

Imaging procedure for GCOM-C(SHIKISAI) product by using QGIS

These documents show how to read the GCOM-C (SHIKISAI) level-2 sea surface temperature product (250m resolution) by using QGIS (version 3.10) and visualize it as an image.

Please refer to the "G-Portal User's Manual" indicated below for more details on how to search for and download products from G-Portal.

https://gportal.jaxa.jp/gpr/assets/mng_upload/COMMON/upload/GPortalUserManual_en.pdf

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The workflow is as follows.

Imaging procedure for GCOM-C(SHIKISAI) product by using QGIS(Step.1-2).pdf

STEP.1 Prepare 1 - Download the land data input to QGIS -

STEP.2 Prepare 2 - Convert sea surface temperature data to "GeoTIFF" format –

Imaging procedure for GCOM-C(SHIKISAI) product by using QGIS(Step.3-4).pdf

STEP.3 Read the data with QGIS

STEP.4 Convert pixel data (digital value) to sea surface temperature

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STEP.5 Display sea surface temperature in color

STEP.6 Adjust the image and save it as your own data

Imaging procedure for GCOM-C(SHIKISAI) product by using QGIS(Appendix).pdf

How to change the color ramp

Imaging procedure for GCOM-C(SHIKISAI) product by using QGIS

STEP.1 Prepare 1 - Download the land data input to QGIS –

STEP.2 Prepare 2 - Convert sea surface temperature data to "GeoTIFF" format –

STEP.1 Prepare 1 - Download the land data input to QGIS -

Download the land data (used to color land when imaging data with QGIS) from the following sites.

<https://tapiquen-sig.jimdofree.com/english-version/free-downloads/world/>

The screenshot shows a web browser window with the URL <https://tapiquen-sig.jimdofree.com/english-version/free-downloads/world/>. The page features a green header with the text "EFRAÍN PORTO TAPIQUÉN GEOGRAFÍA, SIG Y ESTUDIOS AMBIENTALES". A left sidebar contains a navigation menu with items: Inicio, Descargas Gratuitas, Biografía, Servicios Profesionales, Cursos SIG, Enlaces de Interés, Contacto, English Version, and Free Downloads. The main content area is titled "World Shapefiles (*.shp)" and includes instructions on how to download and cite the data. It lists "Shapes Available" with two map thumbnails: "World Countries" and "World Cities". A right sidebar contains social media links for Twitter and LinkedIn, a "Donar" button with payment icons, and a "Visitors" counter showing statistics for online users, today, month, year, and total visits.

World Shapefiles (*.shp) - Geo X

https://tapiquen-sig.jimdofree.com/english-version/free-downloads/world/

Descargas Gratuitas
Biografía
Servicios Profesionales
Cursos SIG
Enlaces de Interés
Contacto
English Version
Free Downloads
World
Americas

In this section, you can download for FREE, ESRI format Shapefiles (*.shp) from all the world countries in WGS84 Datum. You just may quote that downloading like this:

"Shape downloaded from http://tapiquen-sig.jimdo.com. Carlos Efraín Porto Tapiquén. Orogénesis Soluciones Geográficas. Porlamar, Venezuela, 2015."

However, you can quote the shape as a single (when you download the shape and unzip, please read the file "README")

Shapes Availables

World Countries
Shapefile with the countries of the world (in English)
World_Countries.rar
Archivo comprimido 1.1 MB
[Descarga](#)

World Cities
Shapefile with the cities of the world (in English)
World_Cities.rar
Archivo comprimido 15.9 KB
[Descarga](#)

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ONLINE.....	2
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TOTAL.....	164575

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Click here, select "Save file" and press "OK".
(Please note that the save location varies depending on the browser you are using.)

Open the folder where you saved the file and double-click the file named "World_Countries.rar" to unzip it, and you will see the file "World_Countries.shp".
(The "World_Countries.shp" will be used later.)

- World_Countries.dbf
- World_Countries.prj
- World_Countries.sbn
- World_Countries.sbx
- **World_Countries.shp**
- World_Countries.shp.xml
- World_Countries.shx
- World_Countries_README.txt

STEP.2 Prepare 2 - Convert sea surface temperature data to "GeoTIFF" format -

1. Search the sea surface temperature products of GCOM-C (SHIKISAI) on G-Portal.
2. When the search results are displayed, press the "Download" button in the row of the product you want.

*In this example, we searched for 250m resolution data observed near "Suo Nada" in Japan.

The screenshot shows the G-Portal search interface. On the left, the search criteria are set to "Ocean" and "Sea Surface Temperature". The main area displays a map of Japan with a search region highlighted in orange. Below the map, a table lists search results. A red box highlights the "Processing" button for the second row of the table.

