



JAXA's Update

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EORC/JAXA

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Embassy Suites Mandalay Beach, CA





Contents

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- 1. GCOM-W , AMSR2 Review*
 - 2. Products and related Information Providing*
 - 3. Others(ongoing research activities, etc)*

Talk mainly topics after the last year's AMSR-E meeting in US.



1. Summary of GOM-W, AMSR2 Review Topics



History so far

1. *GCOM-W1 had launched 18th May, last year.*
 2. *AMSR2's initial check out was over successfully 10th, August 2012, and shifted into nominal operation phase. And started initial calibration/validation phase.*
 3. *On 3rd, September, 2012, started to distribute uncalibrated Level1 to operational users, JMA, JAFIC, and our PI for evaluation.*
 4. *And started to distribute higher products (Level2) also since 10th, October.*
 5. *We had undergone below 2 reviews successfully and have started to distribute all AMSR2 to public since 17th, May this year.*
 - *Calibration/Validation review No1, mainly L1: 23rd, January, 2013*
 - *Calibration/Validation review No2, mainly L2: 17th, May, 2013*
 - *Keiji-san will talk about review No2, later.*
-

Cal/Val Review No1. Radiometric performance#1

● Temperature resolution

Temperature I resolutions are fulfilled specification in all channels and not be observed seasonal changes , degradations and be stable so far.

● HTS performance

HTS surface temperature was designed to be homogenous and stable , as the results of check, the homogeneousness of surface temperature is much better than AMSR-E and its temperature is much stable. We confirmed the performance of AMSR2 HTS is much improved.

● RFI checking results

- As the results of checking observed data from July,2012 to January 2013, 6.9GHz,and 7.3GHz, both frequencies are interfered by RFI.
- RFI detecting method as the first step, use the brightness temperature differences between 6.9GHz and 7.3GHz.
 - for ocean (< 200K) Threshold $\pm 2.5K$
 - for land (< 330K) Threshold $\pm 3.5K$

● Test results

- 89%、92% of 6V,6H observed data over land are not interfered and detecting and eliminating RFI 97%、98% of them can be usable

Cal/Val Review No1. Radiometric performance#2

● RFI checking results

- As the results of checking observed data from July,2012 to January 2013, 6.9GHz,and 7.3GHz, both frequencies are interfered by RFI.
- RFI detecting method as the first step, use the brightness temperature differences between 6.9GHz and 7.3GHz.
 - for ocean (< 200K) Threshold $\pm 2.5K$
 - for land (< 330K) Threshold $\pm 3.5K$
- Test results
 - 89%、92% of 6V,6H observed data over land are not interfered and detecting and eliminating RFI, 97%、98% of them can be usable
 - But this way detects still errors over ice sheets, sea ice and strong precipitation region. We have to improve this way. Therefore improvement is still underway.

Cal/Val Review No1. Geometric performamnce#1

- *Spatial Resolution*

Using larger antenna $2.0\text{m}\phi$ and the same altitude as AMSR-E leads AMSR2's spatial resolution to be 20% better than AMSR-E.

- *Geometric Feature*

Using about 70 GCP (Ground Control Point), measured geometric errors and decided the error correction parameters. Right sides shows the geometric feature after correction. And confirmed the residual errors are better than half of spatial resolutions.

As the results of on-orbit initial check out, the below subsystems have no errors and degradation, we concluded GCOM-W1 / AMSR2 is very healthy.

- *Electric Power subsystem*
- *Attitude/Control subsystem*
- *Communication/Commanding subsystem*
- *AMSR2 (Rotation control system, receivers)*

Cal/Val Review No1. Satellite subsystems

- AMSR2 receivers feature

Receivers gain and detector circuit output level are stable.

- AMSR2 Rotation Control Unit

Number of Rotation and torque of Antenna Driving Assembly are stable.



