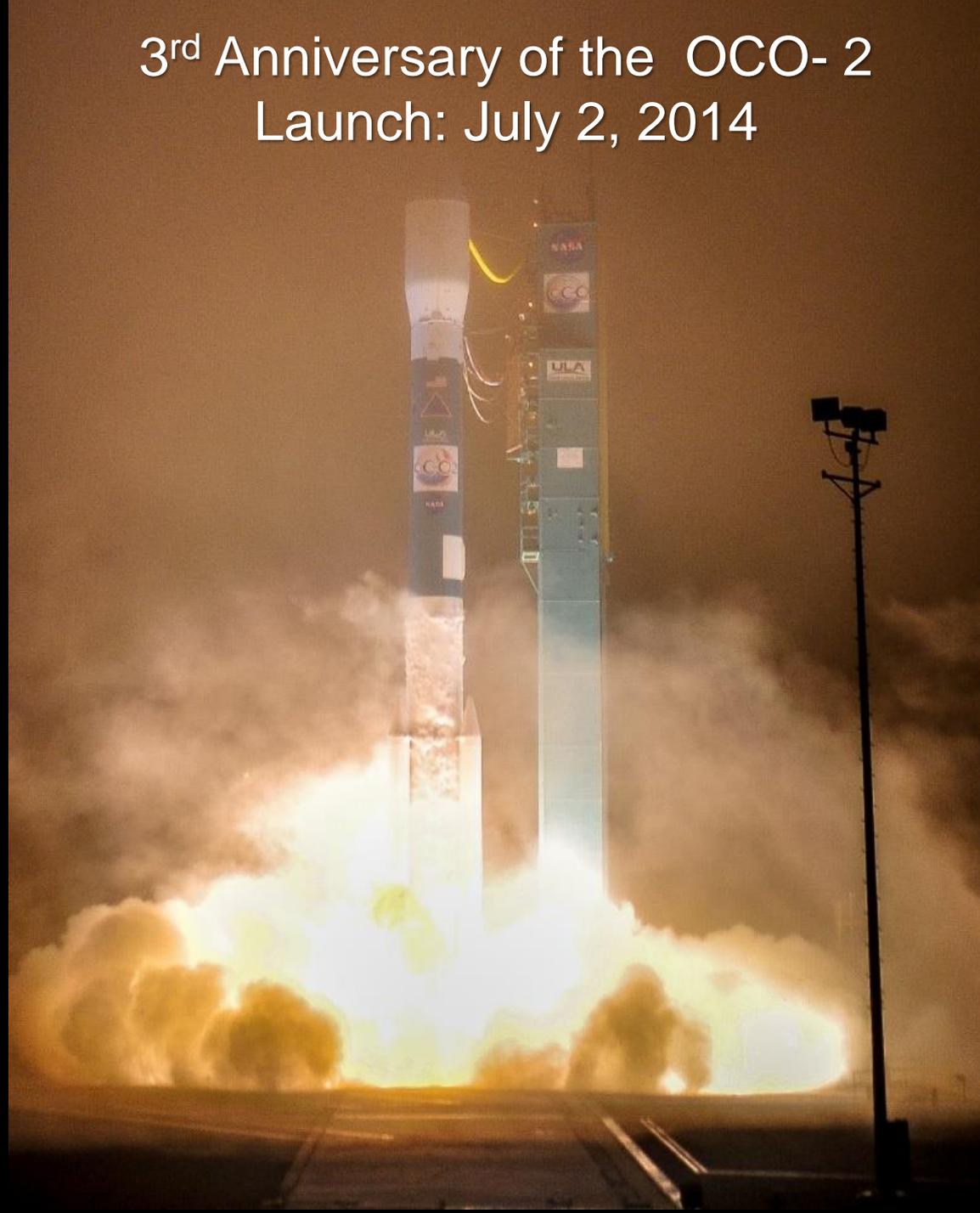


3rd Anniversary of the OCO-2
Launch: July 2, 2014

OCO-2 Status July 11, 2017

**David Crisp for the OCO-2
Science Team
Jet Propulsion Laboratory,
California Institute of
Technology**

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Government sponsorship acknowledged.



