OCO-2 Status
August 25, 2016

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

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Agenda

- Observatory status
  - Instrument anomaly recovery
- B7.3 Validation
  - Preliminary comparisons with B3.5 and OCO-2 V7r
- Upcoming Visits and Meetings
  - SPIE: 28 August – September 1
  - IGAC: Breckenridge, Colorado,
  - CEOS ACC
  - OCO-2 Science Team Meeting: 25-27 October
  - AGU:

Instrument Status

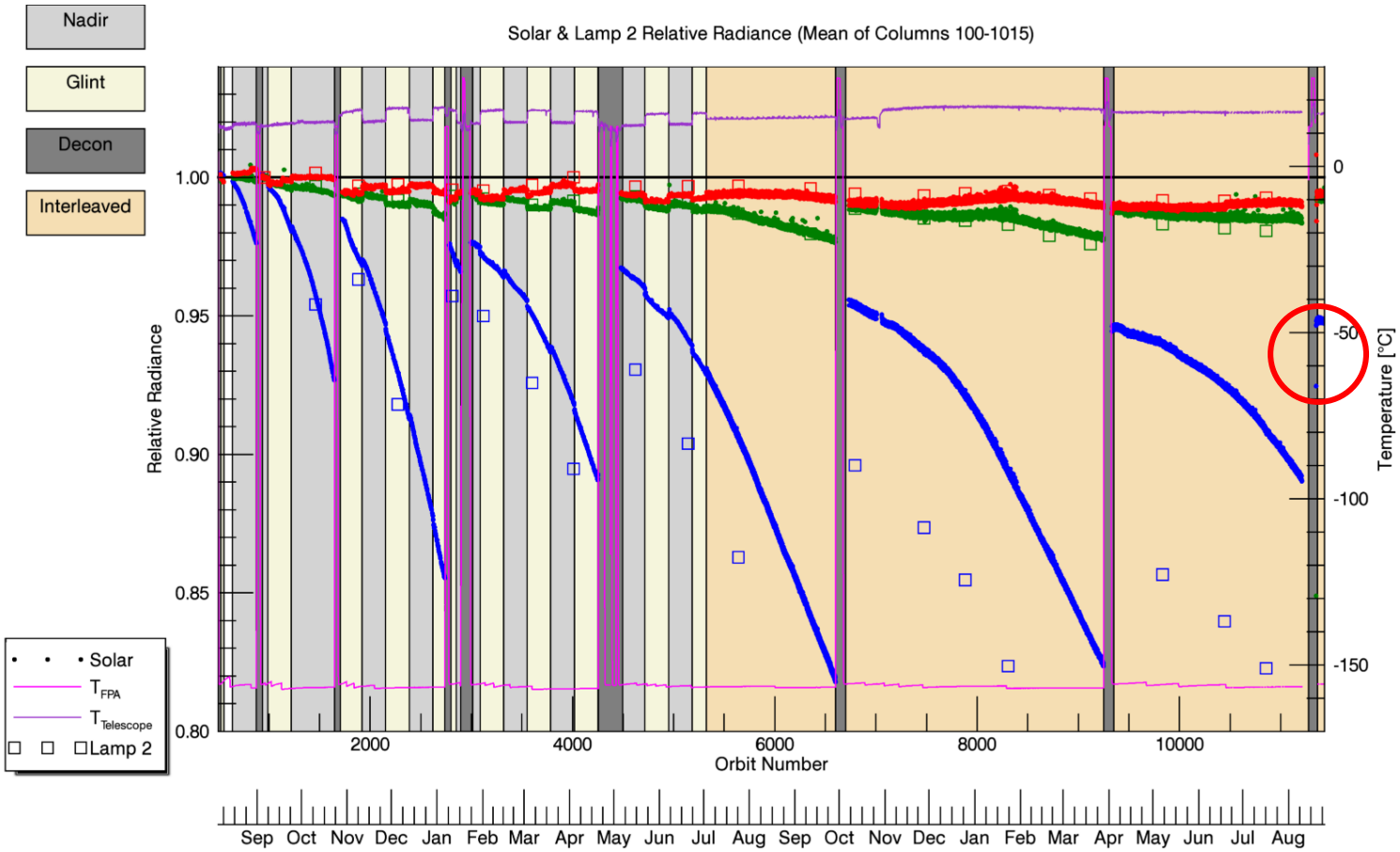
Instrument Recovery Status

- At 4:28 UTC on Wednesday 10 August, just after OCO-2 few over Rio de Janeiro, the instrument performed a spontaneous reset and was shut down by the fault detection system

- After completing an anomaly investigation, the instrument was successfully powered on at 16:39 UTC on Sunday 14 August, and commanded to perform a standard 28 C decontamination cycle

