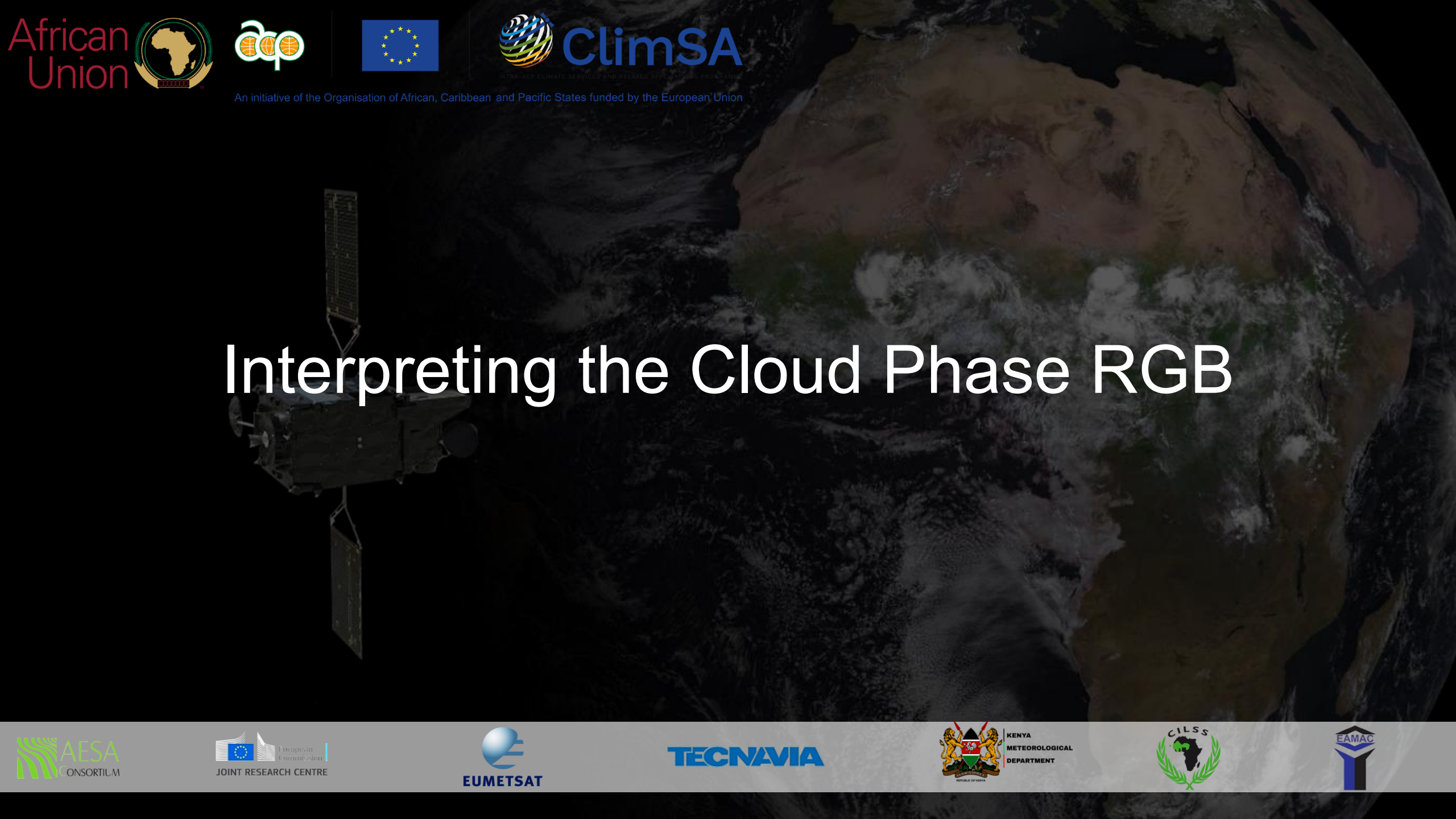
African Union
ClimSA
An initiative of the Organisation of African, Caribbean and Pacific States funded by the European Union
Interpreting the Cloud Phase RGB
AESA CONSORTIUM
European Commission
JOINT RESEARCH CENTRE
EUMETSAT
TECNAVIA
KENYA METEOROLOGICAL DEPARTMENT
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Product Benefits

