



prevention,
preparedness,
response to
natural
and man-made
disasters

للوقاية
من الكوارث الطبيعية
والناتجة عن النشاط البشري
والاستعداد
والاستجابة لها

prévention,
préparation,
réponse
aux désastres
naturels et
humains

pprd
south
programme

9th PPRD South “prevention and preparedness” workshop for staff-level officials

“Tsunami emergency preparedness in Mediterranean coastal zones”

Realized in partnership with the “Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and connected seas” (ICG/NEAMTWS)



Stromboli (Messina) Italy
La Sirenetta Park Hotel Via Marina 33

28 May -3 June 2012

PPRD SOUTH PROGRAMME BACKGROUND INFORMATION

As the successor of the previous EU funded “Pilot” and “Bridge” programmes on Euro-Mediterranean cooperation in Civil Protection, in March 2009 the **Euromed Programme on Prevention, Preparedness and Response to Natural and Man-made Disasters** (“PPRD South” or “Programme” – www.euromedcp.eu) started under the service contract between the EC EuropeAid Development and Cooperation Office and the Consortium established by the Italian Civil Protection Department, jointly with the Civil Protection authorities of Algeria¹, Egypt² and France³ and the United Nations International Strategy for Disaster Reduction – UNISDR.

The Programme works jointly with the Civil Protection/Civil Defense Authorities of Albania, Algeria, Bosnia & Herzegovina, Croatia, Egypt, Israel, Jordan, Lebanon, Libya, Montenegro, Morocco, Palestinian Authority, Tunisia and Turkey (the “Partner Countries”).

PPRD South aims to contribute to reinforcing the quality of Civil Protection services in the Euro-Mediterranean region and to continue institutional cooperation in the field, both between the EU and the Partner Countries and among the Partner Countries themselves. For this purpose, PPRD South has planned a number of activities, including some initiatives aimed to improve knowledge in the Partner Countries of existing methodologies practices for effective disasters’ prevention and preparedness, at the regional, national and local levels.

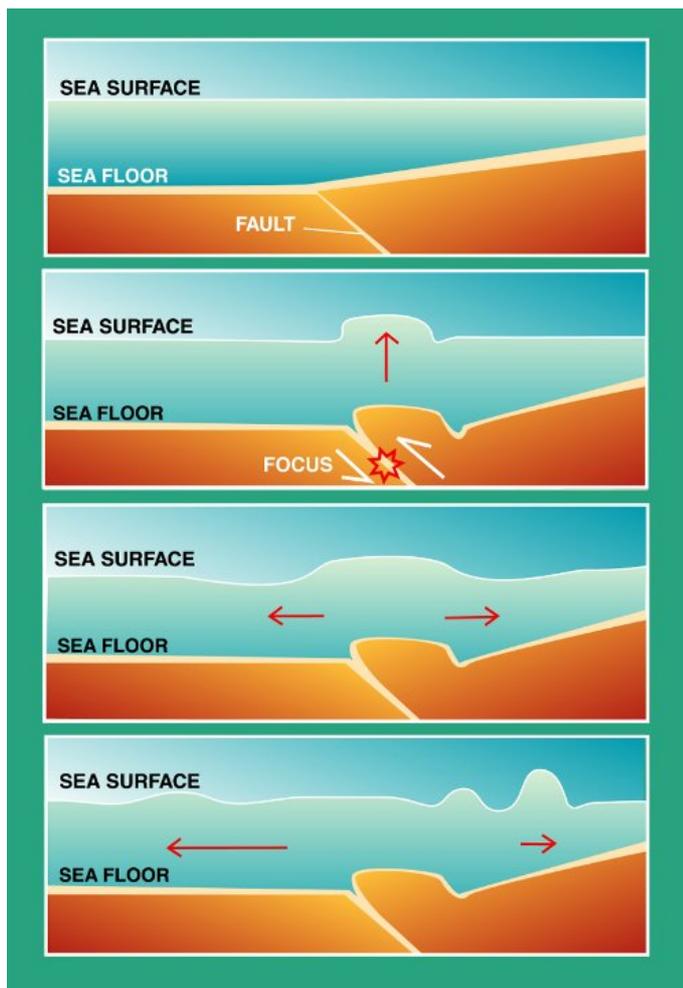
¹ Ministère de l’Intérieur et des Collectivités Locales, Direction Générale de la Protection Civile.

