

Morphing Polar-Orbiter Imagery of Cloud Products for Improved Visualization and Forecasting

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Research is underway to process multi-platform cloud products from polar orbiters (NOAA and Metops AVHRR, JPSS VIIRS) together into a seamless, time-continuous derived product using image “morphing” algorithms. The polar domain (poleward of 60° latitude) is an ideal environment for applying these algorithms, because of the more frequent sampling from polar orbiters and the lack of geostationary alternatives. For the same reasons, forecast centers in Alaska have a particularly high stake in the development of derived product image sequences from polar orbiters that are designed for optimal visualization with frequent and regular temporal presentation (comparable to geostationary imagery). These algorithms are extended from projects at CIMSS that have already proven successful with polar-orbiter microwave imagery in the tropics, such as MIMIC-TC and MIMIC-TPW. Initial results from the first months of this two-year project will be shared with applications to longwave infrared brightness temperature and the Clouds from AVHRR Extended (CLAVR-x product).