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The USACE Modeling Mapping and Consequences Production Center (MMC) provides hydraulic modeling, mapping and consequence analysis for USACE dams in support of the USACE Dam Safety and Critical Infrastructure Protection and Resilience (CIPR) Programs. The MMC has developed processes, tools and standards for creating dam breach hydraulic models for use in emergency action plans (EAP), during real-time flood events, and in support of the Corps Dam Safety and Security programs. The MMC-developed standards have been used to provide dam failure modeling for over 400 USACE dams and multiple flood events, involving over 1000's of stream miles throughout the continental U.S. and Alaska.

This presentation will provide examples of how to use the new two dimensional (2D) capabilities within the Hydrologic Engineering Center's River Analysis System (HEC-RAS) to perform simplified rapid dam break analysis. It will illustrate case studies on how the simplified rapid development of dam break models can be used for screening purposes to enable a more risk informed decision on how to prioritize which dams would need additional analysis. In addition, it will demonstrate how to produce rapid 2D inundations for dam breaks and flooding during a real-time flood event. In October of 2015 and 2016 the MMC was asked to demonstrate the USACE's capability in producing rapid dam break inundations for the flooding in South Carolina. These case studies will be presented to show how HEC-RAS 2D helped to accomplish this task in relatively short time.