² Ministry of the Interior, General Administration of Civil Protection.

³ Ministère de l’Intérieur, de l’Outre-mer et des Collectivités Territoriales, Direction de la Sécurité Civile.

1. Tsunami Hazard in the Mediterranean

Although less frequent than those in the Pacific or Indian oceans, tsunamis in the Mediterranean Sea have caused extensive damage and loss of life. This is due to the significant frequency of tsunami events – according to the European Environment Agency **200 tsunamis were recorded over the last 500 years around the Mediterranean** and the University of Bologna indicated that on average, in the last four centuries **Italy has seen 15 tsunamis every 100 years** - to the considerable population density along the Mediterranean coasts - around 150 million people concentrated on the 46,000 kms of coastline, with 110 million of them living in cities and some 200 million tourists arriving every year - and to the limited consideration of the tsunami risk in land use planning policies.



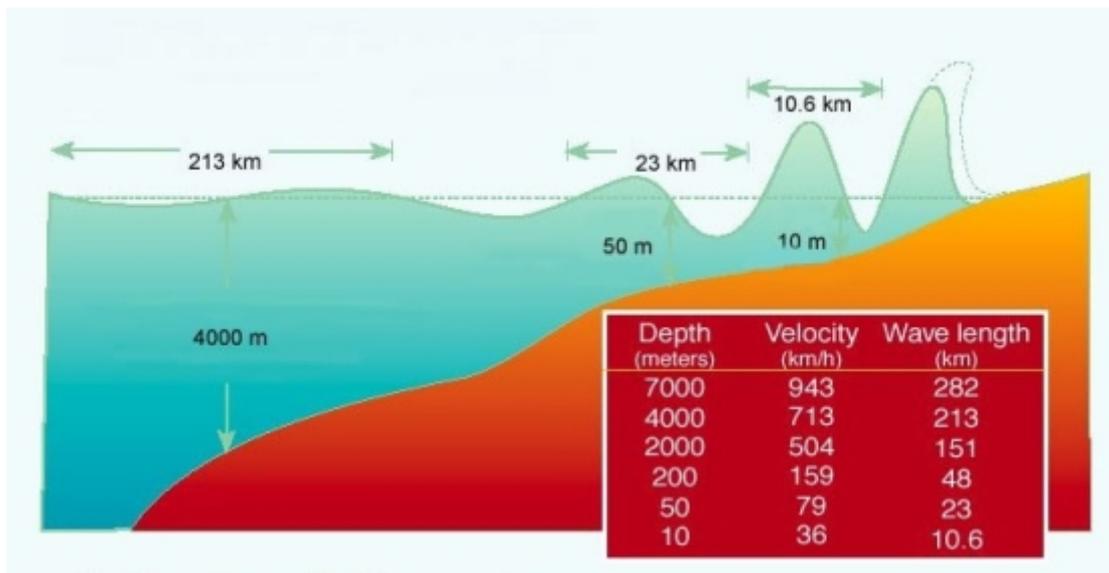
Tsunamis can be triggered by three types of geologic events causing the displacement of significant volumes of water: earthquakes, large landslides and volcanic activities.

Submarine earthquakes can abruptly deform the sea floor displacing huge quantities of water. Earthquakes can also trigger the destabilization of large amounts of sediments deposited on coastal or submarine slopes causing giant landslides which displace large amounts of water and generate a tsunami. These landslides may take place right after the earthquake or may be delayed for days, weeks, or months.

Tsunamis are characterized by large wavelengths and velocities of approximately 700km/h in deep waters where they generate small waves (0.3 meters) and therefore are very difficult to detect. The wavelength causes a slowing down of these waves in shallower waters to around 100km/h. When tsunamis reach the shoreline they build up wave heights up to 30m and more.

In the Mediterranean, due to short travel times and thus very short early warning possibilities tsunami waves can cause

severe damages. Most of the reported Mediterranean tsunamis occurred in the most seismic and volcanically active regions like the Aegean, Ionian and Tyrrhenian Seas, the Sea of Marmara and subsequently along the Algerian margin and Cyprus arc, or off-delta areas.