- It provides more reliable separation between ice and water clouds than the present SEVIRI RGBs, unless the cloud is too thin.
- In the case of thick ice and thick water clouds it provides better separation between smaller and larger particles on top of the clouds. Thus, the colour contrast of thick ice clouds is higher than in the Day Microphysics RGB.
- The Cloud Phase RGB is useful for convection monitoring:
  a. Cloud top glaciation is well seen in the developing phase.
  b. The presence of small particles on (or above) mature mid-latitude, continental thunderstorm tops is an indicator of updraft intensity, thus possible severity.
- Less thin clouds have a good colour contrast versus the (snow free) surface features. Although the snow-covered surface and the ice clouds covered by large particles have similar colours (dark and medium blue), the snow is usually darker.

Product Limitations

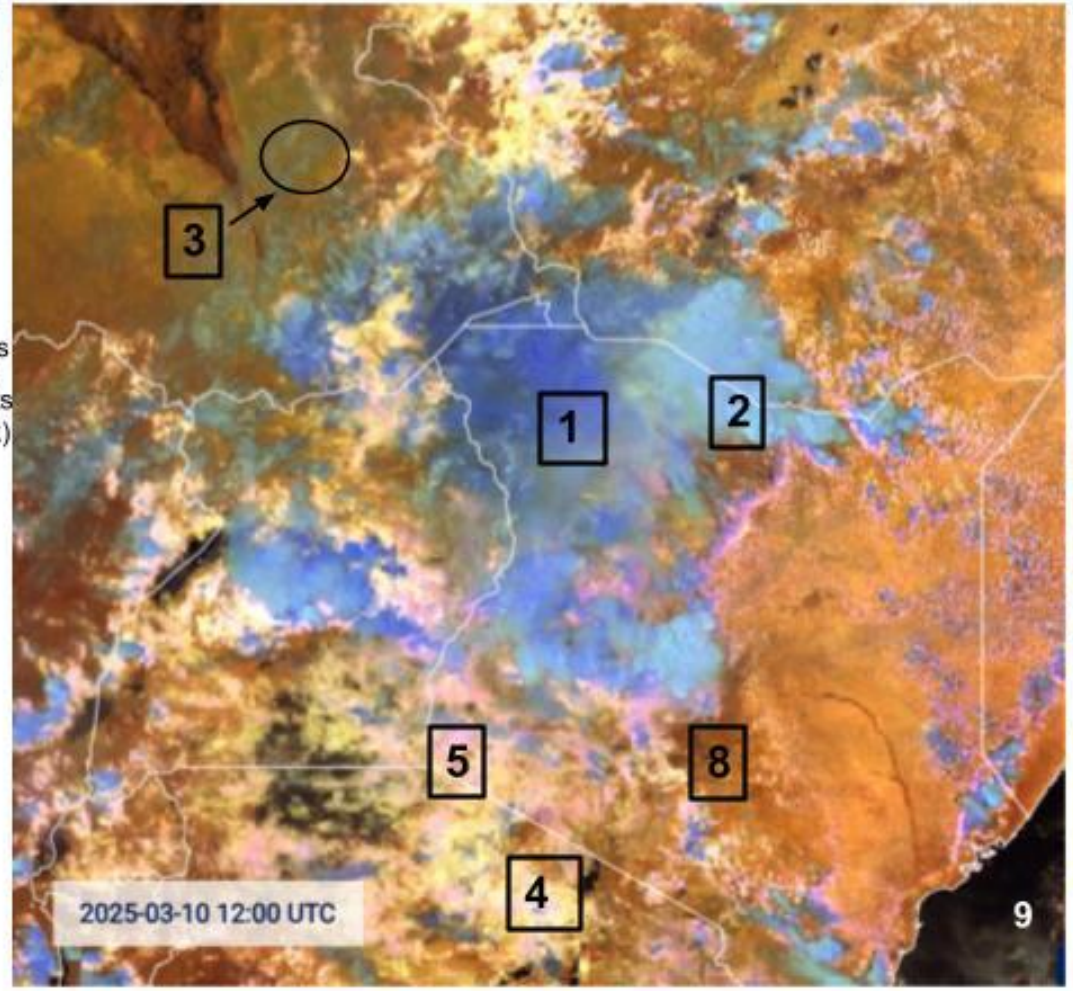
- Limited to daytime applications.
- Separation of very thin water and ice clouds is problematic in some cases.
- It does not contain temperature information.
- The snow-covered surface and the ice clouds covered by large particles have similar colours (dark and medium blue).

