

DHS Science and Technology Directorate Community Hazard Assessment and Mitigation Planning System (CHAMPS) Assessed to help Mitigate Disasters

Property Damages from Flooding Average \$7.9 Billion Annually

According to the National Weather Service, based on a 30-year average, more than 80 flood fatalities occur annually. Flood fatalities may result from people driving vehicles into floods or individuals walking in flooded areas. Most of these deaths could have been prevented possibly through a combination of earlier and better warnings and outreach campaigns to increase public awareness of the full risk of floods.

S&T Supports Community-level Hazard Assessment and Post-disaster Mitigation Planning and Project Management

Department of Homeland Security (DHS) Science and Technology Directorate (S&T) in order to better prepare for these disasters, S&T's First Responders Group (FRG) is creating a National Flood Decision Support Toolbox (NFDST) as part of the Flood Apex Program. "The goals of the Flood Apex Program are to save lives, decrease uninsured losses and reduce property damage," said FRG Director Daniel Cotter. "FRG hopes to achieve this by increasing access to community, regional, and national data and information sources; analytical tools; and other resources that may help everyone make better flood resilience decisions."

A possible solution to support flood preparation is the Community Hazard Assessment and Mitigation Planning System (CHAMPS). First developed by the Commonwealth of Kentucky, CHAMPS is offered as a free resource to Kentucky communities to enhance disaster management efforts based on the concept of understanding risk, then mitigating risk to reduce loss of life and property. CHAMPS allows users to build community profiles, conduct assessments, develop plans, seek funding and manage projects. When used in concert, these individual modules could build more resilient communities by enhancing communication among stakeholders. S&T is evaluating whether CHAMPS can support other states and localities, serving as a national program. CHAMPS has been used in exercises like the New Orleans Flood Experiment in January 2017.

This software provides responders with the flexibility, skill sets, and tools necessary to plan, manage, coordinate, and communicate critical information during small- and large-

scale events. CHAMPS can translate science into actions that reduce risk exposure in high-risk communities, and could ultimately be transitioned to a partner to assist federal, state, local, tribal, and territorial users in making investment decisions related to floods.

Evaluating CHAMPS for Scalability

S&T is working with the Central United States Earthquake Consortium (CUSEC) to develop nationally deployable decision support tools that enhance the data available to state and local emergency managers (EMs) to manage operations, allocate resources, and mitigate hazards. CHAMPS could provide decision support tools to help communities and other stakeholders maximize use of mitigation resources and effectively assess alternatives to minimize flood risk. CHAMPS is being evaluated as a practical model for improving pre- and post-disaster investment decisions. CHAMPS is currently being evaluated to make it more user-friendly and scalable for communities outside of Kentucky.



FRG Director Dan Cotter at a flood exercise featuring CHAMPS in January 2017

Partners:

- Kentucky Emergency Management, Frankfort, Kentucky
- G&H International, Washington, D.C.
- Central United States Earthquake Consortium, Memphis, Tennessee



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To learn more about CHAMPS, contact Ronald Langhelm, Program Manager, at firstresponders@hq.dhs.gov.