

Rapid Inundation Mapping

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The U.S. Army Corps of Engineers (USACE) Modeling, Mapping, and Consequence Center (MMC) has developed a unique tool to improve response times and risk communication planning for flood events. With several projects in the USACE portfolio undergoing dam safety modifications and with the availability of real-time forecast models it has been recognized that there is a need to ensure an efficient and effective way to produce inundation mapping rapidly is needed to assist emergency management agencies during flood events and to assist in emergency planning exercises. Risk communication and response is critical to USACE and when discussing flood risks it is vital to be able to provide both breach and non-breach risk inundation mapping for potentially impacted areas. As inundation mapping evolves within USACE so have the tools used to communicate risk. This tool supports the risk communication responsibility of the USACE Dam Safety program. The MMC team has created a tool to support decision makers. The tool is a web based map that displays National Weather Service forecasts along with gage adjusted mapping for reaches throughout an entire watershed. The maps identify critical infrastructure, Population at Risk, economic damages, and key road locations for the full range of flood events. The tool is flexible and can be used to add other globally accessible web based data sources that would be helpful when analyzing critical points of interest based on each community. The tool can be used for dam breach communication as well as non-breach risk communication. The existing mapping data can be emailed to emergency management agencies within minutes. The tool will improve coordination with stakeholders and can adapt to the many needs of multiple stakeholders, ultimately leading to improved risk communication.