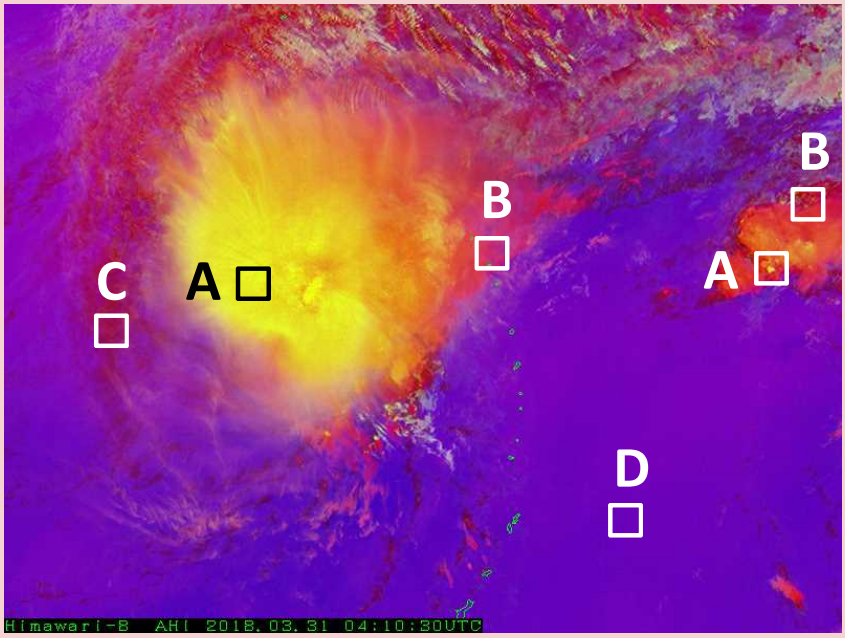
Meteorological Satellite Center (MSC) of JMA

Ver.1.0

Himawari Day Convective Storms RGB Quick Guide



Typhoon Jelawat (T1803) around the Mariana Islands (04:10 UTC, 31 March 2018)

A : Cb clouds with strong updrafts or high-level clouds with small ice particles
B : thick high-level clouds with large ice particles
C : thin cirrus clouds
D : sea surface

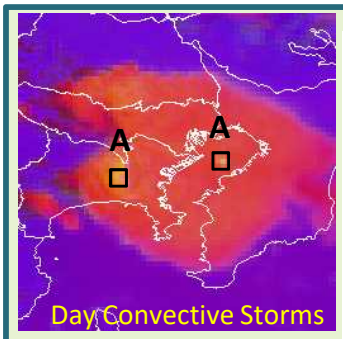
Main applications: Identification of high-level cloud top and/or small ice particles suggestive of severe storms with strong updrafts

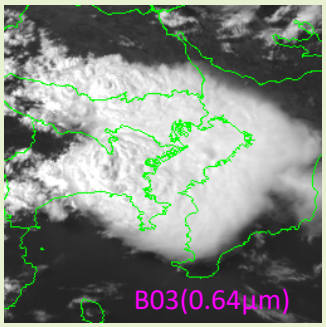
Benefits:

- Highlighting of Cb clouds with strong updrafts and severe weather in yellow

Limitations:

- Available for daytime only
- Lack of clarity for low-level clouds and surface conditions
- Yellow display also for high-level lee clouds, leading to lack of clarity regarding convective clouds





Cb clouds over the southern Kanto Plain (05:05 UTC, 18 July 2017)

The characteristic rugged surface of the Cb top can be seen in the visible image (bottom). In the RGB image (top), yellowish and orange areas represent the rugged surface seen in the visible image.

A : Cb clouds with strong updrafts or high-level clouds with small ice particles

RGB composition with recommended thresholds and related specifications for Day Convective Storms RGB

Color	AHI bands	Central wave length [μm]	Min [K/%]	Max [K/%]	Gamma	Physical relation to	Smaller contribution to signal of	Larger contribution to signal of
Red	B10-B08	7.3-6.2	-5.0K	36.0K	1.0	Cloud top height	Low-level clouds	High-level clouds
Green	B13-B07	10.4-3.9	-1.0K	61.0K	0.5	Cloud top particle size and temperature	Large ice particles with weak updrafts	Small ice particles with strong updrafts
Blue	B03-B05	0.64-1.6	-80%	26%	0.95	Cloud top phase	Ice clouds	Water clouds