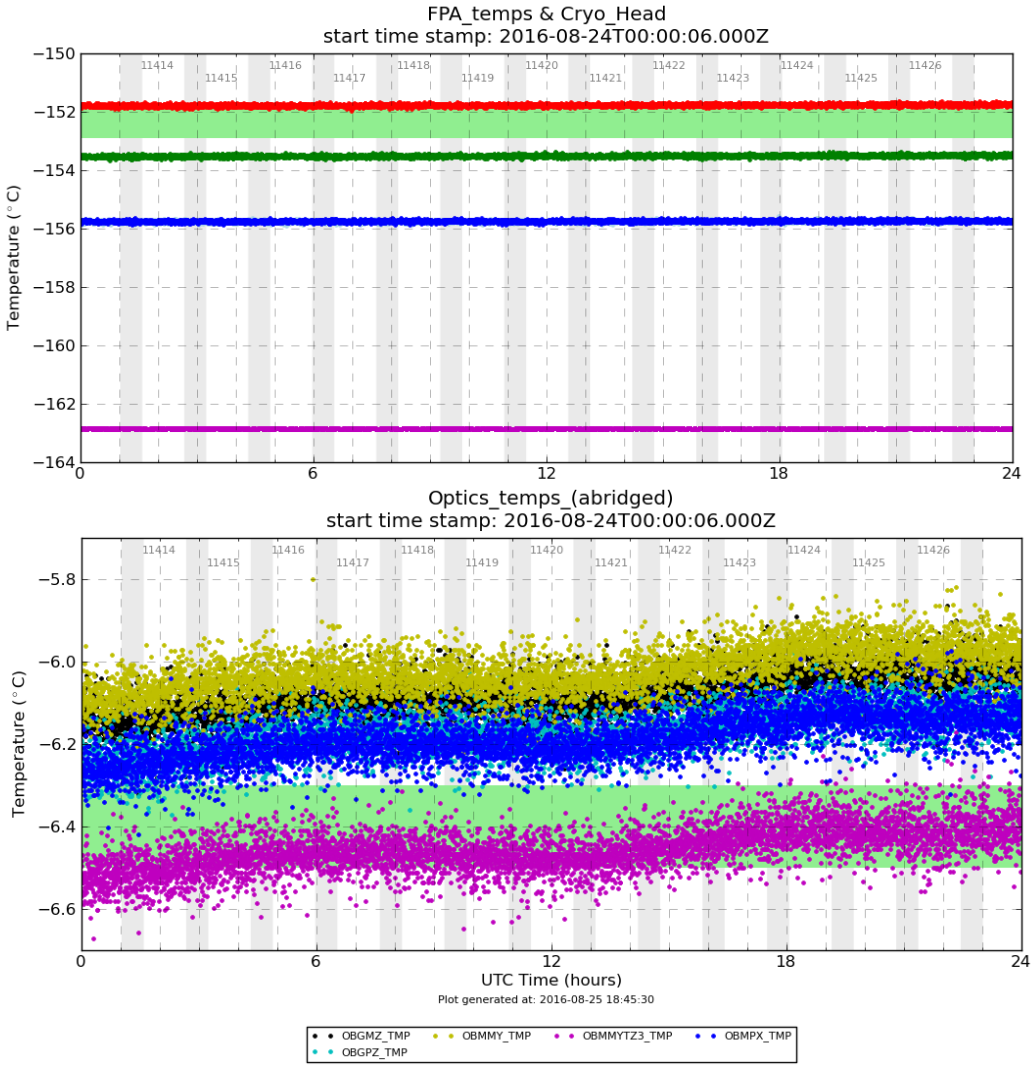
- The instrument optical bench and FPAs were back at their operating temperatures and collecting science data on Sunday, 21 August
  - The calibration team is in the process of updating the calibration files
  - The first Level 2 science data (forward stream, V7) should be available as early as Monday, August 29

Instrument Has been Decontaminated



- This will be the last decontamination cycle this calendar year.
- Rate of slow degradation has decreased (and reversed?)