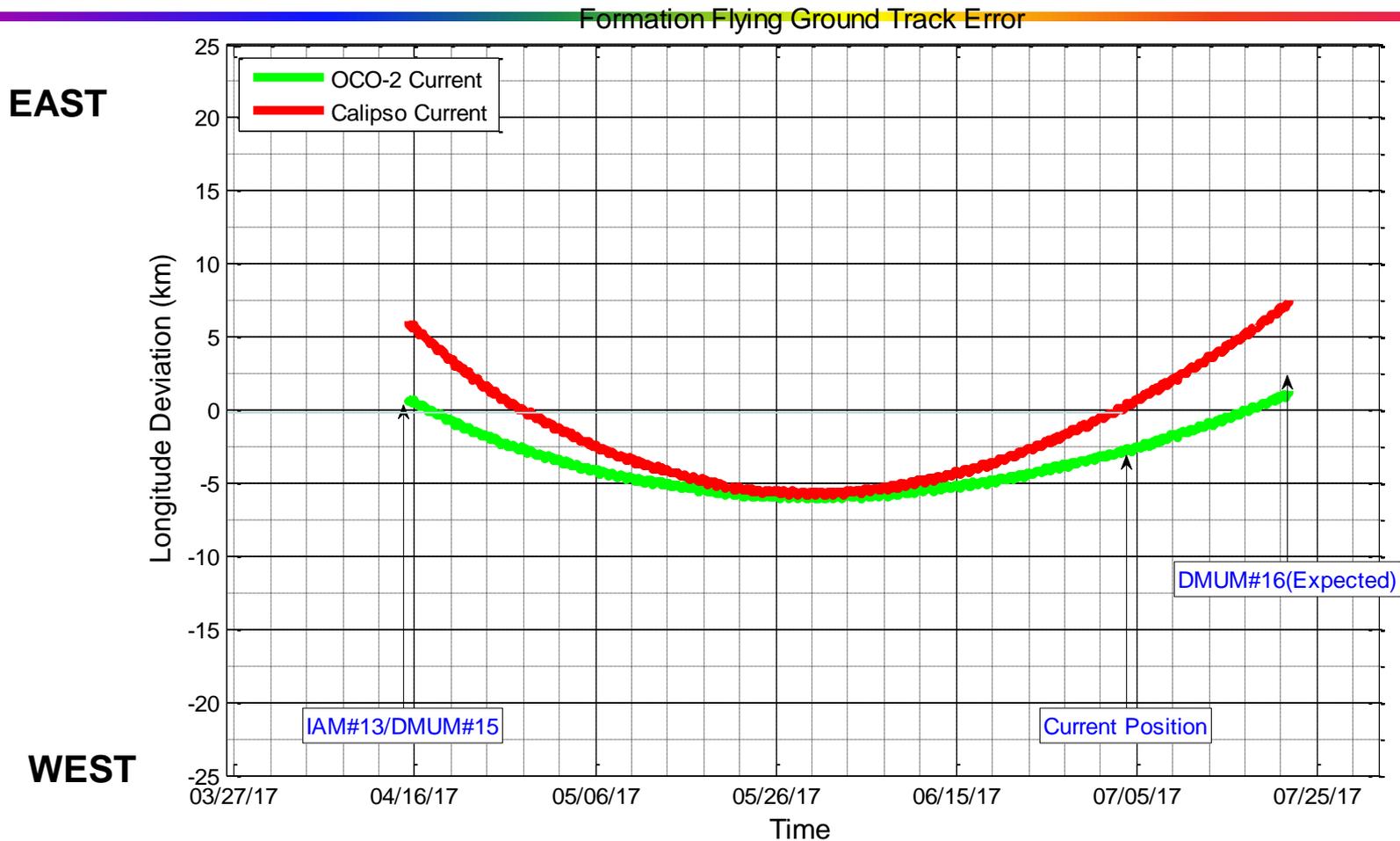


Overview

- **Observatory Status: Nominal**
 - Drag Make-up Maneuver (DMUM) planned for July 19
- **Instrument Status: Nominal**
 - Last decon: March 1, 2017 Decon. Next Decon, October 31, 2017
- **V8 Testing and Implementation**
 - The Level 2 B8r production plans will be reviewed at a Change Control Board (CCB) meeting on Thursday July 13. Pending approval, Level 2 B8r processing will begin after that meeting
- **Publications**
 - The Science/GRL Special Collection is IN PRESS
- **Meetings and Events supported by OCO-2 Team Members**



