

ARSCL POST-ARRA: UPCOMING CLOUD RADAR VALUE-ADDED PRODUCTS

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ABSTRACT

The widely used ARSCL (Active Remotely Sensed Cloud Locations) value-added product (VAP) will be completely revamped this year to accommodate and leverage the new capabilities of ARM's suite of ARRA-funded cloud radars and to address known limitations of the current VAP. Two separate products will be developed: an improved two-dimensional time-height ARSCL product and an initial version of a three-dimensional product based on ARM's new scanning cloud radars. The post-ARRA time-height ARSCL product will merge observations from ARM's new zenith-pointing 35-GHz cloud radars with those from the micropulse lidar, ceilometer, and disdrometer. The new product will have increased temporal and height resolution. Radar reflectivities will be adjusted for water vapor attenuation. Automatic clutter removal will be improved by taking advantage of the radars' enhanced polarimetric capabilities. The newly improved VAP is expected to run in a fully autonomous manner, facilitating timely data processing. The ARSCL product family will also be extended into three dimensions using observations from the new scanning ARM cloud radars (SACRs). The initial version of the VAP will provide a hydrometeor mask for radar moments on a three-dimensional grid. Prior to gridding, moments will be corrected for water vapor attenuation, velocity folding, and non-hydrometeor clutter.

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