Data Intake Processing and Verification Report

Background Information

- **Original Dataset Name:** The ECCO-Darwin Data-Assimilative Global Ocean Biogeochemistry Model: Estimates of Seasonal to Multidecadal Surface Ocean pCO2 and Air-Sea CO_2 Flux
- **GHG Center Dataset Title:** Air-Sea CO_2 Flux, ECCO-Darwin Model v5
- **Dataset Provider:** NASA
- **Date Obtained:** August 2023
- **Location Obtained From:** Direct data delivery via private google drive
- **Data Location in GHG Center:** eccodarwin-co2flux-monthgrid-v5
- **Data POC(s):** Dr. Kevin Bowman
- **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/eccodarwin-co2flux-monthgrid-v5_Data_Flow.html

Overall Dataset Statistics

- Number of data file read: 36 NetCDF (original data) and 36 COGs (transformed cloud optimized GeoTIFF)
- Statistics across all 36 files:

	Minimum (mmol m^2/s)	Maximum (mmol m^2/s)	Mean (mmol m^2/s)	Standard Deviation
Original Data	-0.05605	0.05544	-0.0000262	0.00019
Transformed Data	-0.05605	0.05544	-0.0000262	0.00019

- Distribution of values in mmol m^2/s across files:
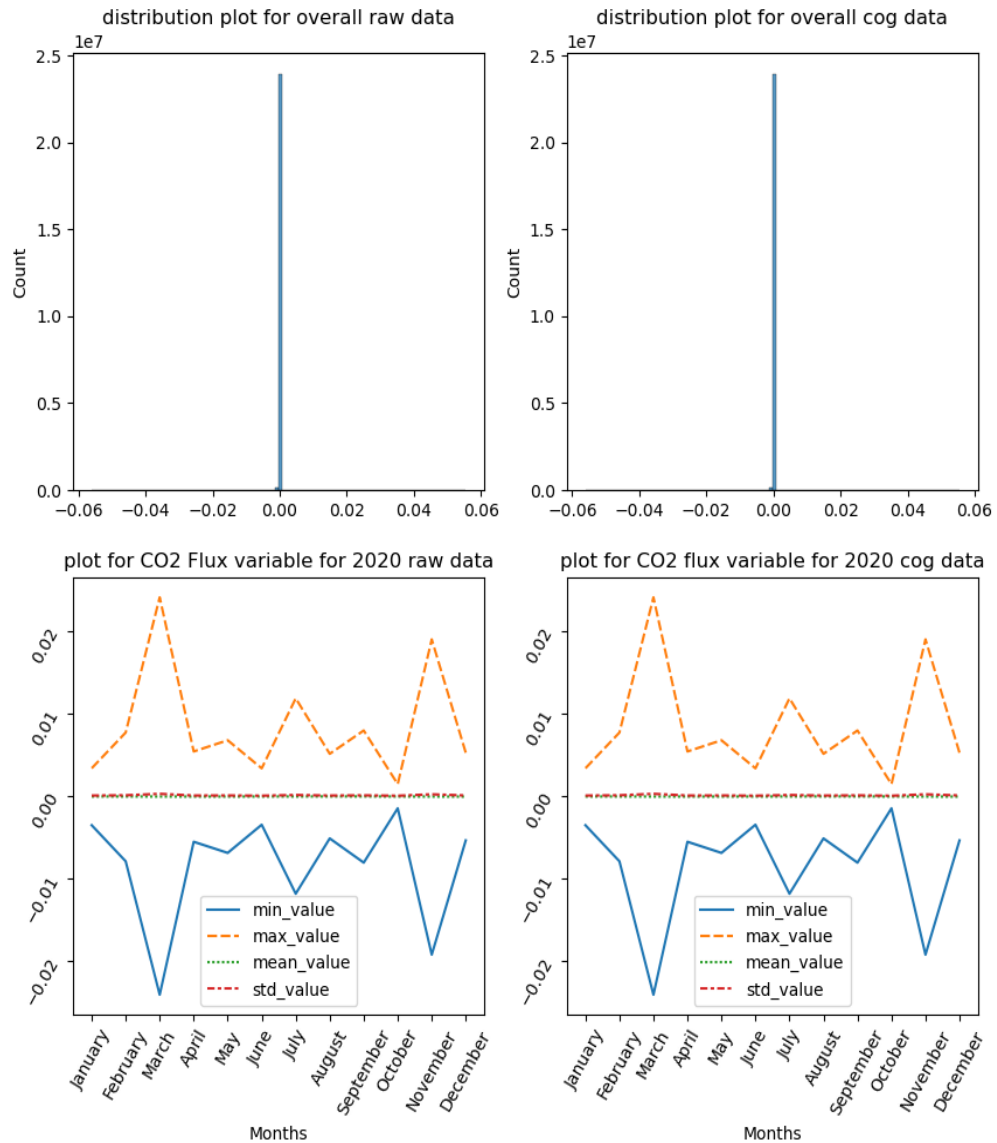
- Statistics for November 2022:

	Minimum (mmol m^2/s)	Maximum (mmol m^2/s)	Mean (mmol m^2/s)	Standard Deviation
Original Data	-0.0310	0.0307	-0.000022	0.000377
Transformed Data	-0.0310	0.0307	-0.000022	0.000377

- 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: 09/27/2023
MSFC POC for questions: [Deborah Smith](#), [Siddharth Chaudhary](#)