EMERGENCY MANAGEMENT USE CASE

Research Title:	"Optimizing the Use of Volunteers in Disaster Rescue and Response."
Author(s):	Carlee Purdum and Michelle Meyer
Description:	Volunteers play an important role in the aftermath of disasters -- distributing resources, providing advice on courses of action to community members, helping with evacuations and sometimes even doing search and rescue. Sometimes, however, uncoordinated efforts can lead to wasted time and resources and, in worst case scenarios, can put volunteers and official emergency responders in increased danger. Since 2017, emergent organizations using social media and new technologies to conduct rescues or do different types of volunteer response activities have grown dramatically. News articles described Hurricane Harvey as the "first social media disaster". Social media has been described as a lifeline in disasters with apps like Zello, the walkie-talkie type app, highlighting social media's adaptability to extreme events. Volunteer organizations, like the so-called Cajun Navy, have shown how social media can be used for both passive information sharing and also as a full-fledged tool that could receive and process requests for assistance, collect photos/videos for damage assessment, and produce situational awareness for emergency management, among many other opportunities. Since 2017, our research team has been researching 8 groups and the volunteers within in that conduct volunteer search and rescue and response activities using social media. Unlike what the media portrayed, the "Cajun Navy" is not one organization. Our research uncovered a constellation of organizations, from formalized nonprofits to emergent groups, along with unaffiliated volunteers that conducted rescues. We refer to this constellation of various civilian-driven volunteers as "rescue groups" rather than "Cajun Navy" to emphasize the diversity of participants and multiplicity of organizations involved. We conducted interviews with over 100 volunteers who do this type of post-disaster activity along with 40 emergency managers or other official responders (e.g., fire, police) to understand what these groups do and the challenges of coordination with volunteers like these. We have also spent countless hours live in the field during disaster rescues with some of these groups or online supporting their efforts. The research aimed to address several main questions: 5. How are these rescue groups organized and how do they do operate, grow, and change? 6. How do they use social media and technology to undertake these efforts? 7. How do they coordinate with official first responders and what are the challenges to coordination? 8. How do their efforts address inequities in disaster response, such as for low-income, elderly, or other populations? In discussions with emergency management and the volunteers, there are several misconceptions about who these groups are and what they do and how. This Use Case will describe these challenges and best practices in attempting to coordinate with volunteer rescue groups.
When Applied:	This case applies to the preparedness and response phase in emergency management

Who Applies:	Local emergency management offices, fire and emergency medical services departments, sheriff's departments, and any state and federal agencies participating in search and rescue efforts within the context of disasters.
Disaster Type:	Flooding events, Hurricanes, major storms, tornadoes, wildfires, extreme winter weather, missing persons searches, wellness checks, evacuation support.
Infrastructure Affected:	Shelter such as individual homes, communal living structures (nursing homes, schools, etc.), any place where persons are taking shelter whereby the environment becomes unsafe or the structure is damaged and evacuation becomes necessary.
Industry Affected:	Emergency management, fire and emergency services, any agencies or organizations who participate in or support search and rescue efforts in emergencies and disasters, and volunteer organizations engaging in search and rescue efforts.
Where Applied:	The case could be applied across Texas and the U.S.
Agency Affected:	Those at the local, state, or federal level which participate in search and rescue efforts.
VOAD Affected:	Volunteers who participate in search and rescue efforts may belong to volunteer organizations who are members of VOAD or have relationships with organizations who are members of VOAD.
Who/What Affected:	The experiences of first responders, officials involved in emergency management, law enforcement, volunteers and survivors of disasters. Planning and response efforts could be improved in relation to emergency and disaster management.
How Affected:	By planning and preparing how to engage with volunteers who engage in search and rescue efforts, those efforts can become more efficient and more safe for first responders, volunteer rescuers, and individual survivors. Also by understanding these groups' motivations and activities - as well as pitfalls and challenges - emergency management could provide volunteer management that extends their capacity to clear areas and complete response tasks faster. Volunteer rescue groups also work to target their efforts in areas with fewer resources, such as rural areas that may like professional response agencies or marginalized and low-income areas. These efforts could extend capacity for already over-extended agencies. Finally, volunteer rescue groups have well developed social media expertise that can be used to complement emergency management official channels, as well as find ways to better communicate with the public.
Timing of Application:	The application would be applied during the preparedness and response phase of disasters.
Critical Points:	Volunteers converging on the scene of disasters to help with search and rescue efforts is not necessarily new. However new technologies have amplified volunteers' ability to respond in crises. Furthermore, stopping the flood of these volunteers into a community is difficult. Thus, finding appropriate methods for coordination is vital to avoid duplication of services or hindrance of response efforts. Many volunteers have organized themselves into formal and semi-formal organizations to facilitate a more organized response. Many volunteers are also former members of emergency response organizations, including many former military personnel. A large number of these volunteers have completed various emergency response trainings such as swift water rescue, ICS, and others. Finding the best way to integrate skilled volunteers - and

