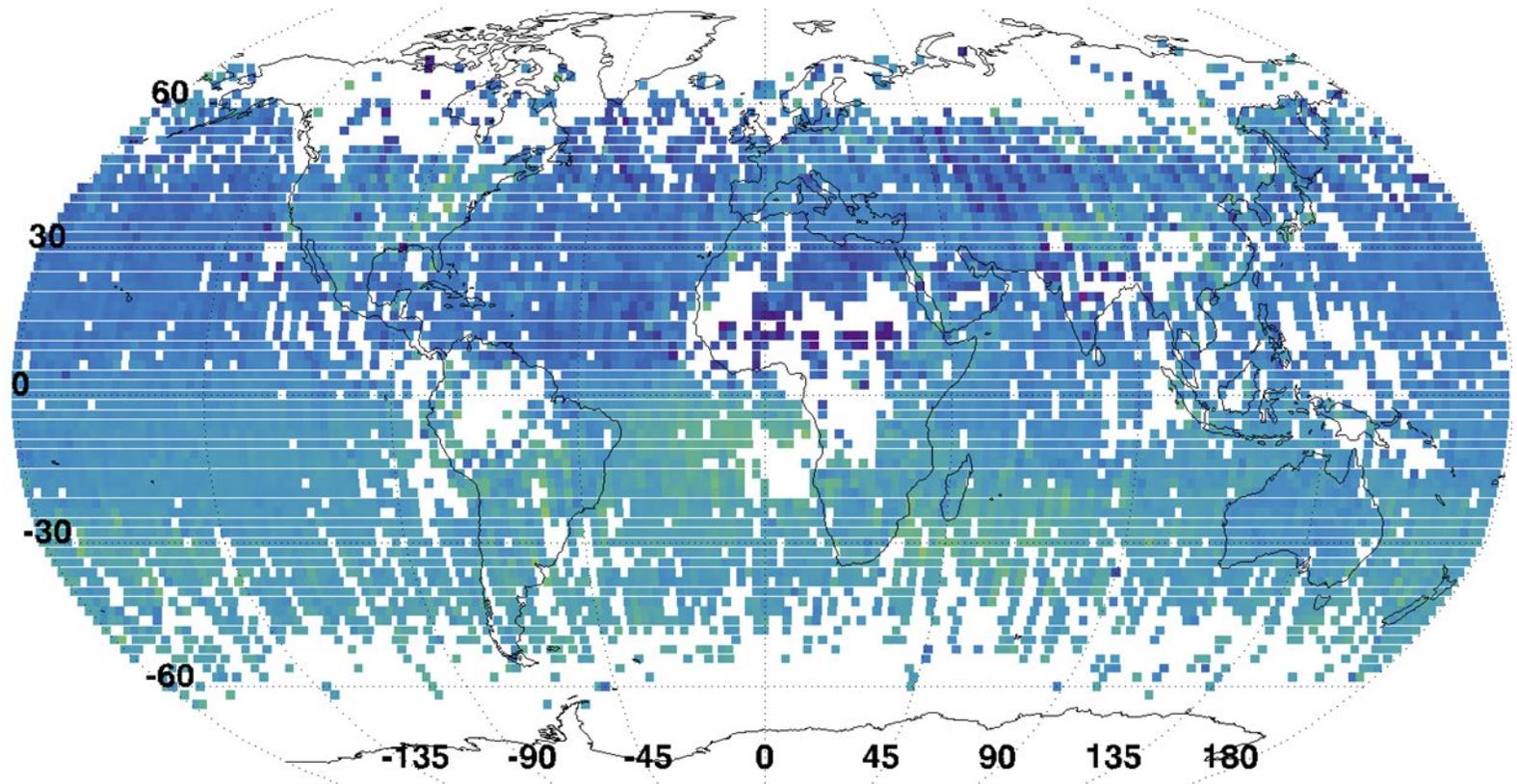
91%





August X_{CO2} (V8 forward stream)

Mean XCO₂ - Sep 2018



Mean XCO₂ (ppm)



