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Организация
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вопросам образования
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• Intergovernmental
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• Commission
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intergouvernementale

• Comisión
Oceanográfica
Intergubernamental

• Межправительственная
океанографическая
комиссия

NEAMTWS Estado actual

Jornada Técnica sobre el riesgo de maremotos
Madrid, 29 septiembre 2014

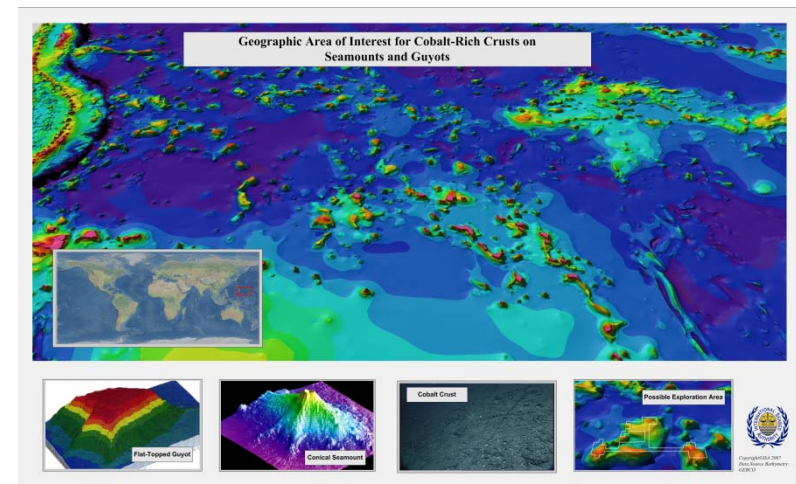
Francesca Santoro
Responsable de la Secretaría Técnica del NEAMTWS
(UNESCO/COI)

La COI en las Naciones Unidas



La UNESCO es la única agencia de las Naciones Unidas con la «C» de ciencia, y la COI es el único órgano de las Naciones Unidas con un mandato en el ámbito de las **Ciencias Oceánicas.**

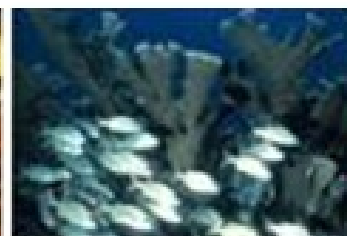
- La COI es el punto focal de las Naciones Unidas para la observación de los océanos, las ciencias del mar, los servicios y el intercambio de datos oceánicos.
- Según la UNCLOS, la COI es la única organización internacional con un mandato específico sobre las ciencias oceánicas.
- 147 Estados Miembros.



