

ALOS / PALSAR data processing for the entire observation period

Report Number: R19ER0100

Subject Category: Space Technology

URL: <https://www.jss.jaxa.jp/en/ar/e2019/11617/>

● Responsible Representative

Sobue Shin-ichi, ALOS-2 Project Manager(Senior Engineer),Space Technology Directorate I

● Contact Information

Ochiai osamu(ochiai.osamu@jaxa.jp)

● Members

Hidetoshi Hayasaka, Akiko Otomo, Takashi Goto, Osamu Ochiai, Keiko Ishii, Hidenori Sakamoto, Fumi Ohgushi, Masanori Doutsu, Satoru Matsuda, Risako Dan, Takashi Ikeda, Nobuhiro Muramoto, Kouji Hagiwara, Tadahiro Yamamoto, Takuto Yokoi, Emi Satake, Yota Makinae, Taroh Mutoh, Kazuhiro Oka, Toshimi Nakata

● Abstract

Processing the synthetic aperture radar (PALSAR / PALSAR-2) data acquired by the terrestrial observation technology satellites "DAICHI" and "DAICHI-2" to generate user-friendly image products (Analysis Ready Data), Make an offer.

Ref. URL: <https://global.jaxa.jp/projects/sat/alos/>

● Reasons and benefits of using JAXA Supercomputer System

JAXA is developing data disclosure to expand the use of earth observation satellite data.

As part of this, JAXA needs to process a large amount of data for the entire observation period of ALOS / PALSAR and ALOS-2 / PALSAR-2, and quickly release user-friendly image data.

To achieve this, JSS2 processing was optimal, so we used it.(Up to 350 parallel processing)

● Achievements of the Year

In FY2019, we started processing all PALSAR data, and as of March 1, 2020, processed about 24% of the total(4,758,182 scenes). Development of the complete processing of PALSAR-2 data has been completed, and processing is scheduled to begin in FY2020. The provision of data from JSS2 to core users has also started for Tellus this fiscal year, and file transfer to NASA and Google Earth Engine is planned for the next fiscal year.

● Publications

N/A

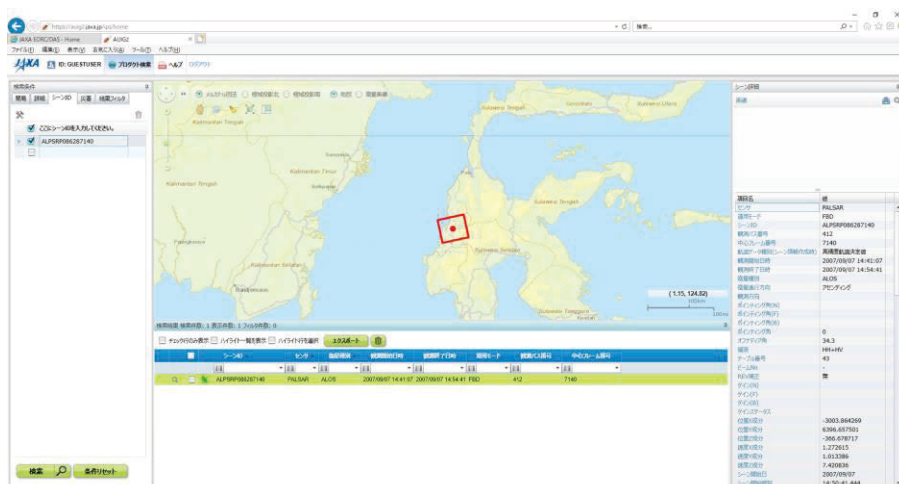


Fig. 1: Image of Indonesia (Celeves) observed by ALOS / PALSAR on September 7, 2007

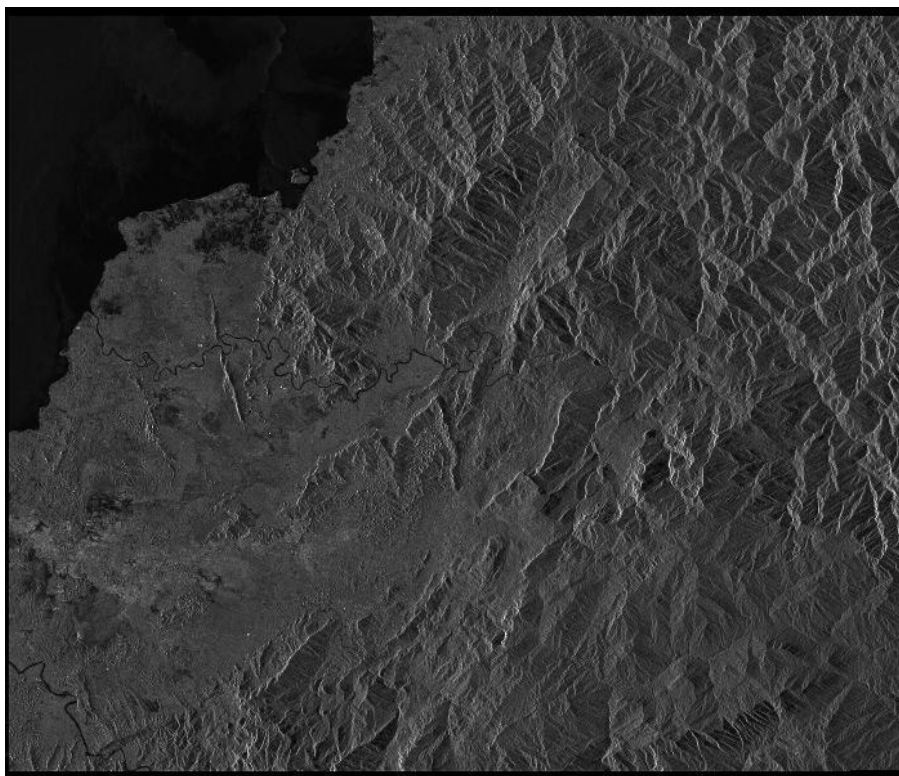


Fig. 2: Search screen in AUIG2

● **Usage of JSS2**

● **Computational Information**

Process Parallelization Methods	N/A
Thread Parallelization Methods	N/A
Number of Processes	1
Elapsed Time per Case	10 Minute(s)

● **Resources Used**

Fraction of Usage in Total Resources*1(%): 0.30

Details

Computational Resources		
System Name	Amount of Core Time (core x hours)	Fraction of Usage*2(%)
SORA-MA	12.39	0.00
SORA-PP	645,824.71	4.18
SORA-LM	3.28	0.00
SORA-TPP	0.00	0.00

File System Resources		
File System Name	Storage Assigned (GiB)	Fraction of Usage*2(%)
/home	324.57	0.27
/data	101,954.19	1.75
/ltmp	42,545.59	3.61

Archiver Resources		
Archiver Name	Storage Used (TiB)	Fraction of Usage*2(%)
J-SPACE	221.03	5.56

*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.