Combining Innovations to Improve IDSS: Design and Implementation of an AWIPS Damage Path Tool

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During the Moore, Oklahoma and El Reno, Oklahoma tornadoes in May 2013, National Weather Service (NWS) Norman, Oklahoma produced a preliminary damage track shortly after the tornadoes occurred, and provided this to first responders in near-real time. The Southern Region Regional Operations Center (ROC) also provided this information to FEMA Region 6 for their analysis and resource support during this devastating event. This was identified as a best practice by FEMA, and other NWS offices developed similar tools that output maps of preliminary damage paths to support emergency response.

Under the new NWS organization and financial structure, the Office of Science and Technology Integration funded a consolidation project to merge the damage path tools into a properly funded, fully supported, standardized tool. Two NWS innovations, the NWS Central Region (CR) web-based damage path tool (written by Brian Walawender) and the NWS Norman, Oklahoma Advanced Weather Interactive Processing System (AWIPS) local application tornado damage path tool (written by Aaron Anderson), were combined and assimilated into other nationally supported projects and services.

The NWS CR version was identified as the stop-gap solution. The project's end goals were to: 1) harness the strengths of all available tools; 2) make the tool available in both AWIPS and Thin Client; and 3) disseminate tool output via the Damage Assessment Toolkit, which is the NWS standard for communicating damage survey information to the emergency management community. A prototype AWIPS tool was implemented in September 2015, and a fully functional AWIPS tool will be implemented in January 2016, along with training from the NWS Warning Decision Training Division.

FEMA formally requested that the NWS begin providing preliminary damage paths (in GIS-friendly formats) for all suspected major tornadoes within one hour of occurrence beginning on 1 April 2015. Because of this project, the infrastructure was in place to provide consistent service and meet their request. This presentation will discuss the evolution of the damage path tools, team efforts to design and implement the tool, and the process for fully integrating the tool into NWS systems.