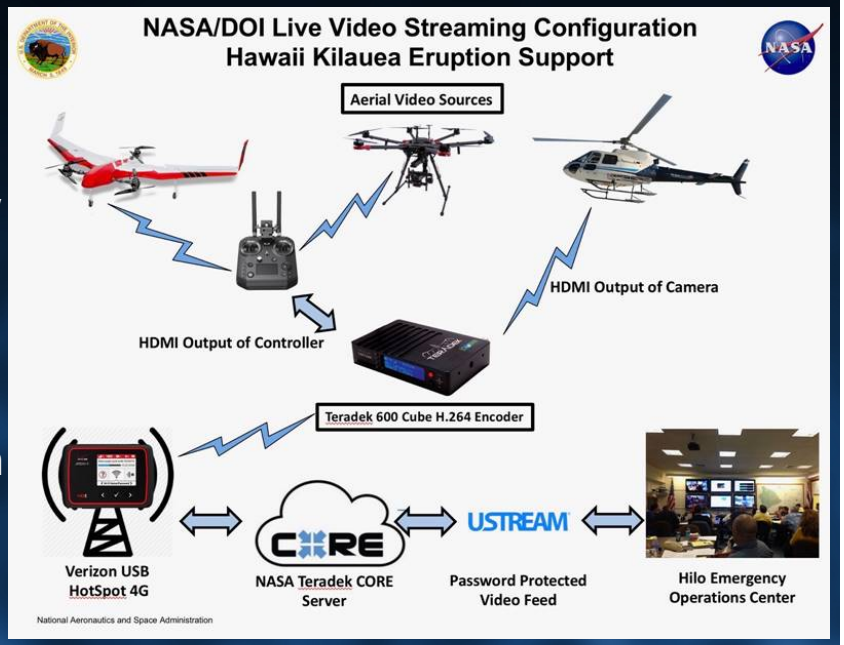
Planetary Science Analog Research team assists observation of Hawai'i Eruptions

NASA-funded analog research groups studying volcanic terrains are assisting the USGS and Department of the Interior in observations of the current eruption in Hawai'i. The BASALT (Biologic Analog Science Associated with Lava Terrains) research program investigates terrestrial volcanic terrains and their habitability as analog environments for Mars, under simulated mission constraints to evaluate concepts of operations (ConOps) and capabilities for the joint human and robotic exploration of Mars and the Moon. Assistance from the BASALT team was requested for emergency management activities on the Big Island, Hawai`i through a spin off application of their remote video streaming architecture, developed to support the team's remote work, to enable live-stream of video data from various aerial platforms of lava affected regions.



BASALT Mission Architecture to simulate future Mars ops concepts. The 'Mars situated' Extra-Vehicular field team (left, top left) and Intra-Vehicular (IV) support team were separated by space and time (with an artificial 20 min round trip communications delay) from the 'Earth situated' Mission Support Center (MSC; left, top right). A remote communications network system for streaming data from the field to the IV and MSC stations was developed. Hardware integration knowledge from these deployments allowed the BASALT team to implement a solution for the USGS to see live streaming data from aerial video monitoring equipment (above). Below: Halemaumau crater lava lake within the much larger Kilauea summit caldera, during a previous season of field work in November 2016.