

# RGB 10-09, 09-04, 09 ("Night Microphysics")

*devised by: D. Rosenfeld*

**R = Difference IR12.0 - IR10.8**

**G = Difference IR10.8 - IR3.9**

**B = Channel IR10.8**

**Applications:** Cloud Analysis, Fog, Contrails, Snow

**Area:** Full MSG Viewing Area

**Time:** Night-Time

**Users:** most European & African NMSs, Middle East

# Physical Interpretation (for dust/ash/water/ice clouds)

**R = Difference IR12.0 - IR10.8**

**Optical Thickness, Tsurf-Tcloud**

**G = Difference IR10.8 – IR3.9**

**Optical Thickness, Tsurf-Tcloud, Phase, Particle Size**

**B = Channel IR10.8**

**Top Temperature**

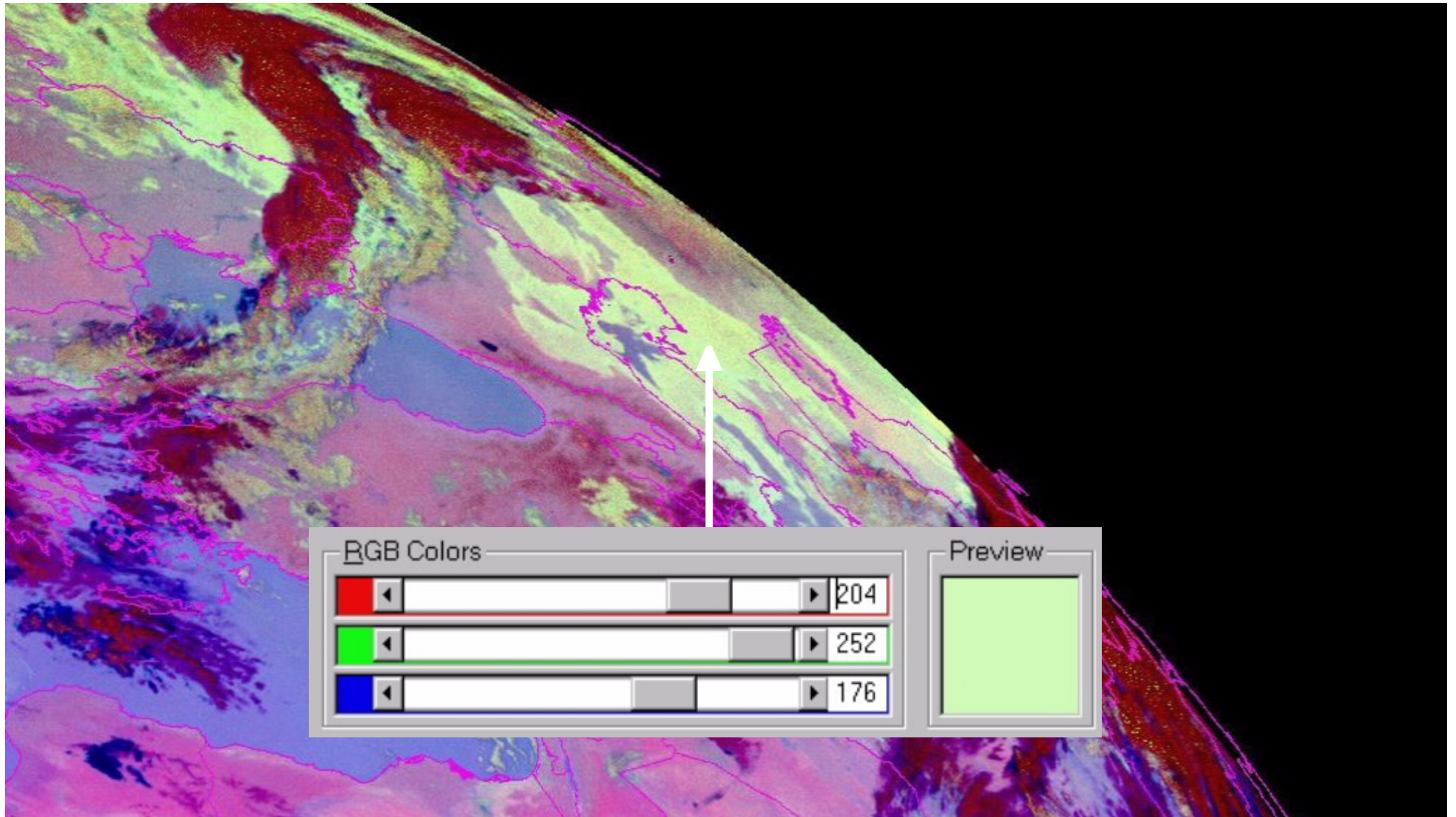
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## Recommended Range and Enhancement:

BeamChannel	Range	Gamma
Red	IR12.0 - IR10.8    -4 ... +2 K	1.0
Green	IR10.8 - IR3.9      0 ... +10 K	1.0
Blue	IR10.8                +243 ... +293 K	1.0

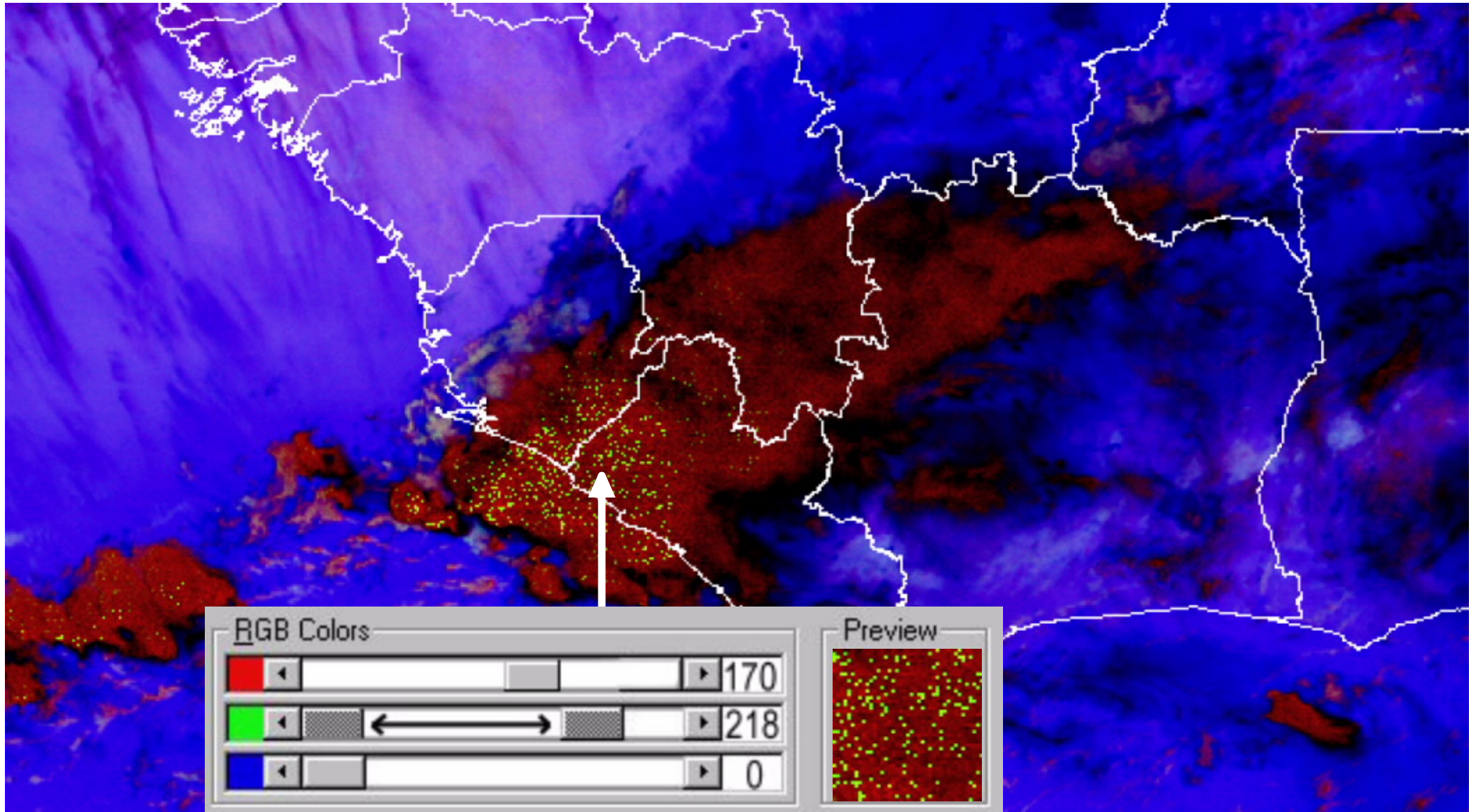