Thermal Stability Restored

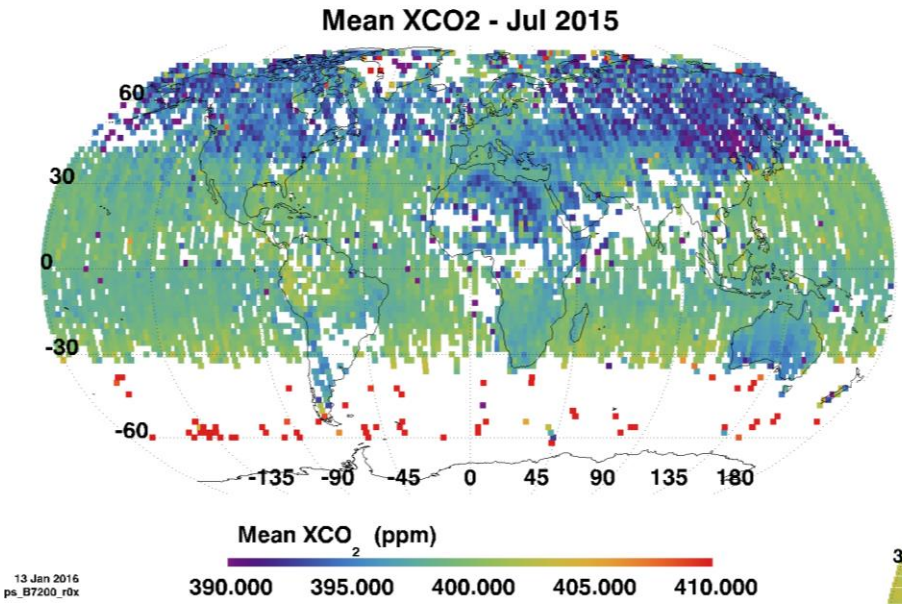


Focal Plane Temperature

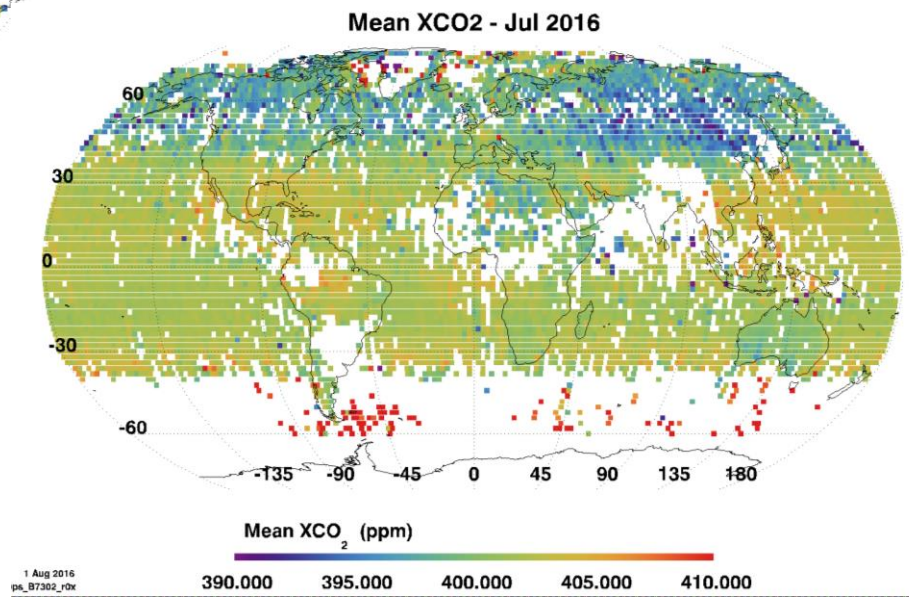
Optical Bench Temperature

Version 7 Products

Southern Hemisphere Glint Bais



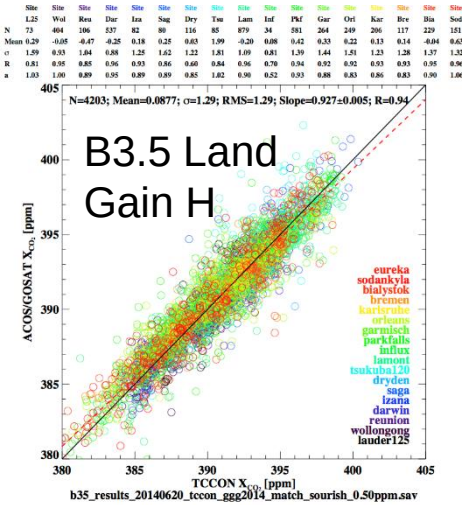
In 2016, the Southern Hemisphere glint bias is still there, but MAY be slightly smaller than in 2015

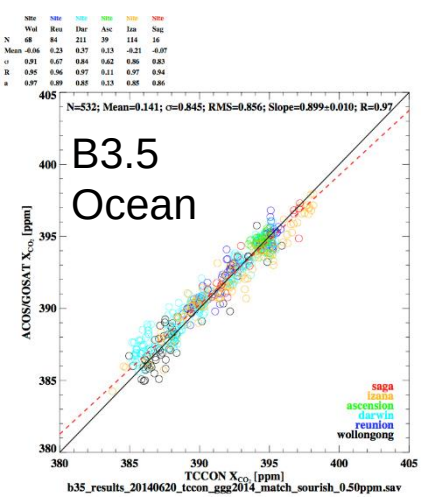


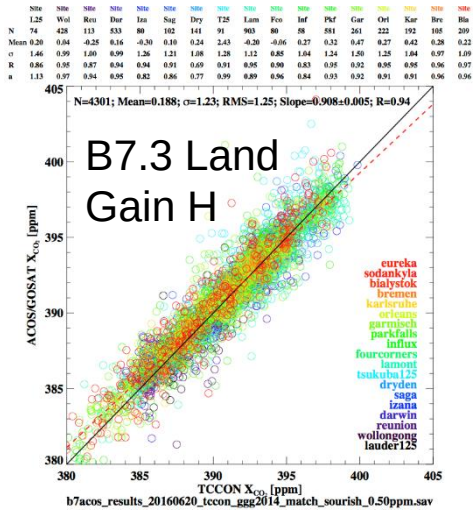
Comparing ACOS B3.5 and 7.3

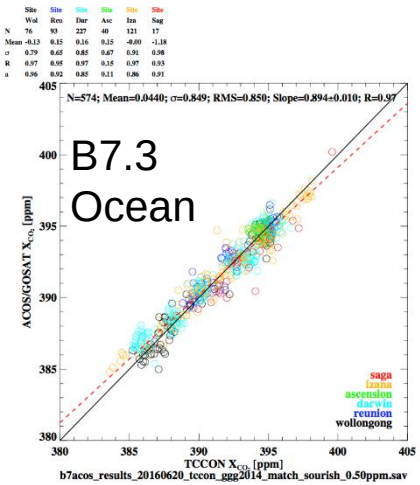
Chris O'Dell

- Similar statistics over land and ocean vs. TCCON, with slight differences.
- Many land stations show slightly better comparisons, with slightly worse errors at Sodankyla and Darwin.
- Ocean stations about the same, with exception of Saga where there is a substantial new bias – result of new bias correction affecting higher latitudes? (can test via model comparisons)

