# 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)
  - 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:** <>