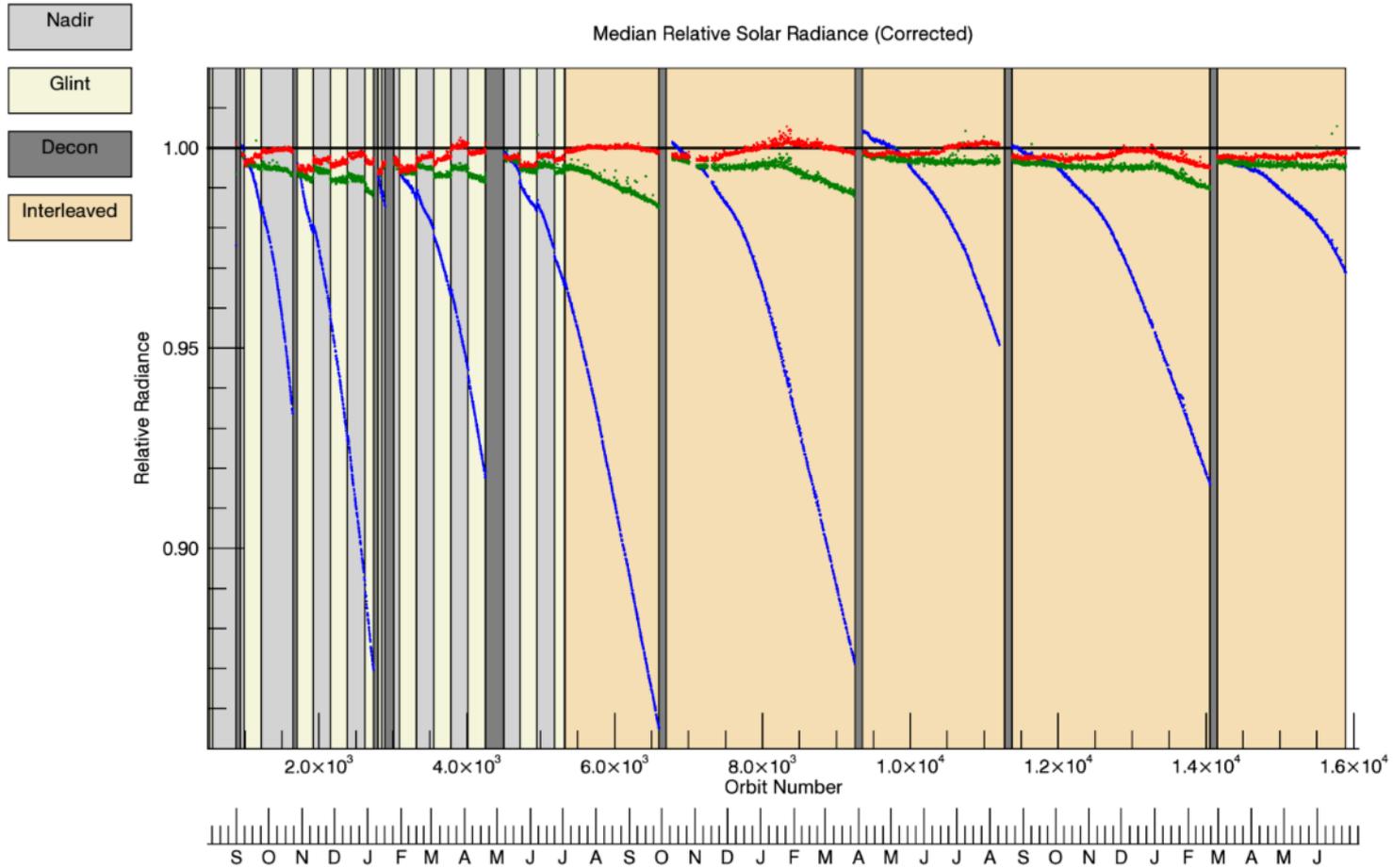
OCO-2 and CALIPSO Ground Tracks



The OCO-2 Nadir and CALIPSO ground tracks have remained well aligned since the last Inclination Adjust Maneuver in April. The next Drag Make-up Maneuver is tentatively scheduled for July 19.



