NIES-GOSAT2-SYS-20250324-022-01

Release Note

GOSAT-2 TANSO-FTS-2 SWIR L2
Chlorophyll Fluorescence and Proxy-method Product

Product version 02.20

June 2025

National Institute for Environmental Studies
GOSAT-2 Project

Revision History

Version	Revised	Page	Description
00	Mar. 2025	-	-
01	Jun. 2025	p.2	Added part of the important information
			Fixed part of the important information
		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 Chlorophyll Fluorescence and Proxy-method Product	02.20

2 Difference from previous version

The difference between the previous version (02.10) and this version (02.20) 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) The meteorological reanalysis data used in the retrieval processing were switched from JRA-55 to JRA-3Q. In addition, the corresponding variance-covariance matrices were updated to those calculated based on JRA-3Q.

(2) The vertical profiles of CO_2 and CH_4 concentrations, and the corresponding variance-covariance matrices used in the retrieval processing were updated.

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: 220.220

Note: The spectra before sensitivity correction stored under SoundingData/RawSpectrum is used in the retrieval processing of this product. The instrument characteristic information used in retrieval processing of products of this version is the same those used for the conversion of the sensitivity-corrected spectra stored under SoundingData/Radiance of TANSO-FTS-2 L1B V220.221. 01

(2) The ground surface was treated as Lambertian surface in all cases in the retrieval processing of this version.

(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_B1_Psrf/fluorescence_* 01

(5) Only each data of “Good” quality flag should be used, although XCH4_proxy_quality_flag, XCO_proxy_quality_flag under GasColumn_Proxy and SIF_quality_flag under SolarInducedFluorescence 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
01.02	Dec. 2019	Release to RA users
01.03	Apr. 2020	Changed processing algorithm Changed file format Release to RA users
	Nov. 2020	Release to General users
01.04	Jul. 2021	Changed processing algorithm Changed input data Changed important information Release to RA users
	Dec. 2021	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	Apr. 2023	Changed processing algorithm Changed input data Changed important information Release to RA users
	Jul. 2023	Release to General users
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

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