Evaluation of NCAR's AutoNowCaster for Operational Application within the National Weather Service

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Grounded in rules derived from expert knowledge and understanding of storm initiation and evolution, AutoNowCaster assimilates WSR-88D data, surface observation data, GOES data, NWS radiosonde data, and NWP model output in order to analyze characteristic features of the atmosphere. Using a fuzzy logic approach, the results of the analyses are used to generate interest fields which are first advected forward 60 minutes in time and then converted into dimensionless likelihood fields by using relationship functions which, like the basic rules, were developed by experts who have insight into the relevant physical processes. These likelihood fields have a dynamic range from -1 to 1, where increasing positive values correspond to an increasing likelihood of storm initiation and/or sustainment, and vice-versa. The likelihood fields are then weighted. The weighted likelihood fields are summed to produce a Convective Likelihood field which is then filtered and smoothed. This talk presents the results of verifying ANC's 60-minute nowcasts of CL.