Abstracts in this session

Dollars and (Common) Sense: The Path to Mitigating Natural Hazard Risk
Kevin Mickey, GISP, CTT+, Director Professional Development & Geospatial Education, The Polis Center-IUPUI, Indianapolis, IN

ABSTRACT TEXT: This presentation will explore two major initiatives of the Multihazard Mitigation Council (MMC). The first is exploring how to monetize the benefits for incorporating risk mitigation practices in the ordinary course of business. MMC believes that participating stakeholders need sufficient confidence that using incentives to achieve resilience will justify investments, underwriting and loan and grant programs. The second is a follow-up to the landmark 2005 MMC study for the U.S. Congress that showed that society saves $4 for every $1 that the Federal Emergency Management Agency (FEMA) provided for natural-hazard mitigation.

The so-called 4:1 study has become the most widely cited evidence that mitigation saves. The MMC is expanding its 2005 effort to cover all U.S. public-sector natural-hazard mitigation efforts. As in 2005, the Council will address flood, wind and earthquake, but now also fire at the wildland-urban interface. It will also examine the cost effectiveness of building-code enhancements. In this presentation you will learn about the important role that GIS is playing in these projects as well as how we can all benefit from them.

USACE Modeling, Mapping and Consequences Production Center Inundation Mapping
Randal Goss, GIS Program Manager, Jacksonville District, U.S. Army Corps of Engineers, Jacksonville, FL
Taylor Johnson, GISP, Geospatial Application Developer, Jacksonville District, U.S. Army Corps of Engineers, Jacksonville, FL

ABSTRACT TEXT: The U.S. Army Corps of Engineers (USACE) Modeling Mapping and Consequences Production Center (MMC) provides hydraulic modeling, mapping and consequence analysis for USACE dams and levees 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 static and dynamic dam and levee breach mapping products for use in emergency action plans (EAP) and during real-time flood events. The MMC-developed standards have been used to provide dam failure mapping for 400 USACE dams and multiple flood events.

New technologies for creating inundation mapping products will be demonstrated. The MMC has developed a web-based process for creating on-demand inundation maps for fast responses during a flood event. The USACE EAP map standards and tools have been used during flood emergencies to rapidly create inundation maps based on a combination of river stage forecasts and possible reservoir release scenarios.

This presentation will provide an overview of the processes, desktop tools and web-based tools USACE MMC uses to produce inundation maps for use in EAPs including the production of PDF maps, Google Earth files and web-based mapping products. Inundation map products created for flood events will be discussed with an overview of how the toolkits were used and how USACE is collaborating with other federal agencies to share inundation maps, tools and related data.

Deployment of GIS for Flood Response at the City of Baton Rouge
Justin Priola, GISP, GIS Coordinator, City of Baton Rouge-Parish of East Baton Rouge, Baton Rouge, LA

ABSTRACT TEXT: In August 2016, a multi-billion dollar flooding event unloaded 7 trillion gallons of rain in the greater Baton Rouge region. As local rivers exceeded record levels, the East Baton Rouge Parish GIS team leveraged their best GIS technology to map road closures, coordinate search and rescue operations, provide timely information to decision-makers, and to track debris collection. Within hours after the height of the flood, GIS analysts compiled data from a variety of sources to develop an estimated flood inundation area layer.

First responders and other leaders help validate the layer and it was soon release to the public for comment. Through social media and local news reports, word spread rapidly about this map and GIS analyst worked tirelessly to improve the accuracy of the extent of floodwaters. In its first week, the estimated flood inundation web application had over 60,000 views. Soon after, the layer was used for calculating damages to property and infrastructure. The speaker will highlight innovative geospatial solutions used during the response and recovery periods of The Great Flood.