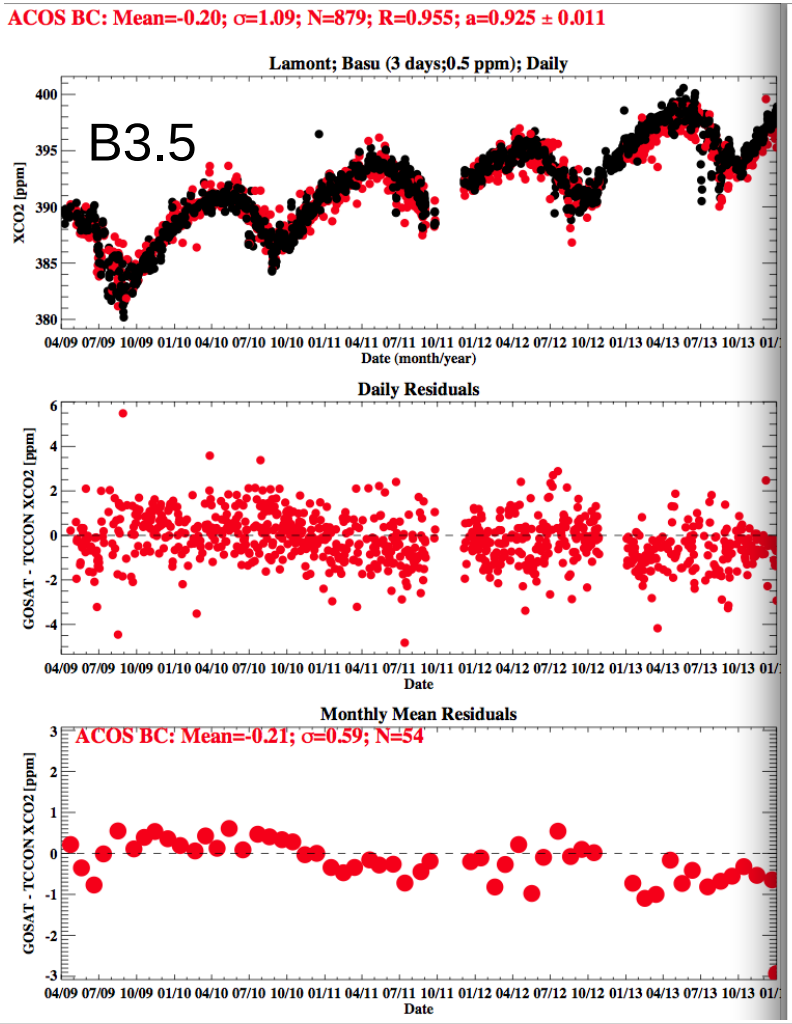


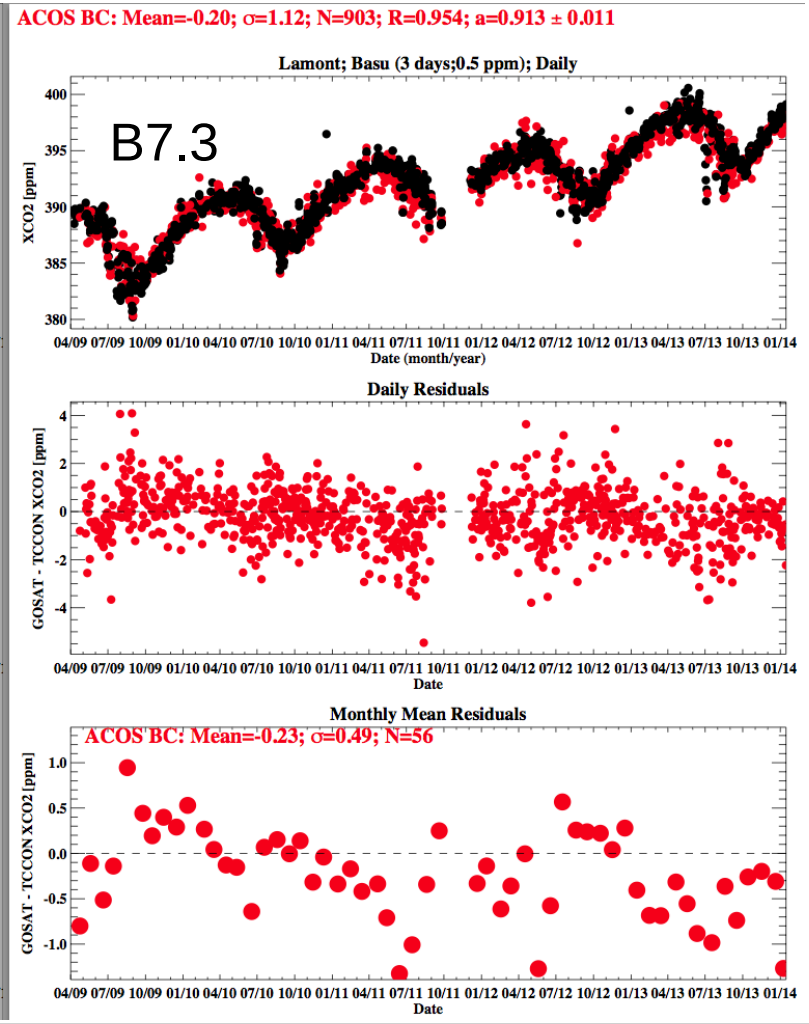






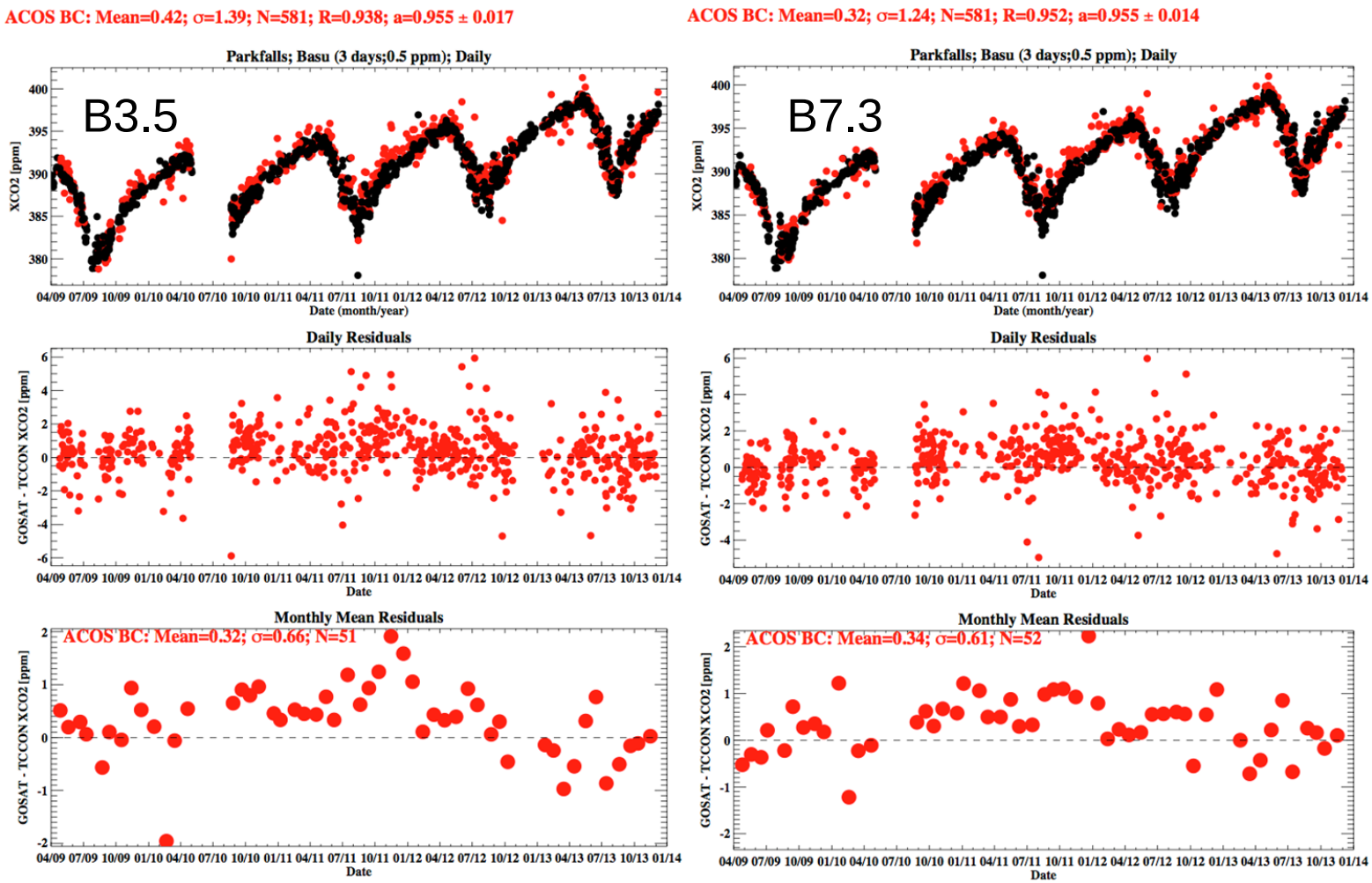
