Training session –GSMaP –

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Training session –GSMaP –

- *Overview of GSMaP*
- *Introduction of use cases*
- *Algorithm of GSMaP*

～Q&A～

Break

- ***Demonstration of the GSMaP website***
- ***Data access and tools***

25 mins

～Q&A～

GSMaP

GLOBAL SATELLITE MAPPING OF PRECIPITATION

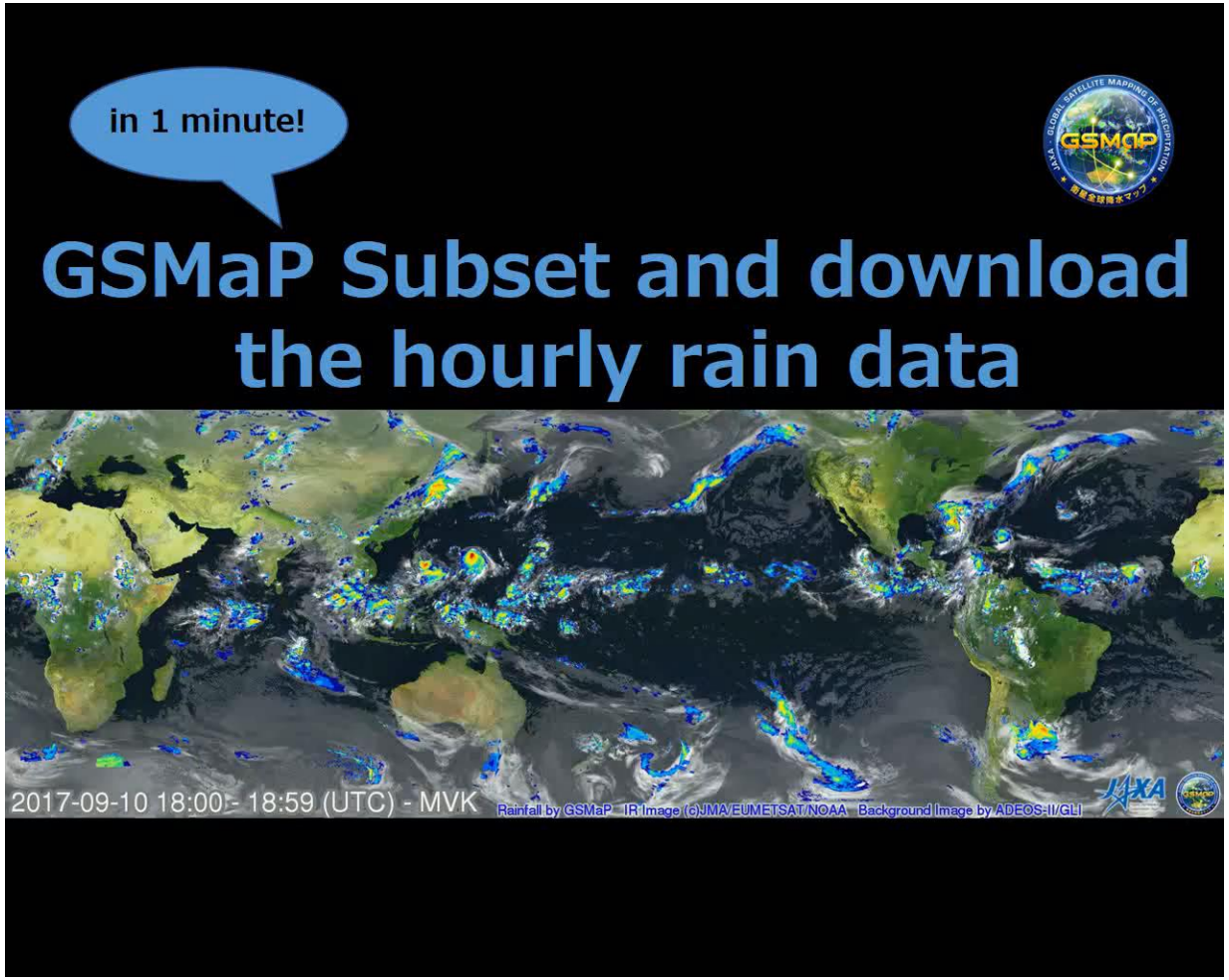
Demonstration of the GSMaP website

GSMaP websites

How to use GSMaP website in 1 minute!

https://youtu.be/0JanK-fZMt4

GSMaP subset and
download hourly rain data in 1 minute!



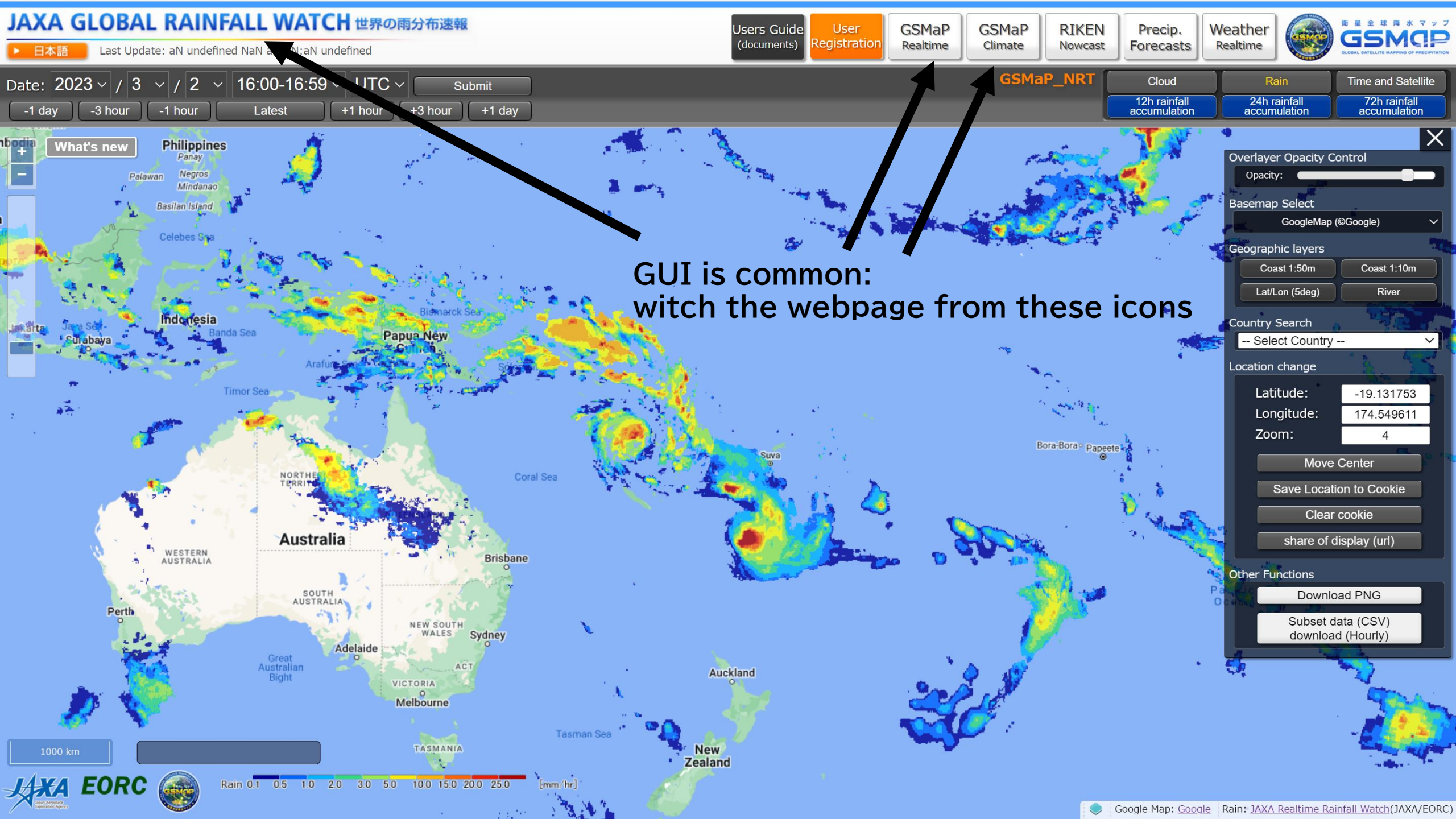
https://youtu.be/VnxH7inZh6g

GSMaP websites

- For users who would like to **monitor precipitation in realtime**
  ...JAXA REALTIME RAINFALL WATCH
  You can see global precipitation map, updated **every 30 minutes**.

