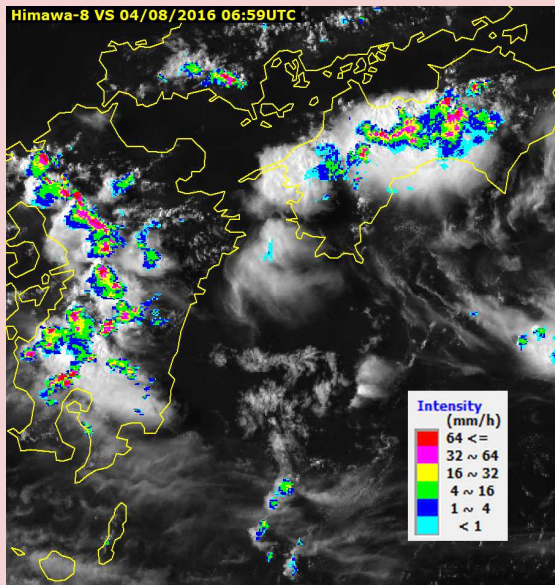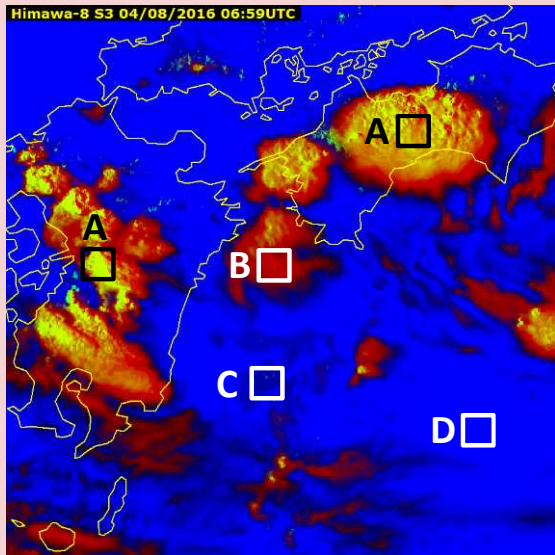# Himawari Day Deep Clouds RGB Quick Guide

Comparison for convective clouds around Japan between Day Deep Clouds RGB (top) and visible imagery (B03) with radar intensity (bottom) (07:00 UTC, 4 August 2016)

A ☐ : thick clouds with overshooting tops
B ☐ : thick clouds
C ☐ : thin high clouds
D ☐ : sea surface

Main applications： Highlighting of thick clouds such as cumulonimbus with overshooting top

Benefits:
- Useful for identifying thick clouds (e.g., Cb with overshooting top)
- Composure from conventional successor bands of previous-generation MTSAT satellites
- RGB applicability to WIS SATAID service (GISC Tokyo) users
- Color display similar to well-known RGBs such as Day/Night/24-hour Microphysics

Limitations：
- Available for daytime only
- Lack of detailed information on cloud particle size and phase
- Lack of display for (thin) low-level cloud/fog
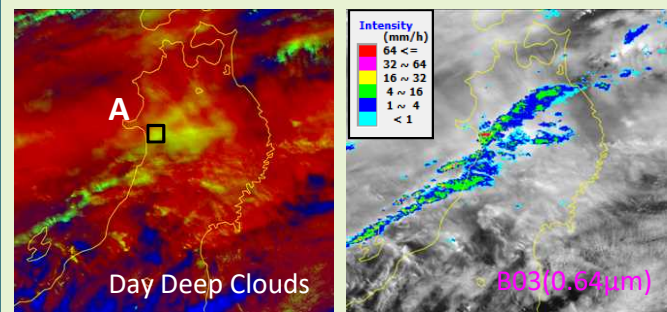
Cloud area bringing strong winds (or tornado conditions) in Akita Prefecture, Japan (03:28 UTC, 31 October 2016)

Visible imagery (B03) overlapped with radar intensity imagery (right) shows strong intensity over developing convective clouds with transparent upper-level clouds. Day Deep Clouds RGB imagery reveals thick yellowish clouds under upper clouds. The yellowish clouds correspond closely to radar echo data.

