# GOSAT-2 data research and applications

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**Abstract**

GOSAT-2 project retrieve and estimate the global concentration distribution of major greenhouse gases including the sources and natural absorbers with high level of accuracy to contribute to environmental administration as follows.

- Improved precision of climate change predictions
- Early detection of changes in the Earth system
- Better understanding of emission reduction level of the anthropogenic greenhouse gases and changing natural sink
- Contribution to air pollution monitoring policies

Also, GOSAT-2 project researches and develops new earth observation technologies required for future earth observing satellites.

Ref. URL: https://global.jaxa.jp/projects/sat/gosat2/

**Reasons and benefits of using JAXA Supercomputer System**

GOSAT-2/CAI-2 test processing is performed on the JSS3 to confirm the CAI-2 L1B algorithm updates. L1B products are regulary processed to confirm healthy operationas. Browse images are regulary created to be relased quickly on the public website.

**Achievements of the Year**

GOSAT-2/CAI-2 test processing was performed on the JSS3 to confirm the CAI-2 L1B algorithm updates. L1B products were regulary processed to confirm healthy operationas. Browse images were regulary created to be relased quickly on the public website.

Processed period:

April 01, 2024 - March 31, 2025

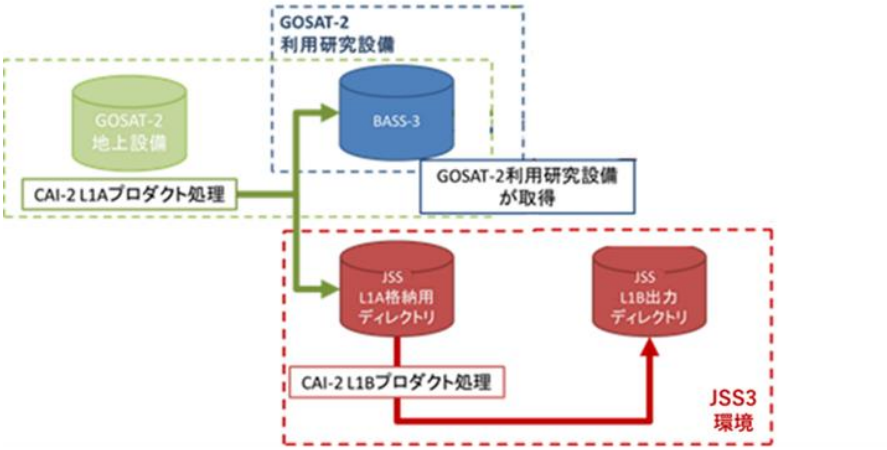


Fig. 1: GOSAT-2 CAI-2 L1B processing on JSS-3

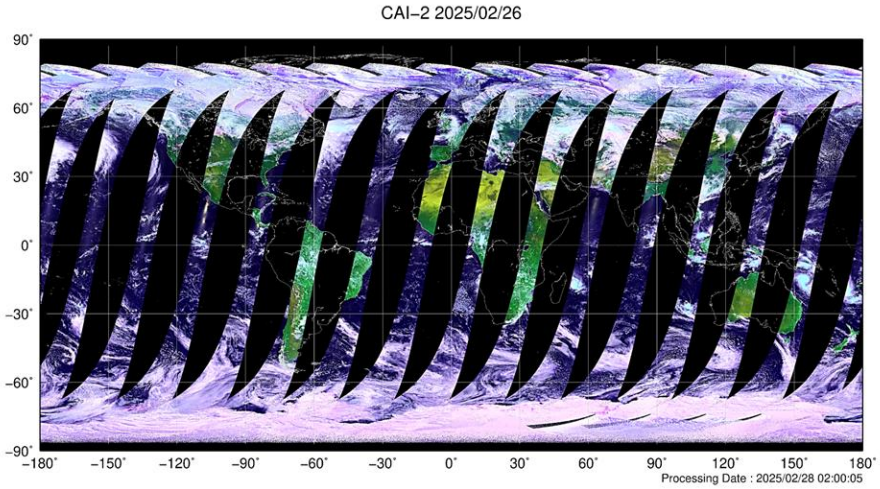


Fig. 2: GOSAT-2 CAI-2 L1B brows image produced on JSS-3

## Publications

- Web

https://www.eorc.jaxa.jp/GOSAT/GOSAT-2/cai2.html

## Usage of JSS

### Computational Information

| | |
|---|---|
| Process Parallelization Methods | N/A |
| Thread Parallelization Methods | N/A |
| Number of Processes | 1 |
| Elapsed Time per Case | 90 Minute(s) |

### JSS3 Resources Used

Fraction of Usage in Total Resources[*1](%): 0.02

Details

| Computational Resources | | |
|---|---|---|
| System Name | CPU Resources Used (core x hours) | Fraction of Usage[*2](%) |
| TOKI-SORA | 0.00 | 0.00 |
| TOKI-ST | 97,319.35 | 0.10 |
| TOKI-GP | 0.00 | 0.00 |
| TOKI-XM | 0.00 | 0.00 |
| TOKI-LM | 0.00 | 0.00 |
| TOKI-TST | 0.00 | 0.00 |
| TOKI-TGP | 0.00 | 0.00 |
| TOKI-TLM | 0.00 | 0.00 |

| File System Resources | | |
|---|---|---|
| File System Name | Storage Assigned (GiB) | Fraction of Usage*2 (%) |
| /home | 0.00 | 0.00 |
| /data and /data2 | 102,400.00 | 0.49 |
| /ssd | 0.00 | 0.00 |

| Archiver Resources | | |
|---|---|---|
| Archiver Name | Storage Used (TiB) | Fraction of Usage*2 (%) |
| J-SPACE | 311.64 | 1.02 |

*1: Fraction of Usage in Total Resources: Weighted average of three resource types (Computing, File System, and Archiver).

*2: Fraction of Usage：Percentage of usage relative to each resource used in one year.

- **ISV Software Licenses Used**

| ISV Software Licenses Resources | | |
|---|---|---|
| | ISV Software Licenses Used (Hours) | Fraction of Usage*2 (%) |
| ISV Software Licenses (Total) | 0.00 | 0.00 |

*2: Fraction of Usage：Percentage of usage relative to each resource used in one year.