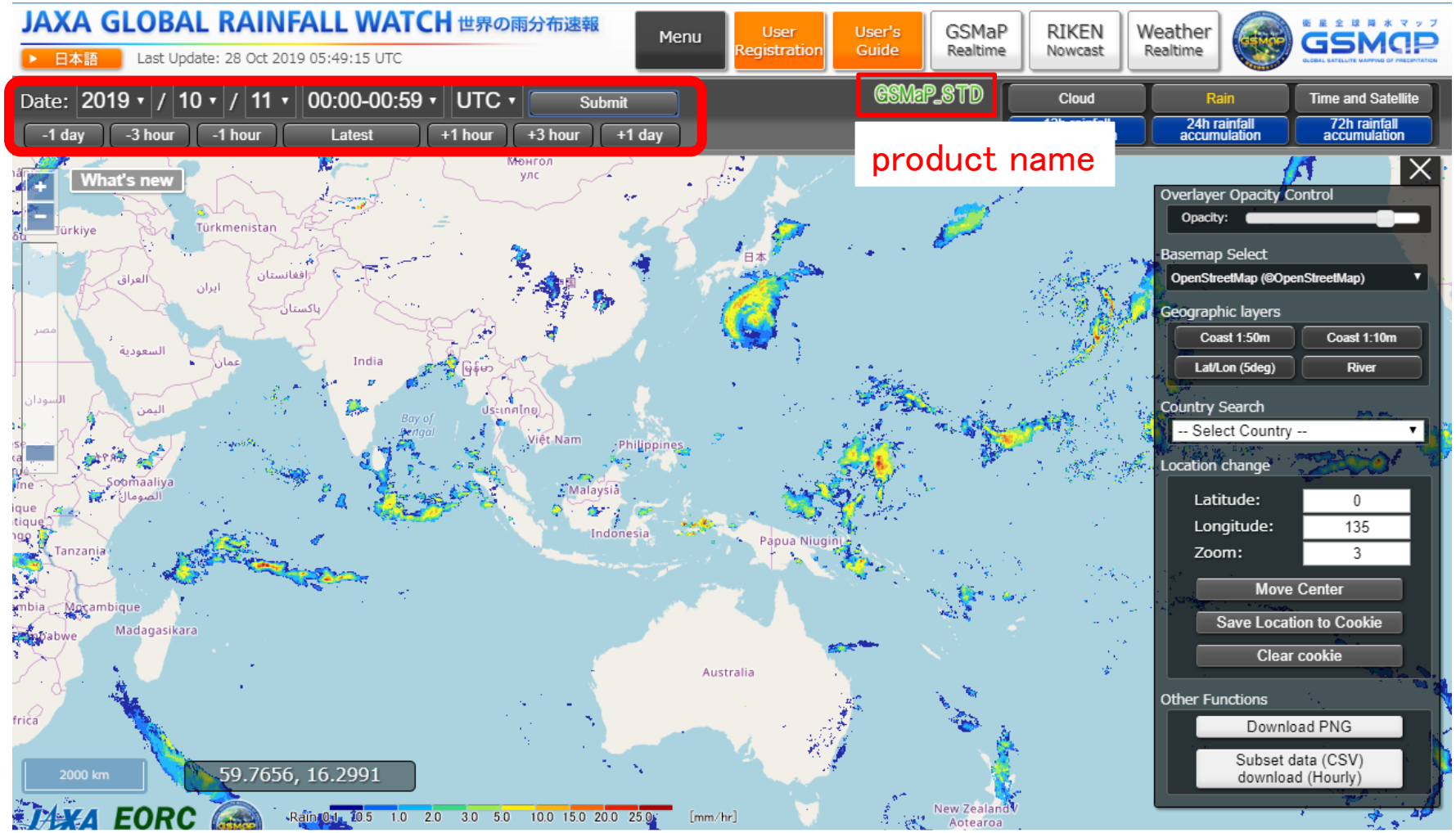
- For users who would like to see **precipitation in the past specific date**
  ...JAXA GLOBAL RAINFALL WATCH
  You can see hourly global precipitation map **since March 2000**.

- For users who would like to see **daily or monthly precipitation**
  ...JAXA CLIMATE RAINFALL WATCH
  You can see indices related to **extreme heavy rainfall and drought** as well as accumulated precipitation.


JAXA GLOBAL RAINFALL WATCH 世界の雨分布速報
日本語
Last Update: aN undefined NaN aN:aN undefined
Users Guide (documents)
User Registration
GSMaP Realtime
GSMaP Climate
RIKEN Nowcast
Precip. Forecasts
Weather Realtime
GSMaP
Date: 2023 / 3 / 2 16:00-16:59 UTC Submit
-1 day
-3 hour
-1 hour
Latest
+1 hour
+3 hour
+1 day
GSMaP_NRT
Cloud
Rain
Time and Satellite
12h rainfall accumulation
24h rainfall accumulation
72h rainfall accumulation
What's new
GUI is common:
witch the webpage from these icons
Overlayer Opacity Control
Opacity:
Basemap Select
GoogleMap (©Google)
Geographic layers
Coast 1:50m
Coast 1:10m
Lat/Lon (5deg)
River
Country Search
-- Select Country --
Location change
Latitude: -19.131753
Longitude: 174.549611
Zoom: 4
Move Center
Save Location to Cookie
Clear cookie
share of display (url)
Other Functions
Download PNG
Subset data (CSV) download (Hourly)
Philippines
Indonesia
Papua New Guinea
Australia
Perth
Adelaide
Melbourne
Sydney
Brisbane
Auckland
New Zealand
Suva
Bora-Bora
Papeete
Coral Sea
Timor Sea
Tasman Sea
Great Australian Bight
1000 km
Rain 0.1 0.5 1.0 2.0 3.0 5.0 10.0 15.0 20.0 25.0 [mm/hr]
JAXA EORC
Google Map: Google
Rain: JAXA Realtime Rainfall Watch(JAXA/EORC)

GSMaP website [png]

