

senseFly UAV Technology Used to Map Hawaiian Lava Flow



On 22 October 2014, in a collaborative partnership with Hawaii County Civil Defense and the U.S. Geological Survey Hawaiian Volcano Observatory, specialists from the UH Hilo Spatial Data Analysis and Visualization (SDAV) laboratory used a senseFly swinglet CAM UAV, carrying an RGB camera payload, to collect high-resolution still images of the lava's active flow front. These shots were then merged into a full orthomosaic for use by Civil Defense emergency planners.

The UH Hilo flight team includes Ryan Perroy, assistant professor of geography and environmental science, Nicolas Turner, SDAV cyber computer programming analyst, and Arthur Cunningham, consultant for aeronautical science.

The lava flow has already impacted the lives of many residents in Puna, said Perroy. The UAV support can provide quick and accurate information to emergency responders.

The team closely monitored the flight performance of the swinglet CAM UAV as it travelled over the lava and noted minor turbulence as it crossed the thermally dynamic environment. A county helicopter provided support with an air observer on board from the UAV team during flight operations.

The Unmanned Aircraft Systems Integration Office of the Federal Aviation Administration worked closely with the Hilo research team on approval of their Certificate of Authorization. The flights are in direct support of disaster relief operations in the area and the FAA and flight team worked together to make sure all safety concerns were met.

As of 29 October, the lava flow is currently headed toward the town of Pāhoā in the district of Puna, threatening to cut off the main highway and other access roads and thus isolating an area of about 10,000 residents from the rest of the island. The flow is currently advancing at 9 metres an hour and is about 240 metres from Pāhoā Village Road.

The researchers plan to fly again and continue supporting relief operations with quick aerial assessments when needed. Sensefly representatives are closely monitoring and supporting the team's mapping relief effort and are at-the-ready with additional equipment should this be needed.

<https://www.gim-international.com/content/article/sensefly-uav-technology-used-to-map-hawaiian-lava-flow>