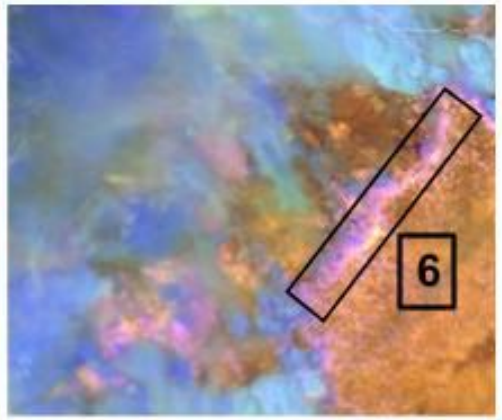
Ref: https://eumetrain.org/sites/default/files/2023-01/CloudPhaseRGB.pdf

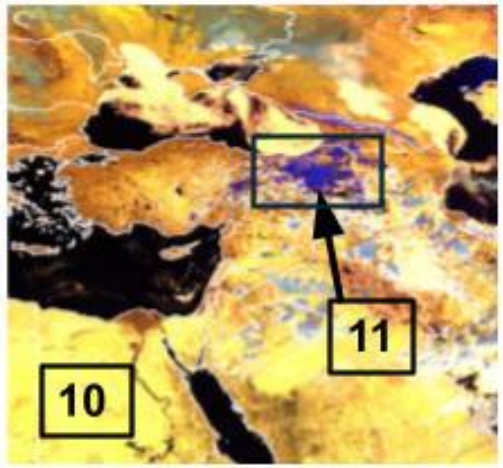
Quick Guide

Cloud Phase RGB

Colour Interpretation	
1	Thick ice clouds, large particles
2	Thick ice clouds, small particles
3	Thin ice clouds
4	Thick water clouds, small droplets
5	Thick water clouds, larger droplets (The larger droplets are dark pink)
6	Thick water clouds, extremely large droplets (or thick mixed phase clouds)
7	Thin water clouds over sea
8	Vegetated land (snow free)
9	Sea (ice free)
10	Desert
11	Snow on ground or sea ice