How a seaquake wave behaves. As the depth of the sea decreases, so the speed and length of the wave decrease, while the height of the wave increases. (Credit: [UNESCO - International Tsunami Information Centre](#))

2. Tsunami Early Warning Systems in the Mediterranean

For tsunami events it is possible to outline potential impact areas associated with geologically active - earthquake and volcano – zones and undertake initiatives to reduce the vulnerability of these coastal areas through effective tsunami warning systems and through ensuring that people in danger know what to do in case a tsunami warning has been issued by the mandated national authorities.

However not every earthquake, volcanic eruption or submarine landslides necessarily trigger tsunamis.

An effective tsunami early warning system must be capable of detecting and localizing tsunamigenic subsea earthquakes or landslides within a few minutes and based on a prescribed decision matrix assessing the tsunami risk, predicting its propagation and its time of arrival for different coastlines and finally issuing the tsunami watch message.

Real time data from seismic instrumentation networks allow to locate the epicenter of an earthquake and to measure its magnitude. Based on seismic data and a defined magnitude threshold, which varies with the source zone, it is possible to assess the potential of subsea earthquakes to generate a tsunami and in case issue a tsunami watch message to national authorities in the endangered region.

Real-time sea-level measurement systems based on buoys can provide confirmation of the tsunami and indications on the tsunami amplitude. Depending on the vicinity of the tsunami source zone to a certain coastline the “national tsunami warning center” might issue immediately a tsunami warning or wait for the first tide gauge readings if the tsunami generation can be confirmed or not. The quick detection of a tsunami requires not only a sufficient number of measuring devices and networks, but also networks with advanced means of communication for the real-time transmission of data.

The Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-eastern Atlantic, the Mediterranean and connected seas (ICG/NEAMTWS) was formed by the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) in response to the tragic tsunami of the Indian Ocean on 26 December 2004 with the mandate,

among others, of coordinating the establishment of the Tsunami Early Warning and Mitigation System in the Mediterranean.

This system is organized around

- a network of National Tsunami Warning Centers (NTWC) which are responsible for issuing tsunami warnings to the relevant authorities in the country. They can choose to provide tsunami alert information outside their country, acting as Tsunami Watch Providers (TWP)– candidate TWPs currently are Portugal, Turkey, Greece, Italy, France - or just to receive tsunami alert information (all other Mediterranean countries).
- A network of Tsunami National Contact (TNC) designated by NEAMTWS participating countries to represent his/her country in the coordination of international tsunami warning and mitigation activities. This person may come from the national disaster management organization, from a technical or scientific institution, or from another agency with tsunami warning and mitigation responsibilities.
- A network of Tsunami Warning Focal Point (TWFP) designated by NEAMTWS participating countries, to be available 7x24 for rapidly receiving and issuing tsunami event information at the national or international level (such as warnings). The Tsunami Warning Focal Point either is the emergency authority (civil defense or other designated agency responsible for public safety), or has the responsibility of notifying the emergency authority of the event characteristics (earthquake and/or tsunami).

3. PPRD South – NEAMTWS Partnership

The Italian Civil protection Department, PPRD South Consortium Leader, is the Italian NEAMTWS Tsunami National Contact (TNC) and Tsunami Warning Focal Point (TWFP). During the last PPRD South Steering Committee, the PPRD South Executive Director proposed to set up a partnership PPRD South – NEAMTWS in view to facilitate the active involvement of the PPRD South partner Civil Protection Authorities in the establishment of this regional Mediterranean partnership to cope with the tsunami risk.

In particular the expected results of this partnership include:

- Raising the awareness within the national Civil Protection Authorities on NEAMTWS Programme and on the necessary organizational and operational arrangements to take active part in the initiative
- Identification of a Tsunami National Contact (TNC) and of a Tsunami Warning Focal Point (TWFP) in the PPRD South countries
- Participation of the PPRD South Countries in the scheduled NEAMTWS activities (communication tests, exercise, ...) for 2012
- Promoting proactive contributions from the Programme Partner Countries to the design and set up of the Mediterranean Tsunami Early Warning System

The first concrete step of the partnership is the organization of the "Tsunami emergency preparedness in Mediterranean coastal zones" in Stromboli, Italy, on 30 May -2 June 2012.

