

Namibia's infrasound array deployment program for atmospheric research and open data sharing.

Nortin Titus

Geological Survey of Namibia, Geophysics, Namibia (nortin@icloud.com)

The International Monitoring System (IMS) established by the Comprehensive Nuclear Test-Ban Treaty Organisation (CTBTO) collects data to detect nuclear explosions. Studying the historic IMS data exposes the Earth as a living laboratory revealing more of itself. The Geophysics Division at the Geological Survey of Namibia, has been responsible for the operations and management of the IMS IS35NA infrasound station, located in Tsumeb, Namibia, and this has provided the Division an access point into infrasound studies. The Division is currently implementing a seismic station expansion program as well as an infrasound array expansion program. The infrasound data, from the IMS station, as a civil application, is currently being mined to identify and characterise mining activity, however, this is not the primary use of IMS data. The importance of infrasound data to study atmospheric phenomena is clear and this is recognised in Namibia. In the first instance, for an arid country like Namibia, climate change is a concern and contributing new sources of information provides additional insights into a changing world which will allow the country and the region to prepare itself for the future. Together with a Government funded three-year seismic expansion program, Namibia is to add two infrasound arrays, planned for deployment in 2018 and 2019 as half of Namibia's surface area has a population density of less than one person per square kilometre. This low cultural activity provides an excellent setting for studying atmospheric dynamics in arid climates using infrasound. The two arrays are also to be used to monitor mining activity and support future research activities on infrasound at the University of Namibia (UNAM) and the Namibia University of Science and Technology (NUST). Secondly, Namibia has the opportunity to lead efforts for encouraging data sharing to support the vision of an open science policy on the African continent as well as internationally. The Geophysics Division through the seismic and infrasound expansion program will subscribe to an open data policy which it believes is critical to improve research quality and output, act as a catalyst for scientific discovery and debate, enhance science diplomacy for improved global security and contribute data to the scientific community. The purpose of this poster will be to present the planned activity on the infrasound deployment, that will include the array design, equipment list and proposed locations. By presenting this poster, the author encourages inputs from conference participants on the various aspects of the Namibian infrasound array deployment, pool ideas to further encapsulate open data sharing in the expansion program and discuss future infrasound research partnerships.