OCO-2 Instrument Trending

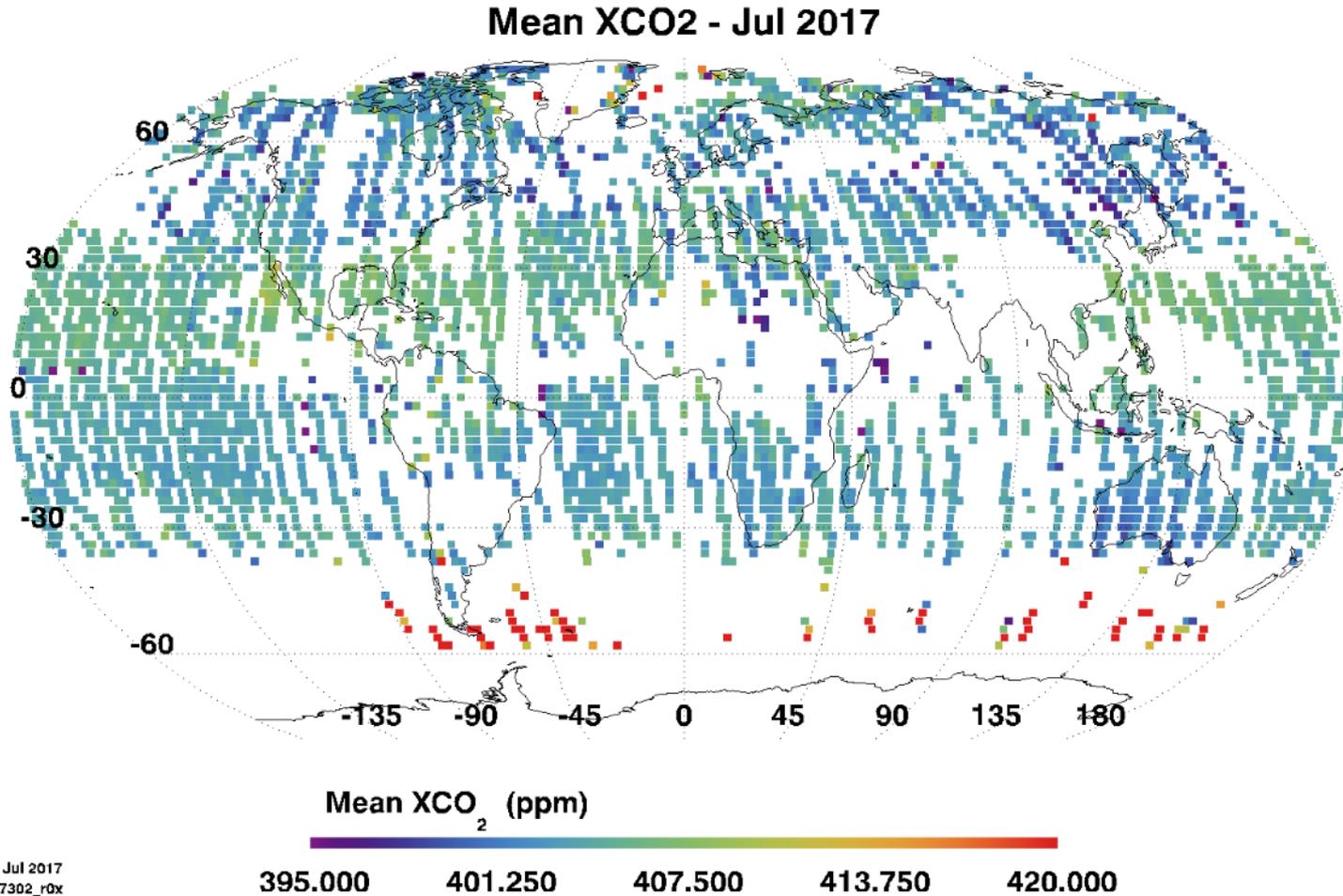


Rate of ice accumulation continues to decrease (and the degradation trend plots no longer include the (spurious) slow degradation 😊). **Next Decon, October 31, 2017.**





July X_{CO2} Data (forward stream)



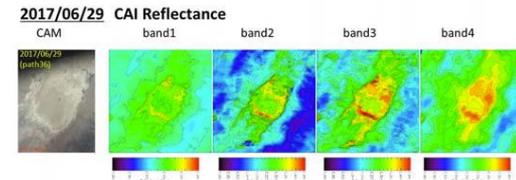
The first week of July is looking as expected. Note the impact of the summer monsoon over Asia. High XCO₂ values over Southern Ocean are under investigation.





The 2017 Railroad Valley Campaign was a Success

- Team deployed in RRV on 25-30 June
 - Ground based data collected on 25 (“training day”), 26, 27, 29 and 30 June
 - No rain and cloud-free skies on 25-23 June
 - Slightly hazy on 6/26
 - Alpha Jet not available
- OCO-2 Target Observations
 - 2017-06-25 14:05:28 PDT (2017-06-25 21:05:28 UTC)
 - 2017-06-27 13:53:08 PDT (2017-06-27 20:53:08 UTC)
 - 2017-06-29 13:41:00 PDT (2017-06-29 20:41:00 UTC)
- GOSAT Target Observations
 - Path 36 (east: forward scattering) on 2017-06-26 and 2017-06-29 (“Golden Day”)
 - Path 37 (west, backscattering) on 2017-06-27 (Silver day) and 2017-06-30 29
- Followed by a 1-day Salton Sea Campaign



