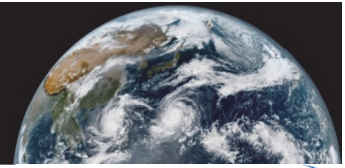




HimawariCast Newsletter

No. 11, 10 May 2019



Japan Meteorological Agency 

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Maintenance of the JCSAT-2B ground system

The following HimawariCast data disseminations will be cancelled due to JCSAT-2B ground system maintenance to be performed by [SKY Perfect JSAT Corporation](#) between 02:25 and 02:55 UTC on 13 and 16 May 2019:

- 02:20 UTC (P015) on 13 May 2019
- 02:30 UTC (P016) on 13 May 2019
- 02:20 UTC (P015) on 16 May 2019
- 02:30 UTC (P016) on 16 May 2019



(c) [SKY Perfect JSAT Corporation](#)

Figure 1 HimawariCast antennas at YSCC

Provision of the HimawariCast service involves the use of the JCSAT-2B satellite operated by the [SKY Perfect JSAT Corporation](#). Himawari data are sent to the satellite from Yokohama Satellite Control Center (YSCC) and broadcast to receiving stations, and the maintenance detailed here is periodically performed to maintain the antenna at YSCC. On the 13th and 16th

May, primary and secondary antenna operation will be switched and then switched back, and data provision will be canceled during this period. The previous maintenance was carried out in May 2017.

(Akiyoshi ANDOU)

Questions about SATAID

Question 1

- Is it possible to edit the STRING.DAT file containing locations and place names?

The SATAID viewer can show place names stored in a STRING.DAT file (Figure 2; see Appendix 9 Place Name Data Format in the [SATAID manual](#) for details). JMA provides a converter for compatibility between STRING.DAT (binary) and CSV file with the following capacity:

- From binary to CSV
CnvMsmmap.exe -n STRING.DAT string.csv
- From CSV to binary
CnvMsmmap.exe -r -n string.csv STRING.DAT

The STRING.DAT file need to be converted to CSV format for editing and then converted back to STRING.DAT. The CnvMsmmap.exe converter can be downloaded from https://www.data.jma.go.jp/mscweb/en/himawari89/himawari_cast/software/CnvMsmmap.exe. Tables 2 and 3 describe the CSV file format.

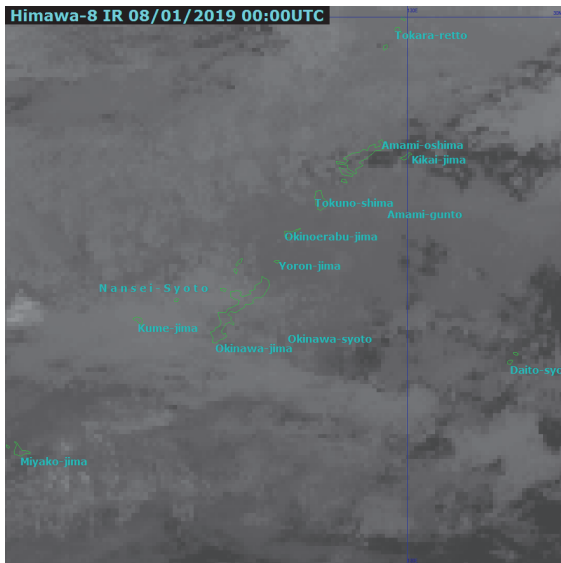


Figure 2 SATAID place name display

Table 1 CSV file format with conversion from STRING.DAT

1 st column	Place element
2 nd column	Latitude
3 rd column	Longitude
4 th column	Name

Table 2 Place element

1	Water	7	Mountain
2	Land	8	Country
3	Region	9	Prefecture
4	Island	10	Capital
5	Lake	11	Prefectural capital
6	River	12	City

Question 2

- When I access the Gmslpd.chm and Dvorak.chm help files, I see the index but not the content [Figure 3]. How do I access the content?

This is a known Windows issue relating to security update 896358 as detailed at

- <https://support.microsoft.com/en-us/help/896358/ms05-026-a-vulnerability-in-html-help-could-allow-remote-code-executio>

As .chm file content in a network shared folder may not be displayed when security update 896358 is installed, the .chm file needs to be copied to a local folder. Additionally, when a .chm file in a local folder

is opened, a security warning (Figure 4) may appear. The “Always ask before opening this file” check box on the Open File - Security Warning panel should be unchecked before the file is opened.

