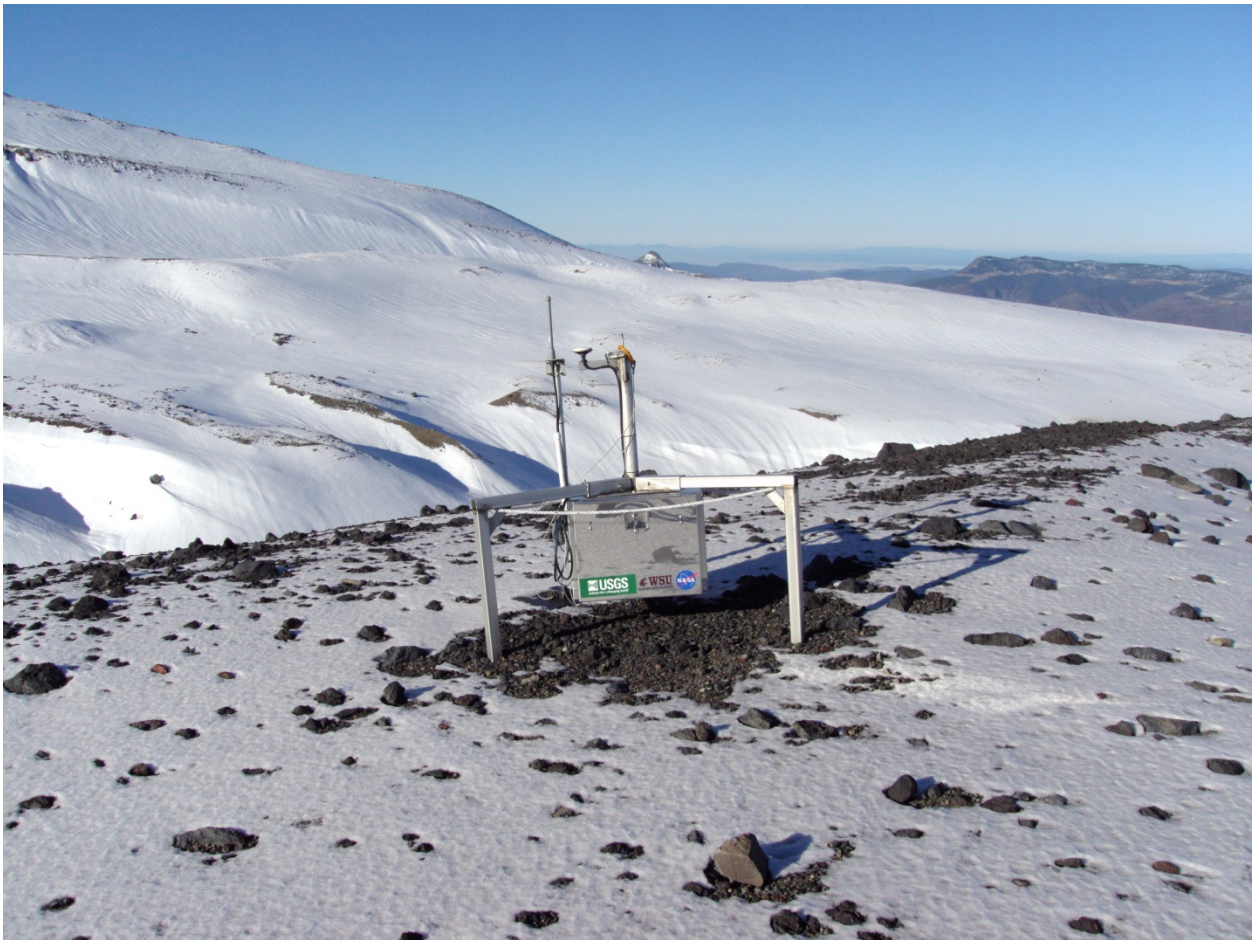
Temporary GPS/Seismic Spider Monitoring Stations
USGS, Cascades Volcano Observatory CVO)

Spiders are portable seismic and L1 GPS stations that can be installed on the volcano by helicopter at sites where CVO crews cannot work safely or when landing a helicopter at a spot on the volcano is not possible. Spiders collect and transmit geodetic and seismic data in real time and help CVO scientists provide local, state, and federal government agencies with appropriate volcanic conditions prior to, during and after a volcanic eruption.

A spider consists of an aluminum case that contains batteries and weatherproof plastic case that encloses the GPS receiver, digital radio and seismic components. An L1 GPS antenna and a digital Omni-directional antenna are mounted to one of the spider legs. Spiders are deployed via slinging operations with helicopter support.

Currently, there are no deployed Spiders on Mount St. Helens. Spiders are temporary instrument packages that are deployed in the event the volcano begins to show signs of unrest. During periods of relative quiescence, GPS and Seismic monitoring on the volcano is conducted using instruments that are part of the permanent monitoring network. These consist of more "hardened" instruments that are installed in protected vaults, have greater battery capacity, etc.



Photograph of a Spider that was deployed on Mt. St. Helens during the 2004 to 2008 eruiption.