ASD cross comparison on 6/30



Publications Statistics

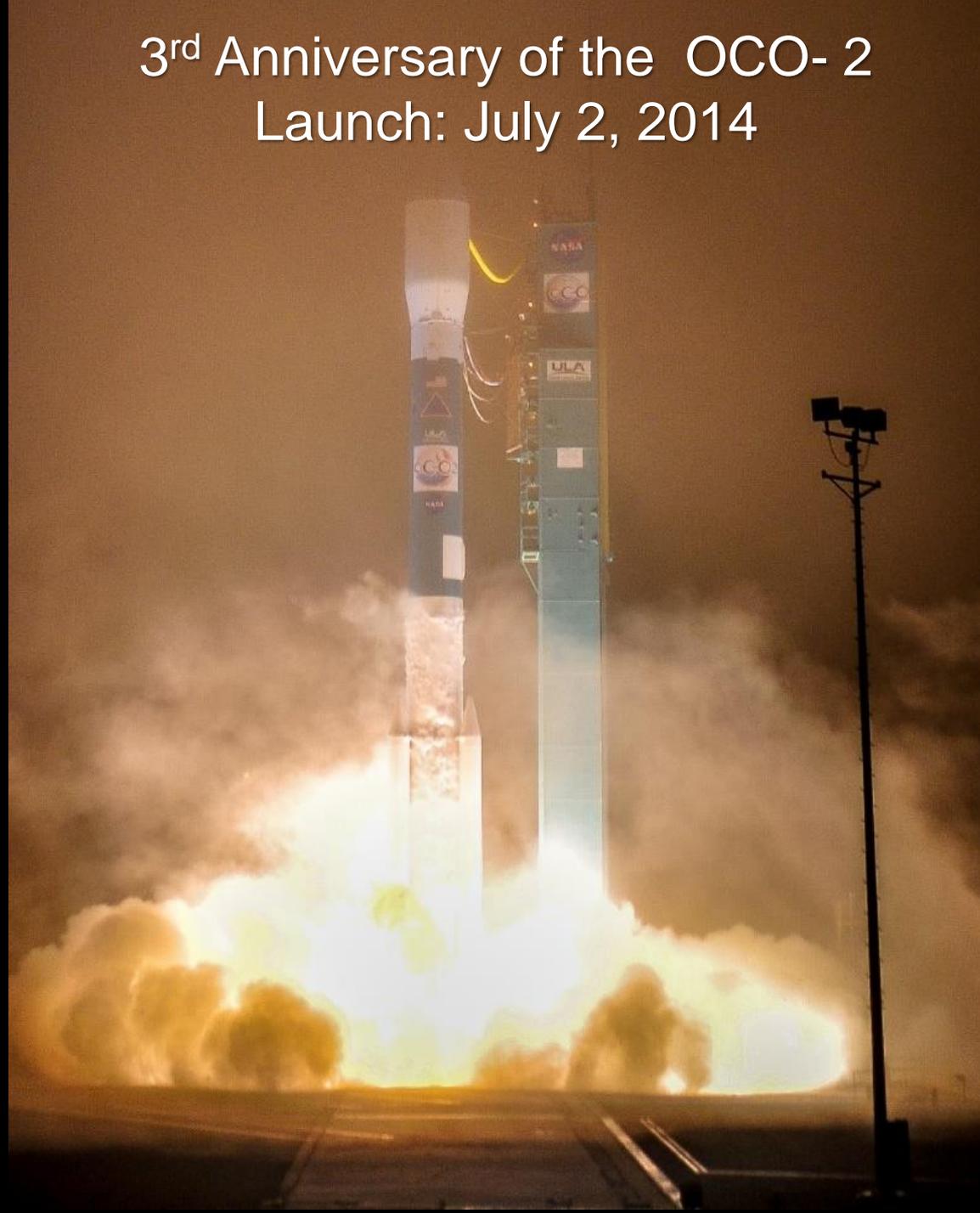
By 11-Jul-2017:

- 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: **13** refereed papers, **7** in press (5 papers Science/GRL Collection + Worden et al., and Chevallier et al.)
- 2017: ACOS: 2 refereed papers

3rd Anniversary of the OCO-2
Launch: July 2, 2014

**Ongoing Work for
V8**

Annmarie Eldering





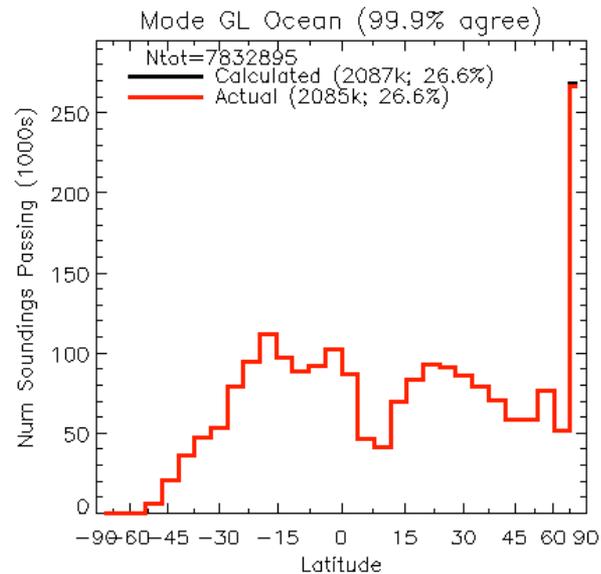
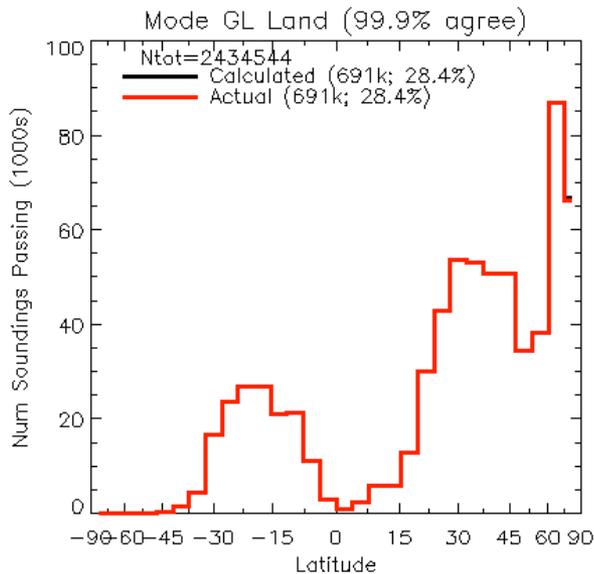
V8 data product development

- Updated data product being prepared. Working towards a complete reprocessing by end of Sept.
 - Updated radiometric calibration
 - Changes to retrieval process, including addition of stratospheric aerosols and more realistic treatment of how land surface reflect
 - L1b data product are being produced
 - L2 data production expected to start at the end of this week, expected to take 3 months
 - Using OCO-2 cluster, NASA supercomputer, and Amazon cluster
 - Bias Correction and data screening in development. Aiming to complete that work by the end of July
 - Lite file production to follow.



