Geophysical Research Abstracts
Vol. 12, EGU2010-13082, 2010
EGU General Assembly 2010

Listening to the Deep-Ocean Environment (LIDO): an ESONET Initiative for the Real-Time Monitoring of Geohazards and Marine Ambient Noise

Michel André (1), Paolo Favali (2), Paolo Piatteli (3), Jorge Miranda (4), Christoph Waldmann (5), and The ESONET LIDO Demonstration Mission Team (6)

(1) Laboratory of Applied Bioacoustics (LAB), Tecnological University of Catalonia (UPC), Centre Tecnològic de Vilanova i la Geltrú, Avda. Rambla Exposició, s/n E-08800 Vilanova i la Geltrú, Barcelona, Spain (michel.andre@upc.edu), (2) INGV-Roma 2, Via di Vigna Murata 605, I-00134, Rome, Italy, (3) INFN-LNS, Via S. Sofia 62, I-95123, Catania, Italy, (4) FFC/CG Universidade de Lisboa, Portugal, (5) University of Bremen (Marum), Leobener Strasse, PO Box 330440 D-28359 Bremen, GERMANY, (6) Laboratory of Applied Bioacoustics (LAB), Tecnological University of Catalonia (UPC), Centre Tecnològic de Vilanova i la Geltrú, Avda. Rambla Exposició, s/n E-08800 Vilanova i la Geltrú, Barcelona, Spain: Michel André, Ludwig Houegnigan, Alex Mas, Antonio Sánchez, Mike van der Schaar, Serge Zaugg; University of Bremen (Marum), Leobener Strasse, PO Box 330440 D-28359 Bremen, GERMANY: Christoph Waldman; FFC/CG Universidade de Lisboa: Jorge Miranda, Luis Matias; INGV- Roma 2, Via di Vigna Murata 605, I-00134, Roma, Italy: Paolo Favali, Laura Beranzoli, Gianfranco Cianchini, Maria Grazia de Caro, Fawzi Doumas, Davide Embriaco, Gabriele Giovanetti, Cristina La Fratta, Nadia Lo Bue, Giuditta Marinaro, Stephen Monna, Caterina Montuori, Leda Qamili, Tiziana Sgroi, Stefano Vinci; CNR-ISMAR, Bologna Via Gobetti 101 - 40129 - Bologna, Italy: Luca Pignagnoli, Nevio Zitellini; IRA-INAF, Via P. Gobetti, 101 40129 Bologna, Italy: Francesco Chierici; INFN-LNS, Via S. Sofia 62, I-95123, Catania, Italy: Giorgio Riccobene, Antonio D'Amico, Giovanni Barbagallo, Giorgio Cacopardo, Claudio Calì, Rosanna Cocimano, Rosa Coniglione, Michele Costa, Carla Distefano, Francesco Del Tevere, Francesco Ferrera, Massimo Imbesi, Emilio Migneco, Mario Musumeci, Angelo Orlando, Riccardo Papaleo, Paolo Piattelli, Guido Raia, Alberto Rovelli, Piera Sapienza, Fabrizio Speziale, Salvatore Viola; Università La Sapienza and INFN-Roma 1, P.le Aldo Moro 2, I-00185, Roma,Italy: Fabrizio Ameli, Maurizio Bonori, Antonio Capone, Rocco Masullo, Francesco Simeone; UTM-CSIC, CMIMA, Paseo Marítimo de la Barceloneta 37-49, E-08003, Barcelona, Spain: Juanjo Dañobeitia; dBscale Sensing Technologies, C/Leon y Castillo 25, Telde E-35200, Spain: Eric Delory; CIBRA, Università di Pavia, Via Taramelli 24, I-27100, Pavia, Italy: Gianni Pavan; TFB- BHT Berlin, Luxemburger Str. 10, D-13353 Berlin, Germany: Hans W. Gerber, Wifried Langner, Haiko de Vries; Tecnomare S.p.A.,Via Pacinotti 4, I-30175 Venezia Marghera,Italy: Francesco Gasparoni, Federico Bruni, Flavio Furlan, Fabio Zanon

Understanding the link between natural and anthropogenic processes is essential for predicting the magnitude and impact of future changes of the natural balance of the oceans. Deep-sea observatories have the potential to play a key role in the assessment and monitoring of these changes. ESONET is a European Network of Excellence of deep-sea observatories that includes 55 partners belonging to 14 countries. ESONET NoE is providing data on key parameters from the subsurface down to the seafloor at representative locations that transmit them to shore. The strategies of deployment, data sampling, technological development, standardisation and data management are being integrated with projects dealing with the spatial and near surface time series. LIDO (Listening to the Deep Ocean environment) is one of these projects and proposes to establish a first nucleus of a regional network of multidisciplinary seafloor observatories contributing to the coordination of high quality research in the ESONET NoE by allowing the real-time long-term monitoring of Geohazards and Marine Ambient Noise in the Mediterranean Sea and the adjacent Atlantic waters. Specific activities address the long-term monitoring of earthquakes and tsunamis and the characterisation of ambient noise, marine mammal sounds and anthropogenic sources. The objective of this demonstration mission will be achieved through the extension of the present capabilities of the observatories working in the ESONET key-sites of Eastern Sicily (NEMO-SN1) and of the Gulf of Cadiz (GEOSTAR configured for NEAREST pilot experiment) by installing new sensor equipments related to Bioacoustics and Geohazards, as well as by implementing international standard methods in data acquisition and management.