

# Data Intake Processing and Verification Report

## Background Information

- **Original Dataset Name:** CarbonTracker-CH4 2023
- **GHG Center Dataset Title:** CarbonTracker-CH<sub>4</sub> Isotopic Methane Inverse Fluxes
- **Dataset Provider:** NOAA
- **Date Obtained:** November 2024
- **Location Obtained From:** <https://doi.org/10.25925/40jt-qd67>
  - “Fluxes” data only  
(<https://gml.noaa.gov/aftp/products/carbontracker/ch4/CT-CH4-2023/fluxes/>)
  - A total methane emissions layer was calculated by the data provider and delivered directly to the US GHG Center.
- **Data Location in GHG Center:** ct-ch4-monthgrid-v2023
- **Data POC(s):** Dr. Lori Bruhwiler, Dr. Youmi Oh, Dr. Sourish Basu
- **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/ct-ch4-monthgrid-v2023\\_Data\\_Flow.html](https://us-ghg-center.github.io/ghgc-docs/data_workflow/ct-ch4-monthgrid-v2023_Data_Flow.html)

## Overall Dataset Statistics

- Statistics across all files for all variables:

	Minimum (g CH <sub>4</sub> /m <sup>2</sup> /year)	Maximum (g CH <sub>4</sub> /m <sup>2</sup> /year)	Mean (g CH <sub>4</sub> /m <sup>2</sup> /year)	Standard Deviation
Original Data	0.0	759.428	0.405	0.81
Transformed Data	0.0	759.428	0.405	0.81

- Distribution of values in g CH<sub>4</sub>/m<sup>2</sup>/year across all files for Total CH<sub>4</sub> emission variable and Microbial CH<sub>4</sub> emission variable:
- Statistics for Fossil CH<sub>4</sub> emission in 2015:

	Minimum (g CH <sub>4</sub> /m <sup>2</sup> /year)	Maximum (g CH <sub>4</sub> /m <sup>2</sup> /year )	Mean (g CH <sub>4</sub> /m <sup>2</sup> /year)	Standard Deviation
Original Data	0.0	340.215	0.231	0.112
Transformed Data	0.0	340.215	0.231	0.112

- Statistics for Microbial CH<sub>4</sub> emission variable in 2015:

	Minimum (g CH <sub>4</sub> /m <sup>2</sup> /year)	Maximum (g CH <sub>4</sub> /m <sup>2</sup> /year )	Mean (g CH <sub>4</sub> /m <sup>2</sup> /year)	Standard Deviation
Original Data	0.0	261.881	0.707	1.383
Transformed Data	0.0	261.881	0.707	1.383

- 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 [Data Usage Notebook](#)
- Link to [US GHG Center Data Catalog overview page](#)

**Report Completed on:** 11/19/2024

**MSFC POC for questions:** [Jeanné le Roux](#), [Siddharth Chaudhary](#)