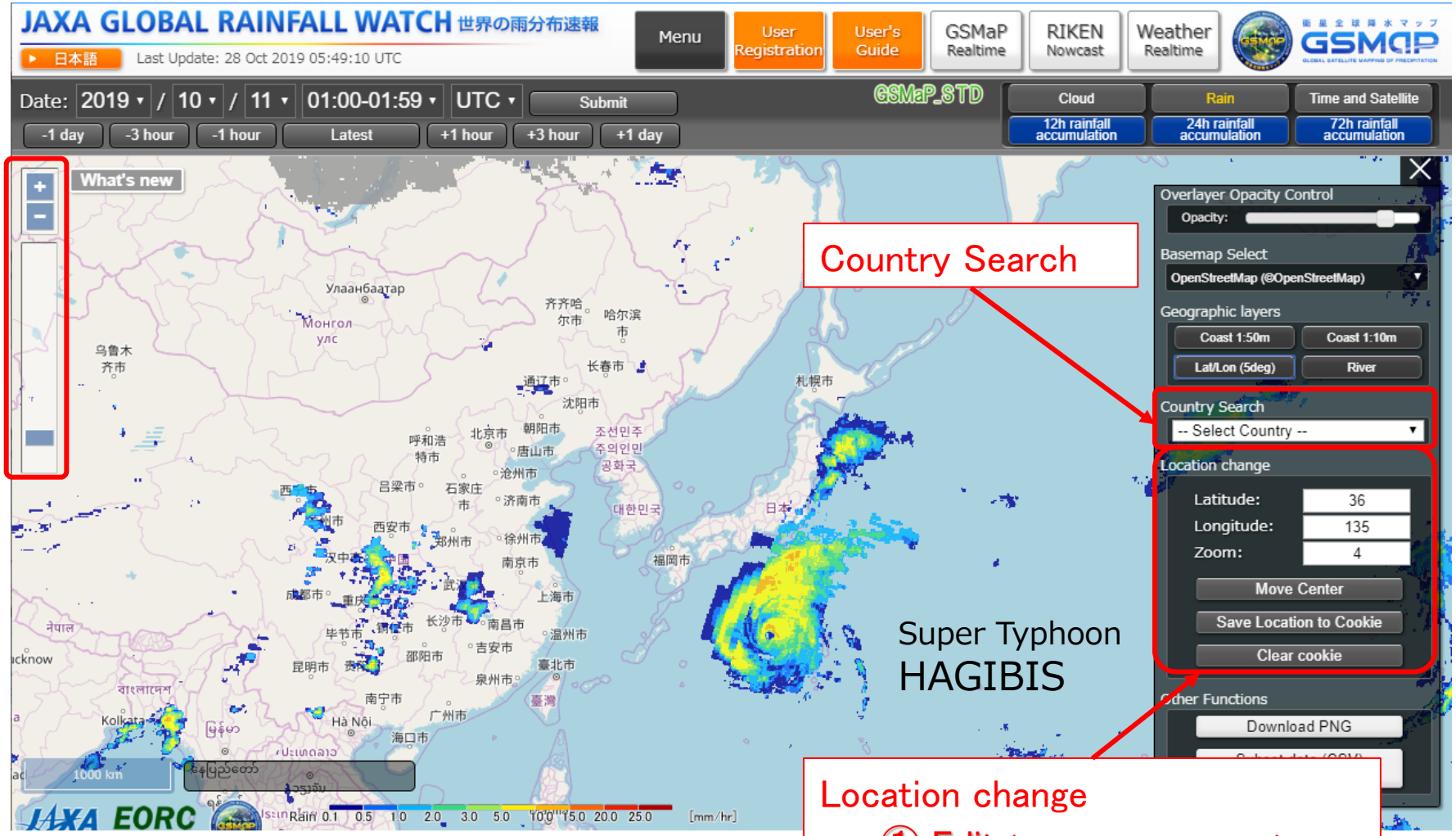
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



select date

GSMaP website [png]

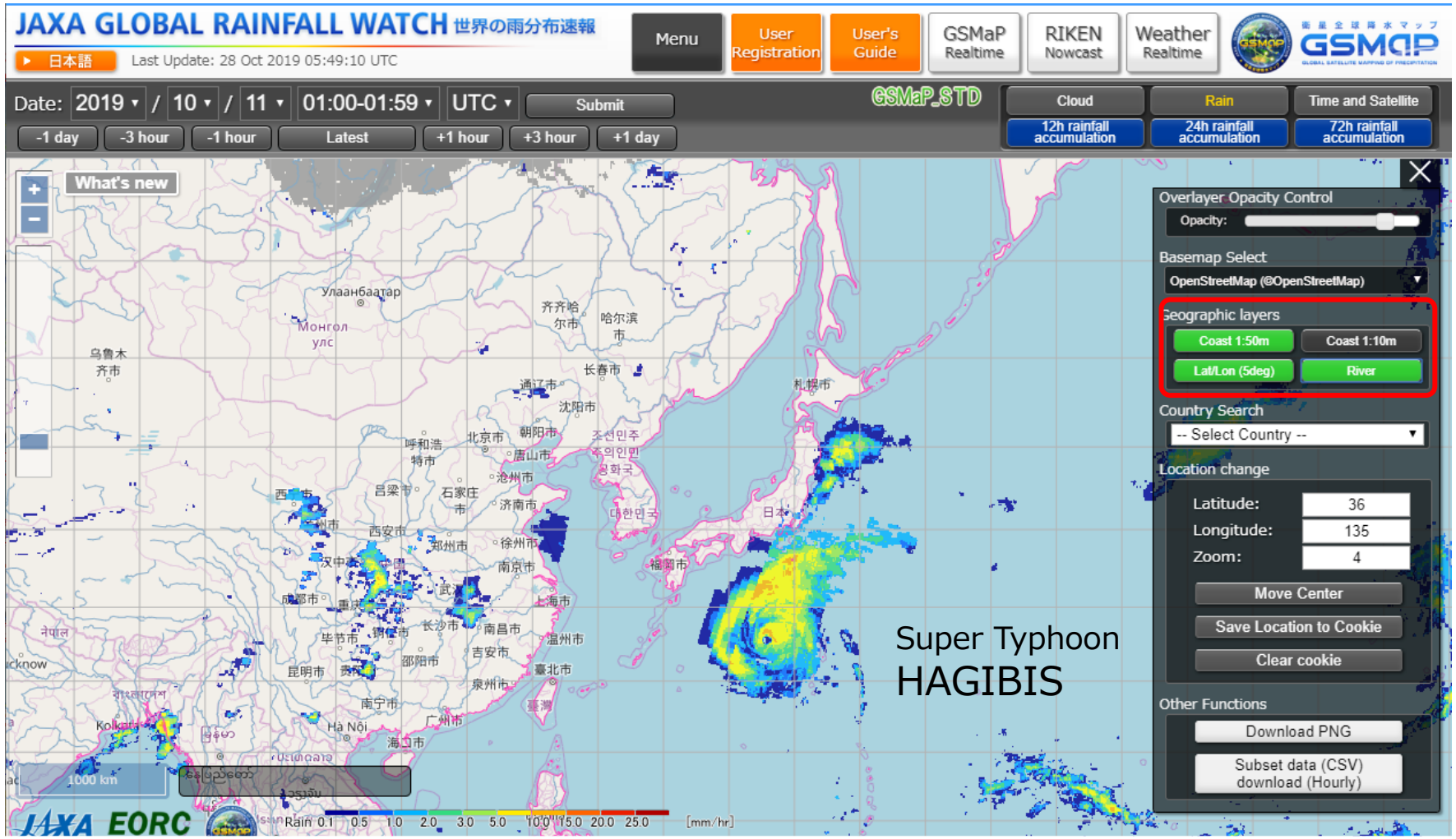
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



Zoom where you want to see!

GSMaP website [png]

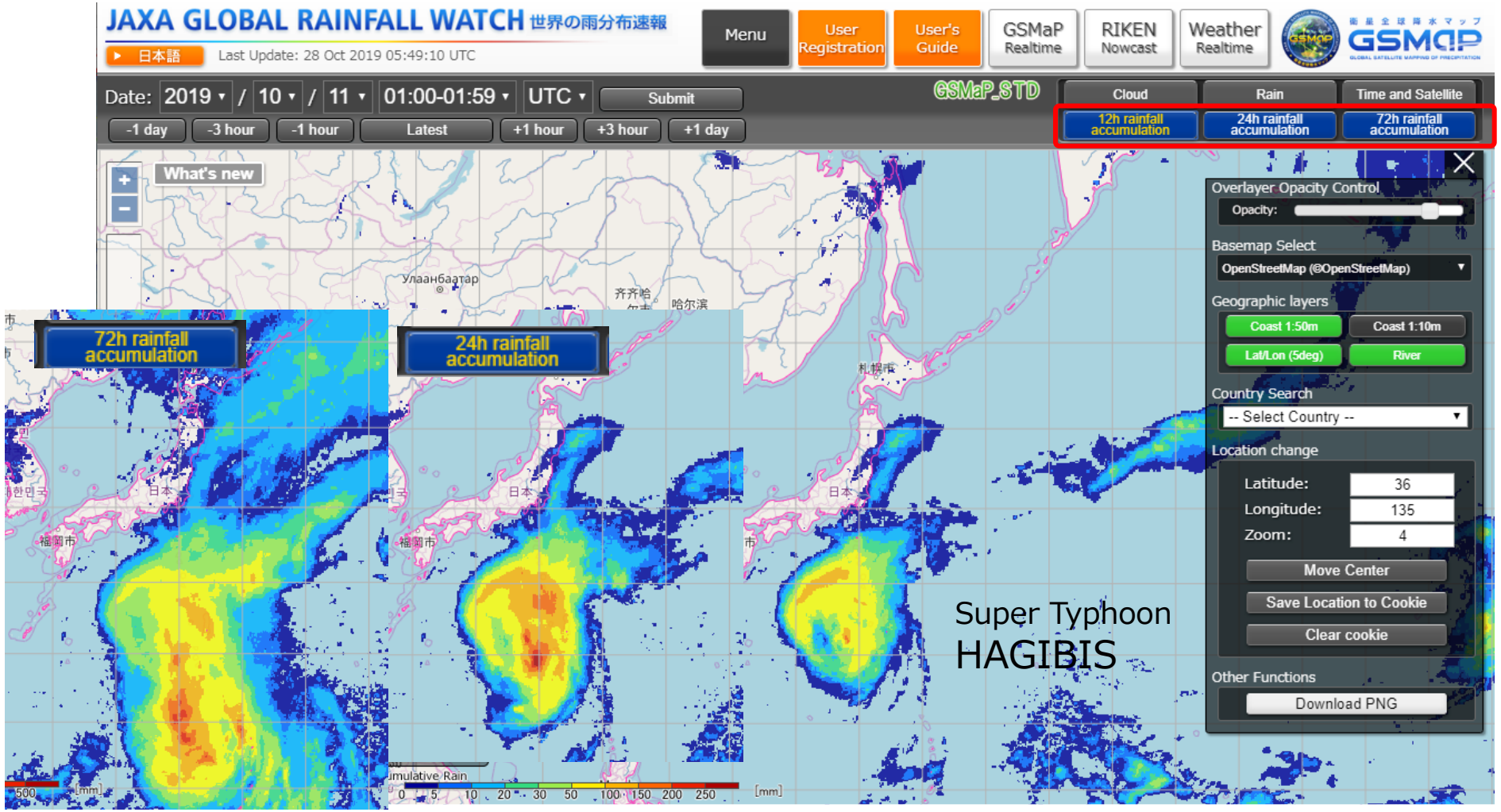
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