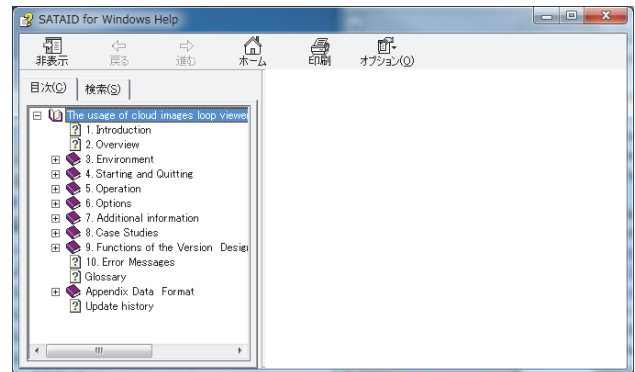


Figure 3 SATAID for Windows Help

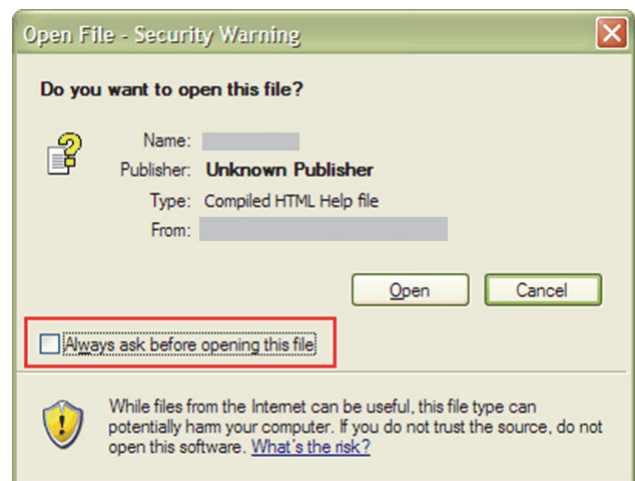


Figure 4 Open File - Security Warning

Dust RGB based on Himawari observation imagery

Dust RGB has same color scheme (combinations of imagery assigned to the three primary colors) as 24-hour Microphysics RGB and Ash RGB (Table 3). 24-hour Microphysics RGB was featured in the previous newsletter (No. 10).

Dust RGB has specific thresholds for Aeolian dust detection during daytime and nighttime periods. The imagery can also be used to identify thin cirrus clouds and to distinguish water clouds from thick ice clouds in the same way as 24-hour Microphysics RGB.

Dust and volcanic ash detection is facilitated

by brightness temperature difference (BTD) imagery produced from Band 13 and Band 15 (BTD_{B13-B15}) with assignment to the red of the RGB. Cloud type identification based on thickness is also facilitated by the BTD_{B13-B15} in the same way as 24-hour Microphysics RGB.

Difference imagery produced using Band 11 and Band 13 (BTD_{B11-B13}) is assigned to the green of the RGB, facilitating differentiation between water clouds and ice clouds. BTD_{B11-B13} also facilitates dust detection, although not as well as BTD_{B13-B15}.

The blue of Band 13 shows surface and cloud-top temperatures (with warm-colored pixels increasing the contribution of blue to RGB imagery) in the same way as 24-hour Microphysics RGB and Night Microphysics RGB.

Against this background, dust and volcanic ash are displayed in bright magenta (produced by high contributions of red and green) or in a pinkish hue. Color interpretation for Dust RGB is shown in Figure 5.

The Dust RGB imagery in Figure 6 shows Asian dust (yellow sand) over East Asia (marked A-A). Dust RGB thus facilitates the identification of yellow sand, but dust plumes over the sea surface may be unclear due to high emissions from sea surface to penetrate dust plumes. The Asian dust in this image is relatively clear for occurrence over the sea.

Figure 7 compares daytime and nighttime imagery, exhibiting diurnal changes in land and desert colors relating to thermal conditions. This

should be noted in the use of such imagery.

The Dust RGB image in Figure 8 shows a large-scale red dust storm around southeastern Australia (marked A-A) spreading with clouds relating to a low-pressure system.

JMA began providing Himawari Asian dust information incorporating Dust RGB imagery in January 2019 at <https://www.data.jma.go.jp/gmd/env/kosa/himawari/en/himawari-DST.html>.

(Akihiro Shimizu)