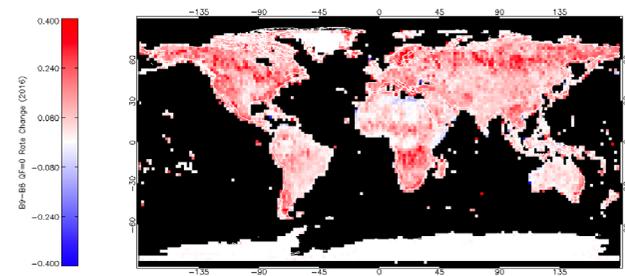
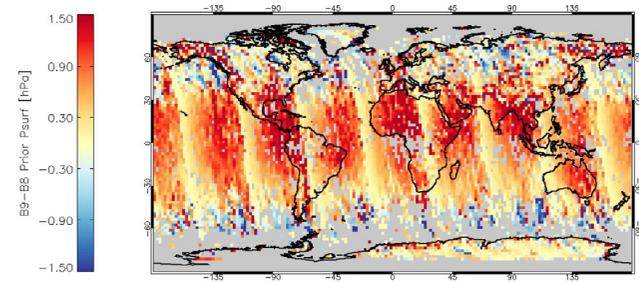
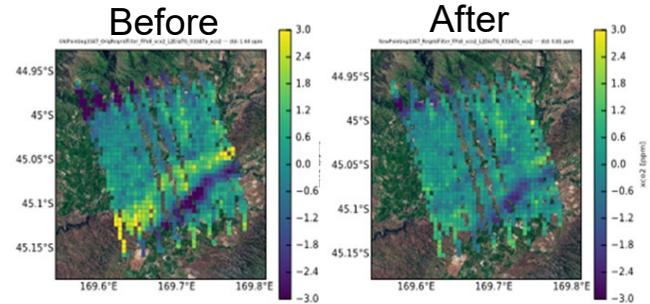
1 Oct 2018
Ops_B8100_r0x





V9 Data is Ready

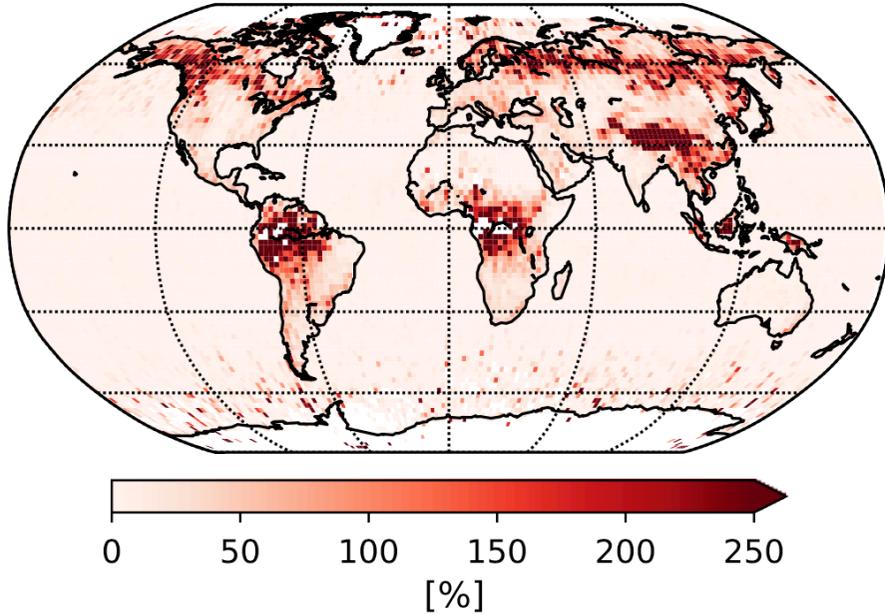
- SDOS has created the v9 lite files and they are being delivered to the DAAC
- Updated documentation is being prepared and reviewed, data will not be made public until these documents are ready
- V9 key changes
 - Update to pointing vector
 - Corrections for errors in surface pressure prior related to met resampler time errors
 - Re-evaluation of bias correction equation and filtering



