World Academy of Science, Engineering and Technology
International Journal of Civil and Environmental Engineering
Vol:14, No:04, 2020

Identifying the Strength of Cyclones and Earthquakes Requiring Military Disaster Response

Authors : Chad A. Long

Abstract : The United States military is now commonly responding to complex humanitarian emergencies and natural disasters around the world. From catastrophic earthquakes in Haiti to typhoons devastating the Philippines, U.S. military assistance is requested when the event exceeds the local government's ability to assist the population. This study assesses the characteristics of catastrophes that surpass a nation’s individual ability to respond and recover from the event. The paper begins with a historical summary of military aid and then analyzes over 40 years of the United States military humanitarian response. Over 300 military operations were reviewed and coded based on the nature of the disaster. This in-depth study reviewed the U.S. military’s deployment events for cyclones and earthquakes to determine the strength of the natural disaster requiring external assistance. The climatological data for cyclone landfall and magnitude data for earthquake epicenters were identified, grouped into regions and analyzed for time-based trends. The results showed that foreign countries will likely request the U.S. military for cyclones with speeds greater or equal to 125 miles an hour and earthquakes at the magnitude of 7.4 or higher. These results of this study will assist the geographic combatant commands in determining future military response requirements.

Keywords : military, natural disasters, earthquakes, cyclone
Conference Title : ICDRM 2020 : International Conference on Disaster Response and Management
Conference Location : Athens, Greece
Conference Dates : April 09-10, 2020