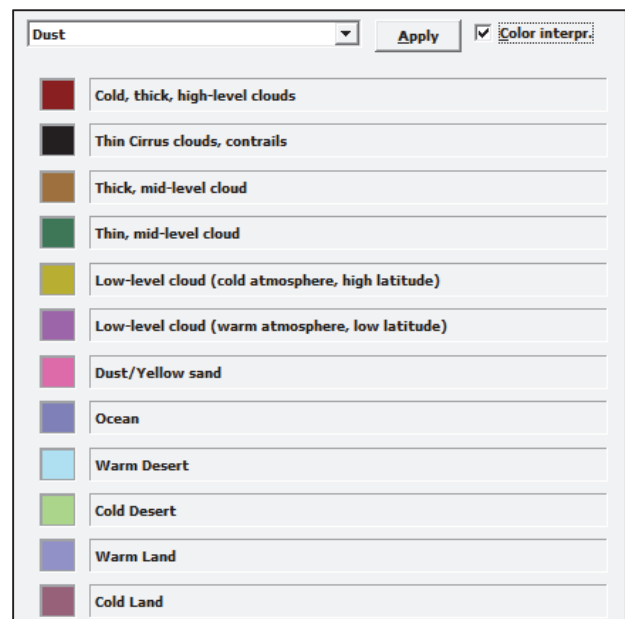


Figure 5 Dust RGB interpretation in SATAID

Table 3 Band components and related specifications for Dust RGB

Color	AHI bands	Central wave length [μm]	Physical relation to	Smaller contribution to signals of	Larger contribution to signals of
Red	B13 – B15	10.4 – 12.4	Cloud optical thickness Dust	Thin ice clouds Dust	Thick clouds Dust
Green	B11 – B13	8.6 – 10.4	Cloud phase	Thin ice clouds Dust	Water clouds Deserts
Blue	B13 (inverse)	10.4	Cloud top temperature Surface temperature	Cold clouds Cold surface	Warm clouds Warm surface

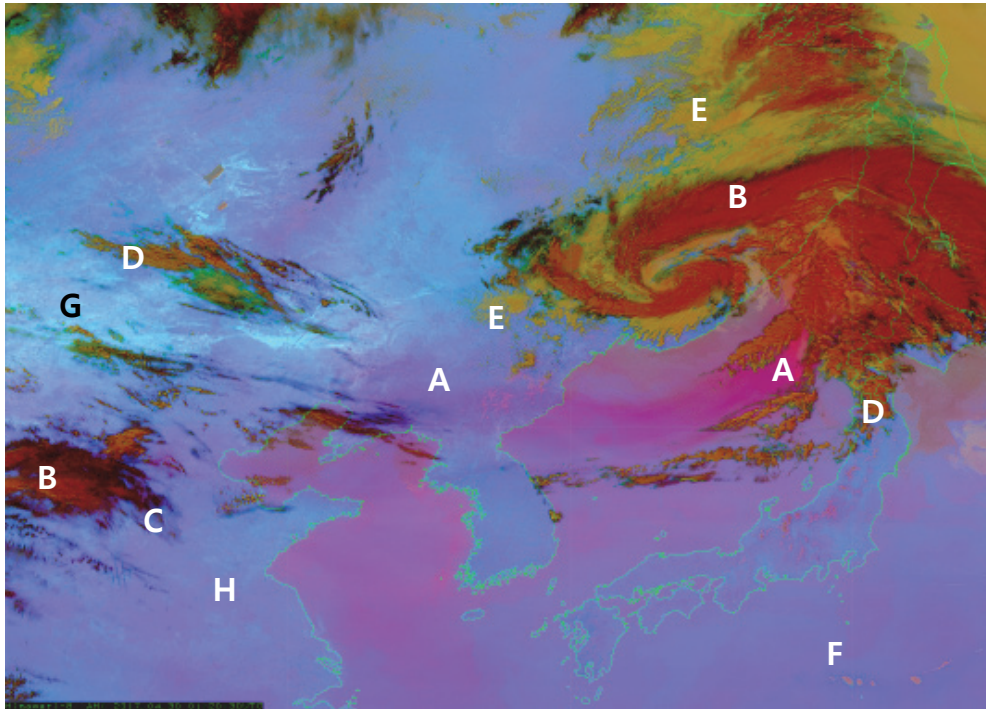


Figure 6 Asian dust from the Asian continent distributed over the sea (01:20 UTC, 30th April 2017; marked A-A)

A: Asian dust; B: thick high-level cloud; C: thin cirrus cloud; D: thick mid-level cloud; E: low-level cloud; F: sea surface; G: warm desert; h: warm land