RGB = NIR 1.6; NIR 2.2; VIS 0.6

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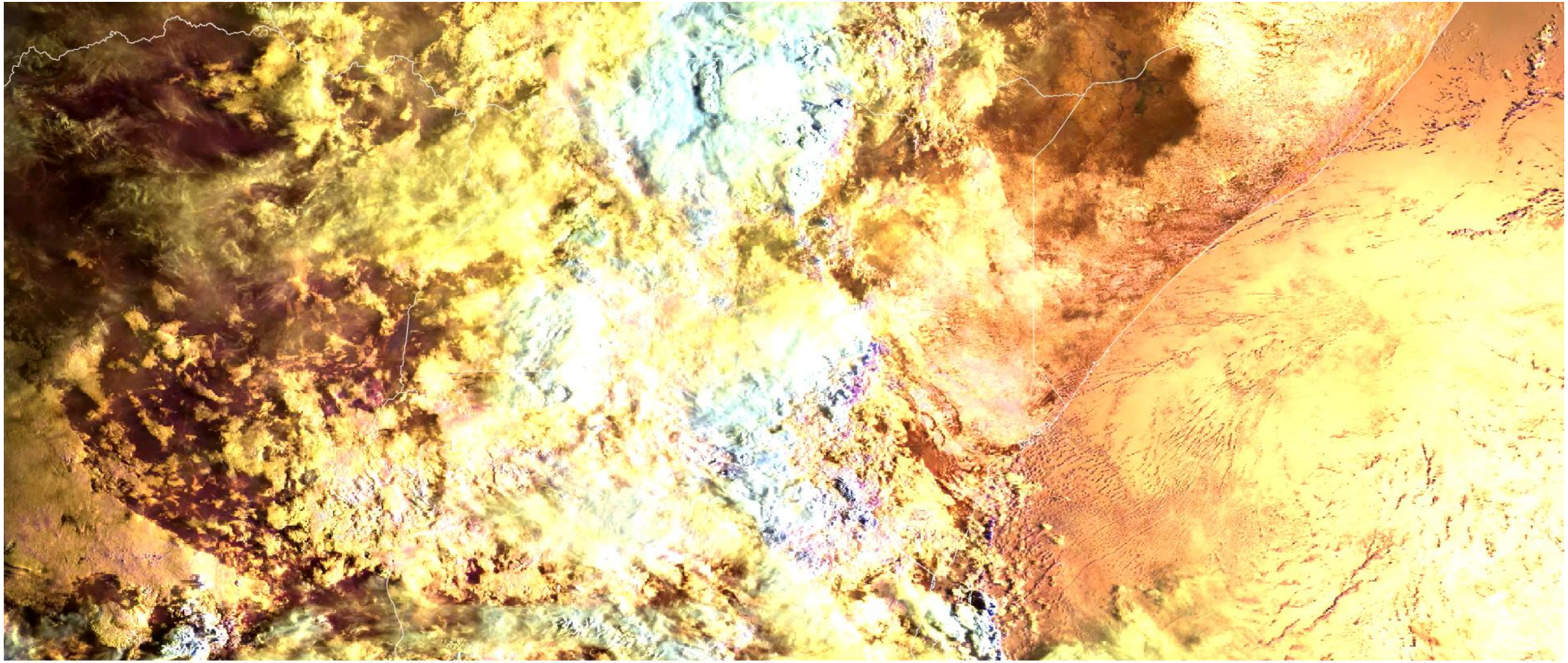

