

The Status and the Future Plan of GOSAT-2 Level 2 and 4 Products

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GOSAT-2 (Greenhouse Gases Observing Satellite 2), launched in October, 2018, is the second Japanese Earth observation satellite for greenhouse gas observation from space. It is a joint mission promoted by Ministry of the Environment, JAXA (Japan Aerospace Exploration Agency), and NIES (National Institute for Environmental Studies) as similar to the first satellite, GOSAT, launched in and operated since 2009. Both satellites are designed to measure atmospheric concentrations of carbon dioxide (CO₂) and methane (CH₄) using Fourier transform spectrometers, FTS and FTS-2, with a help of moderate resolution imagers, CAI and CAI-2, for aerosol and cloud observation. The design lifetime of GOSAT-2 is five years and the 15-year record of atmospheric CO₂ and CH₄ is now expected from these two satellites.

NIES is responsible for the generation of GOSAT-2's Level 2 and Level 4 standard products which are

- 1) GOSAT-2 TANSO-CAI-2 L2 Cloud Discrimination Product
- 2) GOSAT-2 TANSO-CAI-2 L2 Aerosol Property Product
- 3) GOSAT-2 TANSO-FTS-2 SWIR L2 Chlorophyll Fluorescence and Proxy-method Product
- 4) GOSAT-2 TANSO-FTS-2 SWIR L2 Column-averaged Dry-air Mole Fraction Product
- 5) GOSAT-2 TANSO-FTS-2 TIR L2 Cloud and Aerosol Property Product
- 6) GOSAT-2 TANSO-FTS-2 TIR L2 Temperature and Gas Profile Product
- 7) GOSAT-2 L4A Global CO₂ Flux Product
- 8) GOSAT-2 L4A Global CH₄ Flux Product
- 9) GOSAT-2 L4B Global CO₂ Distribution Product
- 10) GOSAT-2 L4B Global CH₄ Distribution Product

The public release of GOSAT-2 Level 2 and Level 4 products will start by the end of October 2019 and 2020, respectively.

In this presentation, the latest status and the future plan of these products will be introduced.

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