

The Installation of IMS Hydroacoustic Station HA04 Crozet

The CTBTO's International Monitoring System (IMS) includes 6 hydrophone based monitoring stations. During 2016 the Engineering and Development Section within the IMS Division installed the final hydroacoustic station at the Crozet Islands, France. The installation of HA04 was a challenging ocean engineering and logistical undertaking due to the the Crozet Islands' location in the 'roaring forties' and that access to the islands is only possible by ship, with the nearest port nearly 3,000 km distant. The weather at Crozet is such that any marine operations have to be carefully planned and can only be conducted during a short Austral summer weather window, and even during this period hurricane force winds and large swells are encountered. To maximise the chances of a successful installation in these harsh maritime conditions required close attention to be paid to engineering details, underwater system design, risk management and the use of a state of the art cable ship as a deployment platform. The requirement for 20 years of operation without a maintenance interaction was a key driver in the station's design and its qualification testing. The station's design and its installation also had to take into consideration the environmental sensitivity of the Crozet Islands.

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