2. Products and related information providing



How to get AMSR2 products

Visit left URL :: <https://gcom-w1.jaxa.jp/auth.html>

The screenshot shows the login page of the GCOM-W1 Data Providing Service. The page has a header with the GCOM logo and the text "GCOM-W1 Data Providing Service" and "JAXA 宇宙航空研究開発機構 Japan Aerospace Exploration Agency". The main content area is titled "Welcome," and contains a paragraph of text describing the service. Below the text is a login form with the following elements:

- A green button labeled "Input e-mail address and password." with a blue arrow pointing to it.
- An "E-mail address: (User Account)" input field containing the text "guest".
- A "Password:" input field.
- Language selection buttons for "日本語" and "English".
- A "Save Login State" checkbox.
- A blue "Login" button.
- Two links: "User Registration" and "If you forgot your password".
- A link "For Beginners" with a flag icon.

Annotations include red circles around the "Input e-mail address and password." button, the "E-mail address" field, the "Password" field, and the "User Registration" link. A blue arrow points from the "User Registration" link to the text "Click here, how to make registration". Another blue arrow points from the "For Beginners" link to the text "Only click 'Login' is acceptable also, but only data searching is available".

After you register, all services, searching, data providing, and getting tool kit etc are available.

Click here,
how to make
registration

Only click "Login" is
acceptable also, but only
data searching is
available

The top menu of GCOM-W1 Data Providing Service

Data Providing Service , 1st menu

Search

Satellite Information

Download tools

Download documents

Whole 1st menu of Data Providing Service

Three sensors and satellites are available in this service

Feedback!! Tell us what you think.

Information

New Information

Satellite and Sensor related

Document and Tool

Related Site Information

GCOM-W1/AMSR2

Aqua(US)/AMSR-E

ADEOS-II/AMSR

Format

- HDF
- NetCDF
- GeoTIFF

Navigation Home

This web service is online data service to provide products processed from Advanced Microwave Scanning Radiometer sensor series data. We provide products derived from data obtained by AMSR onboard ADEOS-II (Midori II) and AMSR-E onboard Aqua with free of charge. The new products, which are observed by AMSR2 onboard GCOM-W1 (SHIZUKU), will be available soon after the distributing preparation is completed.

Search Product (Search Function)

If you search and order products, please select one of the following three ways:

- Categories or Physical Parameters**
- Satellites or Sensors**
- Explanations**

For Beginners

The following products are provided.

Category	Physical Parameters
Atmosphere	Total Precipitable Water, Cloud Liquid Water, Precipitation
Ocean	Sea Surface Temperature, Sea Surface Wind speed
Cryosphere	Sea Ice Concentration
Land	Snow Depth, Soil Moisture Content
Brightness temperature	Brightness Temperature

Satellites and Sensors which acquire data offered on this site are as follows:

GCOM-W1/AMSR2 **Aqua(US)/AMSR-E** **ADEOS-II/AMSR**

Information

New Information

stop immediate download of the website. There is no effect on the download data.

«Aug 28, 2012»
New products will be distributed.

«Aug 28, 2012»
The web site will be down for scheduled maintenance during the following period:
Aug. 28, 2012 0:30-7:00(UT).

«Jul 24, 2012»
Available for higher level products of AMSR-E processed by version 7. For more information, please refer to [this page](#).

«Jul 04, 2012»
GCOM-W1 "SHIZUKU" onboard sensor (AMSR2) acquired observation data. For more information, please refer to [this page](#).

Satellite and Sensor related

AMSR-E sensor operational information are distributed [here](#).

Document and Tool

User's manual and format descriptions are available [here](#).
Tools for data viewer are distributed [here](#).

Related Site Information

GCOM-W1/AMSR2
Japan Aerospace Exploration Agency (JAXA)
-- About GCOM-W project
-- Research (FORC)

AMSR2 Information Pages

Global Change Observation Mission 1st-Water
GCOM-W1 水循環変動観測衛星

TOP About GCOM-W About AMSR2 Data Products Publications

AMSR2 Weekly Image
Soil Moisture [%]
0 10 20 30 40 50 ICE
2013/08/16-2013/08/22

What's NEW

Aug. 23, 2013
GCOM Fifth Research Announcement
The Japan Aerospace Exploration Agency (JAXA) is announcing the fifth research announcement (RA), which is the opportunity to conduct algorithm improvement, validation, and application research for the first satellite of the GCOM-W (Water) series, GCOM-W1, as well as multi-sensor research mainly using data from GCOM-W1.
The deadline for submitting proposals is November 15, 2013.
-> How to apply

Jul. 29, 2013
AMSR2 images archive (period: 20121001-20130331) was uploaded.