Overlap Geographic layers (coastline, lat/lon, river)

GSMaP website [png]

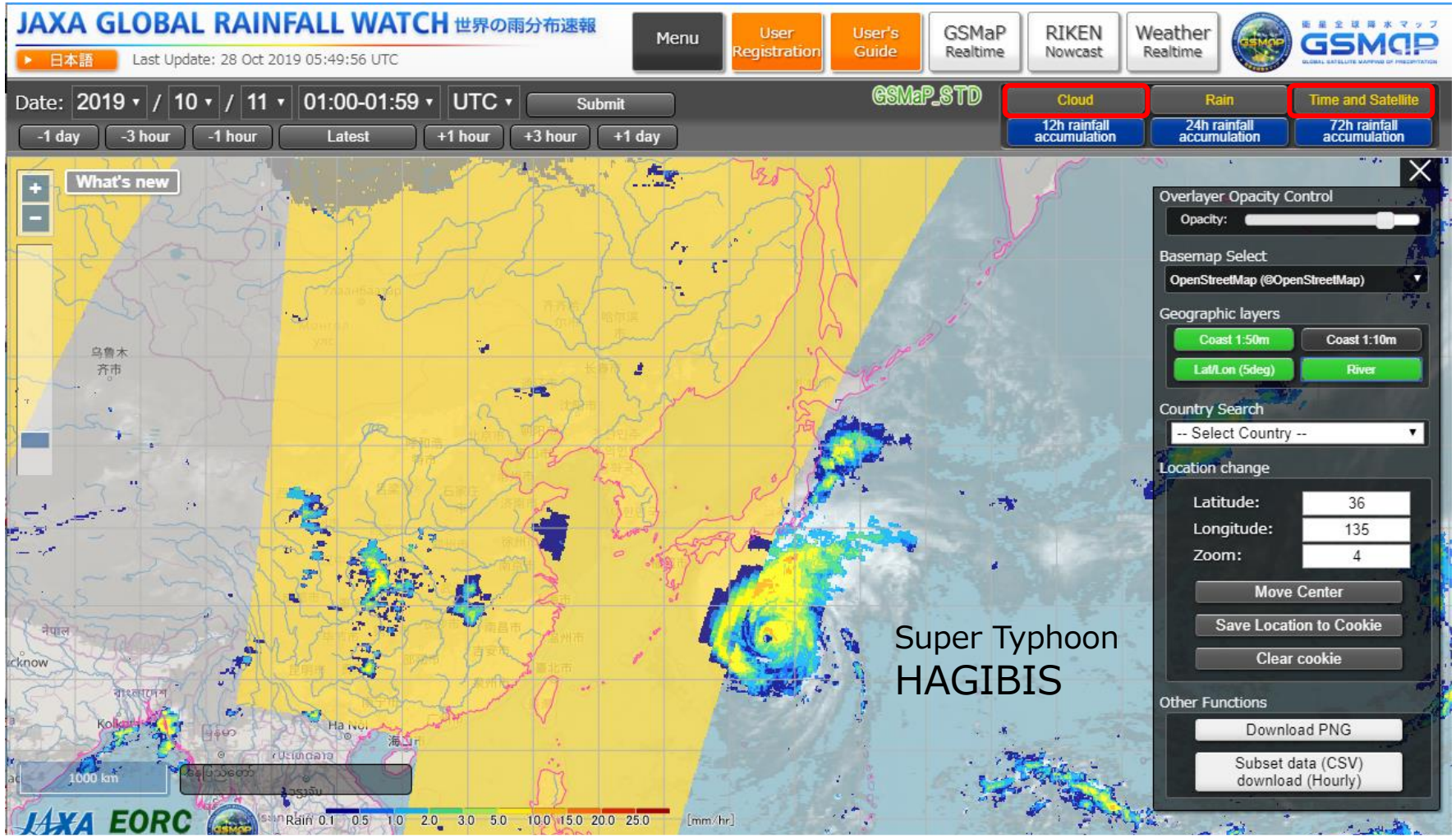
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



Check accumulated precipitation (12h/24h/72h)

GSMaP website [png]

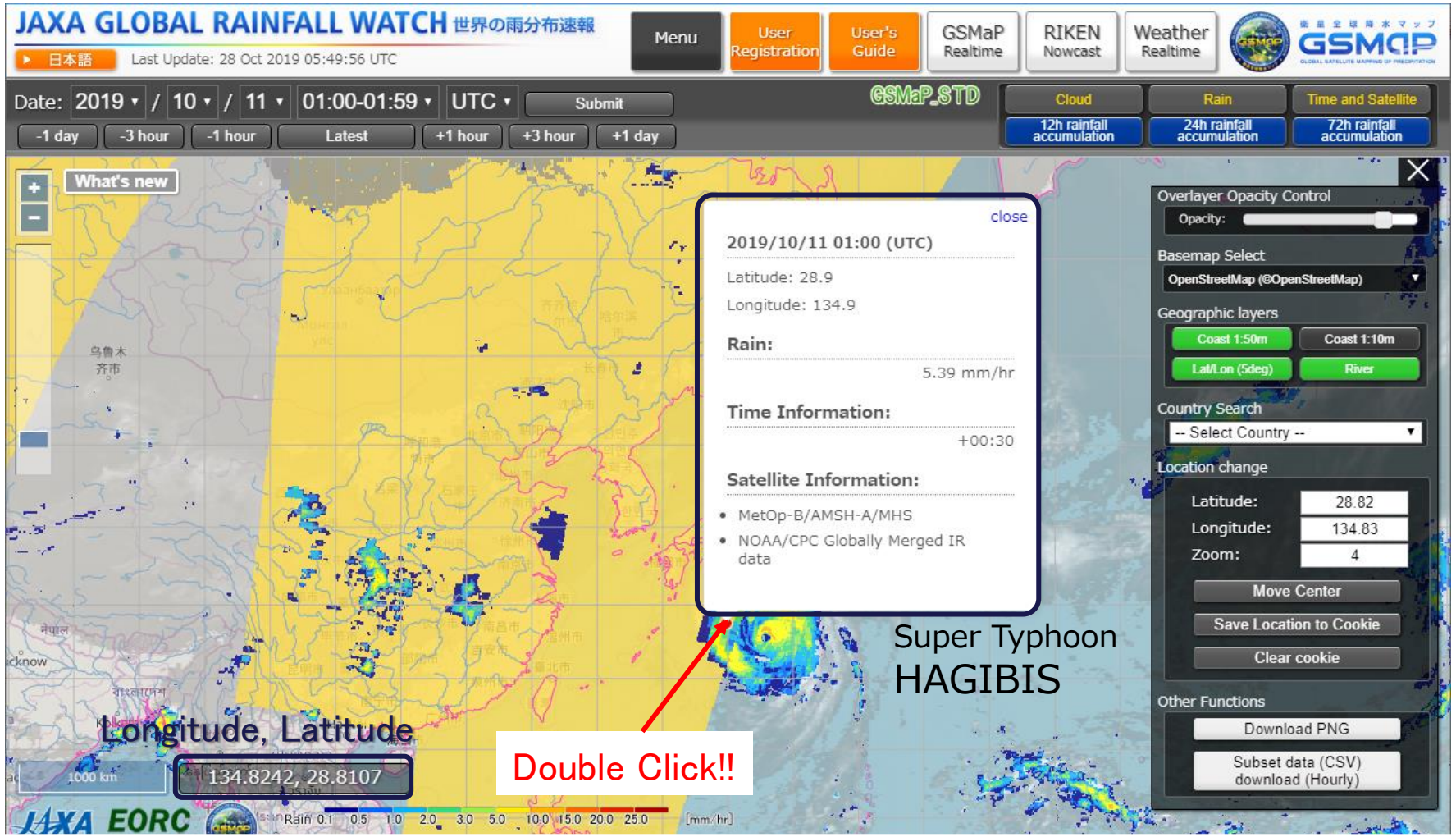
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