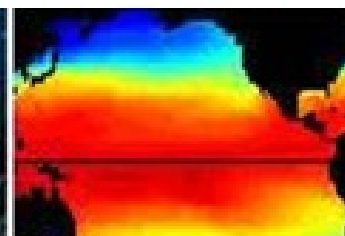
Temas de los que se ocupa la COI



Protección del medio ambiente marino



Pesca y ecosistemas



Cambio climático



Observación de los océanos



Gestión costera



Gestión de datos e información



Atenuación de los desastres naturales

Observación de los océanos

Oceanografía

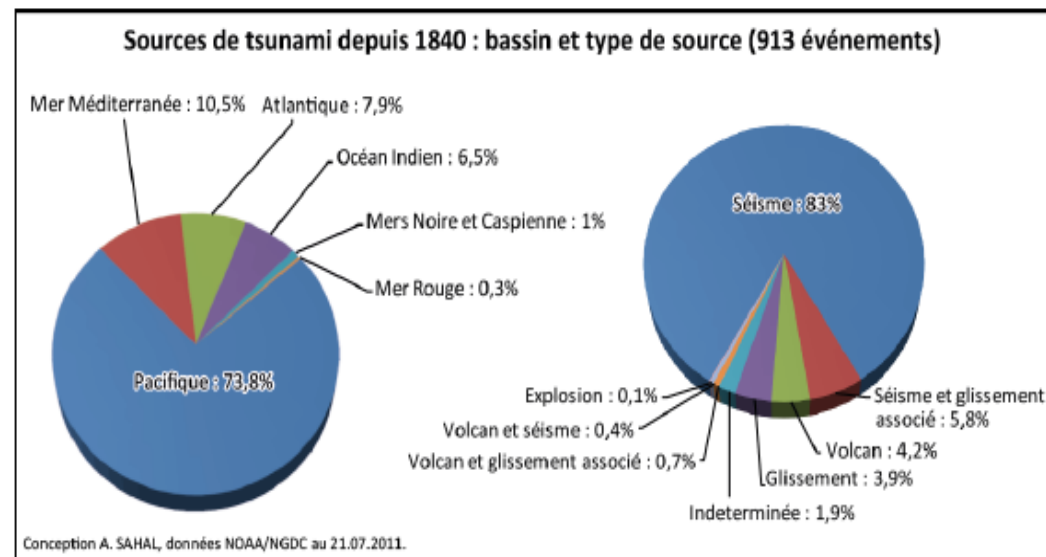
Desarrollo de capacidades

Política marítima

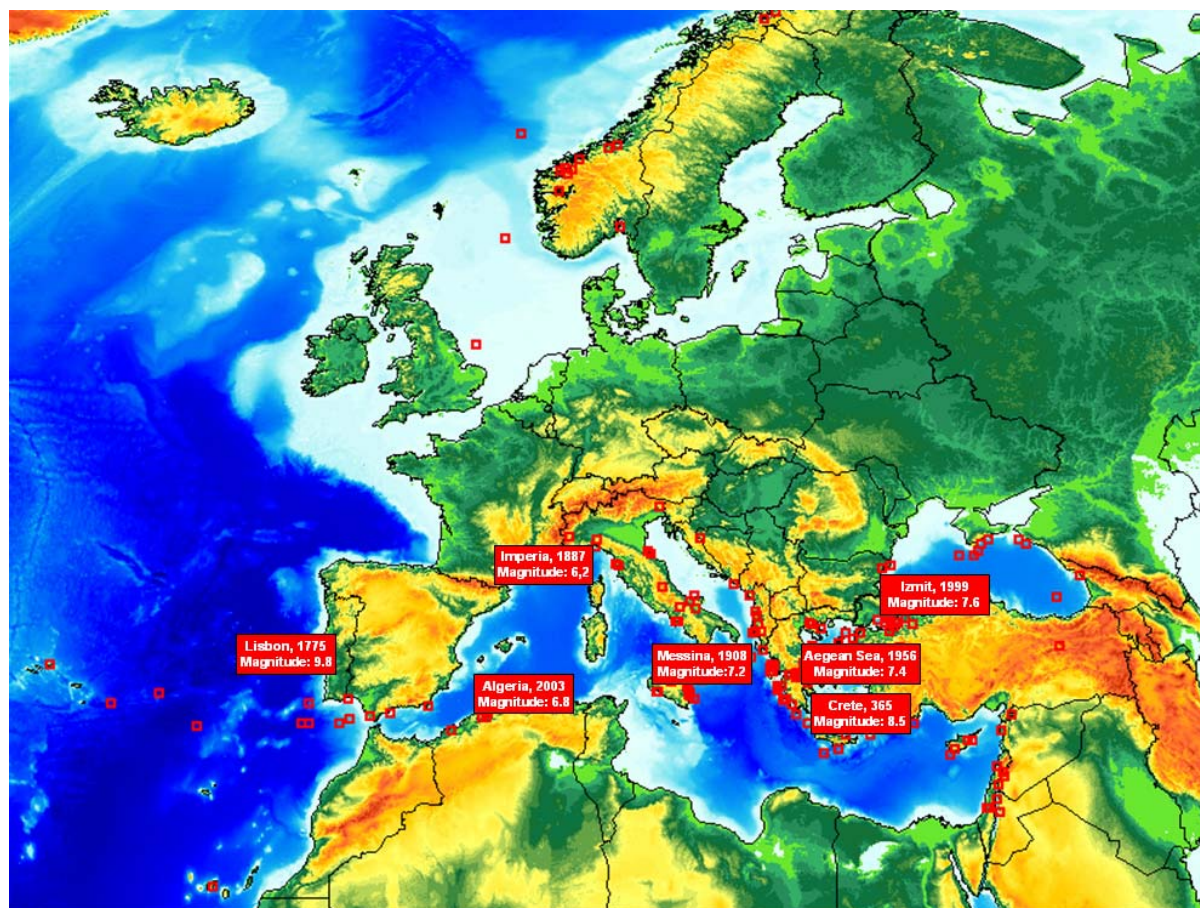
Tsunamis

Riesgo de tsunami en la región del Atlántico Nororiental y el Mediterráneo y Mares Adyacentes (NEAM)

- Aunque menos frecuentes que en el océano Pacífico, los tsunamis pueden azotar las costas del Mediterráneo y del Atlántico Nororiental causando la pérdida de vidas humanas y de bienes.