About Same: Lamont





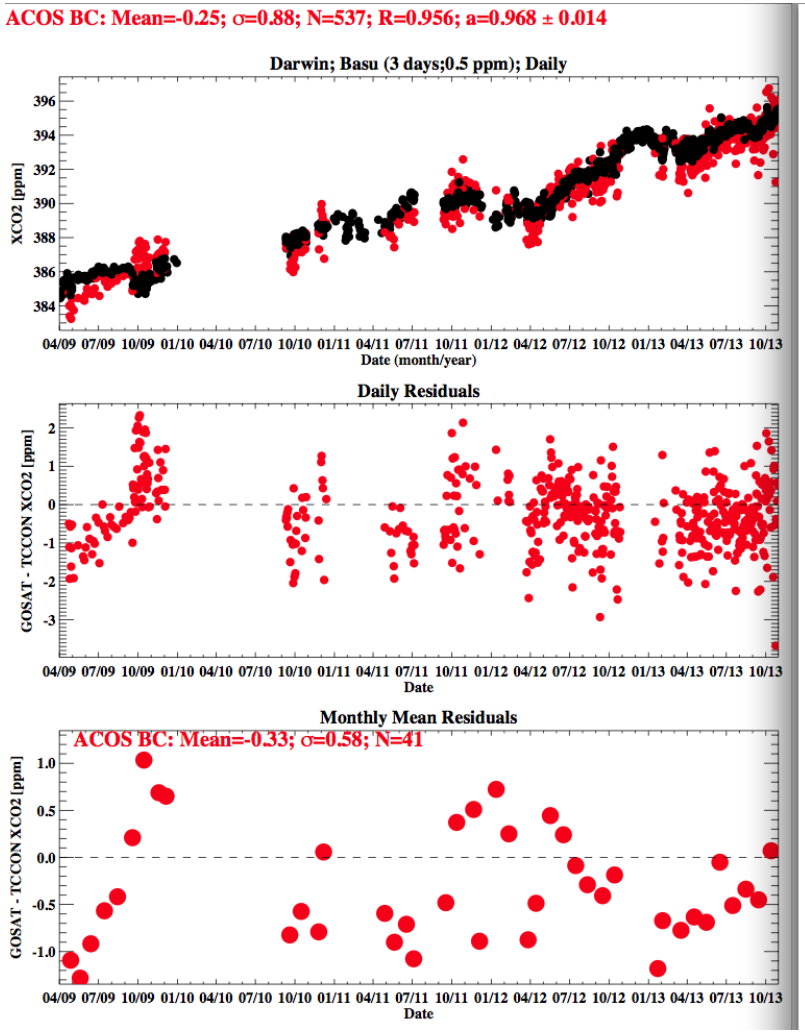
Better: Park Falls

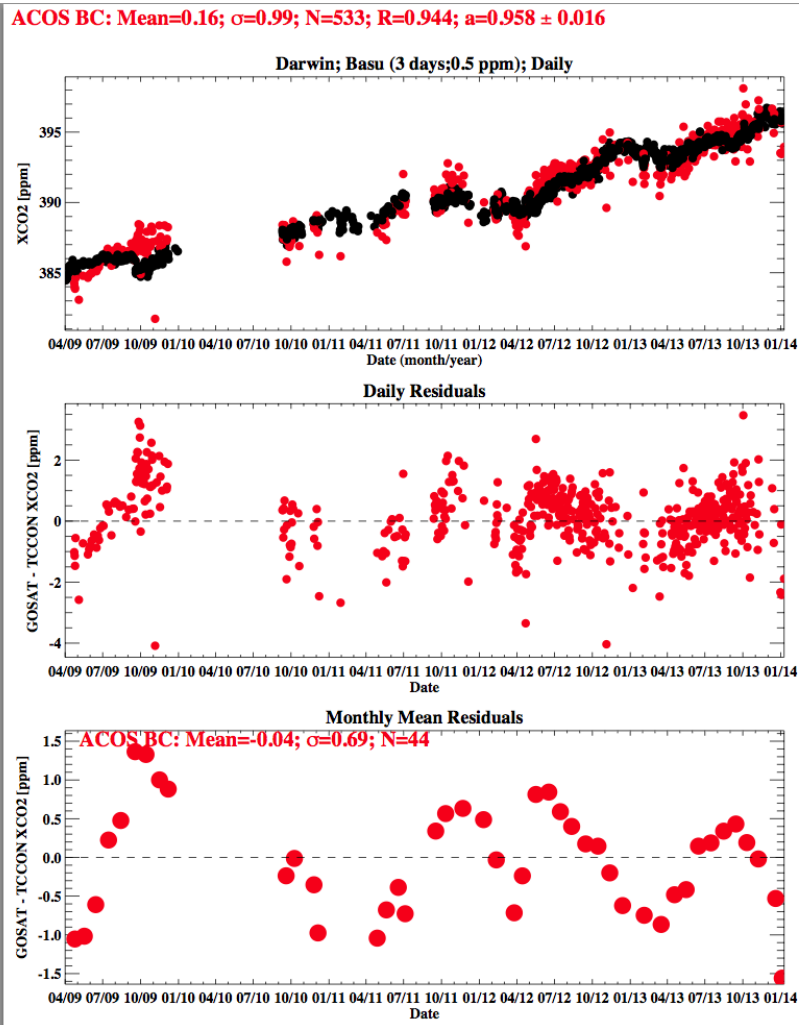
Chris O'Dell