4. PURPOSE OF THE TRAINING WORKSHOP

The overall purpose of the training workshop is to contribute to raising awareness in the Partner Countries on the progress of the activities in the Mediterranean of the "Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and connected seas" (ICG/NEAMTWS) as well as to contribute to involve PPRD South Partners as much as possible in the ICG/NEAMTWS network and in its exercises on the operation of the Mediterranean tsunami early warning system.

5. SPECIFIC OBJECTIVE OF THE WORKSHOP

The workshop will aim to draw the state-of-art of the design and implementation of the Tsunami Early Warning System in the North-Eastern Atlantic, the Mediterranean and connected seas, including organizational arrangements, ongoing and future activities, tsunami detection technologies and tools, alert dissemination procedures and mechanisms, and the involvement of the various stakeholders involved.

In particular, the workshop will focus on:

1. A theoretical introduction to tsunami phenomena and to the tsunami risk in the Mediterranean
2. In depth presentation of the Mediterranean component of the NEAMTWS Tsunami Early Warning System including design and operation principles, organizational framework including roles, responsibilities and management arrangements, technical aspects, and operating procedures
3. Review of the available tsunami forecasting and detection tools
4. Involvement of the PPRD South Partner Countries to the forthcoming Tsunami Early Warning Communication Test & Exercise
5. In depth review of the operational arrangements of the Italian Tsunami Watch Provider (TWP) centre, Tsunami National Contact (TNC), Tsunami Warning Focal Point (TWFP), the local authorities and the local community with reference to the Stromboli coastline which is highly exposed to the tsunami risk
6. Preliminary examination of the tsunami communication and awareness raising activities proposed by the NEAMTIC Tsunami Information Centre

Each aspect addressed will be supported by collaborative review of case studies from the Euro-Mediterranean region.

6. TARGET AUDIENCE OF THE WORKSHOP

One idea behind this workshop is also to strengthen relationships between national disaster management agencies, directorates or Civil Protection/Civil Defence Authorities and other technical and scientific bodies that are working with forecasting, monitoring and predicting location and intensity of tsunami.

Partner Countries should nominate **two (2) candidate participants** in the workshop:

- **One (1) senior expert from the national disaster management agency/directorate/Civil Protection/Civil Defence Authority** or similar structures working in the situation room or the operational room with decision making responsibilities, and/or working with decision making responsibilities on disseminating alerts to the population and with previous experience in training and working in a multi-cultural environment;
- **One (1) senior expert from a national technical agency or scientific body** with management and decision making responsibilities on systems for forecasting, monitoring and predicting location and intensity of earthquakes and tsunami, with previous experience in training and working in a multi-cultural environment.

Proposed participants shall have a good working knowledge of English and/or French. Simultaneous interpretation into English, French and Arabic will be provided during the entire duration of the event.

PPRD South encourages all Partner Countries to favour women participation in programme activities.

7. PRACTICAL INFORMATION

Venue

The training workshop will take place at the La Sirenetta Park Hotel, Stromboli, Messina, Italy. Detailed logistic information will be soon disseminated to all selected attendees.

Travel

The PPRD South arranges travel for all participants in the event. Arrival point is Rome, Fiumicino Airport. Envisaged travel days are 28 May (arrival) and (departure) 4 June 2012.

The PPRD South will arrange transportation of all participants from/to arrival point in Rome, Fiumicino Airport to the venue of the training workshop.

Accommodation and meals

The PPRD South will arrange accommodation and all meals for participants at the venue of the training workshop (no per diem is therefore distributed to participants).

The PPRD South does not cover the cost of extras (telephone, drinks, room service, mini-bar, etc.).

Working languages

The working languages of the training workshop are English, French and/or Arabic. Simultaneous interpretation into the three languages (English, French and Arabic) will be available, also for the group work/exercise.

Documentation

Copy of relevant training workshop documentation will be provided to all participants.

Dress code

Dress code is casual.

Later will be given specific instructions regarding clothing and equipment required for night hike to the active craters of the volcano.

CONTACTS

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