Setting up tsunami warning systems in the Euro-Mediterranean region

François Schindelé, CEA-DASE, ICG/NEAMTWS Chair, France

In the aftermath of the huge and catastrophic 26 December 2004 Indian Ocean tsunami, the Intergovernmental oceanographic commission (Unesco/IOC) was designated to establish a tsunami warning system in the Indian Ocean. IOC established in June 2005 three new tsunami intergovernmental coordination groups , for the Indian Ocean, the Caribbean region and the North east Atlantic and Mediterranean (ICG/NEAMTWS), in addition to the Pacific group in place since 1965.
The NEAMTWS group met already in six different European countries and established working groups and task teams to elaborate and organise the system : real time seismic network and data processing; real time sea level network and data processing; tsunami hazard and risk assessment; preparedness and education; architecture of the warning system.

The operational component will start in the next couple of years, with regional watch centers. Since 2007, 5 countries (France, Greece, Italy, Portugal and Turkey), announced their plan to implement a national tsunami warning center, with regional role for specific sub-basins.
The goal is to send the first watch message in less than 15 minutes after the earthquake to the national civil defence authorities of each countries boarding the region, through different telecommunication links , in particular the WMO global telecommunication system (GTS).
The cooperation between the seismological centers in the region has contribute deeply in that component. The seismic networks will provide the epicentre and earthquakes characteristics, first information needed to start the warning process. Comprehensive real time networks are needed all around and inside the oceanic and sea basins to improve the accuracy of rapid estimation of the seismic and tsunami parameters. Current networks have mostly these capacities, nevertheless, real time data are missing in some area to cover totally the region.
The sea-level networks are also contributing to the system to confirm or not the tsunami occurrence, provide the tsunami waves characteristics along the various coastlines.
Other tools as historical tsunami and pre-calculated tsunamis scenario data bases will provide more information about the potential impact of the tsunami waves.