Title: UASs in Disaster Response and Recovery, Redefining the Model

UASs will play a key role in search and rescue efforts of the future. The combination of UASs with advanced command and control technology that is both mobile and that can be distributed throughout a network of users utilizing command post equipment will prove to be a powerful tool in disaster response. Live feeds of current conditions from the UASs to first responders on the ground (law, fire, EMS) can enhance situational awareness, contributing to more efficient mitigation efforts and ultimately, faster, more efficient response and recovery. Operating within a secure, encrypted network, this proposed project could prove to be a successful collaboration between law, fire and military, in the ever present field of disaster mitigation.

Benefits to First Responders
Video captured by UASs can provide a live, bird’s eye view of any situation and from multiple angles. This information can be relayed through existing first responder networks by those using mobile equipment. The benefit is live video and data where it is needed most. UAS technology can assist greatly in Search and Rescue operations and other responses where it would be beneficial to know such information as traffic flows, evacuation routes for line of sight video, restreaming video to smart phones, etc. UASs can also provide mesh connectivity when needed.

Dissemination of Data
One such first responder network is the the Antares\textsuperscript{x} network, a multi-agency cooperative consortium comprised of some of the largest law and fire agencies in the country. The focus of this network is on data and video sharing. Data is shared and transmitted in this large-scale private and secure, encrypted network through various types of field equipment such as Mobile Command Vehicles and SUV’s to Department and Emergency Operations Centers or to others within the network. This unique collaboration of first responders provides a vehicle to develop best practices to fit the legal and operational processes and policies of those involved. The addition of UAV video to this network, or others similar to it, would greatly improve disaster response.

Partnerships
Partnerships are vital for making our first responders better at incident mitigation, in all types of hazards. The integration of vital field data in conjunction with the advanced information gathered and provided by UAV video would redefine the model for interoperability and situational awareness.