	importantly vet who is skilled and who isn't - will provide emergency management with useful labor in response. Emergency management as a field is at a crossroads with how to understand, interact with, coordinate with, or collaborate with volunteers engaging in search and rescue in disasters and how to handle new social media communication that dominates our society. Our research has insight into how to better understand, plan for, and respond to volunteers engaging in search and rescue efforts in the context of disasters.
What Benefit:	Benefits include increased safety for first responders and volunteers engaging in search and rescue efforts by improving the understanding of volunteer efforts in disasters and how to plan and prepare for engaging with volunteers in the context of search and rescue in disasters. Survivors of disaster will benefit from improved planning, preparedness, and response efforts from first responders who will inevitably interact with volunteer responders in the context of disasters. Emergency responders gain access to additional volunteer labor force and supplies. Emergency responders gain access to expertise in social media volunteering and improve their passive communication efforts. Emergency responders improve public relations by engaging with vetted and skilled volunteers. Communities and first responder agencies will gain trained volunteer teams to support them in crises.
Where Used:	The data from our case were collected from interviews with emergency management officials and volunteer rescuers across Texas and Louisiana as well as observation efforts. Several major disasters happened throughout our study and informed our findings including major flooding events, hurricanes, major storms, tornadoes, and even wildfires.
Additional Research:	Efforts to apply the case could be documented to create materials for other local officials and their respective agencies.
Additional Information:	Publications are in progress, contact the authors.
Expert Contact:	Dr. Michelle Meyer, Director of Hazard Reduction and Recovery Center at Texas A&M University, michelle.meyer@tamu.edu Dr. Carlee Purdum, Assistant Research Professor Hazard Reduction and Recovery Center at Texas A&M University, jcarleepurdum@tamu.edu
Original Research:	NSF Award Search: Award # 1851493 - Collaborative Research: Organizational development, operations, and new media among civilian flood-rescue groups
What Risks:	none
Partner Agencies/Jurisdictions:	This case should be directed primarily towards agencies and actors engaged directly in emergency management and emergency response in the context of disasters, particularly those engaging or involved with search and rescue efforts.
New Question:	[Add a description of the information to enter.]
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Research with a Technology Component Should Respond to the Following Questions

Research Requested:	[Was the proposed technology in response to a specific request from emergency managers?]
Why Better:	[Why is this idea/technology better than current standard?]
Reliability:	[How reliable is the technology? (Include any failure rate data and consequences of failure like time to repair, viability of practitioner doing repair on site, availability of replacement, availability of tech support, etc.).]
Support Needed:	[What type of support is needed to implement? (i.e. computer networks, specialized software coding, mechanical ability internet access powerful laptops, etc).]
Citizen Impact:	[Does the technology have a potential for negative impact on the public or individuals impacted by adoption of the technology?]
Training Required:	[How much training would the practitioner need to implement the technology?]
Public Accountability:	[Would the technology raise any public accountability and/ or privacy issues?]

Please Note: Questions or suggestions regarding the Use Case Template may be directed to Dr. MacGregor Stephenson at the Texas Division of Emergency Management at macgregor.stephenson@tdem.texas.gov.