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2025-03-10 05:00:00 UTC

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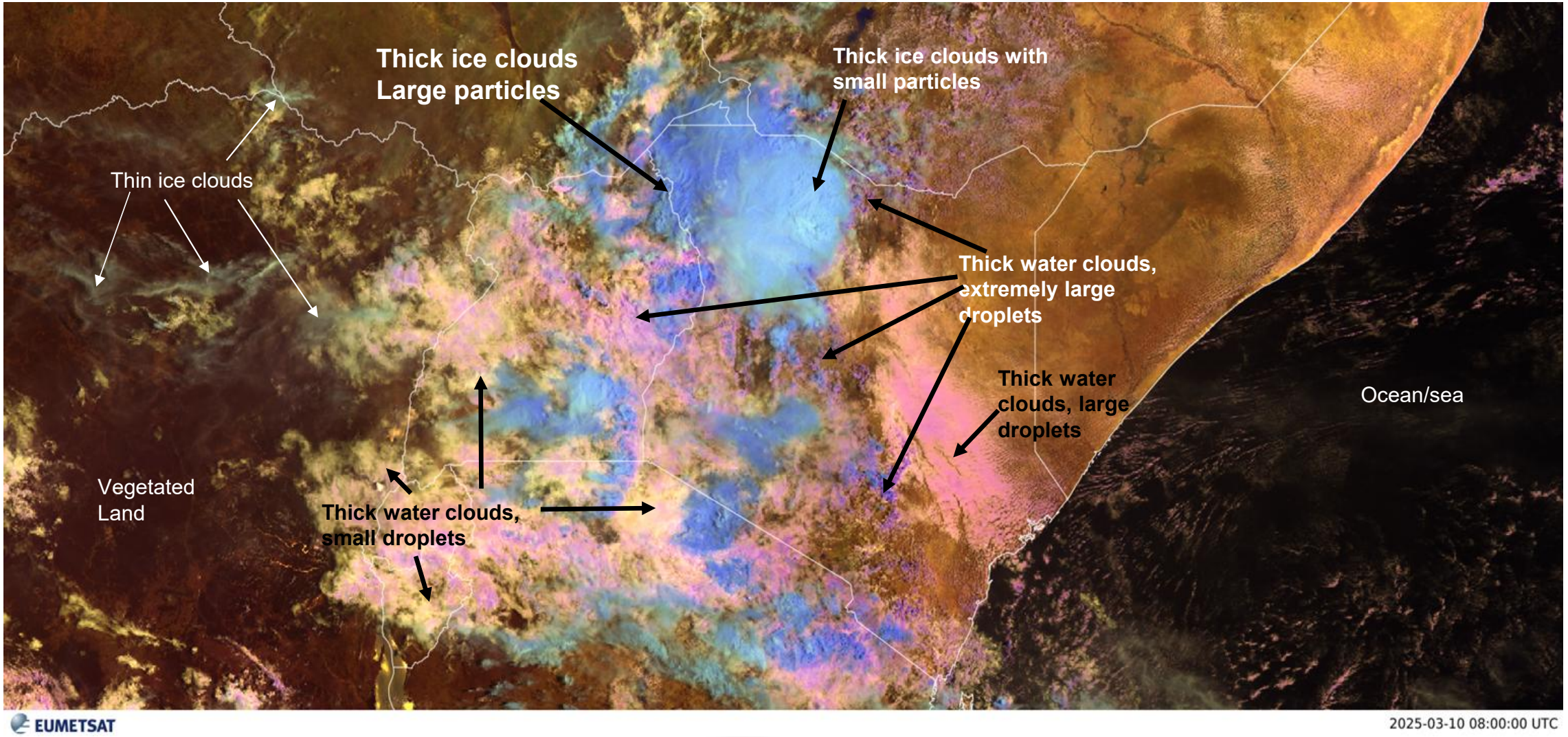
Thick ice clouds
Large particles