Product	Physical quantities	Spacecraft / sensor	Observation starting date(UTC)	Observation ended date(UTC)	Details	Data manipulation	My List
L2-SST	Sea Surface Temperature	GCOM-C/SGLI	2020-04-08 01:40:51.90	2020-04-08 01:45:39.48	Details	Download Processing	Add to My List
L2-SST	Sea Surface Temperature	GCOM-C/SGLI	2020-04-08 01:40:51.85	2020-04-08 01:45:39.53	Details	Download Processing	Add to My List
L2-SST	Sea Surface Temperature	GCOM-C/SGLI	2020-04-08 12:58:03.20	2020-04-08 13:02:50.78	Details	Download Processing	Add to My List
L2-Sea Surface Temperature (SST)	Sea Surface Temperature	GCOM-W1/AMSR-2	2020-04-08 17:02:55.739	2020-04-08 17:52:14.957	Details	Download Processing	Add to My List
L2-SST	Sea Surface Temperature	GCOM-C/SGLI	2020-04-08 12:58:03.15	2020-04-08 13:02:50.84	Details	Download Processing	Add to My List
COMB L2 Precipitation	Precipitation Classification/Particle Size Distribution/Sea Surface Temperature/Amount of Precipitation	GPM/DPR-GMI COMB	2020-04-08 13:46:22.774	2020-04-08 15:18:57.697	Details	Download Processing	Add to My List
L3-Sea Surface Temperature (SST) _0.25deg	Sea Surface Temperature	GCOM-W1/AMSR-2	2020-04-08 00:34:04.391	2020-04-08 23:59:59.355	Details	Download Processing	Add to My List
L3-Sea Surface Temperature (SST) _0.25deg	Sea Surface Temperature	GCOM-W1/AMSR-2	2020-04-08 00:00:00.086	2020-04-08 23:38:23.479	Details	Download Processing	Add to My List

Click the "Processing" button

G-Portal Search

Free Earth observation data can be used in various fields

G-Portal

Back to Top | For First-time users | Support | Usage | Log off

Call out saved search criteria | Save the search criteria

Change the background map: Google Street | Show the guidance

1. Refine your search | 2. Select the period | 3. Specify the region

Select by physical quantity | Select by spacecraft / sensor

1. Setting the criteria

Refine Search by word/Sea

- Atmosphere
- Precipitation
- Cloud
- Water Vapor
- Radiation Balance
- Aerosol
- Radiance
- Atmospheric Correction
- Cryosphere
- Sea Ice
- Snow Pack
- Terrestrial
- Snow Pack
- Soil Moisture
- Radiance/Reflectance
- Vegetation
- Radiance
- Ocean
- Sea Surface Temperature
- Sea Surface Temperature
- Sea Surface Wind
- Sea Surface Wind Speed
- Ocean Color
- Others
- Radiance/Brightness Temperature
- Radar/Lider
- Geometric Information
- Environment Auxiliary
- Not Applicable

Request processing

Product selected: GCOM-C/SGLI L2-SST GC1SG1_202004080141D05410_L2SG_SSTDQ_1002

Load Conditions | Save Conditions

Cutout | Shift

CT detection() %

AT detection() %

Cutout amount

CT detection() %

AT detection() %

Set | Clear the setting

Format conversion

Select output format

No conversion

netCDF

GeoTIFF

Restrict dataset (variable)

SST

Request processing | Close

Date(UTC)	Details	Data manipulation	My List
2020-04-08 13:39:48	Details	Download Processing	Add to My List
2020-04-08 13:39:53	Details	Download Processing	Add to My List
2020-04-08 13:50:78	Details	Download Processing	Add to My List
2020-04-08 14:14:957	Details	Download Processing	Add to My List
2020-04-08 15:20:84	Details	Download Processing	Add to My List
2020-04-08 15:22:774	Details	Download Processing	Add to My List
2020-04-08 15:18:57:697	Details	Download Processing	Add to My List

Select "GeoTIFF", and click "Request processing".

After a while, you will receive an email notifying you that your processing request has been accepted. After that, you will receive an email notifying you that your processing request has been completed. Please download the data according to the contents of the email.

【 The gist for understanding the following steps 】

Each pixel of the sea surface temperature product of GCOM-C (SHIKISAI) contains a value from 0 to 65535.

Value	Meaning
0~65531	Sea surface temperature(degree) can be calculated by the following formula. Value * 0.0012 – 10 Notice : The slope and offset values of other products are described in the “Higher Level Product Format Specification”. https://gportal.jaxa.jp/gpr/assets/mng_upload/GCOM-C/SGLI_Higher_Level_Product_Format_Description_en.pdf
65532	Indicates that the calculation did not work.
65533	Indicates that there is a cloud
65534	Indicates land
65535	The value indicates outside the observation area of the satellite

As you can see from the table above, the pixels that can be retrieved as the sea surface temperature data are the values 0-65531.

We will explain how to convert these values to sea surface temperature values in the next step . In addition, in the further steps, we will explain how to color the image to make it easier to understand the temperature distribution.