V8 will have more data throughput

- Improvements to cloud screening will
 - Increase data throughput from 18% to 24% of all measurements
 - Extend latitude range of data
- Figure below shows summer month throughput, on equal area scale. New scheme will let through more high latitude data and ocean data than v7

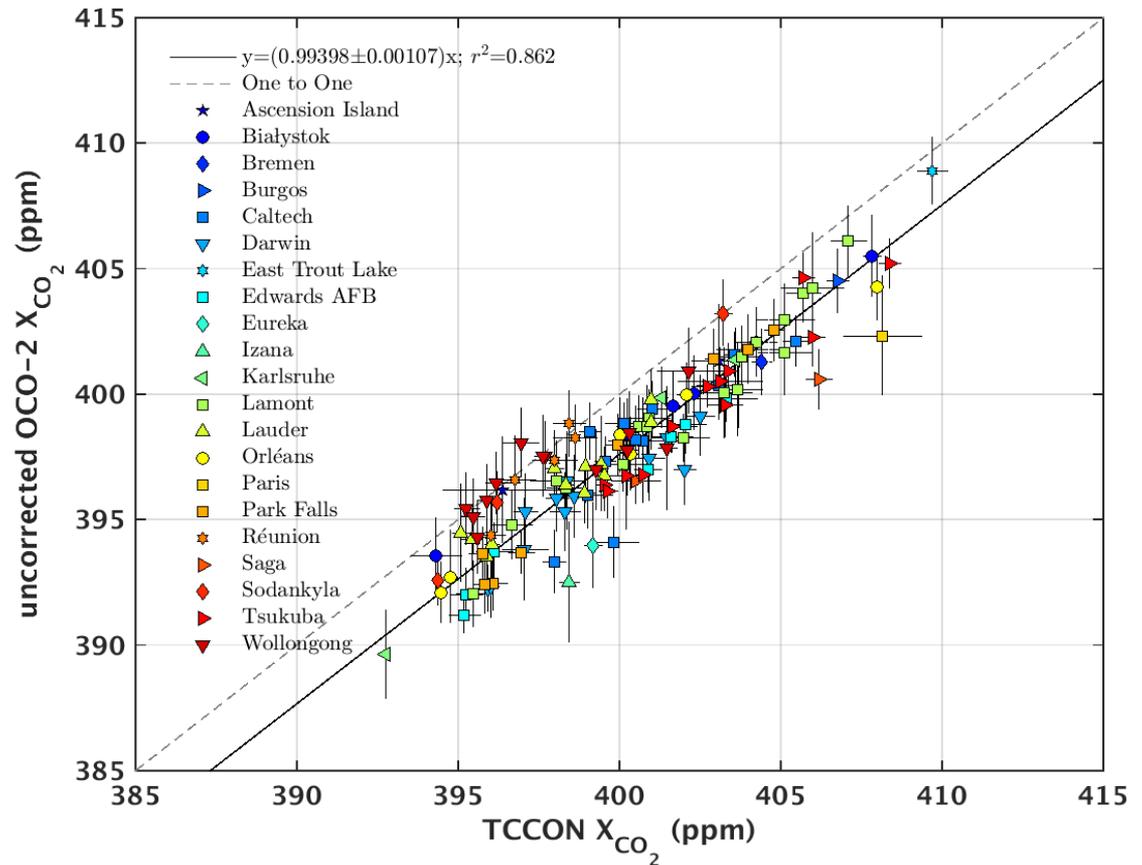




TCCON analysis underway

- Target data are critical to characterizing the dataset.
- We are in early stages of assessment.
- The v8 and v7 data, before any bias correction, have similar overall scatter relative to the TCCON target data, but the v8 data yield is much higher
- Ongoing analysis focuses on the key drivers of bias in the target data.

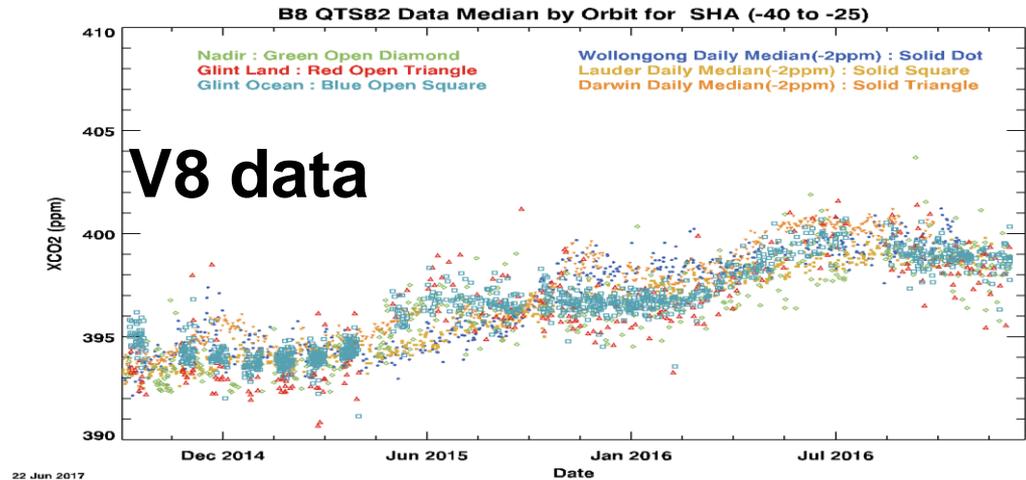
TCCON and OCO-2 data from targets, before bias correction is applied to v8 dataset.



