The usage of drones during an evacuation

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Civilian evacuations are almost always extremely chaotic, difficult to organize, and almost impossible to control. Often, the panic of the danger forces people to take on an every-man-for-himself attitude and act incorrectly or irresponsibly. The instructions of police and evacuation officials often get lost in all the traffic and many individuals don’t receive the vital information that could save their lives. A failure to receive or follow safety instructions during an evacuation can lead to people getting lost, trapped, or even killed.

In such circumstances, drones can be very useful, even crucial, to effectively deliver a population of people from danger. There are some specific capacities that I believe drones could serve in to help evacuations go as smoothly as possible. The first of these capacities is guidance. Drones can act as a signal to evacuees to let them know which direction they should go and lead them to safety. Drones can also act as routers and allow for messages sent from a coordinating office to reach evacuees’ phone quickly and efficiently. Drones can also serve in search and rescue capabilities by using face recognition software to seek out lost individuals and bring them to a safe area. Lastly, drones can be used to find safe paths and determine a piece of infrastructure's structural integrity. This could mean determining if a bridge will be able to bear the weight of a group of evacuees. This could also mean finding a safe path through a pile of rubble where something won’t crash onto the evacuees. Such capacities are incredibly important and could be augmented by the use of drones.

Any wide-scale humanitarian effort has required the use of signals and signalmen for communication, information relay, and interconnectivity. Every major military force and public safety force has a signal corps through which information is disseminated among the various workers and then to the people involved. Drones can be incredibly important in this role as they could easily get to places that telephone lines and electric cables cannot reach. If a group of evacuees is trapped inside of a building, a drone could seamlessly fly into the building and deliver messages either by routing information from some central communications center or by directly announcing the information to the stranded people through visual or audible means.

The usage of drones in such high-capacity services has mostly been restricted to military purposes with many emergency and public safety services not fully using drones to their full potential. With this project, we can hopefully expand the capabilities of drones to serve in capacities like guidance, signaling, search and rescue, and path searching. This serves to make evacuations easier for the officials, the evacuees, and the general public and lessening the chaos and strain that evacuations often entail.