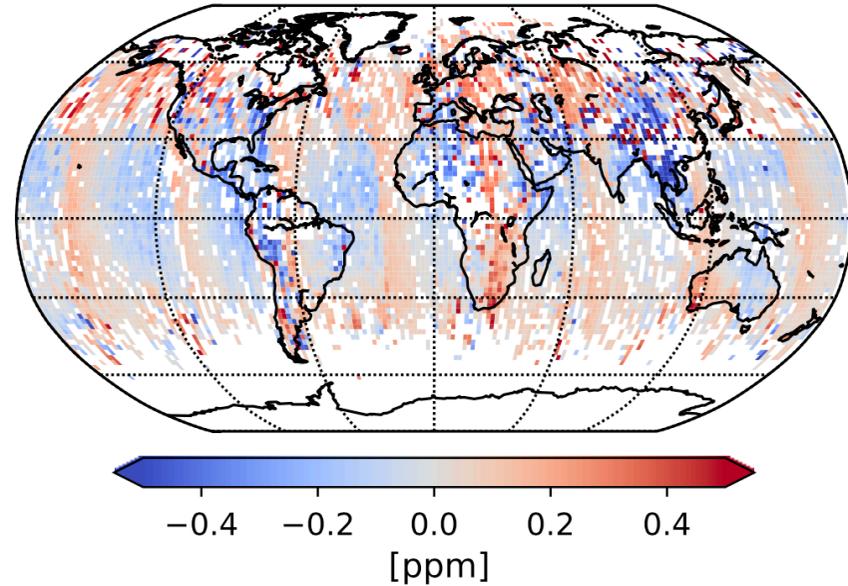


Increased throughout for v9

Fractional increase in v9 throughput relative to v8



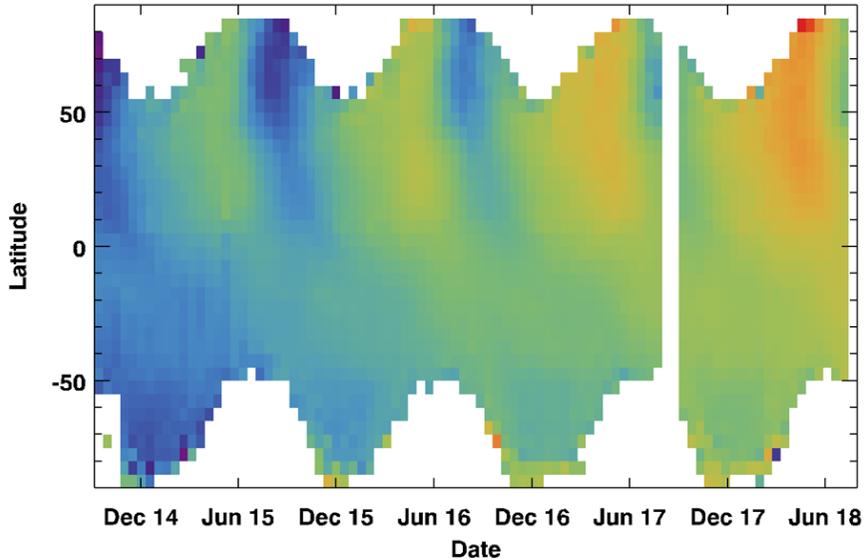
XCO2 change of v9 relative to v8





Time Dependence of the B9 Dataset

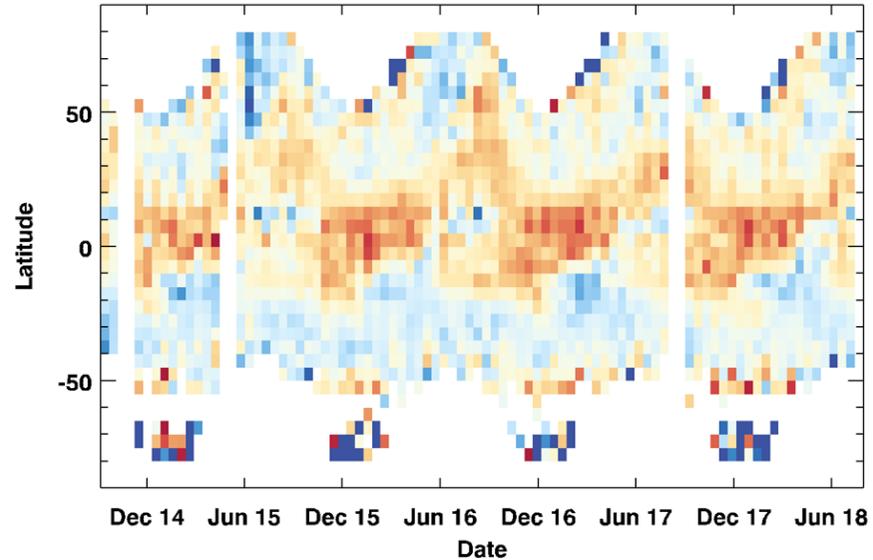
B9(test), All Good Data



2018

2018

B9(test), nadir/land - glint/water

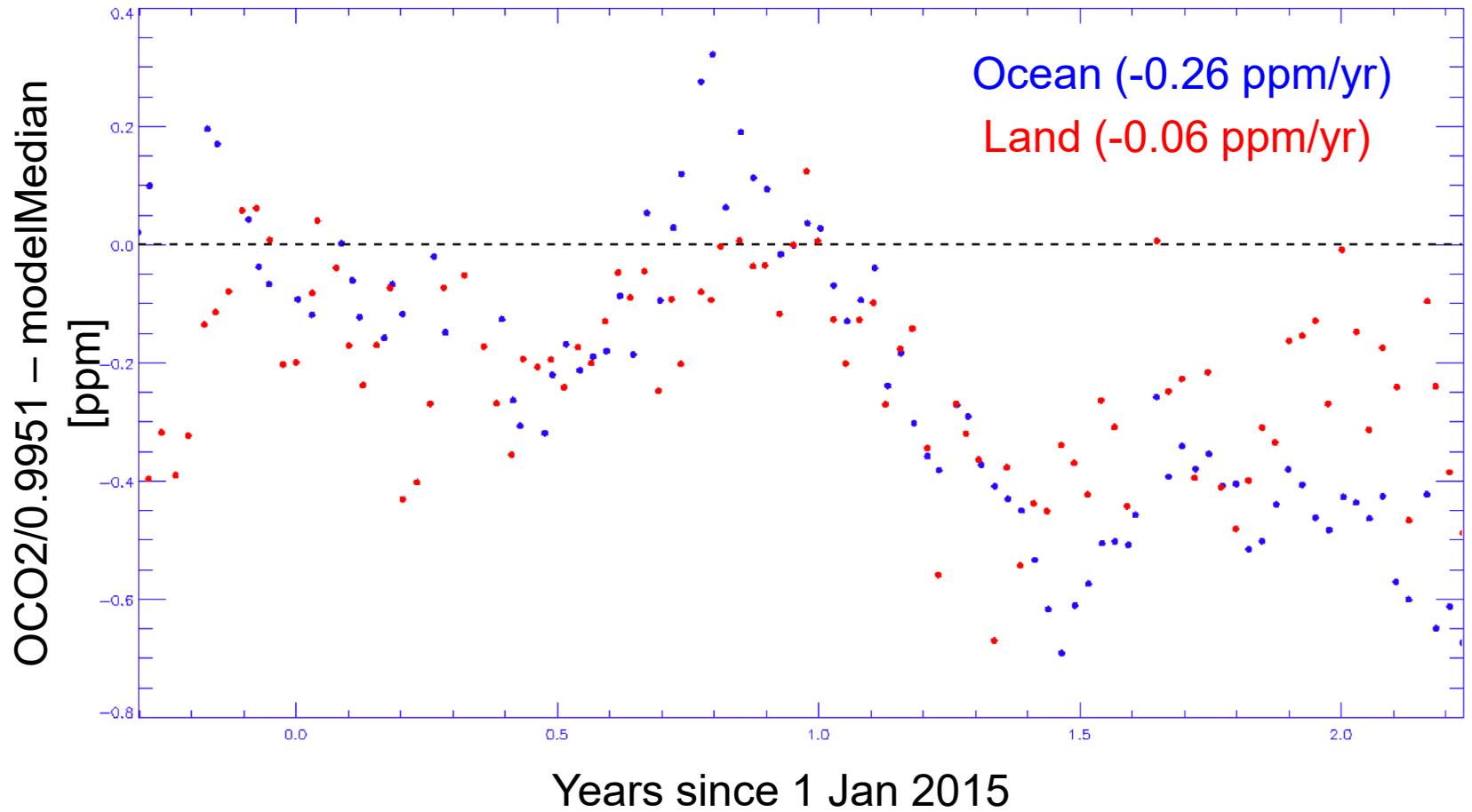


Brendan Fisher





Model bias vs time



The bias drift in the B9 product is similar to that seen in B8

Chris O'Dell





V9 summary

- An off-line version of the B9 product that covers the full mission, through July 31, 2018 has been produced and is being tested
- Preliminary tests of this off-line version indicates that, in general, the V9 product has smaller biases and better coverage than the v8 product that it replaces.
- However, at high latitudes, where some of the largest increases in yield were seen, a few of the have higher random errors and biases than those in the V8 Lite product
- Three steps were taken to mitigate the impact of higher bias & scatter
 - The screening criteria were modified slightly to reduce the increased scatter.
 - The V9 Lite files have retained the V8 quality flags as well as the new V9 quality flags, so users can easily filter out the new soundings if needed
 - Each V9 sounding includes a bit flag for each filter variable to facilitate screening experiments by users