A ☐ : convective cloud area with upper-cloud coverage

RGB composition with recommended thresholds and related specifications Day Deep Clouds 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	B13-B08	10.4-6.2	-5.0K	35.0K	1.0	Cloud top temperature	Thin clouds	Thick clouds (with overshooting tops)
Green	B03	0.64	70%	100%	1.0	Cloud optical thickness Rough texture of cloud tops	Thin clouds	Thick clouds
Blue	B13 (inverse)	10.4	243.6K	292.6K	1.0	Cloud top temperature Surface temperature	Cold clouds	Warm surface

Himawari Day Deep Clouds RGB Quick Guide
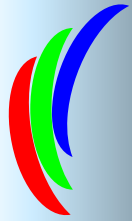
Cyclone around the Tonga islands (01:00 UTC, 12 February 2018)

A 🟨 : thick clouds with overshooting tops
B 🟥 : thick clouds
C ⬛ : thin high clouds
D 🟦 : sea surface
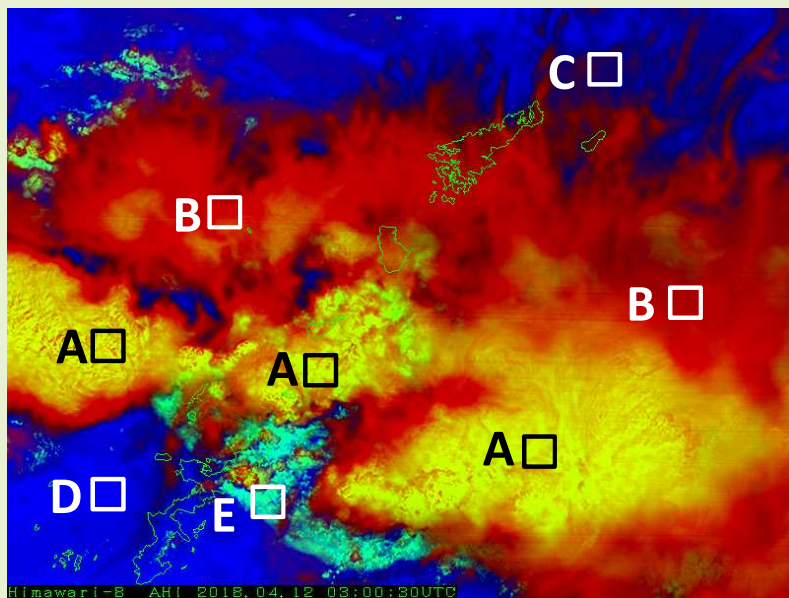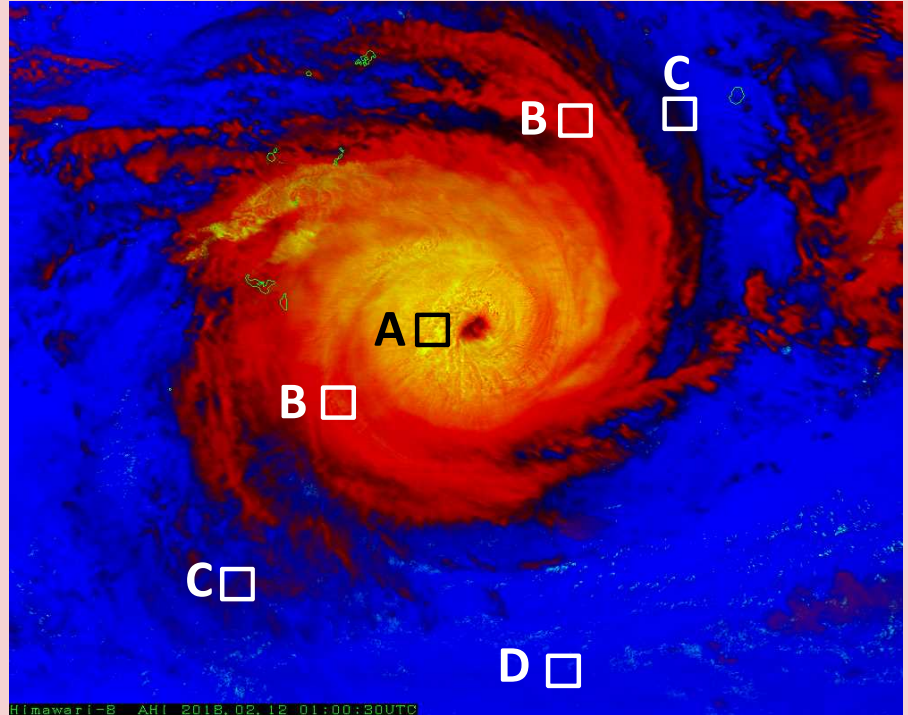
Developing Cb clouds around Amami and Okinawa (03:00 UTC, 12 April 2018)
Thick low clouds (marked "E") appear to have formed with cold downdraft from neighboring Cb clouds.

A 🟨 : thick clouds with overshooting tops
B 🟥 : thick clouds
C ⬛ : thin high clouds
D 🟦 : sea surface
E 🟩 : thick low-level clouds

Color interpretation for Day Deep Clouds RGB

Color	Interpretation
🟥	Thick clouds
🟨	Thick clouds with overshooting tops
⬛	Thin high clouds
🟦	Land/Ocean

Color interpretation may be developed in future work to enhance distinguishability.