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## **USACE Disaster Impact Model**

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**Author Note:** The authors of this abstract are first class cadets at the United States Military Academy. CDT Beiswenger and CDT Kim are systems engineering majors, CDT Scroggins is an engineering management major, and CDT Wright is a systems and decision sciences major. They would like to thank all the leadership at the United States Army Corps of Engineers for challenging them with this project. Specifically, they would like to thank Major General Spellmon for his time and leadership, Major James Clay for his advice, Mr. Alex Dornstauder for his constant encouragement and detailed information, and Dr. Kenneth McDonald for his guidance and support.

Abstract: Leaders at the United States Army Corps of Engineers (USACE) rely heavily on their own internal decision-making processes to provide information for decisions. While USACE has decades of experiences that can be used to inform key leaders, some of USACE's current processes for making decisions are reactive in nature. Focusing on Emergency Operations, Civil Works - USACE, an interactive assessment model was developed which assess five regional characteristics: geography, infrastructure, economy, historical data, and population. The USACE Disaster Impact Model (UDIM) provides the ability to assess the potential impact of a regional disaster prior to the disaster. This valuable information enables USACE leadership to make well-informed, forward-looking decisions based on the readiness of a region. With the UDIM, USACE key leaders will be able to evaluate the readiness of regions regarding potential disasters and allow USACE to focus their support efforts more efficiently and effectively according to their organizational mission.

Keywords: United States Army Corps of Engineers, USACE Disaster Impact Model, Natural Disaster, Decision-Making

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