# Example: Fog



MSG-1, 14 March 2005, 00:00 UTC



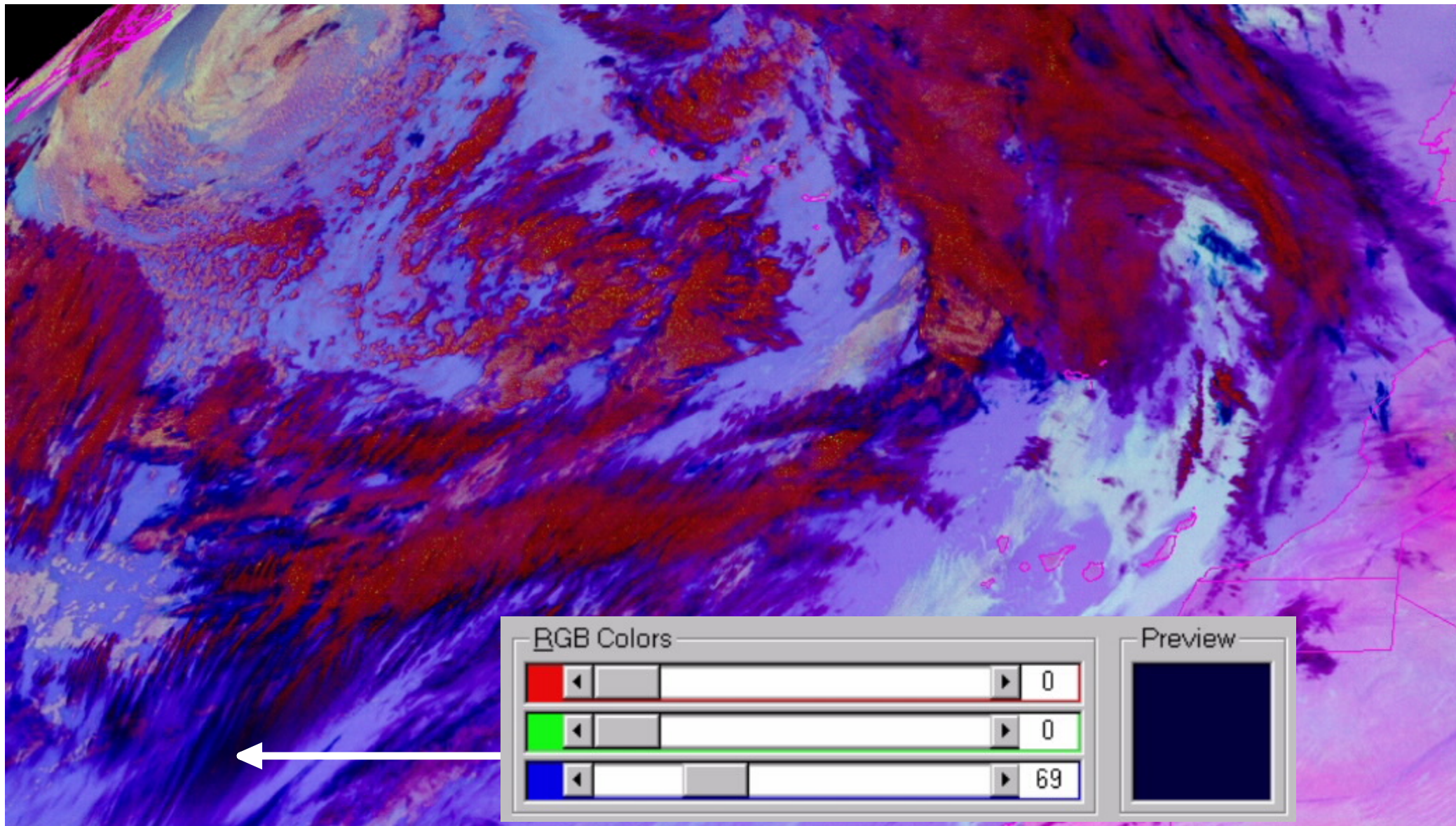
# Example: Cb



MSG-1, 19 April 2005, 03:15 UTC



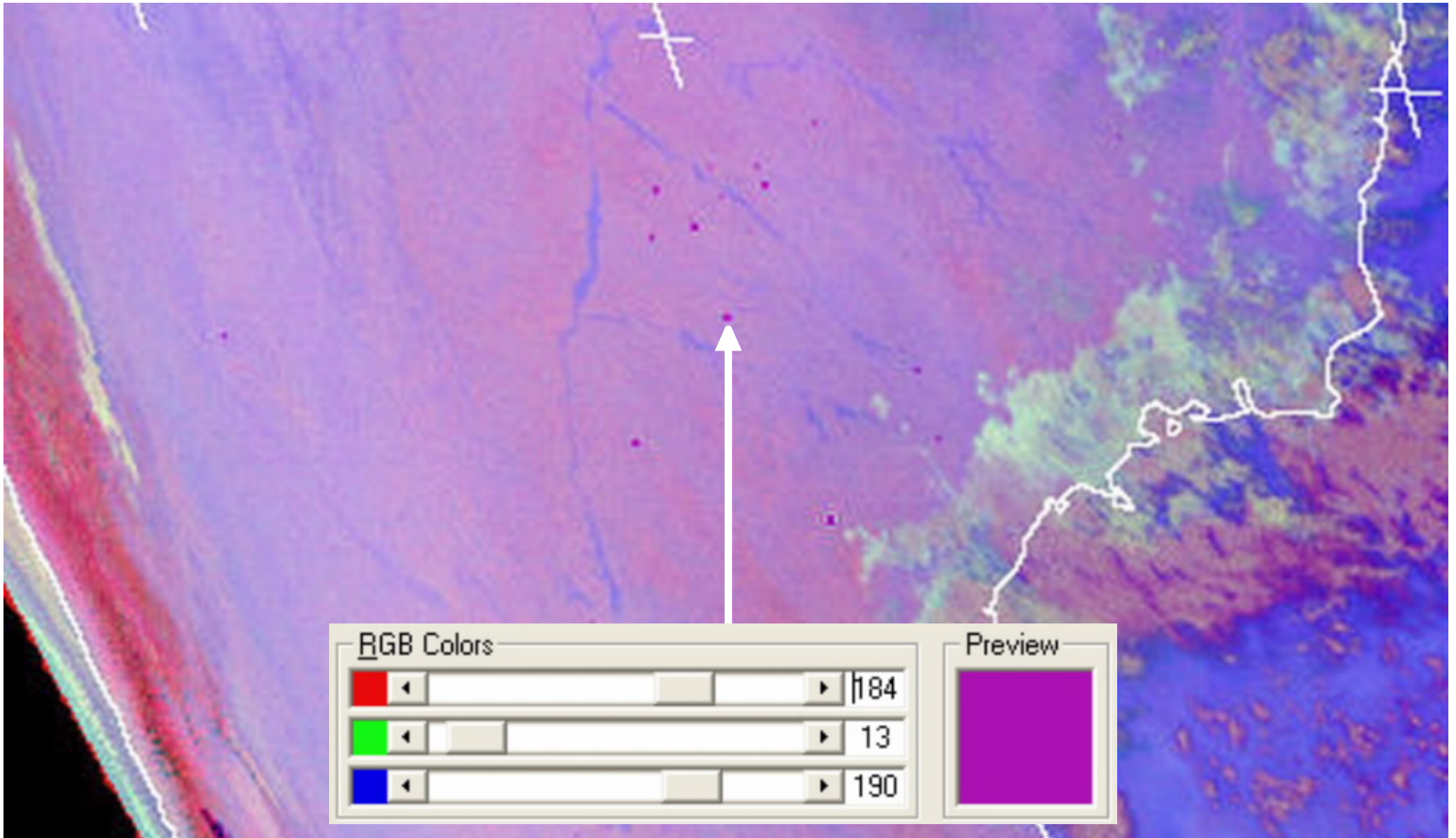
# Example: Cirrus



MSG-1, 18 March 2005, 00:00 UTC

