**Why is the Day Cloud Type RGB important?**

As with the Day Cloud Phase Distinction RGB, this RGB allows a user to discern phase changes in a cloud by observing color changes in the RGB. The use of the Band 4 ‘Cirrus Channel’ at 1.38 µm (rather than the 10.3 µm Clean Window Channel) allows for better detection and discrimination of thin and thick cirrus clouds. This RGB has a very similar look to the Day Cloud Phase Distinction RGB in regions of clear skies.

**How is the RGB created?**

<table>
<thead>
<tr>
<th>Color</th>
<th>Band, Wavelength, Gamma</th>
<th>Physically relates to</th>
<th>Large Contribution from...</th>
<th>Small contribution from...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>4, 1.38 µm, 0.66</td>
<td>Cloud Height</td>
<td>High clouds</td>
<td>Low clouds</td>
</tr>
<tr>
<td>Green</td>
<td>2, 0.64 µm, 1.0</td>
<td>Cloud Optical Thickness</td>
<td>Thick Clouds/Snow/Ice</td>
<td>Thin (or no) clouds</td>
</tr>
<tr>
<td>Blue</td>
<td>5, 1.61 µm, 1.0</td>
<td>Cloud Phase</td>
<td>Water Droplets</td>
<td>Ice crystals</td>
</tr>
</tbody>
</table>

**Impact on Operations**

**Phase and Cirrus Detection:** Like the Day Cloud Phase Distinction RGB, this one differentiates between cloud types. It has better detection of thin cirrus however, and better identifies thick cirrus; it can thus differentiate between thin and thick cirrus.

**Glaciation Detection:** As a cloud grows vertically and glaciates, its color changes in the RGB (from blue to green to yellow to orange)

**Limitations**

**Daytime only:** This RGB uses only reflective bands and provides a signal in daytime only.

**No temperature information:** This RGB, unlike the Day Cloud Phase Distinction, has no temperature information. Cloud growth is tracked instead by progressively larger signals in the cirrus channel because growing clouds have less and less absorbing water vapor above their tops.
Thin Cirrus is far more apparent in the Day Cloud Type RGB

In regions of low clouds/clear air, the RGBs are identical

Snow cover with clear skies shows as bright green in both RGBs

**RGB Color Guide**

- **Red:** Cirrus Band Information (ABI Band 4)
- **Green:** Visible Band Information (ABI Band 2)
- **Blue:** Snow/Ice Band Information (ABI Band 5)

**Resources**

- Documentation
- [Satellite Book Club Presentation](#)
- CIMSS Satellite Blog
- Blog Post 1  Blog Post 2

Hyperlinks will not work in AWIPS, but they will work in VLab