Thick ice clouds with
small particles
Thin ice clouds
Thick water clouds,
extremely large
droplets
Thick water
clouds, large
droplets
Ocean/sea
Vegetated
Land
Thick water clouds,
small droplets
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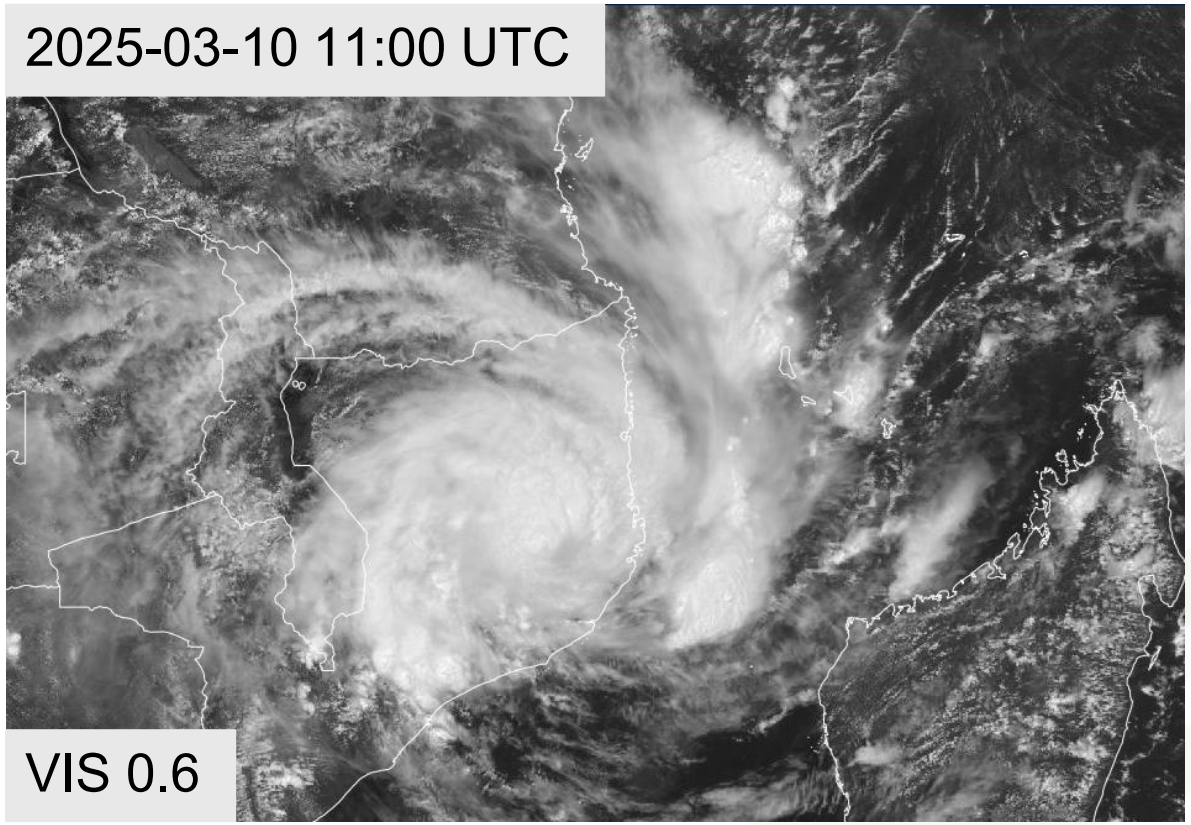
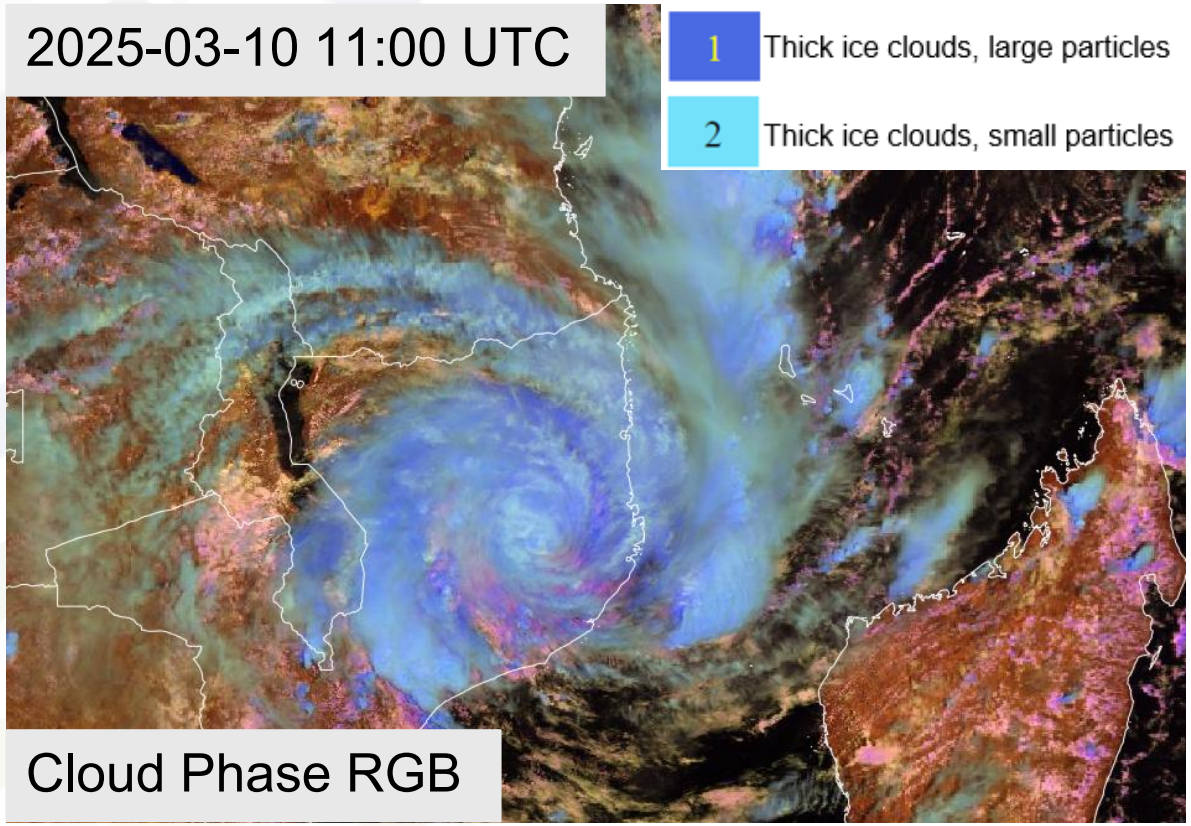
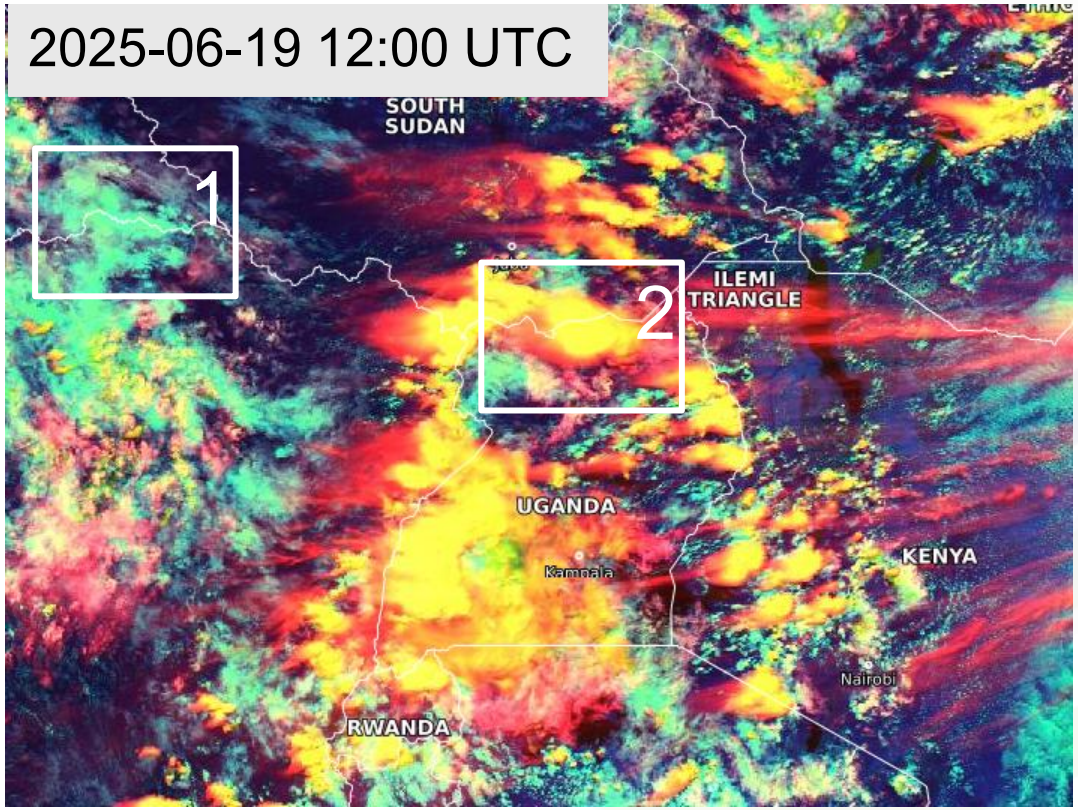
2025-03-10 08:00:00 UTC

