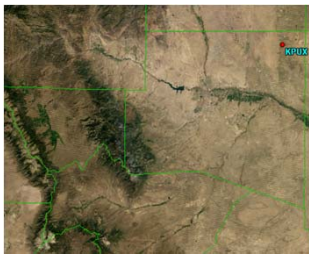


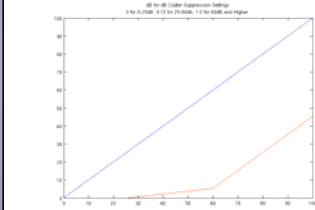
239 - Evaluation of Clutter Residue Censoring on the WSR-88D Radar System



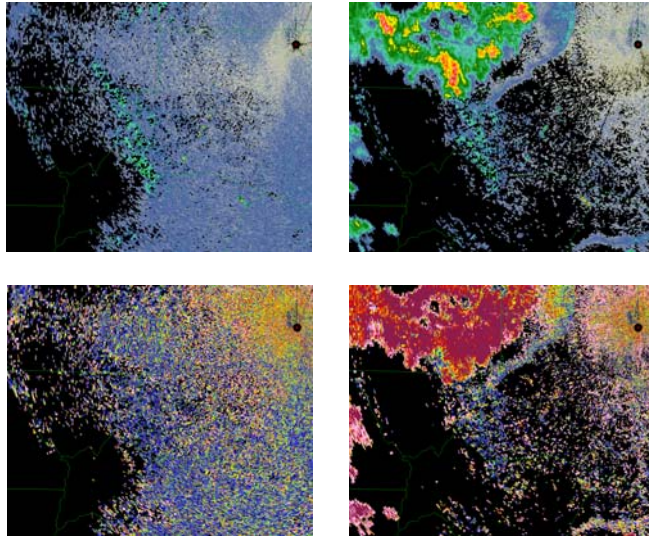
Clutter residue at mountainous terrain sites is a nuisance problem for users. With the acquisition of Level 1 data from a precipitation case at the Pueblo, CO (KPUX) WSR-88D radar, an investigation of increasing the amount of additional suppression using dB-for-dB censoring indicates that changing the upper threshold from 60 dB to 55 dB will decrease the amount of clutter residue and remove false precipitation accumulation caused by the clutter residue.



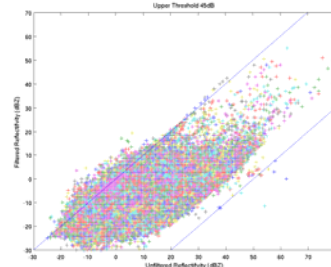
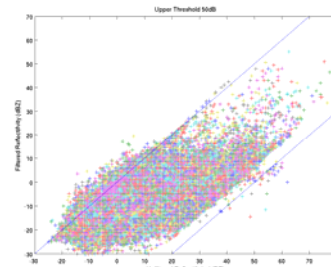
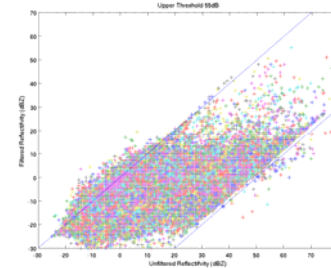
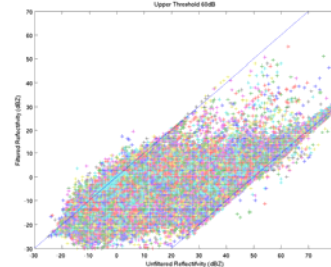
Topographic map from GR2Analyst showing the Wet Mountain Range that causes clutter residue for KPUX.



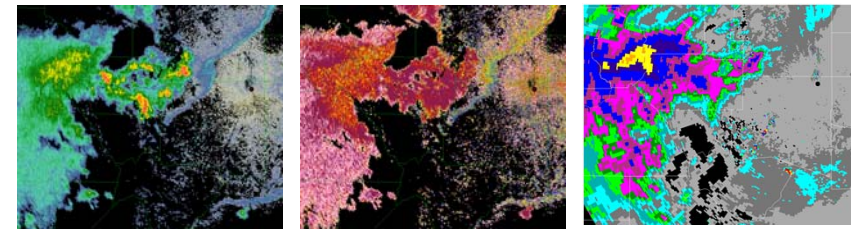
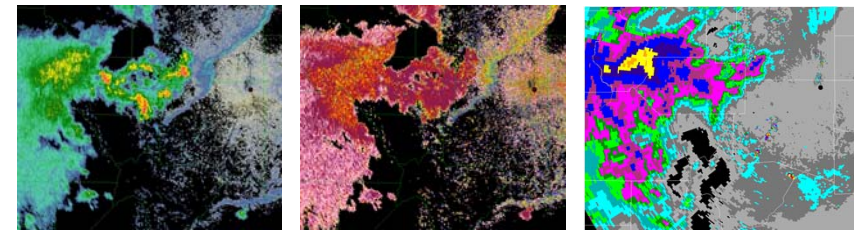
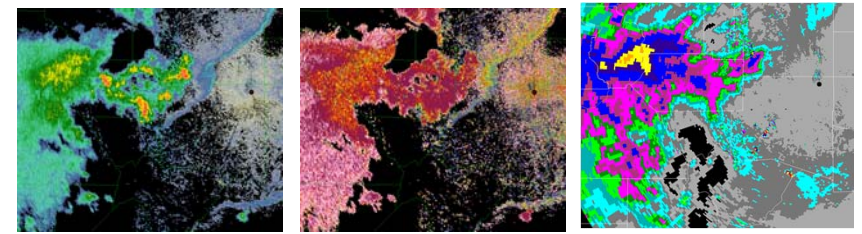
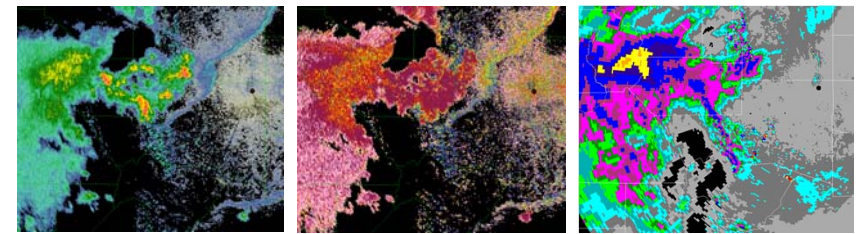
Default settings for dB-for-dB additional clutter suppression (red line). No additional suppression is added up to 25 dB. Then 0.15 dB of suppression is added for each dB beyond 25 dB, up to 60 dB. For 60 dB and up, 1.0 dB is added for each dB of suppression.



From top to bottom: Reflectivity and Correlation Coefficient fields using the default 25_60 dB-for-dB censoring thresholds. On the left, clear air VCP 31, with clearly visible clutter residue. On the right, precipitation over and near the residue in VCP 212.



Clutter suppression scatter plots, indicating data points that are suppressed out of the data field by the additional dB-for-dB Censoring



Results from Level 1 data playback using an upper threshold of (from top to bottom) 60 dB, 55 dB, 50 dB, and 45 dB respectively. From left to right, Reflectivity, Correlation Coefficient, and Water Equivalent Storm Total Snowfall algorithm output. (Water equivalent better highlights the precipitation accumulations.)

Jane C. Krause, R. L. Ice, W. D. Zittel,
A. E. Daniel, B. M. Taylor
WSR-88D Radar Operations Center