Overlay Cloud and/or Information flag

GSMaP website [png]

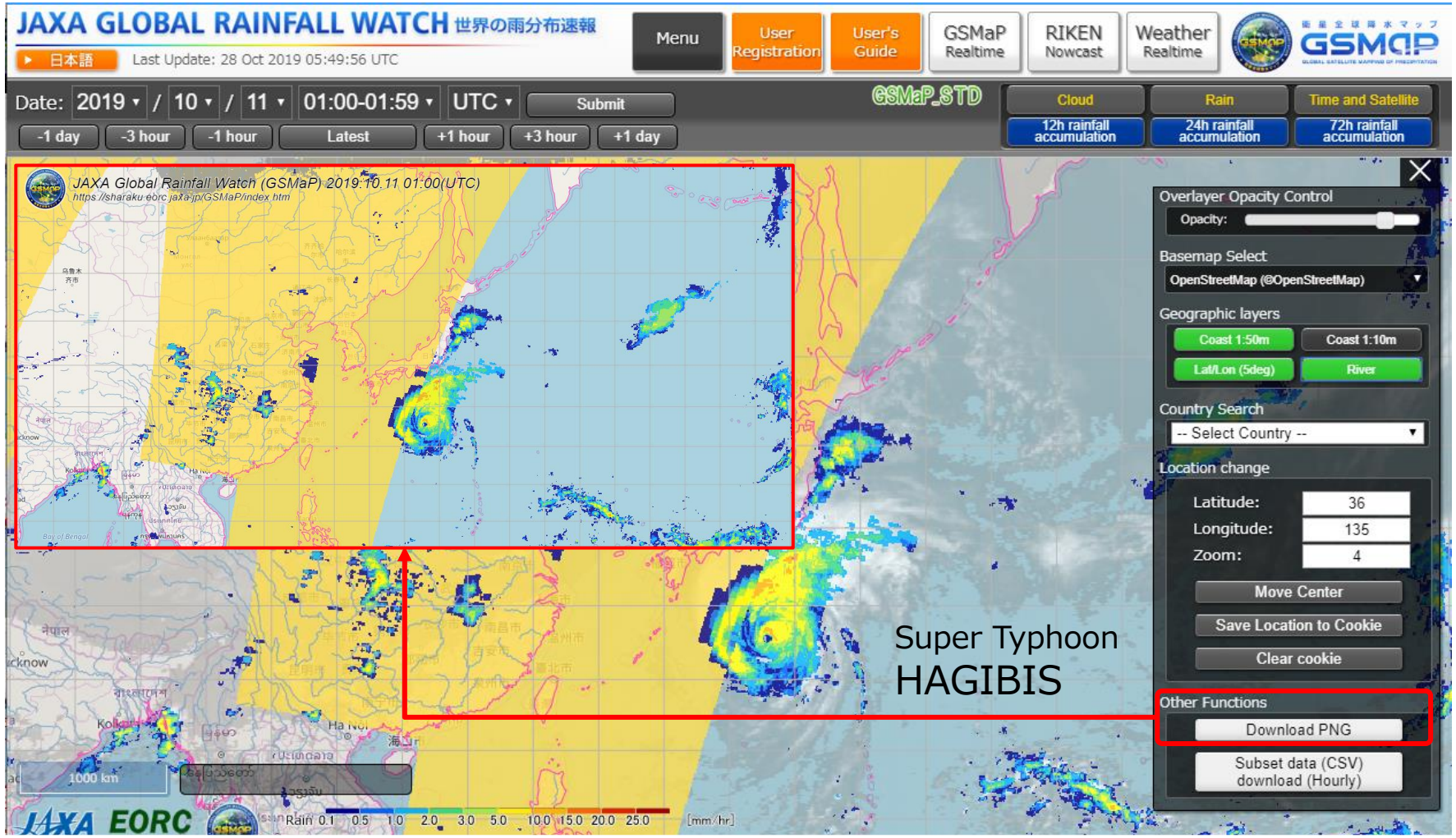
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



Display information of the point where you are interested

GSMaP website [png]

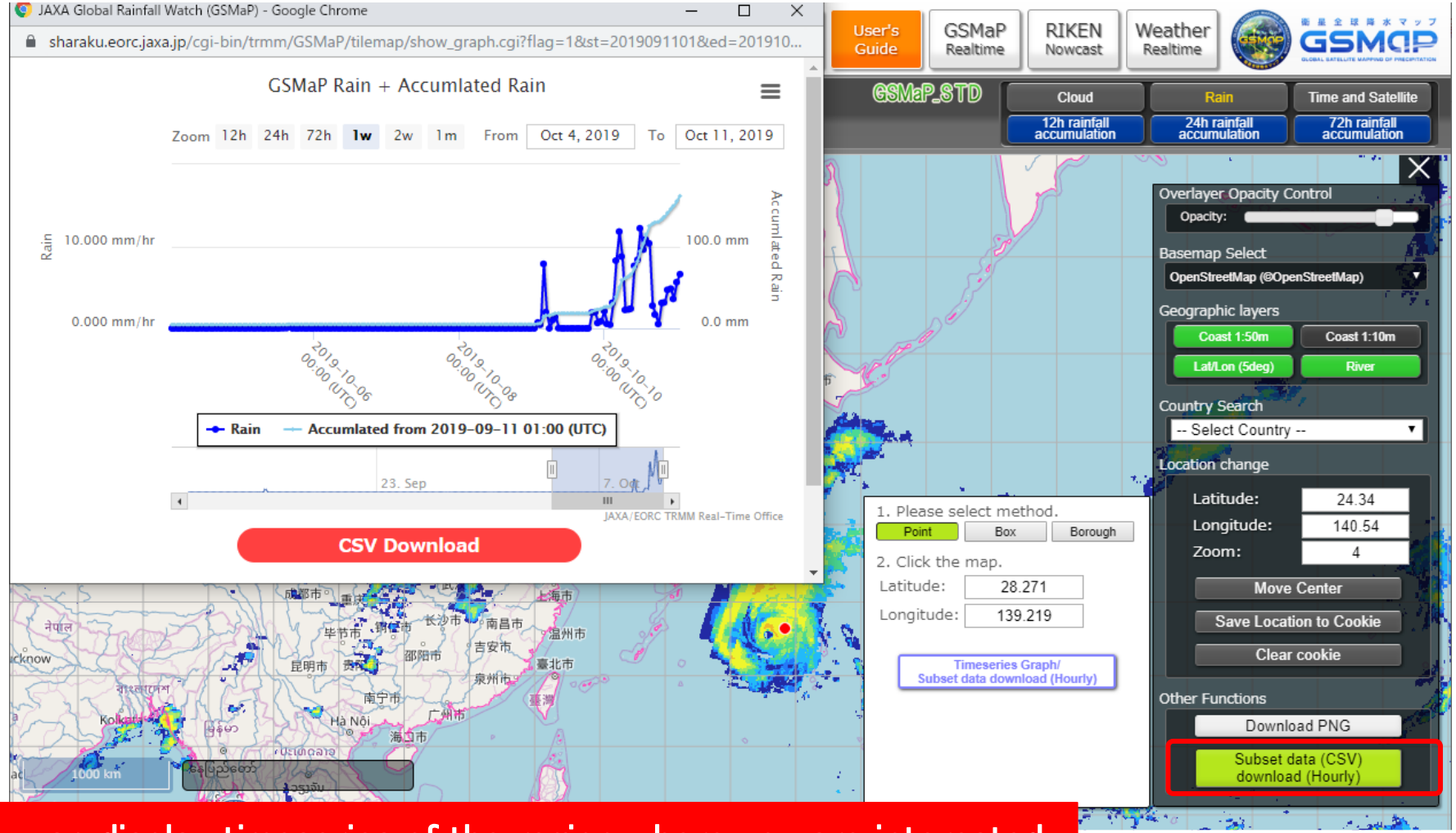
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



