

Data Intake Processing and Verification Report

Background Information

- **Original Dataset Name:** OCO-2 GEOS Level 3 daily, 0.5x0.625 assimilated CO₂ V10r (OCO2_GEOS_L3CO2_DAY) at GEIS DISC
- **GHG Center Dataset Title:** OCO-2 GEOS Column CO₂ Concentrations
- **Dataset Provider:** NASA
- **Date Obtained:** August 2023
- **Location Obtained From:** <https://doi.org/10.5067/Y9M4NM9MPCGH>
- **Data Location in GHG Center:** oco2geos-co2-daygrid-v10r
- **Data POC(s):** Dr. Lesley Ott, Dr Brad Weir
- **Dataset File Type(s):** NetCDF
- **Projection (if different from WGS84):** NA

Data Transfer Confirmation

An SHA-256 checksum is used to detect high-level errors within data transmissions. Results from individual checksum file comparisons of pre-transfer and post-transfer shows all files were transferred successfully and no individual files had any transfer issues.

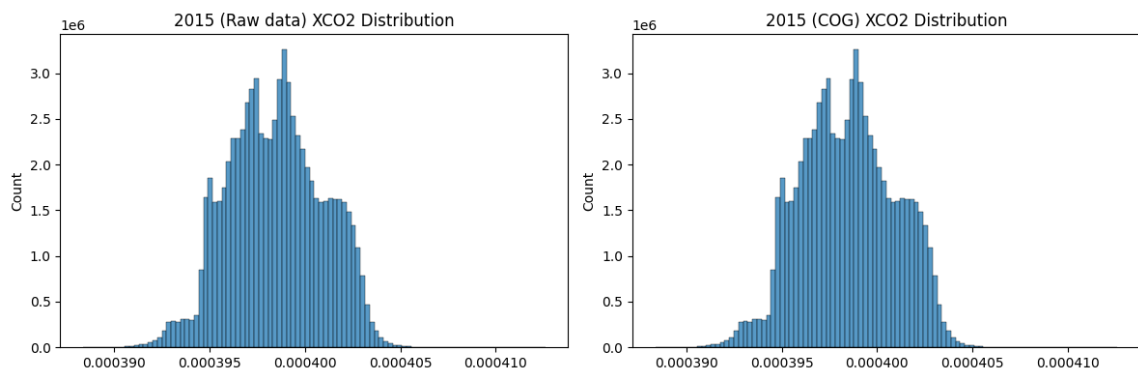
Data Intake Process

- https://us-ghg-center.github.io/ghgc-docs/data_workflow/oco2geos-co2-daygrid-v10r_Data_Flow.html

Overall Dataset Statistics

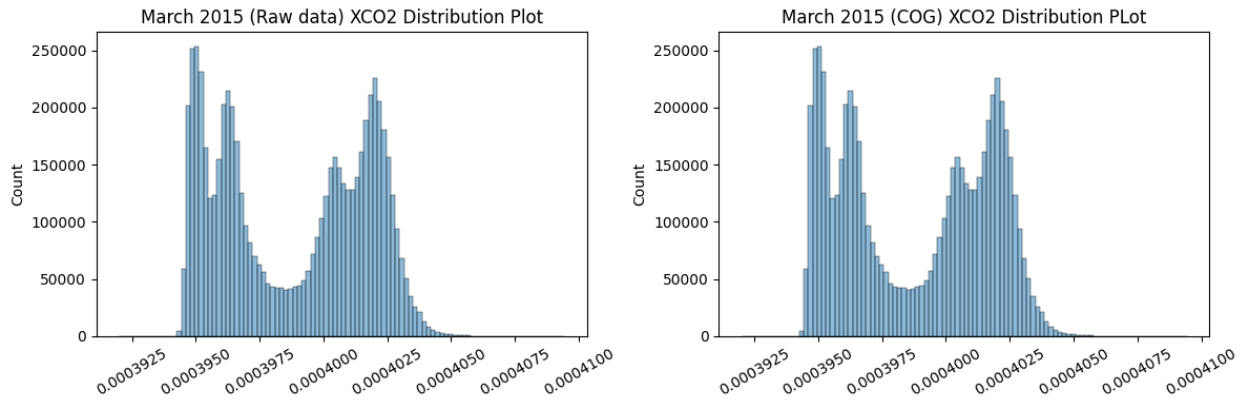
NetCDF (original data) and COGs (transformed cloud optimized GeoTIFF) files were read to generate the statistics.

- Statistics for 2015 Average Dry-Air Column CO₂ (XCO₂) variable:



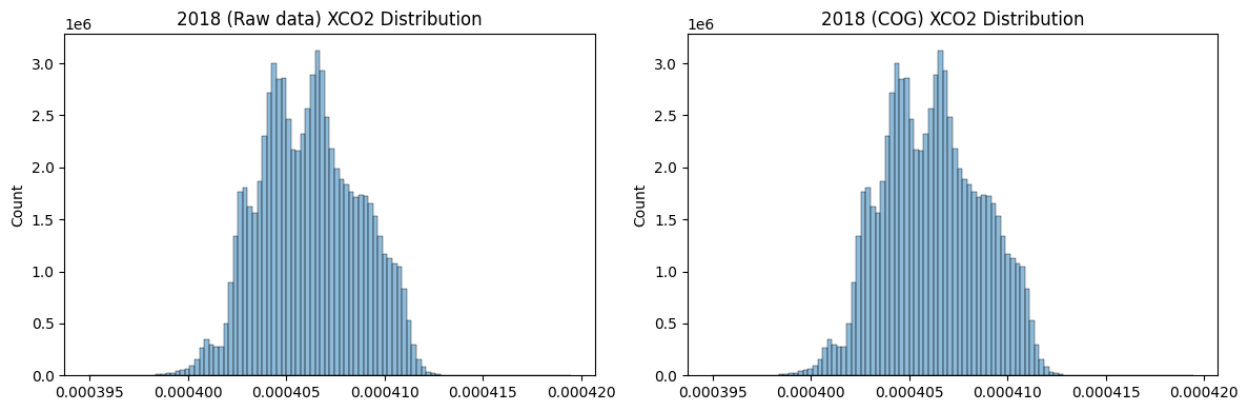
	Minimum (ppm)	Maximum (ppm)	Mean (ppm)
Original Data	0.000388	0.000412	0.0003984
Transformed Data	0.000388	0.000412	0.0003984

- Statistics for March 2015 Average Dry-Air Column CO₂ (XCO₂) variable:



	Minimum (ppm)	Maximum (ppm)	Mean (ppm)
Original Data	0.000391	0.000409	0.000398
Transformed Data	0.000391	0.000409	0.000398

- Statistics for 2018 Average Dry-Air Column CO₂ (XCO₂) variable:



	Minimum (ppm)	Maximum (ppm)	Mean (ppm)

Original Data	0.000394	0.000419	0.000406
Transformed Data	0.000394	0.000419	0.000406

- Link to transformation record in [Jupyter Notebook](#)
- All values are in expected range

Summary

- We are confident that the transformation and display of data in the GHG Center is correct
- There were no problems identified in the data
- Link to [user notebook](#)
- Link to GHG Center data catalog [overview page](#)

Report Completed on: 10/31/2023

MSFC POC for questions: [Deborah Smith](#), [Siddharth Chaudhary](#)