Jul. 18, 2013
"Descriptions of GCOM-W1 AMSR2 Level 1R and Level 2 Algorithms (Rev.A)" was uploaded.

Jul. 12, 2013
Due to the network maintenance, your connection may be closed during the following period:

Arctic Sea-Ice Monitor
Sea Ice Distribution in the Sea of Okhotsk
JAXA/EORC Tropical Cyclone
Tropical Cyclones in the Western Pacific
Real-Time Monitoring
Data Validation

Product

Format *Format Description Documents*

Sample Data

Retrieval Algorithm *ATBD(Algorithm Theoretical Basis Documents)*

Calibration & Validation

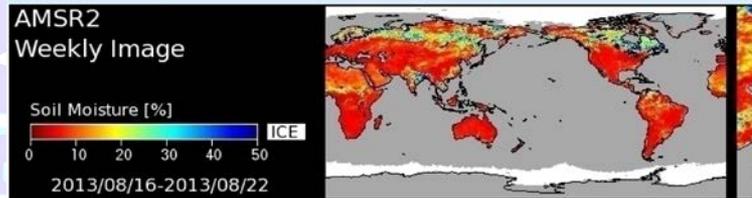
Data Providing Service

Data Use

Climate monitoring pages

Global Change Observation Mission 1st-Water
GCOM-W1 水循環変動観測衛星

TOP About GCOM-W About AMSR2 Data Products Publication Earth Monitoring



- About GCOM-W
- About AMSR2
- Data Products
- Publication
- Earth Monitoring
- Links

◆◆◆ What's NEW ◆◆◆

Back number

Aug. 23, 2013

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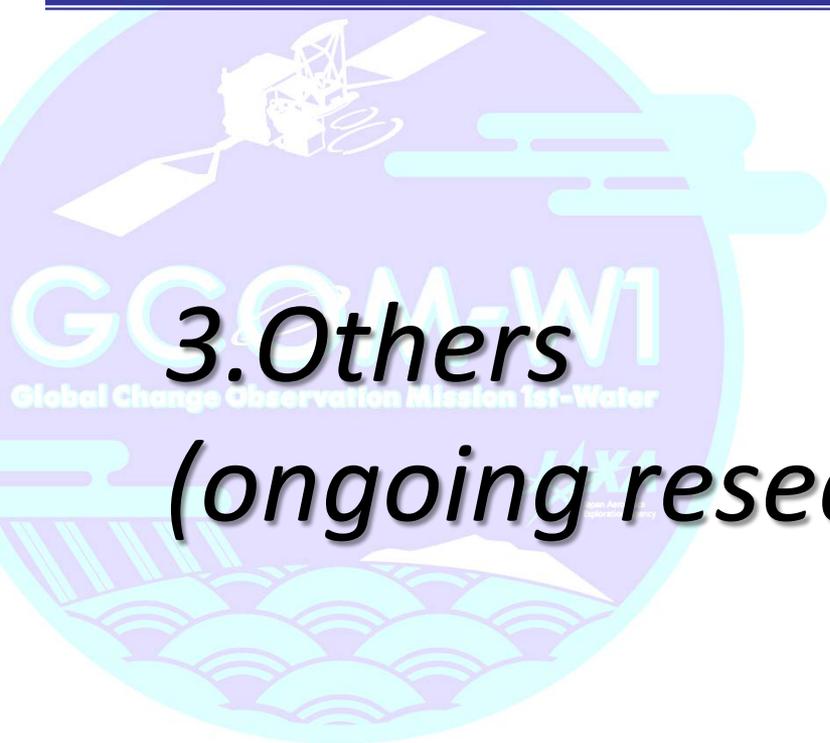
Jul. 12, 2013

Due to the network maintenance, your connection may be closed during the following period:

- JASMES daily
- Real-Time Monitoring for Tropical Cyclones
- Tropical Cyclones database
- Arctic Sea-Ice Monitor
- Sea Ice Distribution in the Sea of Okhotsk
- El nino Watch
- Kuroshio Monitor
- SST anomaly in the high latitud
- WindSat All Weather Ocean Wind Speed
- Image Gallery



