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# and results from cabled hydrophone arrays deployed in deep sea off East Sicily (EMSO ERIC node)

Since 2005 a cabled deep-sea infrastructure is operative at 2100 m water depth, 25 km off the port of Catania (Sicily). The infrastructure, under continuous improvement, is the first operative cabled node of the EMSO ERIC, hosting several multidisciplinary observatories built in Collaboration by the Italian Institutions INFN, INGV, CNR, CIBRA and other scientific partners. Hydrophone antennas, sensitive in the range of frequencies between 1 Hz and 90 kHz, have been installed on seafloor observatories. Acoustic data are continuously digitized in situ at very high resolution, time-stamped with absolute GPS time and sent to shore in real time, through optical fibre link. Together with bioacoustics (cetaceans sounds), noise pollution study and monitoring were the main goal of the research activity. Results on multi-year monitoring of anthropogenic noise will be discussed. Focus of the analysis is the noise level in the 63 Hz and 125 Hz noise bands in compliance with the EU Marine Strategy Framework Directive. The contribution of ship noise was modelled, based on their recorded routes, and compared to data. Noise in the high frequencies domain was also investigated.

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