ID: Type: **Poster**

3.1-P09. Environmental studies in support of the CTBT/IMS hydroacoustic installation HA04, Crozet Islands, France.

The re-establishment of hydrophone monitoring station HA04 Crozet Islands, Southern Indian Ocean French Southern and Antarctic Territories, is underway. The dynamic environment at Crozet is governed at the surface by winds and sea states which can be higher than in many other locations. Below the surface, the Crozet plateau is affected by local circulation emanating from the sub-Antarctic front and the Agulhas return current, moderate surface tides and relatively strong internal tides. Deploying submarine cables and hydrophone triplets in such an environment requires careful evaluation and mitigation of risks, e.g. by minimizing the exposure of the system to excessively strong currents. The local currents in the deployment area have been evaluated with state-of-the-art models by CNRS/Toulouse University (France), which relied on high quality multibeam sonar bathymetries to define the boundary conditions. The bathymetries also made it possible to identify candidate hydrophone triplet locations and trunk cable routes for the station. These studies, together with acoustic coverage predictions based on three-dimensional long-range propagation modelling presented in SnT2013, have made it possible to optimize potential sensor locations and deployment depths for the hydrophones.

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Track Classification: 3. Advances in sensors, networks and processing