

Case Study

Environmental and Structural Monitoring



Customer: Alaskan Volcano Observatory

Web Site: <http://www.avo.alaska.edu/>

Country/Region: United States

Application: Networked GPS and seismometers

Customer Profile

The Alaskan Volcano Observatory (AVO) is a consortium assembled to predict and record eruptive activity, and to mitigate volcanic hazards to life and property.

Products Utilized in Solution

Intuicom Navigator™ II

Intuicom CommPro™ software

Trimble 5700 GPS receiver

Guralp seismometer



Neither Dark of Night nor Sub-Zero Temperatures Keeps Alaskan Volcano Observatory From Sending Real-Time Data Over 90 Kilometers

Situation

The Alaskan Volcano Observatory (AVO) is a consortium assembled to predict and record eruptive activity, and to mitigate volcanic hazards to life and property. Tasked with monitoring several volcanoes in the Aleutian Islands, the AVO were challenged with providing real-time data from dual frequency GPS receivers as well as digital seismometers. The considerable amount of data generated needed to be sent over distances up to 90 km while enduring the extreme arctic conditions.

Communication Solution

Intuicom provided a wireless network solution utilizing Intuicom Navigator™ II wireless transceivers at the remote locations within and surrounding the volcanoes. The data was sent from these sites to a repeater location

on the volcanic island where it is transported back across the open ocean to the Master stations at Dutch Harbor. From the Master location it was handed off to a Communication link to Anchorage for processing and storage. The Network deployed utilizes Intuicom's Adaptive Multipoint™ technology to effectively manage the data while offering diagnostics that were critical when weather challenged aspects of the system.

Results

Each station consisted of a Trimble 5700 GPS receiver and a Guralp Seismometer. The instrument data is being sent back for logging and monitoring of the seismic activity at the designated station. The real-time results are used to detect and determine seismic and volcanic activity across the Aleutian Islands.


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