You can save image in png format!

GSMaP website [png]

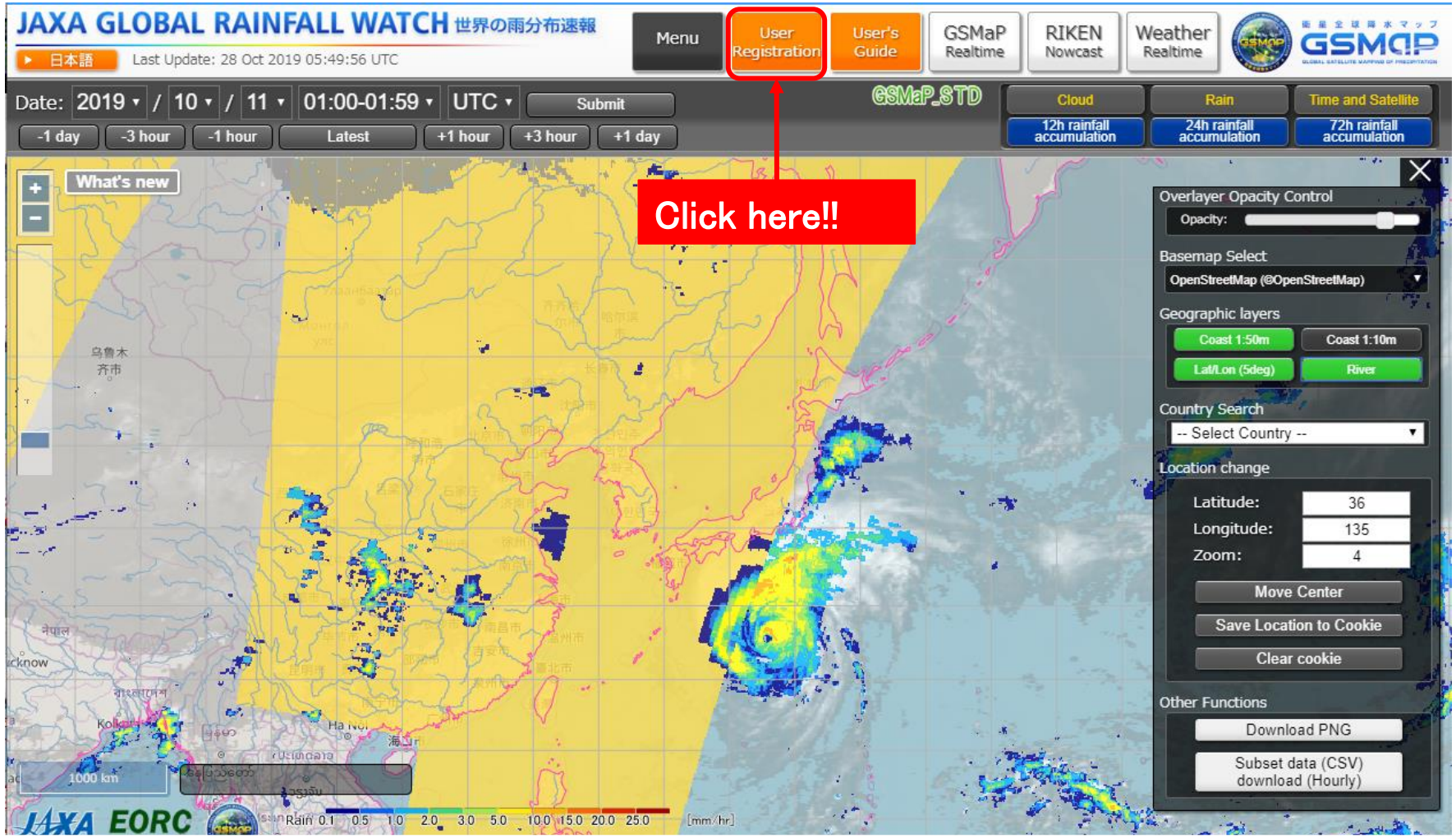
http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



You can display timeseries of the region where you are interested.
After user registration, you can download the CSV data.

User Registration

http://sharaku.eorc.jaxa.jp/GSMaP/index.htm



GSMaP

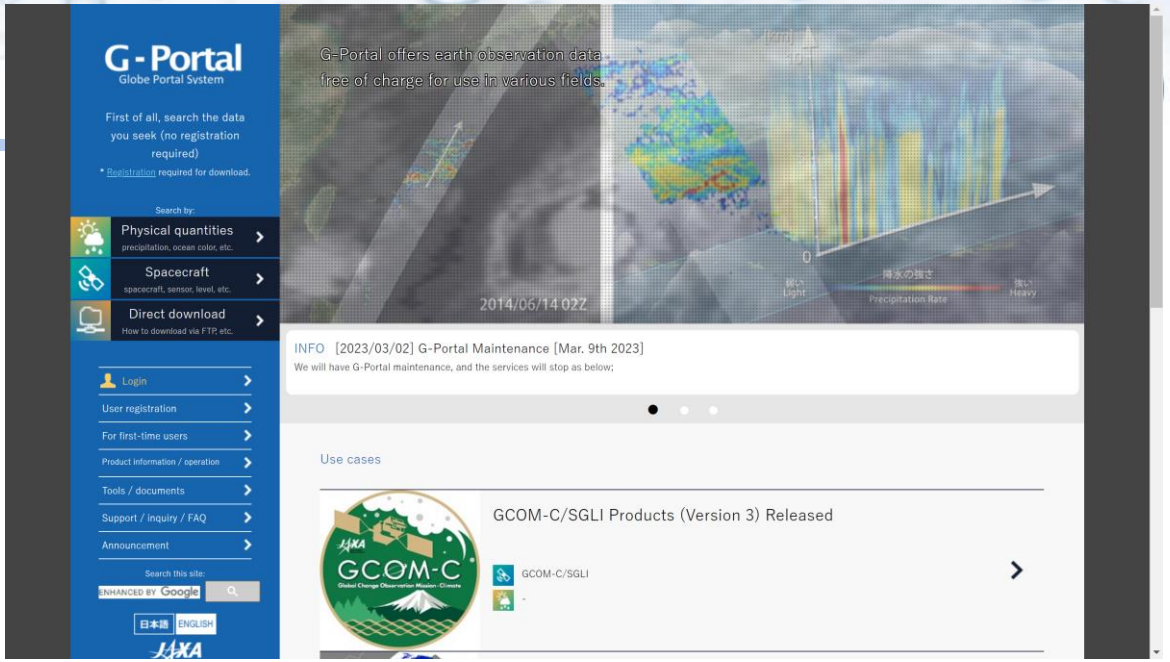
GLOBAL SATELLITE MAPPING OF PRECIPITATION

