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High Quality VBB Borehole Sensor Upgrades and Additional Atmospheric Sensors at Global Seismographic Network (GSN) Stations

In order to improve network reliability and data quality, the GSN has begun deploying newly available VBB borehole seismometers to replace the aging KS54000 and some poorly performing STS-1 sensors over the last two years. Considerable effort has also been made to address problems with deteriorating infrastructure that suppressed data return and increased background noise. This includes adopting new borehole sensor installation techniques that maximize the performance of seismic instruments deployed at GSN sites. The new seismometers have improved self-noise characteristics and broader bandwidth than the generation of sensor they are replacing and meet the pass-band sensor specifications for IMS primary and auxiliary seismic stations. The GSN is also diversifying the instruments installed at the stations to broaden the variety of geophysical data collected. These instruments include meteorological stations and infrasound sensors intended to augment the infrasound network already deployed as part of the CTBTO's International Monitoring System and the IRIS Transportable Array.

Primary author: HAFNER, Katrin (IRIS)

Presenter: HAFNER, Katrin (IRIS)

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