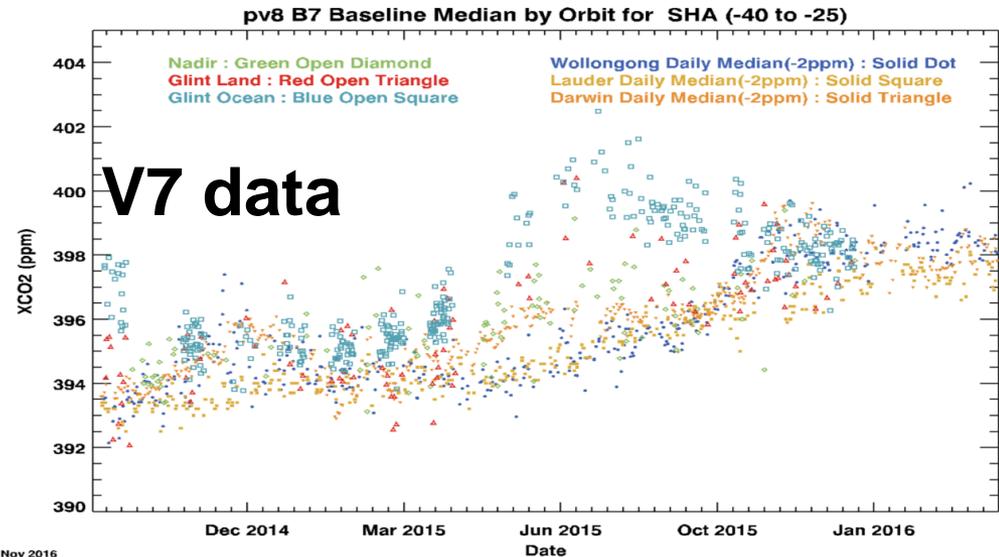


Timeseries of new v8 dataset (VERY prelim bias correction)

- New v8 data from nadir and glint are also compared to the TCCON measurements.
- In the southern hemisphere, we see that the time dependence of TCCON is well captured with the B8 dataset.
- In v7, there were seasonal disagreements in this region.
- The addition of stratospheric aerosols significantly reduced the bias.