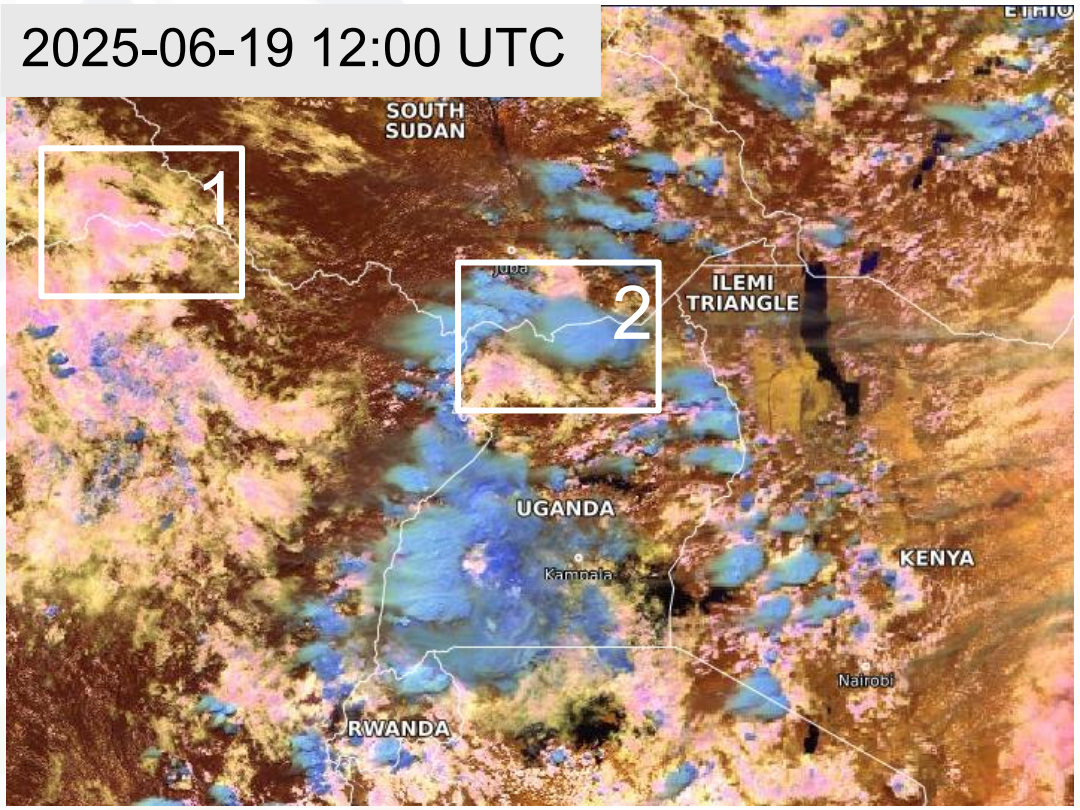
Image Comparison





Compared to the VIS 0.6 channel, the Cloud Phase RGB can distinguish between particle sizes in the rain bands associated with this Tropical Cyclone





Using the Cloud Type and Cloud Phase RGBs together, the following analysis can be made:

1 = Low-mid level thick water clouds with large droplets (possibly stratocumulus)
2 = Thick ice clouds with small particles (growing cumulonimbus cloud)

Practice applying your new knowledge by answering the questions on the Moodle page