

High Resolution Imagery Collection Utilizing Unmanned Aerial Vehicles (UAVs) for Post-Disaster Studies

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#### Abstract

This presentation describes the use of unmanned aerial vehicles (UAVs) as platforms to capture imagery at the neighborhood and individual building level for use in post-disaster field studies. Applications of UAVs in recent disasters are reviewed, including following earthquakes and tsunamis. Three case studies investigating UAV capabilities for imagery collection following an EF-3 tornado impacting northern Alabama, Hurricane Isaac, and Hurricane Sandy are presented. Sample post-tornado and post-hurricane nadir, oblique, and video imagery of building damage is shown, demonstrating the order of magnitude improvement in imagery resolution compared to typical post-disaster aerial photography. Examples of how multiple images can be used to create 3-D models for visualizations and measurement are presented. The seminar will conclude with a summary of challenges and barriers to UAV usage, and a discussion of emerging UAV technologies and capabilities.

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