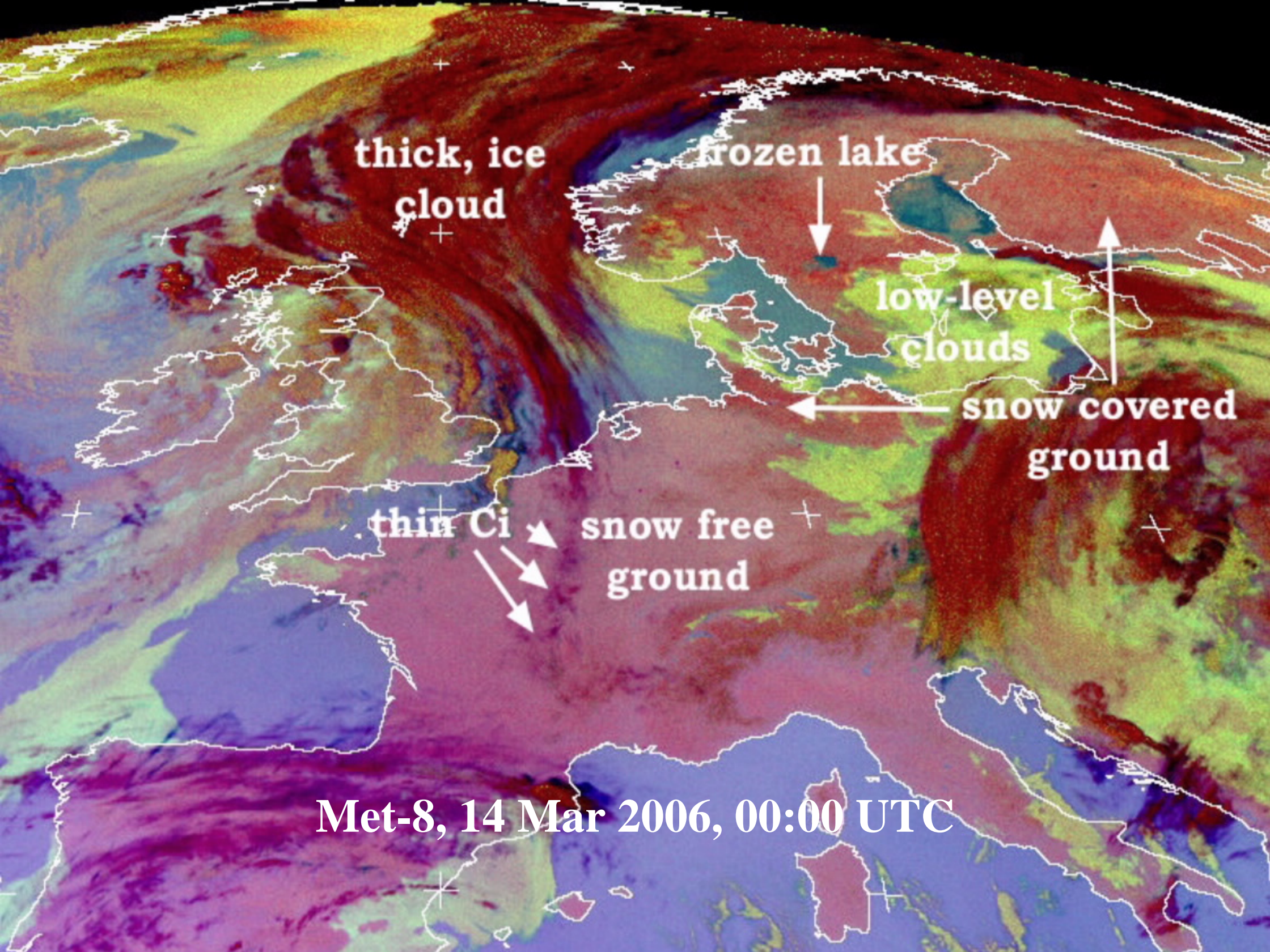


# Example: Fire



MSG-1, 16 May 2006, 00:00 UTC





**thick, ice  
cloud**

**frozen lake**

**low-level  
clouds**

**snow covered  
ground**

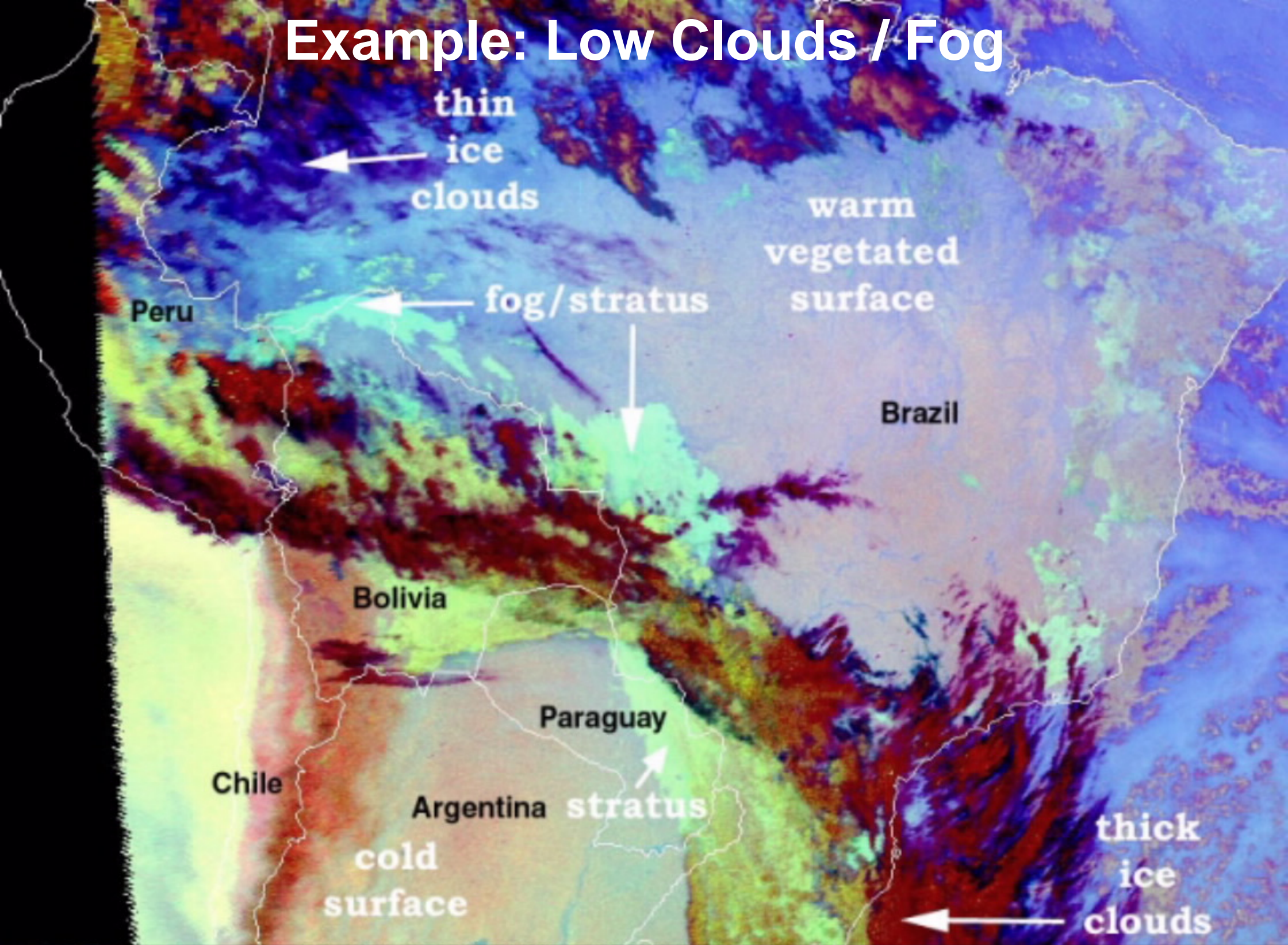
**thin Ci**

**snow free  
ground**

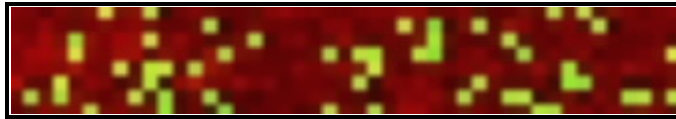
**Met-8, 14 Mar 2006, 00:00 UTC**



# Example: Low Clouds / Fog



# RGB Night Microphysics: Interpretation of Colours for High-level Clouds



Cold, thick, high-level cloud

Very cold ( $< -50^{\circ}\text{C}$ ), thick, high-level cloud

Thin Cirrus cloud

Ocean

Land



# RGB Night Microphysics: Interpretation of Colours for Mid/Low-level Clouds