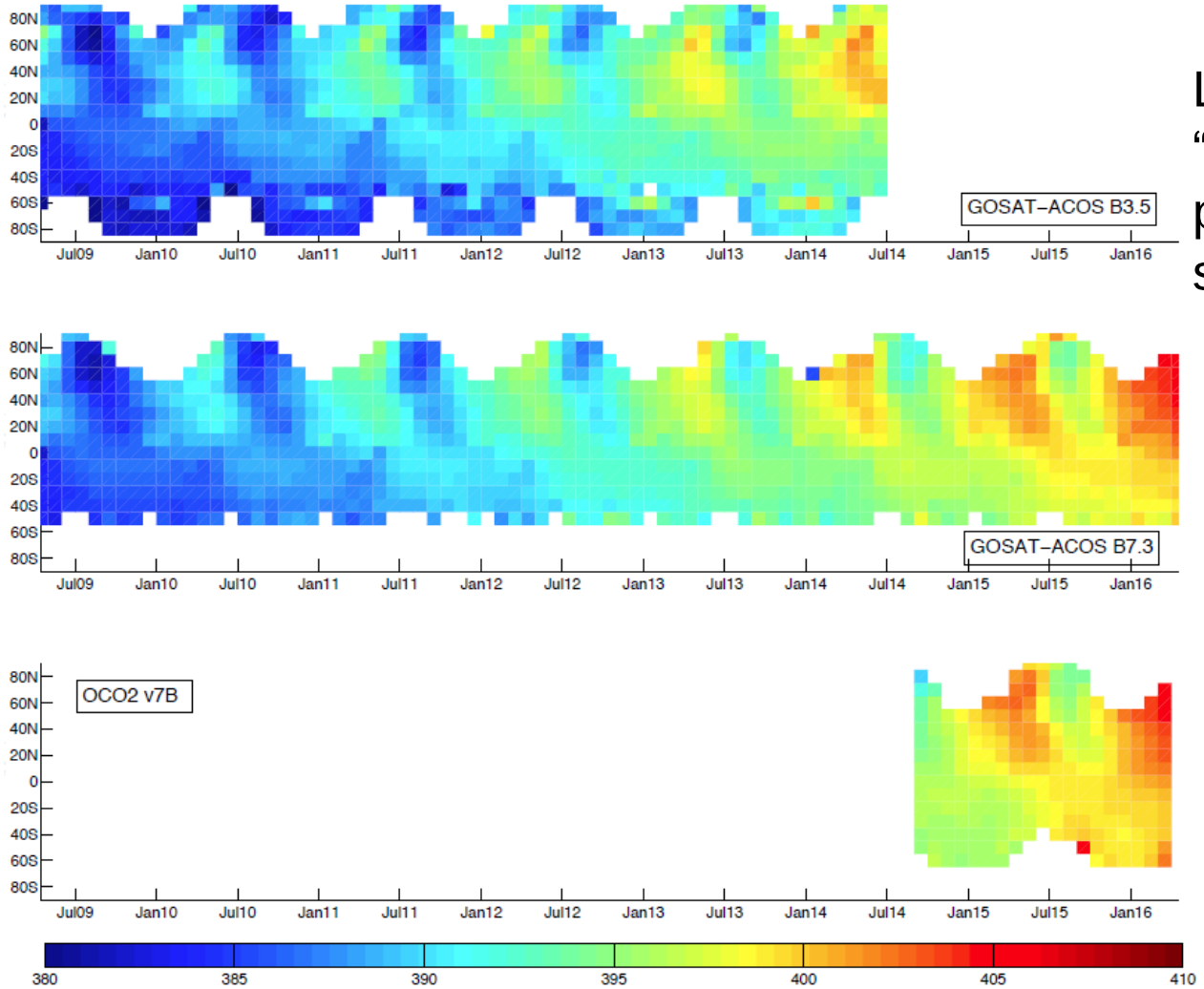
Slightly Worse: Darwin

Chris O'Dell





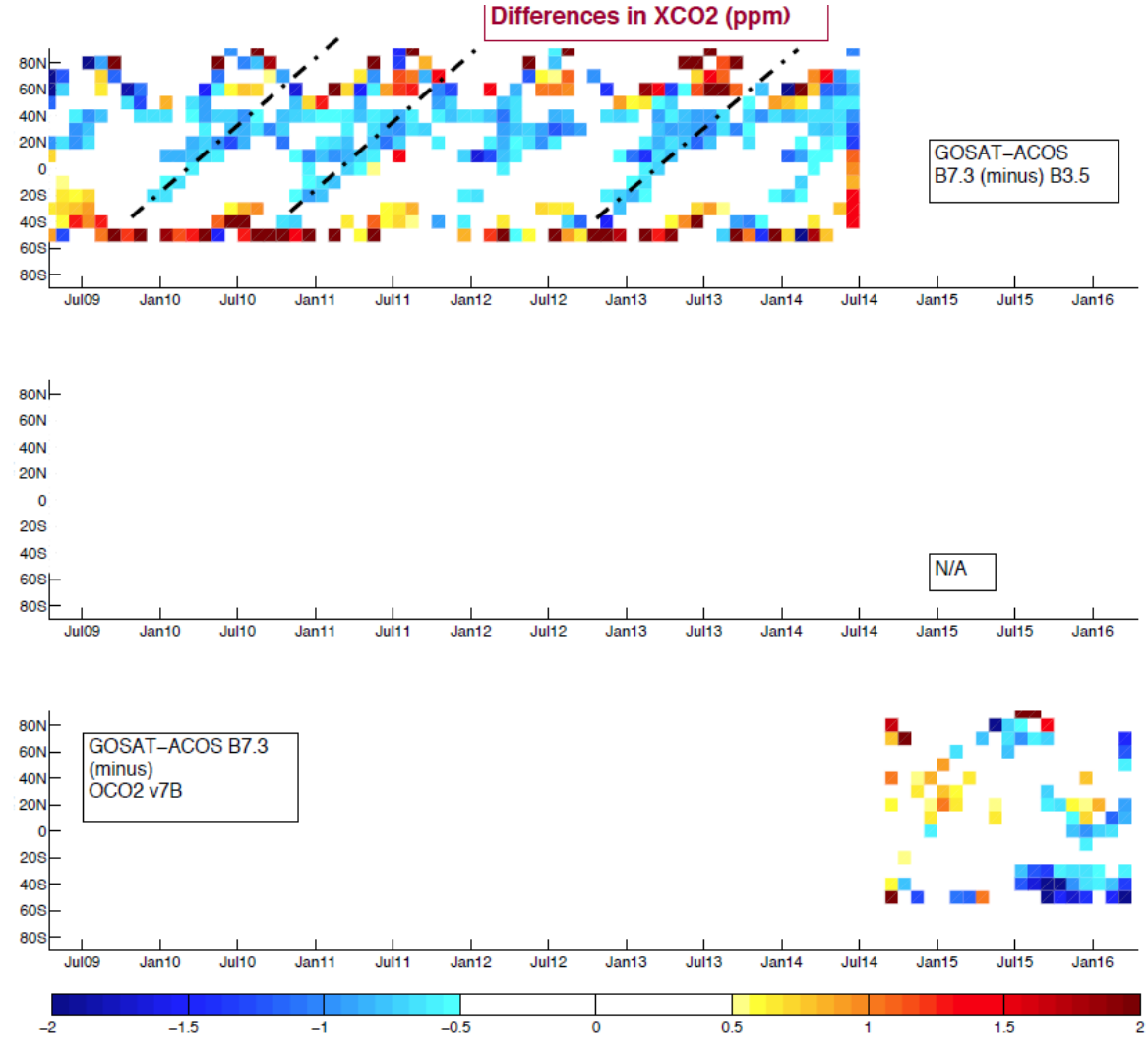
Comparisons of ACOS GOSAT 3.5*, 7.3, and OCO-2 V7 (Abhishek Chatterjee)



Latitude vs time "XCO2 Carpet" plots for all 3 data sets.

