

Data Intake Processing and Verification Report

[Draft - In Progress]

Background Information

- **Original Dataset Name:** CEOS Pilot Top-down methane emissions estimates by sector and country
- **GHG Center Dataset Title:** GOSAT-based Top-down Total and Natural Methane Emissions
- **Dataset Provider:** CEOS, NASA/JPL
- **Date Obtained:** August 15, 2023
- **Location Obtained From:** [CMS-Flux \(nasa.gov\)](https://cms.flux.nasa.gov/)
 - [TopDownEmissions_GOSAT_GEOS_CHEM_2019.nc](#)
- **Data Location in GHG Center:** ceos-ch4budget-yeargrid-v1
- **Data POC(s):** Dr. John Worden, 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
 - All files were transferred successfully

Filename	SHA 256 Original file	

- Report any individual file issues: NA

Data Intake Process

- https://us-ghg-center.github.io/ghgc-docs/data_workflow/gosat-based-ch4budget-yeargrid-v1_Data_Flow.html

Overall Dataset Statistics

- Data file reads confirmed:
- Mean, min, max across all files:
 - Original dataset:
 - COG transformed dataset:
- Distribution of values across all data (by variable)

- Original dataset:
- COG transformed dataset:
- File range (most cases will be all files)
- Bounding Box of all data
- Link to transformation record in Jupyter Notebook:
https://us-ghg-center.github.io/ghgc-docs/cog_transformation/gosat-based-ch4budget-yeargrid-v1.html
- All values are in expected range (catches out of range values)

Specific, Random Checks/Visual Confirmation

- Visual example and side by side comparison
- More detailed statistics for specific files (randomly chosen)
 - Statistics was performed for the following files:
 - TBD
- Data comparison at a few specific locations

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:
https://us-ghg-center.github.io/ghgc-docs/user_data_notebooks/gosat-based-ch4budget-yeargrid-v1_User_Notebook.html
- Link to GHG Center data catalog overview page:
<https://ghg.center/data-catalog/gosat-based-ch4budget-yeargrid-v1-ghgc>

Report Completed on:

MSFC POC for questions: <>

