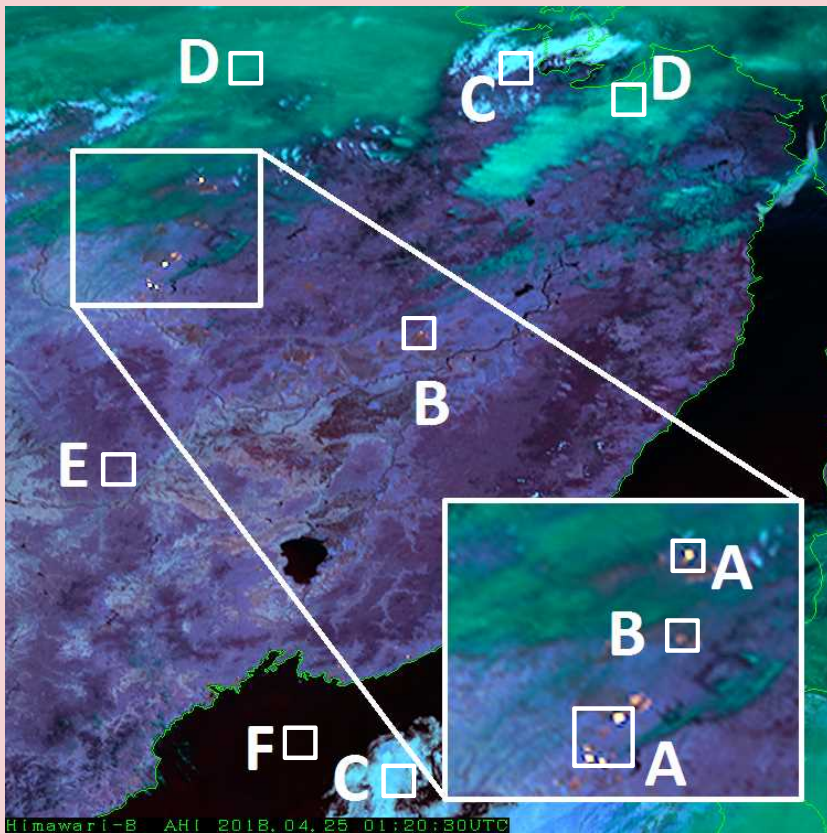
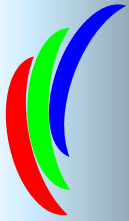


Himawari Fire Temperature RGB Quick Guide



Forest fire in the vicinity of Siberia, Russia (01:20 UTC, 25 April 2018)

- A : fire hotspots (relatively high temperature)
- B : fire hotspots (relatively low temperature)
- C : water clouds
- D : ice clouds
- E : land surface
- F : sea surface

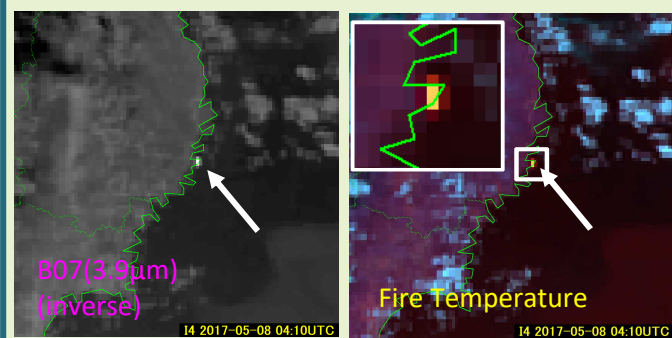
Main applications: Fire hotspots, fire intensity

Benefits:

- Usefulness in highlighting fire hotspots and related intensity via color shading on an ongoing basis
- Color components indicating fire intensity based on band wavelength
- Daytime/nighttime applicability to fire hotspots
- Support for identification between ice clouds and water clouds

Limitations:

- Unavailable for daytime application except for fire hotspots
- Reddish appearance of very dry surface regions (e.g., deserts), creating false positives for fire



Forest fire in Iwate Prefecture, Japan (04:10 UTC, 8 May 2017)

In the inverse Band 7 image (left), the hotspot caused by fire appears bright (indicated by the white arrow) but would appear dark in a normal (non-inverse) Band 7 image. Hotspots are thus highlighted in cloudless areas. The Fire Temperature RGB image (right) shows a distinct orange hotspot (see the insert zoom-in).