- Production processing is expected to start later this week





Publications Statistics

By 04-Oct-2018:

- 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: 17 refereed papers
- 2018: ACOS: 3 refereed papers

If you have submitted or published a paper using ACOS/GOSAT or OCO-2 data, please let us know.



New Publications

OCO-2

- Xing Li, J. Xiao, B. He, M. A., Arain, J. Beringer, A., R., Desai, C., Emmel, D., Y., Hollinger, A., Krasnova, I., Mammarella, S., M., Noe, P., S. Ortiz, A., C., Rey-Sanchez, A., V. Rocha, A., Variagin: Solar-induced chlorophyll fluorescence is strongly correlated with terrestrial photosynthesis for a wide variety of biomes: First global analysis based on OCO-2 and flux tower observations. *Global Change Biology*, 24:3990–4008, 2018.
- Neil Humpage, Hartmut Boesch, Paul I. Palmer , Andy Vick, Phil Parr-Burman , Martyn Wells , David Pearson , Jonathan Strachan , and Naidu Bezawada: GreenHouse gas Observations of the Stratosphere and Troposphere (GHOST): an airborne shortwave-infrared spectrometer for remote sensing of greenhouse gases. *Atmos. Meas. Tech.*, 11, 5199–5222, 2018, doi:amt-11-5199-2018, 2018.

ACOS

- Junjie Liu, Kevin Bowman , Nicholas C Parazoo , A Anthony Bloom¹, Debra Wunch , Zhe Jiang , Kevin R Gurney and Dave Schimel: Detecting drought impact on terrestrial biosphere carbon fluxes over contiguous US with satellite observations. *Environ. Res. Lett.* 13 (2018) 095003. doi:10.1088/1748-9326, 2018



