NIES-GOSAT2-SYS-20250324-028-01

Release Note

GOSAT-2 TANSO-FTS-2 SWIR L2
Column-averaged Dry-air Mole Fraction Product

Product version 02.21

June 2025

National Institute for Environmental Studies
GOSAT-2 Project

Revision History

Version	Revised	Page	Description
00	Mar. 2025	-	-
01	Jun. 2025	p.1	Removed part of the change of input data
		p.3	Added that released to General users

1 Introduction

The purpose of this document is to provide considerations for the Greenhouse gases Observing SATellite-2 (hereinafter referred to as “GOSAT-2”) products generated by the National Institute for Environmental Studies, Japan.
The product and its version described in this document are listed in Table 1-1.

Table 1-1 Product and version

Product name	Product version
GOSAT-2 TANSO-FTS-2 SWIR L2 Column-averaged Dry-air Mole Fraction Product	02.21

2 Difference from previous version

The difference between the previous version (02.20) and this version (02.21) is shown as follows:

2.1 Change of processing algorithm

There is no change in the processing algorithm for generating this product.

2.2 Change of input data

The change in the input data is shown as follows:

(1) TANSO-FTS-2 L1B Product as the input product was updated. For more information, refer to the release note of TANSO-FTS-2 L1B Product (SAM-2024003).

01

2.3 Change of file format

There is no change in the file format of the product.

3 Important information

The important information for this version is shown as follows:

(1) The L1 product version corresponding to this version is shown below.
- TANSO-FTS-2 L1B Product: 220.221

(2) The wavenumber range of TANSO-FTS-2 SWIR observed radiance spectrum, used in the retrieval processing of this version, consists of 12950-13200cm^{-1} (Band 1), 6180-6380cm^{-1} (Band 2), 5900-6150cm^{-1} (Band 2), 4800-4900 cm^{-1} (Band 3), and 4200-4300cm^{-1} (Band 3), which correspond to the sub-band 1, 2, 3, 4, and 5, respectively.

(3) The following TANSO-FTS-2 Instrument characteristic information was used in the retrieval processing of this version.
- Instrument line shape function (ILSF) date version: May 25, 2020
- Radiance conversion coefficient (RAD_CNV) date version: Jan. 11, 2022
- Time-dependent radiance correction coefficient (RAD_Time_Wave_Deg) date version: Mar. 27, 2024
- Complex refractive index of the scanner mirror (SCANNER_REFRACTION) date version: Oct. 10, 2018

(4) The following datasets store invalid value.
- CloudInformation/FTS-2_TIR
- RetrievalResult/wind_speed
- RetrievalResult/wind_speed_apriori
- RetrievalResult/wind_speed_uncert

(5) Only each data of “Good” quality flag should be used, although xco2_quality_flag, xch4_quality_flag, xco_quality_flag, and xh2o_quality_flag under RetrievalResult store four-level quality flags: “Good”, “Fair”, “Poor”, and “NG”.

4 Version upgrade history

The version upgrade history of the product described in this document is shown in Table 4-1.

Table 4-1 Version upgrade history

Product version	Date	Remarks
01.01	Nov. 2019	Release to RA users
01.04	Oct. 2020	Changed processing algorithm Changed input data Changed important information Release to RA users
	Nov. 2020	Release to General users
01.07	Oct. 2021	Changed input data Changed important information Release to RA users
	Dec. 2021	Release to General users
02.00	Jul. 2022	Changed processing algorithm Changed input data Changed file format Changed important information Release to RA users
	Aug. 2022	Release to General users
	Oct. 2023	Changed important information
02.10	Feb. 2025	Changed processing algorithm Changed input data Release to General users
02.20	Mar. 2025	Changed input data Release to RA users
	Jun. 2025	Released to General users
02.21	Mar. 2025	Changed input data Release to RA users
	Jun. 2025	Released to General users

01

01