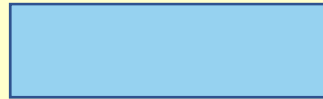


# Typical colours of the VIIRS Cloud Phase RGB



Thick ice cloud  
large particles



Thick ice clouds  
small particles



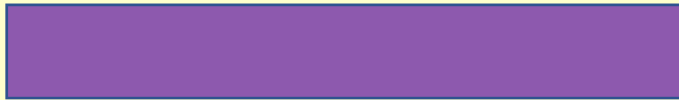
Thin ice clouds  
over sea



Thin ice clouds  
over land



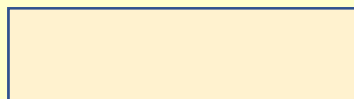
Thin ice clouds  
over water cloud



Mixed phased cloud or water  
clouds with extreme large droplets



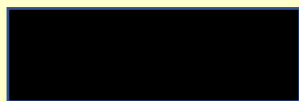
Thick water  
clouds, large  
droplets



Thick water  
clouds, small  
droplets



Thin water clouds  
over sea



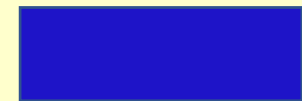
Sea



Desert



Land with less/more green vegetation



Snow

## NPP VIIRS Cloud Phase RGB

devised by Jochen Kerkmann (EUMETSAT)

Beam	Channel	Information on
Red	NIR1.61	microphysics (mainly phase)
Green	NIR2.25	microphysics (mainly particle size)
Blue	VIS0.49	cloud thickness

Colour beam	Channel		Range			Gamma
Red	M10	NIR1.61	0	50	%	1
Green	M11	NIR2.25	0	50	%	1
Blue	M3	VIS0.49	0	100	%	1

## How to use the RGB recipe table?

Colour beam	Channel (difference)	Range			Gamma
Red		MIN1	MAX1	K or %	Gamma1
Green		MIN2	MAX2	K or %	Gamma2
Blue		MIN3	MAX3	K or %	Gamma3

The table contains the needed parameters.

The second column shows which channels (or channel differences) should be visualised in the red, green and blue colours beams.

Before combining them, these images should be calibrated and enhanced.

- The measured values should be calibrated by calculating reflectivity (R) or brightness temperature (BT) values. In case of solar channels the calibration should include solar zenith angle correction as well: the reflectivity should be divided by the cosine of the solar zenith angle. (The zenith angle should be maximise e.g. at 80 degree.)
- The images should be then linearly stretched within the brightness temperature or reflectivity ranges. (The 3<sup>rd</sup> and 4<sup>th</sup> columns contain the lower and upper limit of the corresponding ranges, while the 5<sup>th</sup> column contains the unit. In some cases the range is 'inverted': the MAX and the MIN values are reversed.)
- A so called gamma correction is performed, if needed. If gamma is equal to 1 then no gamma correction is needed. (The 6<sup>th</sup> column contains the Gamma parameter.)