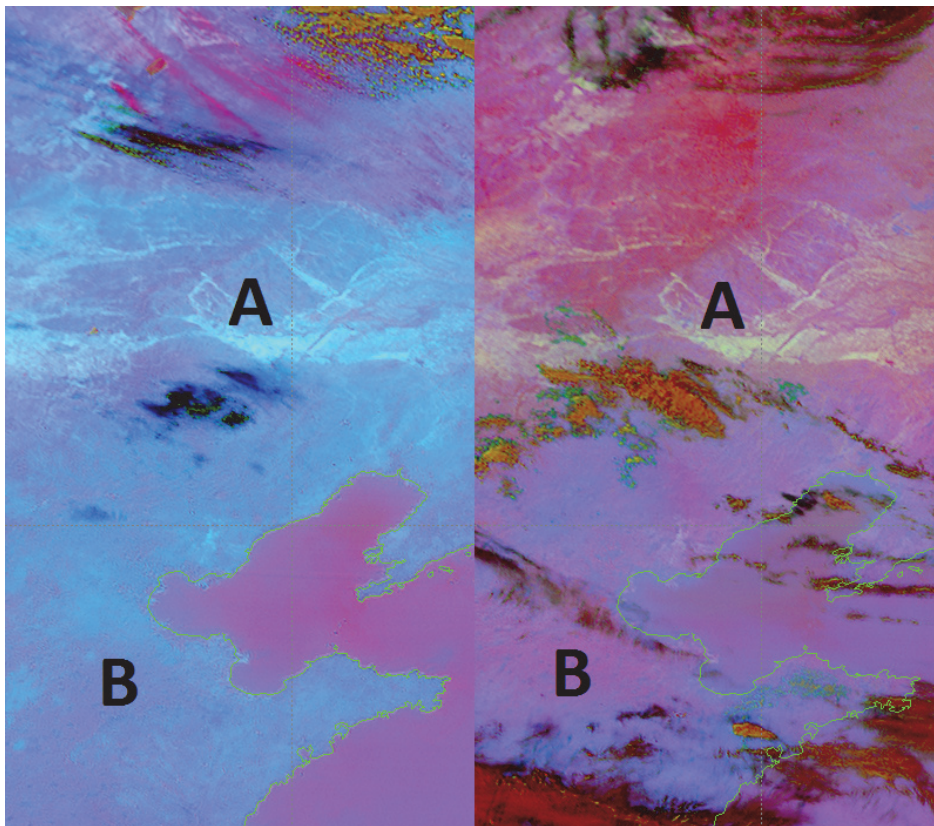


Figure 7 Surface color differences between daytime (left: 03:00 UTC) and nighttime (right: 1200 UTC) (both 30th April 2017)

A: desert (left: warm; right: cold); B: land (left: warm; right: cold)

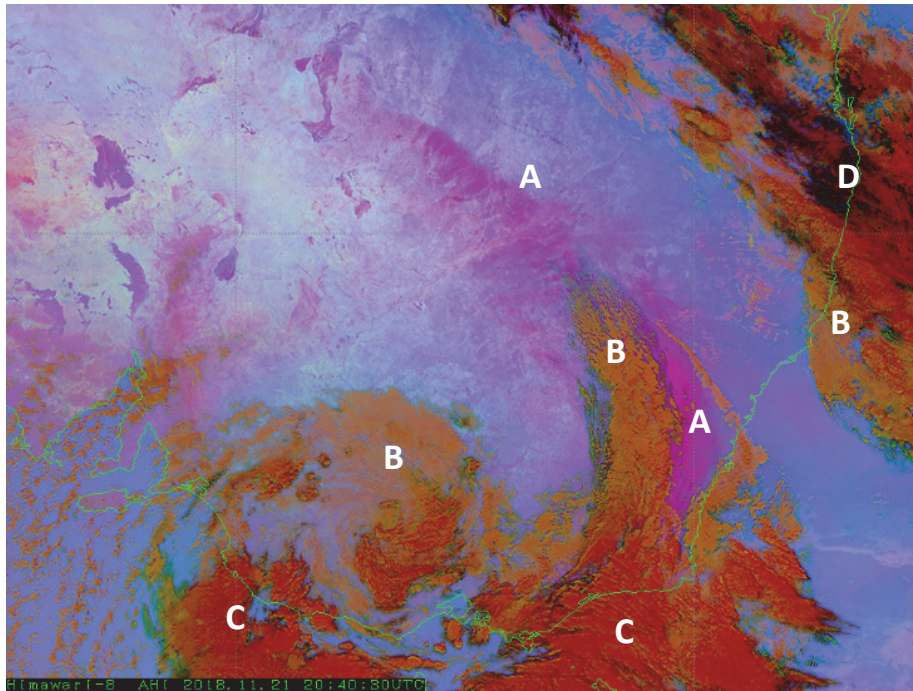


Figure 8 Dust storm around southeastern Australia (20:40 UTC, 21st November 2018) spreading with clouds relating to a low-pressure system
 A: dust storm; B: thick mid-level cloud; C: thick high-level cloud; D: thin high-level (cirrus) cloud; E: low-level cloud

Feedback

JMA welcomes feedback from users on HimawariCast data usage, and particularly invites articles to be posted in this newsletter. Such input will help other users consider new ideas for their services.

The Agency also invites questions on HimawariCast services. These may relate to the functions of the SATAID program, interpretation/analysis of multi-band imagery or other areas of interest. Feel free to

send queries to be answered in this newsletter.

All articles and questions are welcomed. Your contributions are greatly appreciated.

Comments and Inquiries

Comments and inquiries on this newsletter and/or the HimawariCast Web Page are welcomed.

Back numbers of HimawariCast Newsletters:

“Dissemination via communication satellite: the HimawariCast service,” MSC/JMA

http://www.data.jma.go.jp/mscweb/en/himawari89/himawari_cast/himawari_cast.html

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