RGB composition with recommended thresholds and related specifications for Fire Temperature 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	B07	3.9	273.0K	350.0K	1.0	Temperature Cloud phase	Thick water clouds	Fire hotspots (with lower temperature)
Green	B06	2.3	0%	50%	1.0	Temperature Cloud phase and size	Thin ice clouds with large ice particles	Fire hotspots (with mid temperature) Thick water clouds with small droplets
Blue	B05	1.6	0%	50%	1.0	Temperature Cloud phase	Thin ice clouds	Fire hotspots (with higher temperature) Thick water clouds

Himawari Fire Temperature RGB Quick Guide

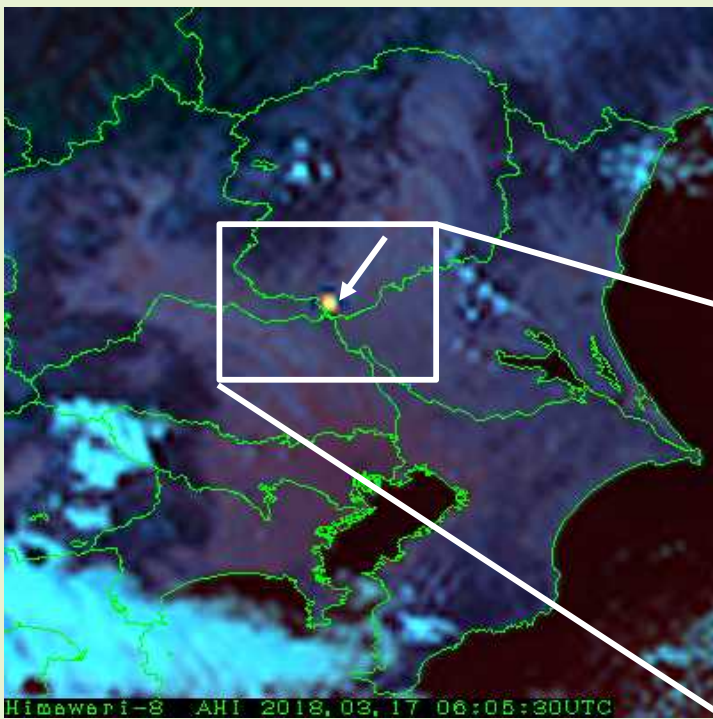
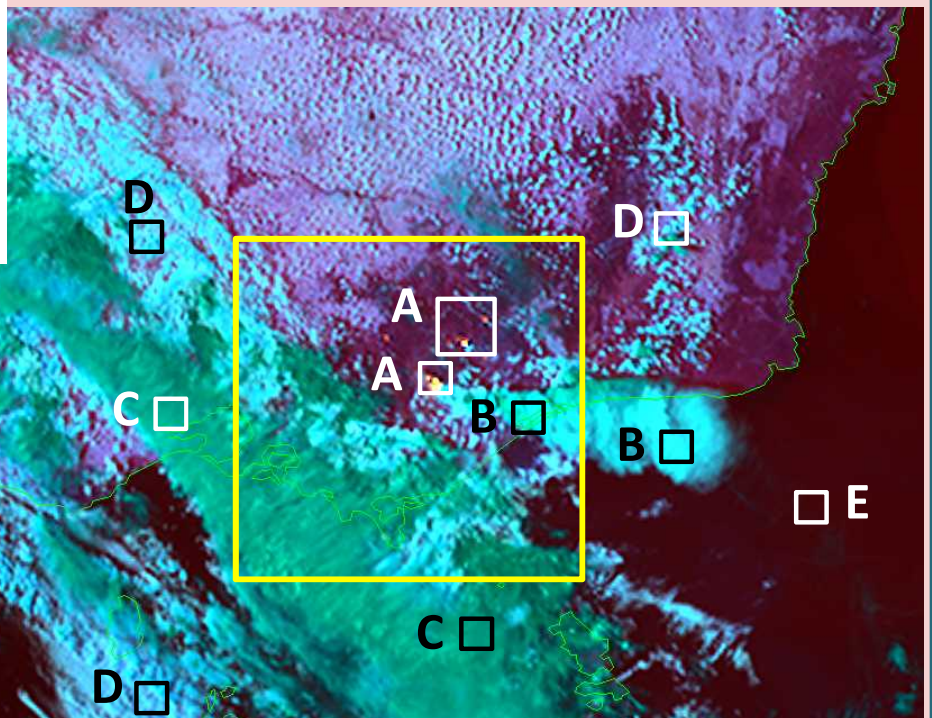


(Right) Large-scale fires in Victoria, Australia (05:30 UTC, 3 March 2019)

“B” corresponds to fire cloud (including pyrocumulus) caused by bush fires (marked “A”).

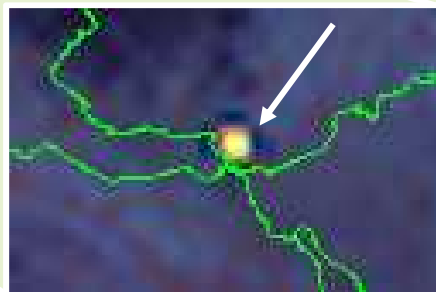
(Bottom) Fire hotspots before daylight (20:00 UTC, 2 March 2019)

- A : fire hotspots
- B : fire clouds (pyrocumulus) with ice droplets
- C : ice clouds
- D : water clouds
- E : sea surface



Controlled burn in the Watarase-Yusuichi area of the Kanto region, Japan (06:05 UTC, 17 March 2018)

Controlled burning is characteristically conducted during Japan’s summer months. The white arrow indicates a related hotspot (yellow and red).



Color interpretation for Fire Temperature RGB

Color	Interpretation
	Low-temperature hotspots
	Medium-temperature hotspots
	High-temperature hotspots
	Water clouds
	Ice clouds

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