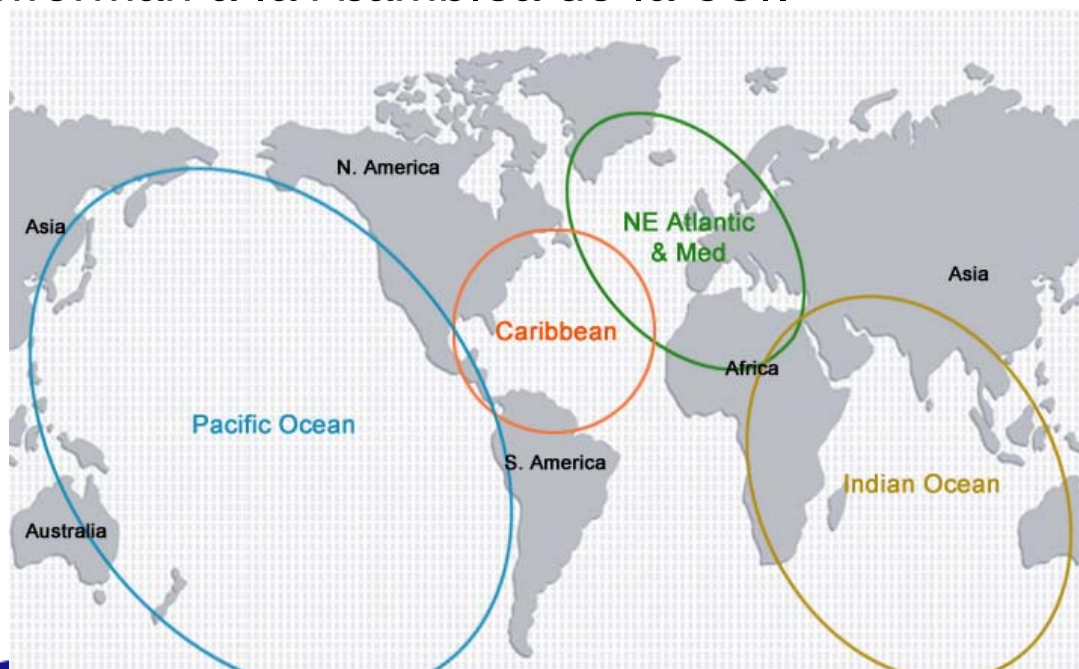


Principales terremotos y tsunamis en la región NEAM



Coordinación de los Sistemas de Alerta contra los Tsunamis de la COI

Desde 1965, la COI ha coordinado el Sistema de Alerta contra los Tsunamis y Atenuación de sus Efectos en el Pacífico (PTWS). Tras el tsunami ocurrido el 26 de diciembre de 2004 en Sumatra, la COI recibió el mandato de ayudar a todos sus Estados Miembros en la tarea de establecer a través de los ICG (Grupo Intergubernamental de Coordinación) tres otros sistemas de alerta temprana (EWS) contra los tsunamis y otros peligros oceánicos. Estos informan a la Asamblea de la COI.



IOTWS

CARIBE-EWS

NEAMTWS

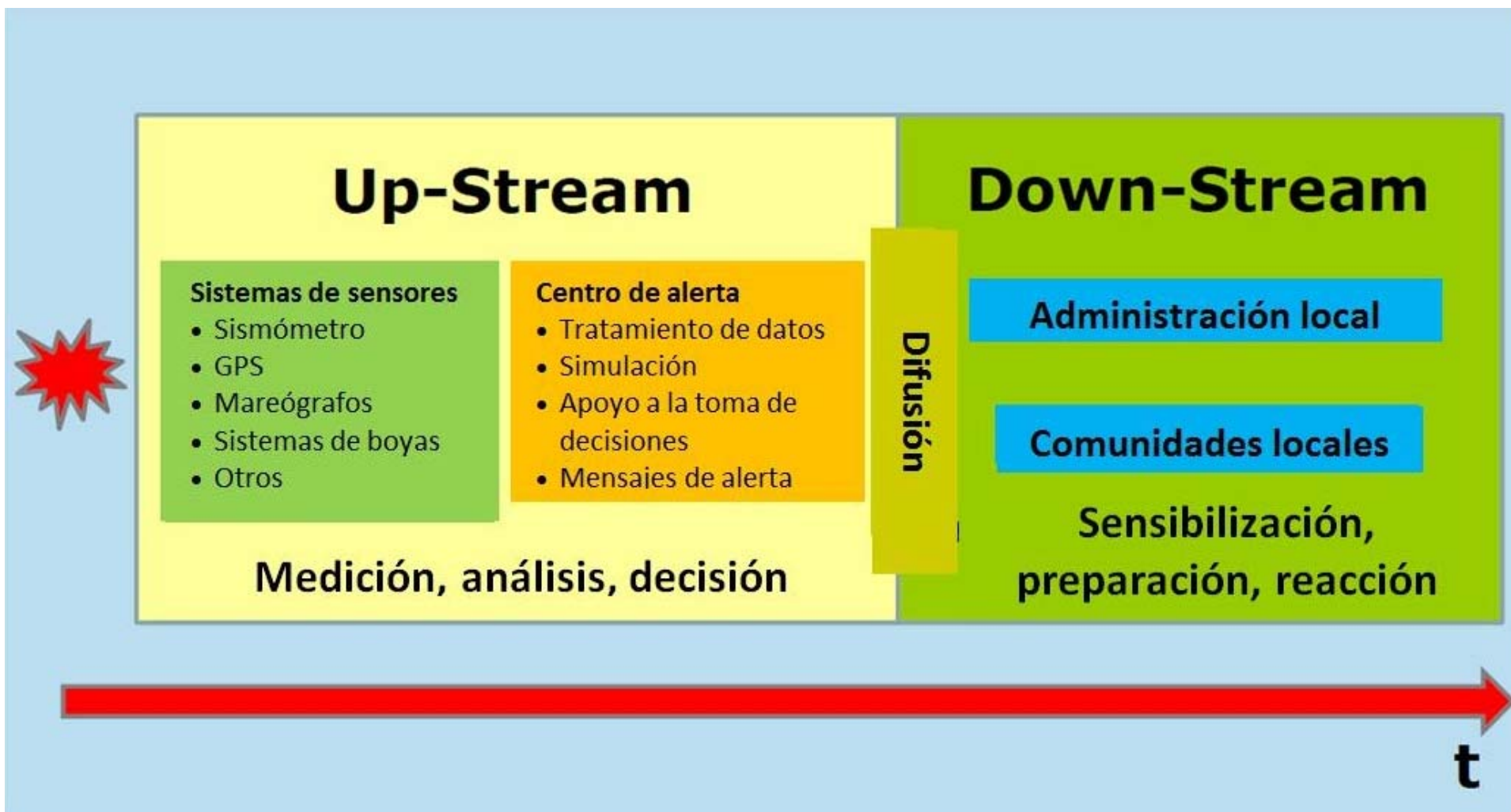
(Atlántico
Nororiental y el
Mediterráneo y
Mares Adyacentes)