22 Jun 2017

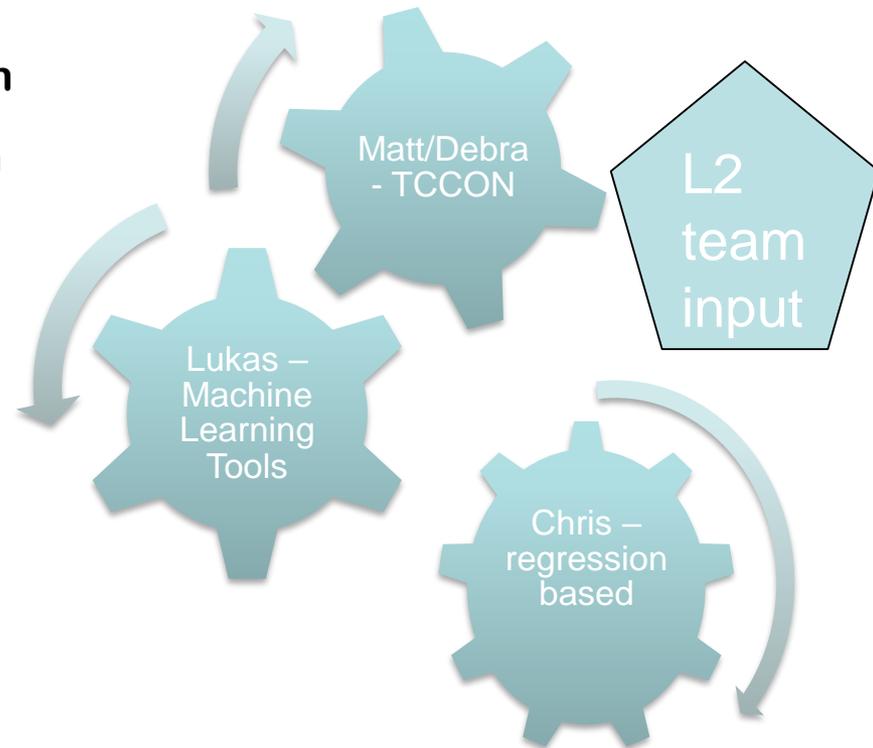


18 Nov 2016



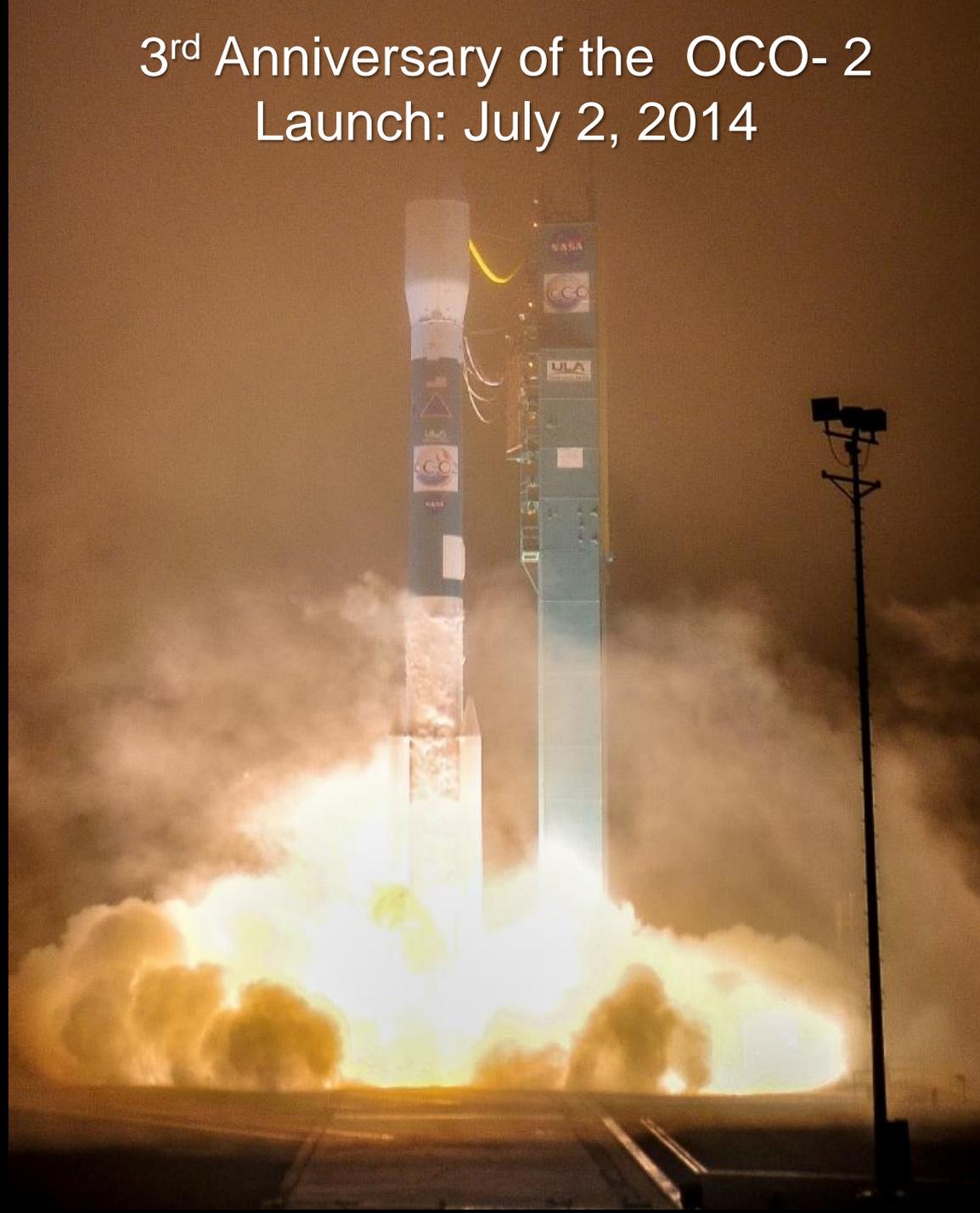
Ongoing Analysis – Bias Correction

- Coordinated team effort underway
 - Decide on variables for screening
 - Decide on variables for bias correction
 - Need to develop consensus on BC eqn (for form and coefficients)
- Seeing many familiar variables (dP, co2_grad_del, AOD.....)
- Double checking for airmass dependence
- Still need to attack mode to mode scaling
- Also adding some variables to analysis like declocking (may catch some cloud effects)



3rd Anniversary of the OCO-2
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**Upcoming
activities**





OCO-2 Team Activities

- **Recent Meetings**

- 20-25 May: JpGU, Chiba, Japan
- 23-24 May: NOAA ESRL GMD Annual Meeting, Boulder CO
- 6-8 June: IWGGMS, Helsinki
- 11-16 June: CGMS-45 (Carbon Session on 16 June)
- 28-30 June: CEOS AC-VC, CNES HQ, Paris

- **Upcoming Meetings**

- 6-11 August, AOGS, Singapore
- 21-25 August, ICDC10, Interlaken, Switzerland
- 11-14 September, 2017 CEOS SIT Technical Workshop, Frascati, Italy
- 2-6 October, EUMETSAT-2017, Rome, Italy
- 25-27 October 2017, OCO-2 Science Team Meeting, NCAR, Boulder CO