- [JASMES daily \(daily monitoring images of AMSR2 and other satellite products\)](#)
- [JAXA/EORC Real-Time Monitoring for Tropical Cyclones](#)
- [JAXA/EORC Tropical Cyclone Database](#)
- [Arctic Sea-Ice Monitor](#)
- [Sea Ice Distribution in the Sea of Okhotsk](#)
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- [WindSat All Weather Ocean Wind Speed](#)
- [Image Gallery](#)



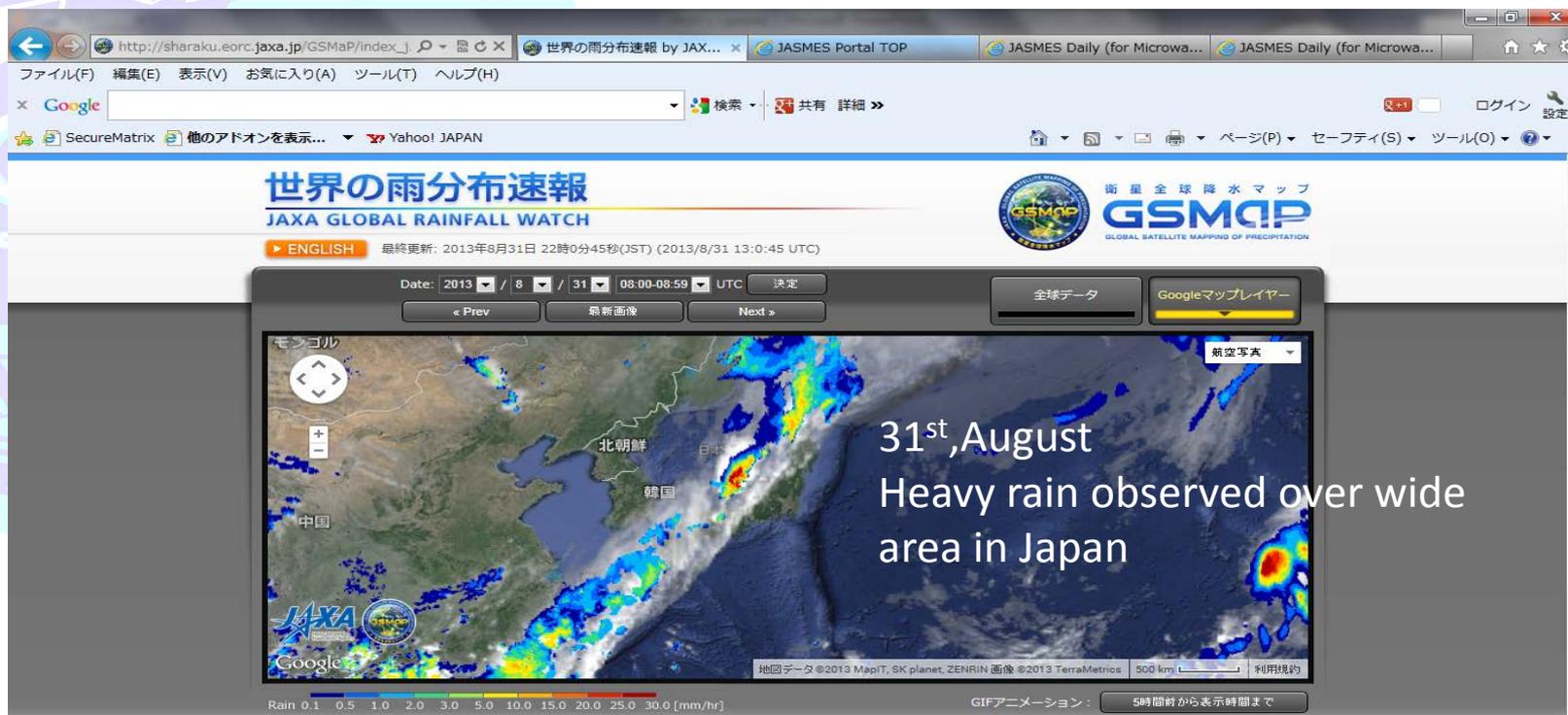
3.Others

(ongoing research activities)



Cooperation with other group

Global Satellite Mapping of Precipitation



[TRMM TMI](http://trmm.nasa.gov/), [Aqua AMSR-E](http://aqua.nasa.gov/), [GCOM-W1 AMSR2](http://gcom-w1.jaxa.jp/), DMSP SSM/I, DMSP SSMIS, NOAA-19 AMSU, MetOp-A AMSU, GEO IR are used in this home page.