Mandato de la COI para el NEAMTWS **(Sistema de Alerta Temprana contra los Tsunamis** **y Atenuación de sus Efectos en el Atlántico Nororiental** **y el Mediterráneo y Mares Adyacentes)**

- La Vigésimo tercera reunión de la Asamblea de la COI (21-30 de junio de 2005) estableció formalmente el ICG/NEAMTWS mediante la Resolución IOC-XXIII-14.
- El Consejo de la Unión Europea mediante la conclusión de diciembre de 2007 ([15473/07](#)) subrayó que, para evitar duplicar esfuerzos, era de vital importancia integrar futuras propuestas en el actual proyecto NEAMTWS de la COI.

Sistema integral de alerta contra los tsunamis





Sistemas de alerta contra los tsunamis: elementos esenciales

- Coordinación intergubernamental incluyendo grupos técnicos de trabajo.
- Infraestructura (centros de alerta, red de detección, comunicación, intercambio de datos).
- Desarrollo de capacidades, formación, sensibilización, apoyo, educación, ejercicios de alerta de tsunami.
- Promoción de la ciencia para desarrollar y mejorar los sistemas de alerta contra los tsunamis.



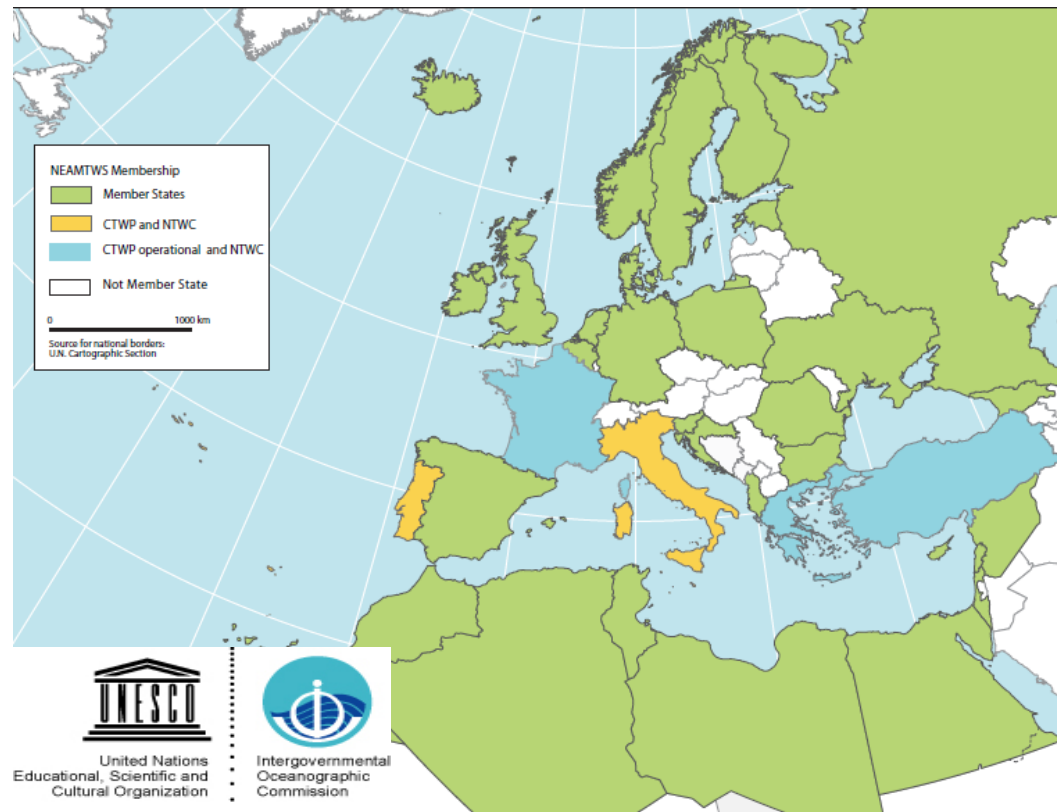
Gobernanza de NEAMTWS

- Grupo de Coordinación Intergubernamental
- 4 Grupos de trabajo
 - Evaluación de Peligros, Riesgos y Modelos.
 - Mediciones sísmicas y geofísicas.
 - Recopilación e intercambio de datos sobre el nivel del mar.
 - Sensibilización y preparación del público.
- 2 Equipos de trabajo
 - Pruebas de comunicación.
 - Ejercicios de alerta de tsunami.

Elementos estructurales del NEAMTWS

- Servicios de vigilancia de tsunamis (TWP)
 - Emiten mensajes de alerta de tsunami a otros Estados Miembros.
- Contacto Nacional sobre Tsunamis (TNC)
 - Persona designada por el gobierno de un Estado Miembro del ICG/NEAMTWS para representar a su país.
- Punto Focal de Alerta contra los Tsunamis (TWFP)
 - Institución de contacto 24 horas al día, los 7 días de la semana que ha sido designada para recibir los mensajes del TWP y notificar a las autoridades nacionales encargadas de las emergencias.
- Centro Nacional de Alerta contra los Tsunamis (NTWC)
 - Recopilan, registran y procesan información sísmica para emitir rápidamente los primeros mensajes de alerta.