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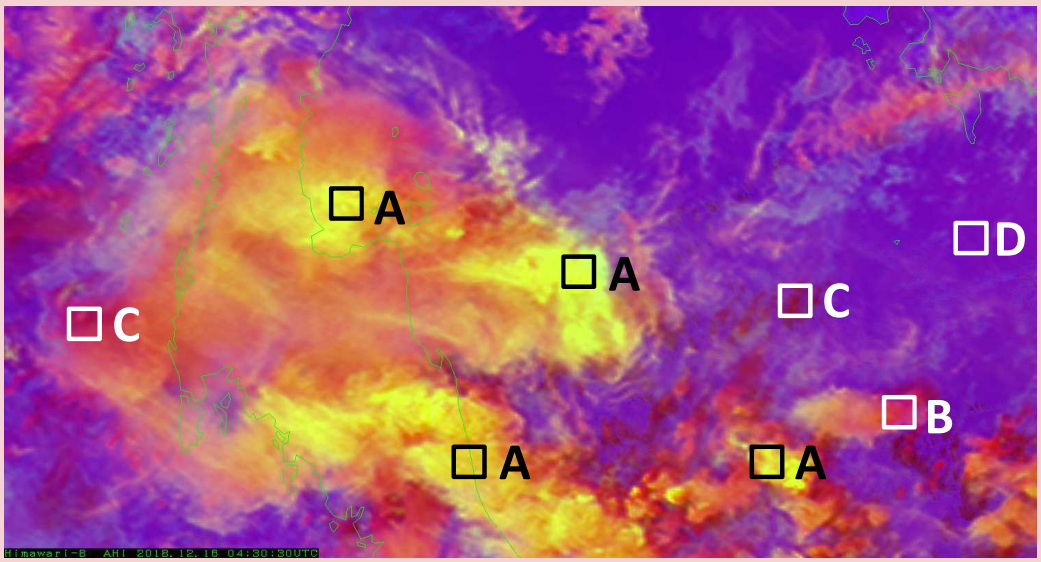


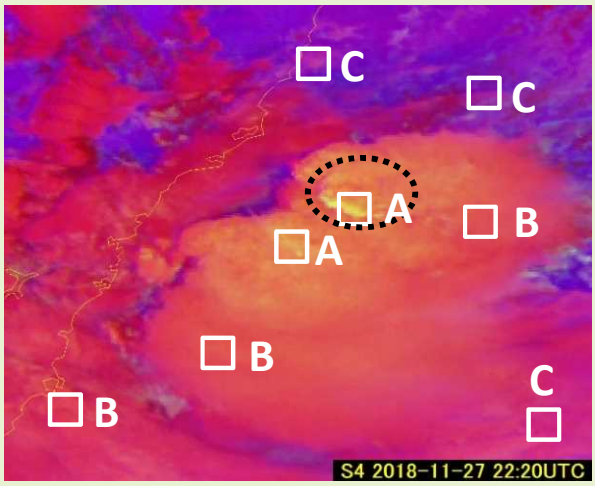
Cb clouds around the central part of the Malay Peninsula (04:30 UTC, 16 December 2018)
Heavy rain brought flooding at this time.

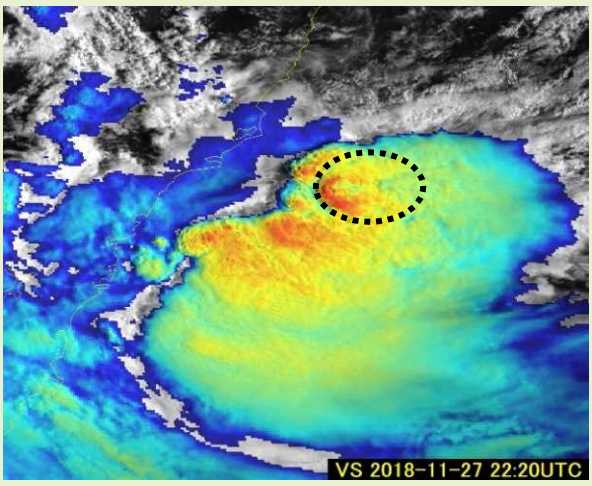
A : Cb clouds with strong updrafts or high-level clouds with small ice particles
B : thick high-level clouds with large ice particles
C : thin cirrus clouds
D : sea surface

In tropical areas, very cold clouds often appear over-enhanced (with saturated yellow shading).

Huge Cb clouds around the eastern coast of Australia (22:20 UTC, 27 November 2018)

Left: Day Convective Storms RGB image; right: sandwich image. The dashed lines indicate overshooting cloud top with a cold-U/V (enhanced-V) form.





A : Cb clouds with strong updrafts or high-level clouds with small ice particles
B : thick high-level clouds with large ice particles
C : thin cirrus clouds

Color interpretation for Day Convective Storms RGB

Color	Interpretation
	Deep precipitating cloud (precipitation is not necessarily reaching the ground) - high-level cloud, large ice particles
	Deep precipitating cloud (Cb cloud with strong updrafts and severe weather)* - high-level cloud, small ice particles *or thick, high-level lee cloudiness with small ice particles
	Thin cirrus cloud (large ice particles)
	Thin cirrus cloud (small ice particles)
	Ocean
	Land