*B3.5 r01 shown here

Difference Plots: ACOS GOSAT B3.5*, B7.3, and OCO-2 V7 (Abhishek Chatterjee)

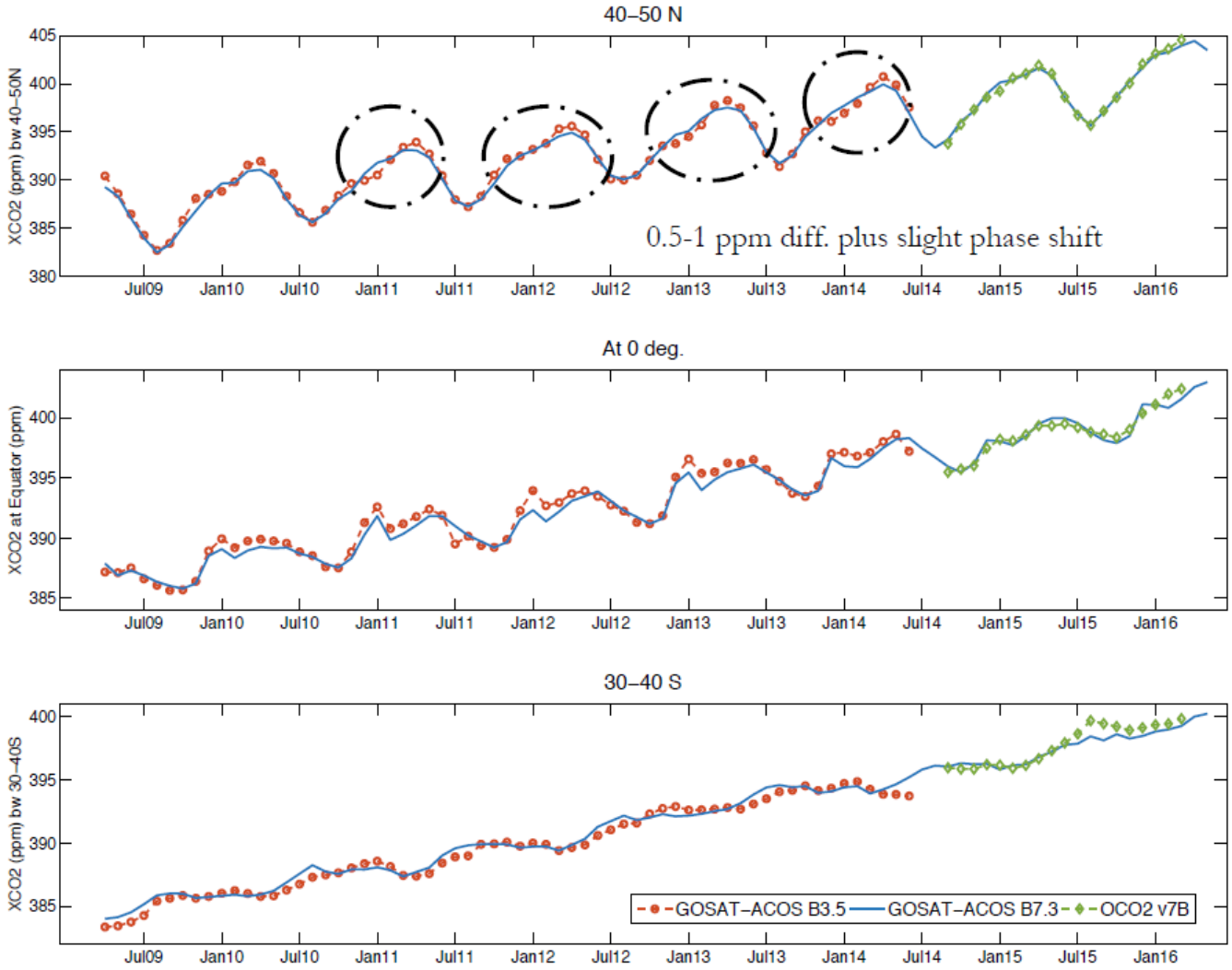


XCO2 differences between B7.3 and V7 are shown as a function of Latitude and time

- B7.3 and B3.5 r1 are different in both magnitude and phase
- The magnitude of differences between GOSAT-ACOS B7.3 and OCO2 v7B are within ±1 ppm

*B3.5 r01 shown here

Time Series of XCO2 for B3.5, B7.3, and V7 (Abhishek Chatterjee)



Visits and Meetings

JPL Visits

- Hiroshi Tanimoto:
  - Head, Global Atmospheric Chemistry Section, Center for Global Environmental Research, NIES
  - Tuesday 30 August
- Hiroshi Suto:
  - ACOS GOSAT v201.201/v7.3 vs OCO-2 v7
  - Wednesday 31 August

Upcoming Meetings

- SPIE: 28 August – September 1, San Diego, CA
  - Suto et al. (GOSAT)
- IGAC: Breckenridge, Colorado,
  - Crisp (OCO-2), Sander Houweling (GOSAT and S5p CH4)
- CEOS Atmospheric Composition Constellation, Seoul Korea
- OCO-2 Science Team Meeting: 25-27 October, Boulder CO
  - Register: https://sites.google.com/site/oco2oct2016stm/homeet
- AGU: 12-16 December
  - Are we planning to hold a TIM?