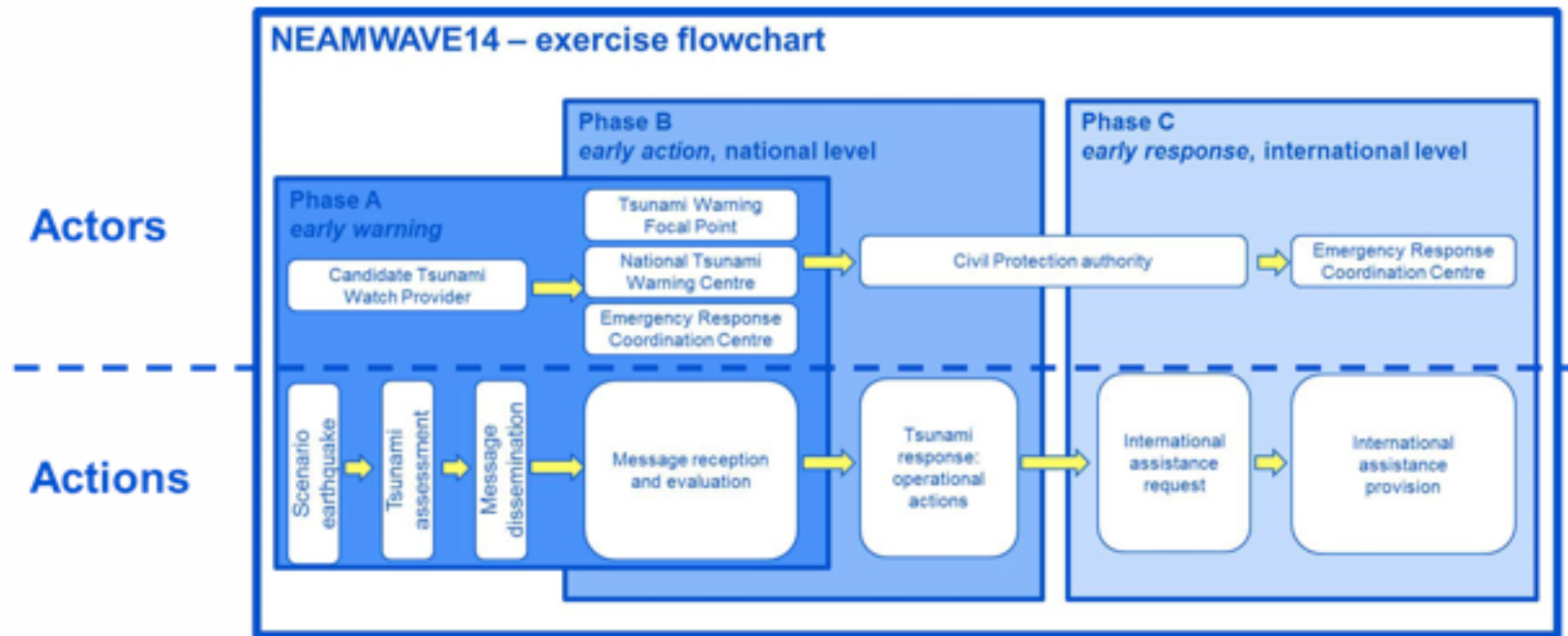
Estado actual del NEAMTWS

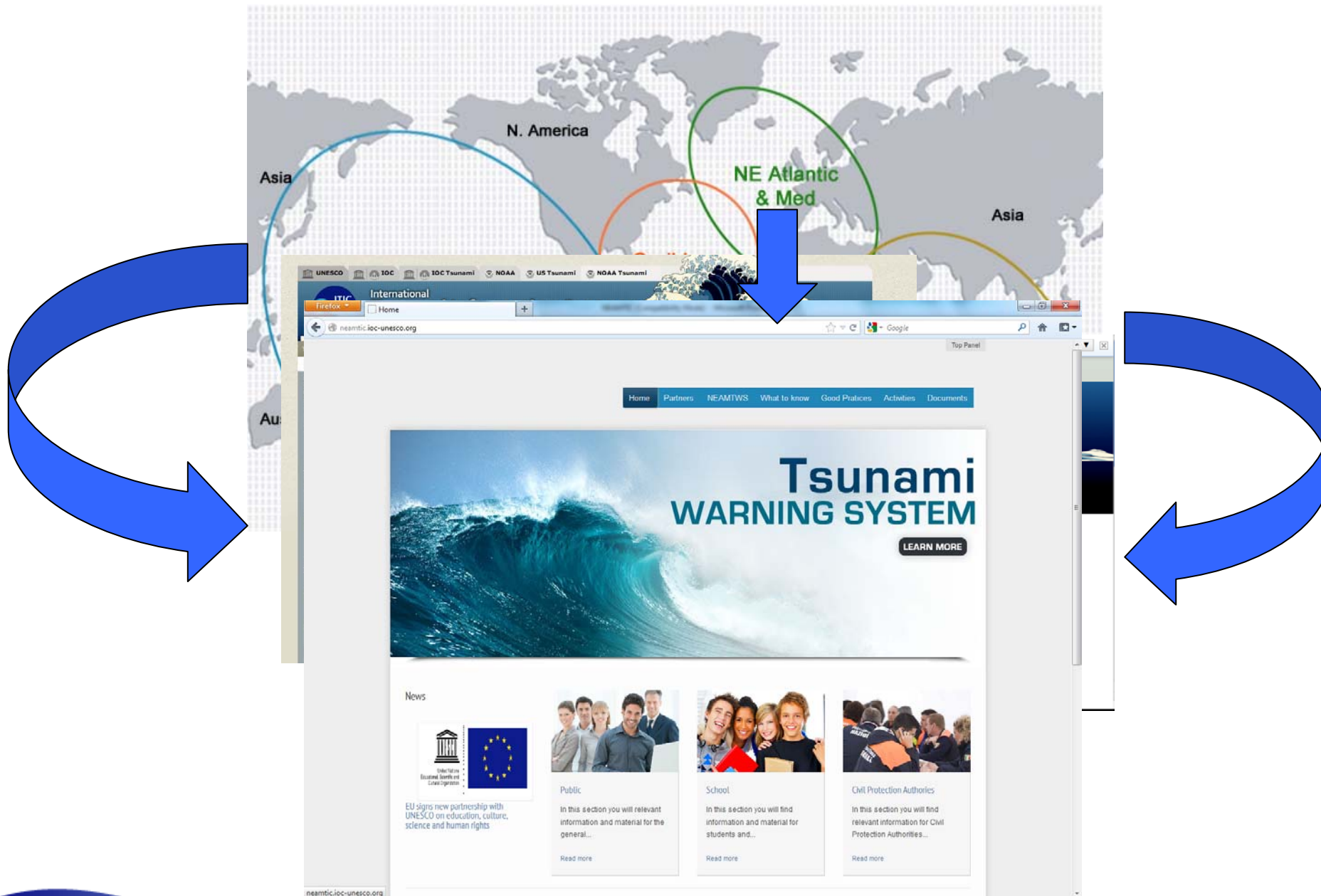


Principales actividades del NEAMTWS

- Pruebas de comunicación ampliadas usando email, fax, GTS y sms.
- Ejercicios de tsunamis:
 - El próximo será NEAMWave14 (28-30 octubre 2014),
 - Participan 20 de los 39 Estados Miembros de NEAMTWS,
 - Taller de preparación (Rabat, 23-24 septiembre 2014),
 - Primera vez que se prueba el mecanismo de protección civil de la Unión Europea.