OCO-2 Fall 2018 Science Team Meeting

- The Fall 2018 OCO-2/3 Science Team Meeting will be held at the NCAR Mesa Facility in Boulder Colorado on October 23-25, 2018
 - Breakouts the morning of Tues, Oct 23rd.
 - Full plenary meeting (with posters) the afternoon of Tues the 23rd and all day Wed and Thurs, 10/24 and 10/25.
- Meeting Web site: <https://sites.google.com/view/oco2stm1018/home>
 - This site includes a draft agenda a Registration page, and some location and logistical information.
 - Updated agenda and posters posted on meeting website

If you are planning to attend, please register here:

<https://sites.google.com/view/oco2stm1018/register>





Near Term Key Planned Activities

Planned Date	Activity Description
23-25 Oct 2018	OCO-2 Science Team meeting in Boulder, CO
29 Oct 2018	GOSAT-2 Launch, Tanegashima Space Center, Japan
5-9 Nov 2018	OSA Meeting, Singapore
10-17 Nov (TBC)	OCO-2 Decon Cycle # 15
4-6 Dec 2018	Fall MOWG at Goddard Space Flight Center
10-14 Dec 2018	Fall AGU, Washington, DC
11 Dec 2018 (TBC)	OCO-2/GOSAT TIM at AGU
6-10 Jan 2019	99 th Annual AMS Meeting, Phoenix, AZ
17 Feb 2019 (TBC)	OCO-3 Launch, Cape Canaveral, FL
7-12 Apr 2019	EGU General Assembly, Vienna
4-6 Jun 2019	IWGGMS-15, Sapporo, Hokkaido
15-21 Jun 2019	32 nd ISTS, Fukui, Japan