User's Lecture

AMSR2 User's Lecture, on 1st PM, Feb,2013

Agenda

- | | |
|---|--|
| 1 | Overview of GCOM-W/AMSR2 |
| 2 | Water cycle over Land |
| 3 | Interaction between Atmosphere and Ocean |
| 4 | Sea Ice Observation |
| 5 | Data Providing Service |
| 6 | Format, Products |
| 7 | AMSR2 I/O toolkit |
| 8 | HDF5 Library Use |

Scientific Data use

Getting data,
reading/writing code,
using Library

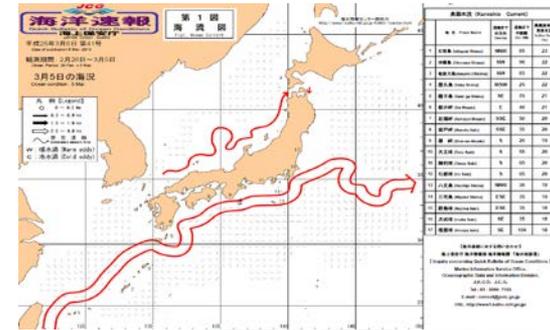
- ◆ Attendees : 66 young researchers, the engineers, private company people with whom we don't have contact usually. 1/3 of them haven't used data.
- ◆ Lecture was successfully over, but questionnaire collected after this lecture shows they were interested in the detail of satellite, sensor itself, and the higher products algorithm.

Other Activities #1

New User

Japan Coast Guard
“Quick Bulletin of Ocean Condition”

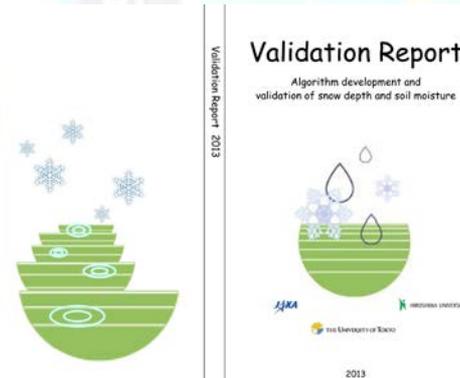
They want to use SST as base data, we start negotiate to provide SST data to them



Reports

Summary of Field Experiment by Japan's Land Group through AMSR-E to AMSR2 will be published within JFY.

- Test Site
- Monitoring System
- Algorithms
- Validation Results



Other Activities #2

Education

“Tangible Earth”

Digital projected Terrestrial globe





3.Others

(5th RA, next PI meeting)



5th Research Announcement

- ◆ *JAXA announces the fifth research announcement (RA), which is the opportunity, covers from 2014 to 2016, 3 years*
- ✓ *Conduct algorithm improvement*
- ✓ *Validation*
- ✓ *Application research*
- ✓ *Multi-sensor research mainly using data from GCOM-W1.*
- ◆ *Schedules*
- ✓ *Dead Line of submitting proposal : 15th November*
- ✓ *Announcement of review results: around January, next year*
- ◆ *Contact*
- ✓ *E-mail: GCOM_RA@jaxa.jp, GCOM RA Office*
- ✓ *Voice: +81-50-3362-6529*

http://suzaku.eorc.jaxa.jp/GCOM/materials/ra/5thra_info.html

This year's PI's meeting in Tokyo

● *Date : 14th to 17st , January 2014(Fixed)*

● *Venue (not fixed yet) :*

TKP Takebashi Conference Center, Tokyo

Agenda

1/14	GCOM-C, EarthCARE
1/15AM	Plenary
1/15PM	Splinter (GCOM-W,C, GPM, EarthCARE)
1/16	Ditto
1/17	Ditto

● *Within this JFY GPM, **ALOS2** will be launched*