

MISR Stereo Products and Cloud Motion Vectors for Reanalyses

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Terra MISR (Multiangle Imaging SpectroRadiometer) is the first spaceborne sensors that have applied the stereoscopic photogrammetric technique for simultaneous cloud top height (CTH) and motion vector (CMV) retrievals. Not dependent on atmospheric thermal structures, the stereoscopic technique can determine the height of each CMV through geometric parallax measurements from multi-angle views. This capability is particularly useful for obtaining accurate CTHs in the regions where atmospheric temperature profiles have a small or inverse lapse rate (e.g., boundary layer and high latitudes). With a global daytime coverage, MISR is producing these stereo products since 2000 at spatial resolutions of 70.4km and now 17.6 km over a ~350 km orbital swath. Some comparisons of MISR CMVs with current reanalysis data, as well as with other CMVs, will be presented.

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