

Developing and Evaluating RGB Composite MODIS Imagery for Applications in National Weather Service Forecast Offices

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Satellite remote sensing has gained widespread use in the field of operational meteorology. Although raw satellite imagery is useful, several techniques exist which can convey multiple types of data in a more efficient way. One of these techniques is multispectral compositing. The NASA SPoRT Center has developed two multispectral products which utilize data from the MODIS imager and follow guidelines set by EUMETSAT. The nighttime microphysics product allows users to identify clouds occurring at different altitudes, but emphasizes fog detection. This product improves upon spectral difference and single channel infrared techniques. The air mass product improves upon single channel “water vapor” imagery which is currently used operationally for identifying atmospheric circulations, jets, vorticity, and other synoptic scale features. Analysis shows that each of these products combines the advantages of other products into an efficient, consistent image.