Geophysical Research Abstracts
Vol. 19, EGU2017-12328, 2017
EGU General Assembly 2017

Re-establishment of the IMS Hydroacoustic Station HA04, Crozet Islands, France.

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The Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)

The incorporation of the hydroacoustic station HA04, Crozet Islands, France, into the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) is a 17 year saga that had a happy ending on 29 December 2016. On that day, following a major engineering and logistical undertaking, the station was successfully installed. While still in its initial testing phase, HA04 sends continuously quality data at the International Data Centre (IDC), pending official certification and promotion to mainstream operational status.

Similarly to most other cabled hydroacoustic stations in the IMS, HA04 is comprised of two triplets of moored hydrophones deployed on both sides of Possession Island (Crozet Islands) sending uninterrupted data to a shore facility via submarine fiber optic cables. The designed frequency pass-band is 1 – 100 Hz. Data are relayed to Vienna via a shore based satellite link in real time. According to CTBTO's standard requirements, the design life of HA04 is at least 20 years, maintenance-free for the underwater system.

An outline of the main phases of this project, highlights from the installation operations and examples of received hydroacoustic signals associated with recent underwater seismic activity in the Indian Ocean as well as vocalizations from marine mammals acquired by the new HA04 are presented here. HA04 is scheduled to be fully integrated into the operational platform of IDC in the next six months, which will enable registered researchers to access archived monitoring data and processing software, or via the National Data Centres (NDCs).