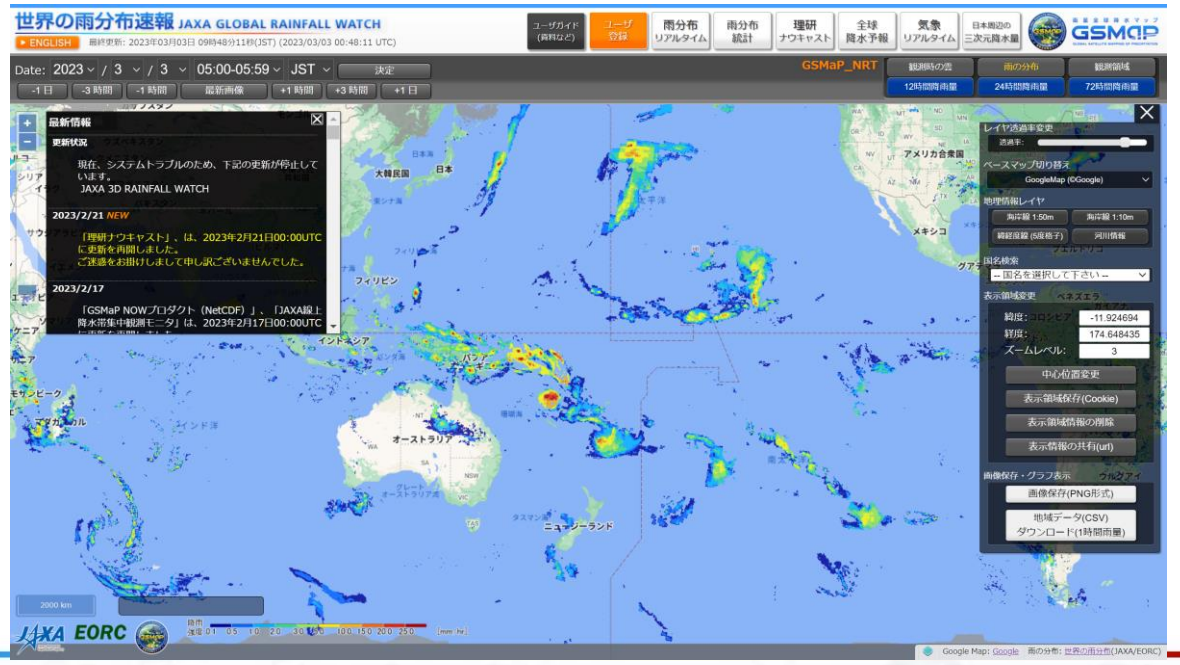
Data access and tools

Data distribution

- G-Portal: common data distribution portal of JAXA earth observation satellites
  https://gportal.jaxa.jp/gpr/?lang=en

- “JAXA Rainfall Watch” website/ftp site
  https://sharaku.eorc.jaxa.jp/GSMaP/index_j.htm





Data distributions and formats

- The type and format of the product as shown in the table below.

In the new GSMaP version (v8), GSMaP NRT, Gauge_NRT, NOW, and Gauge_NOW in NetCDF format is newly available.

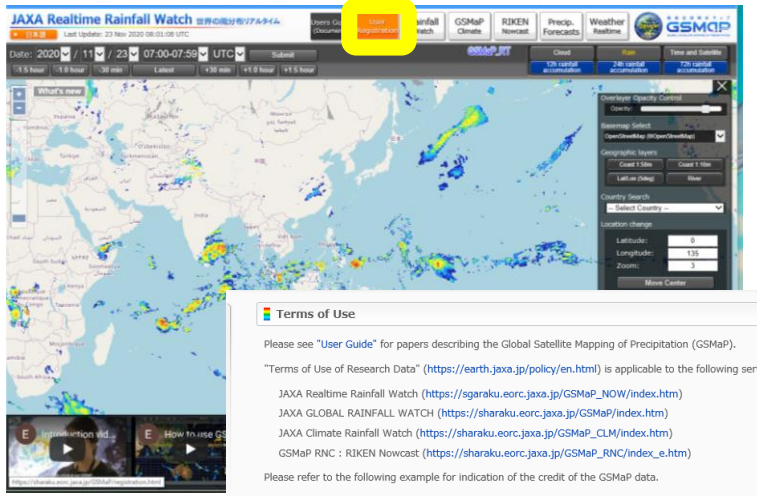
	NOW Gauge_NOW	NRT Gauge_NRT	MVK Gauge
G-Portal https://gportal.jaxa.jp/gpr/?lang=ja		HDF Global-scale, txt	HDF Global-scale, txt NetCDF GeoTIFF
"JAXA Rainfall Watch" website/ftpsite https://sharaku.eorc.jaxa.jp/GSMaP/index_j.htm	Binary Region-subset,txt NetCDF	Binary Region-subset,txt NetCDF	Binary Region-subset,txt

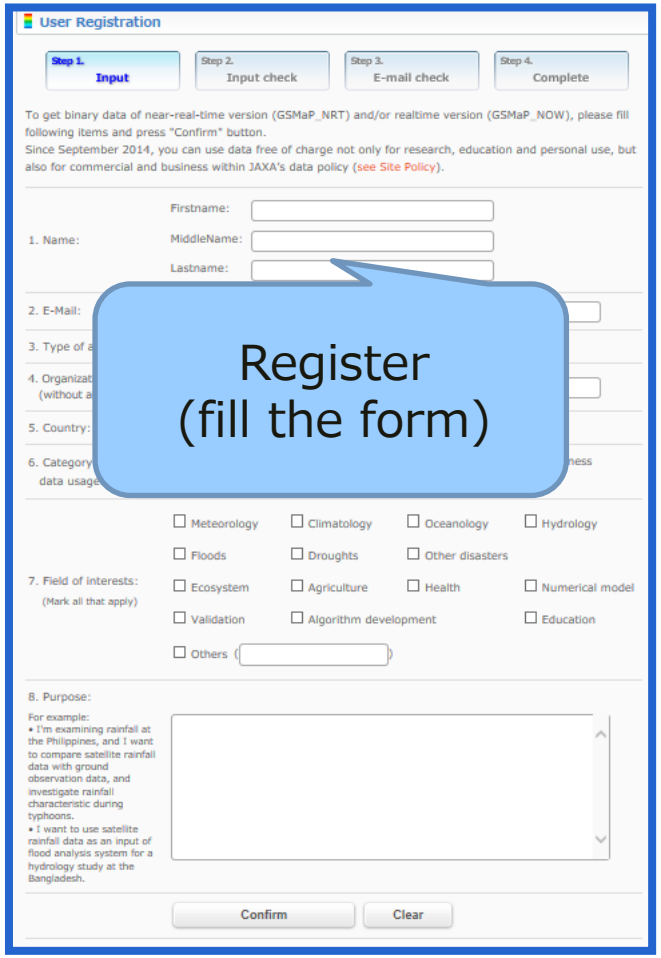
GSMaP data distribution for analysis

Click here

User Registration

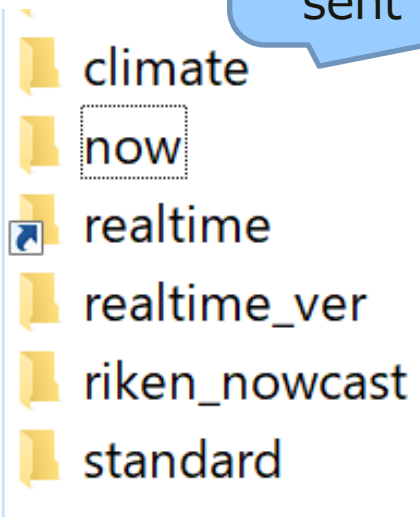
You can download the data after user registration (free of charge).
https://sharaku.eorc.jaxa.jp/GSMaP/registration.html





Register
(fill the form)

Ftp server information will be sent via email



Data specifications are explained in the documents.
https://sharaku.eorc.jaxa.jp/GSMaP/faq/GSMaP_faq18.html

Data distribution from JAXA GSMaP ftp site

Directories:

/now
... GSMaP_NOW (real-time version, 0-hr data latency, latest algorithm since December 2021)

For users who want to get realtime data!

