



## **Tsunami Early Warning in Europe: NEAMWave Exercise 2012 - the Portuguese Scenario**

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On 27th and 28th November 2012 the first European-wide tsunami exercise took place under the auspices of UNESCO Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and connected seas (ICG/NEAMTWS). Four international scenarios were performed – one for each candidate tsunami watch provider France, Greece, Portugal and Turkey. Their task was to generate and disseminate tsunami warning bulletins in-time and in compliance with the official NEAMTWS specifications.

The Instituto Português do Mar e da Atmosfera (IPMA, [1]) in Lissabon and the Kandilli Observatory and Earthquake Research Institute (KOERI [2]) in Istanbul are the national agencies of Portugal and Turkey responsible for tsunami early warning. Both institutes are partners in the TRIDEC [3] project and were using the TRIDEC Natural Crisis Management (NCM) system during NEAMWave exercise. The software demonstrated the seamless integration of diverse components including sensor systems, simulation data, and dissemination hardware. The functionalities that were showcased significantly exceeded the internationally agreed range of capabilities.

Special attention was given to the Command and Control User Interface (CCUI) serving as central application for the operator. Its origins lie in the DEWS project [4] but numerous new functionalities were added to master all requirements defined by the complex NEAMTWS workflows. It was of utmost importance to develop an application handling the complexity of tsunami science but providing a clearly arranged and comprehensible interface that disburdens the operator during time-critical hazard situations.

[1] IPMA: [www.ipma.pt/](http://www.ipma.pt/)

[2] KOERI: [www.koeri.boun.edu.tr/](http://www.koeri.boun.edu.tr/)

[3] TRIDEC: [www.tridec-online.eu](http://www.tridec-online.eu)

[4] DEWS: [www.dews-online.org](http://www.dews-online.org)