/realtime
... GSMaP_NRT
(near-real-time version, 4-hr data latency, since March 2000)
... GSMaP_Gauge_NRT
(near-real-time version with gauge-calibration, 4-hr data latency, since April 2000)

For users who want to get near-realtime data with 4-hour latency!

/standard/v6
... GSMaP_MVK (standard version Ver.6, 3-day data latency, since March 2014)
... GSMaP_Gauge (standard with gauge-calibration Ver.6, 3-day data latency, since March 2014)
... GSMaP_RNL (reanalysis version Ver.6, a period from March 2000 to February 2014)
... GSMaP_Gauge_RNL (reanalysis with gauge-calibration Ver.6, a period from March 2000 to February 2014)

For users who want to use long-term GSMaP dataset with higher accuracy

/standard/v8
... GSMaP_MVK (standard version Ver.8, 3-day data latency)
... GSMaP_Gauge (standard with gauge-calibration Ver.8, 3-day data latency)

For users who want to use GSMaP dataset with higher accuracy (this is the latest algorithm but still under reprocessing)

/climate
... GSMaP_CLM (statistics based on near-real-time version with gauge-calibration Ver.6 since April 2000)

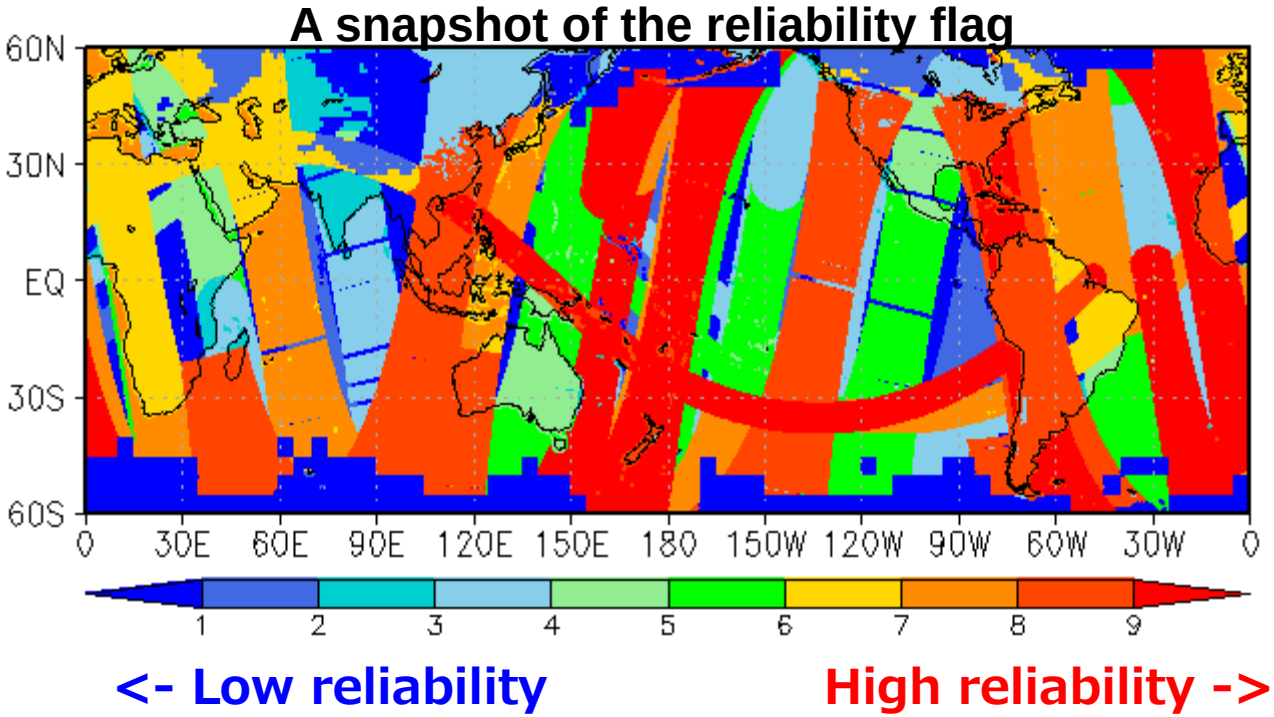
For users who want to get statistical dataset of GSMaP

Complementary data for GSMaP

- **Characterizing reliability** of GSMaP **simply** and **qualitatively**.
  - We provide some complementary information of GSMaP to support users to use the GSMaP data efficiently; Satellite Information Flag, Observation Time Flag, Reliability Flag

Reliability flag: the reliability at each pixel is represented by ten levels by considering

- Surface type reliability
- Low temperature reliability
- Moving vector and Kalman filter (MVK) propagation reliability



FAQ https://sharaku.eorc.jaxa.jp/GSMaP/faq/GSMaP_faq_list.html

Q1. I want to know about the type and period of available GSMaP product.
Q2. I want to know the specific area of the text data (.csv).
Q3. I want to know about the detail (parameter, data format, etc.) of the product.
Q4. I want to know the unit of daily rainfall. /I want to know how to get the daily rainfall data.
Q5. What does "01:00Z" mean?
Q6. I want to know about the difference between the products (GSMaP_NOW, GSMaP_NRT, GSMaP_MVK, GSMaP_RNL, GSMaP_Gauge_NRT, GSMaP_Gauge, GSMaP_Gauge_RNL).
Q7. I want to know what geodetic reference system used to GSMaP.
Q8. I forgot my user ID, password, URL, so please re-issue it.
Q9. I am using the correct user ID and password, but I can not access GSMaP.
Q10. I want to know how to open the data with ArcGIS.
Q11. I want to know how to open the data. /Can you recommend any software to view/visualize the data?
Q12. I want to know how to read the data with GrADS, and how to use ".ctl" files.
Q13. Is it possible to use JAXA Global Rainfall Image on my academic research report?
Q14. Is it possible to use JAXA Global Rainfall Image for commercial use?
Q15. I want to know the algorithm used for the GSMaP.
Q16. I want to use GSMaP data on our web. What is the necessary procedure?
Q17. What data is GSMaP_RNC?
Q18. Can I get Data Format Description?
Q19. I want to download only specific area.
Q20. I want to know the difference from the GSMaP data provided from G-Portal.

Opportunities: GPM Asia-Oceania Workshop

- The 8th GPM Asia-Oceania Workshop on Satellite Precipitation Data Utilization
  - **Planned to be held with Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) in Manila, Philippines, on 12-13 Mar. 2020.**

Postponed due to the COVID-19 pandemic

- Until 7th workshop, the name was “GPM Asia Workshop” and renamed to “GPM Asia-Oceania Workshop” and invited some Pacific Agencies such as BoM Australia, PNG met, Fiji met, and so on.
- Purpose of the workshop:
  - To promote satellite precipitation data utilization in Asia-Oceania, and move forward research activities related to GPM in each country in working-level.
  - To share early validation and utilization results of the GPM products in Asia-Oceania countries.
  - To proceed future collaborations between Japan and Asian-Oceania countries.

The 7th GPM Asia Workshop on Satellite Precipitation Data Utilization

Held in Badan Meteorologi, Klimatologi, dan Geofisika (BMKG), Jakarta, Indonesia, on 11-12 Jan. 2018

Opportunities of training

International Precipitation Working Group (IPWG) of the Coordination Group for Meteorological Satellites (CGMS)

- Training lectures are held during the IPWG meetings.
- **The next IPWG meeting is planned at Tokyo, Japan in 2024.**

Plan to open the GSMaP lecture materials

- JAXA is planning to prepare the lecture video.
- Contents will be similar to today's GSMaP training session.
- Any feedbacks from you are welcome!

Summary

- GSMaP is the **multi-satellite product** by combining passive microwave radiometers, IR imagers, and precipitation radars.
- GSMaP consists of some products, **realtime, near-realtime, standard and their gauge-adjusted versions**.
- Users can select the appropriate product according to their purposes, and the GSMaP products are widely used for various fields.
- We distribute the data or image via website and ftpsite and users can freely access to the data.