NEAMWave14

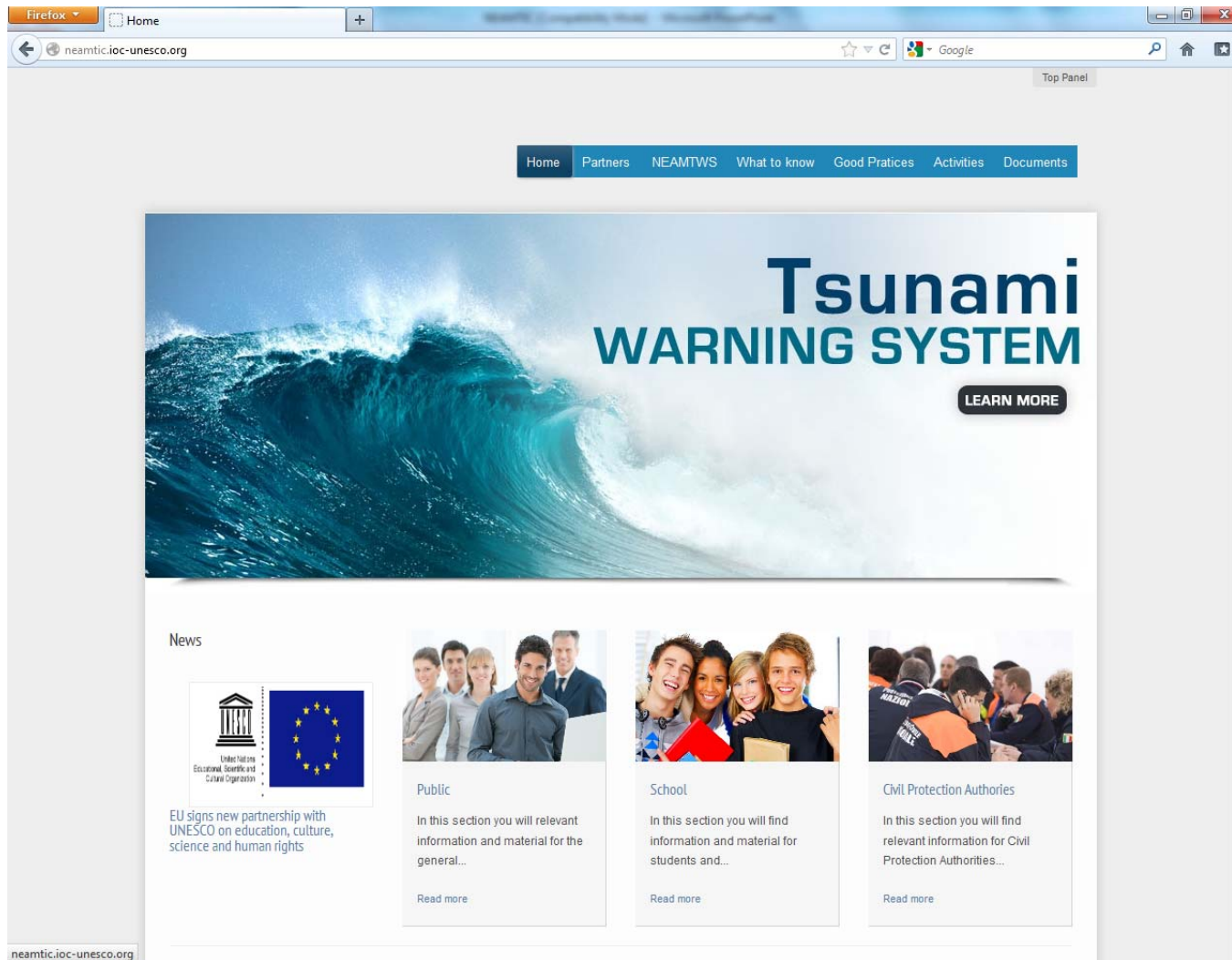




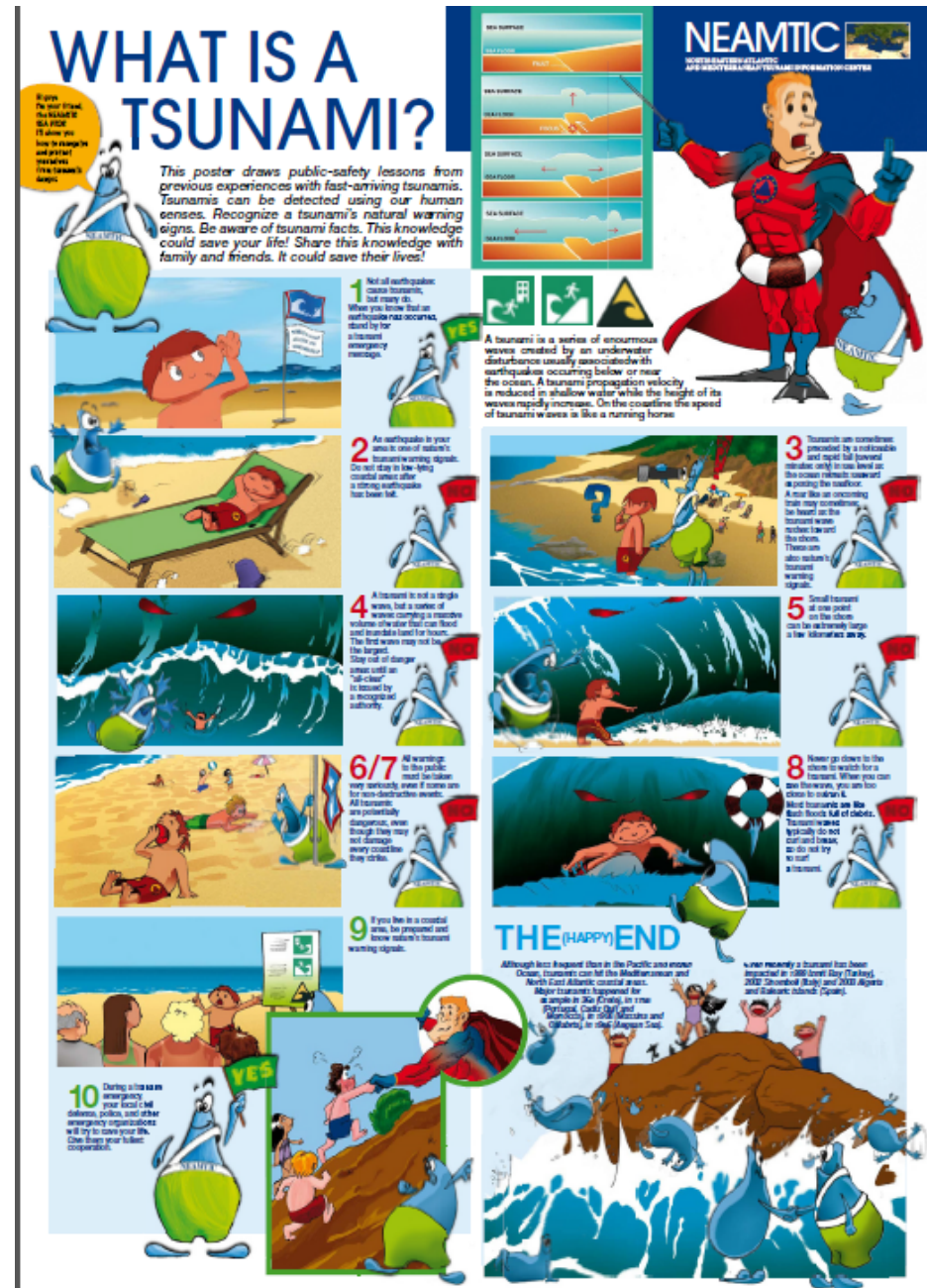
***Desarrollo y distribución
de materiales multilingües
sobre educación,
sensibilización y preparación
para casos de tsunami***



Portal web



Poster educativo para alumnos de la escuela primaria



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North-Eastern Atlantic and
Mediterranean Tsunami
Information Centre

NEAMTIC is funded by the European Commission Directorate
General - Humanitarian Aid and Civil Protection

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Curso en línea

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School



In this section you will find information and material for students and teachers on tsunami and other sea-level related hazards

Lesson1

Lesson 1

Water on the planet

Objectives

- Identify various bodies of water on the planet with a specific pinpoint on the ocean and the relationship between ocean and inland waters.
- Learn the different part of the wave, sea level and tides and identify them on their



What is water?

- Water is a chemical substance with the chemical formula H_2O .



- Water in three states: liquid, solid (ice), and (invisible) water vapor in the air. Clouds are accumulations of water droplets, condensed from vapor-saturated air.

Water cycle



Where is water?

- Water covers 70.9% of the Earth's surface and is vital for all known forms of life.
- On Earth, 96.5% of the planet's water is found in oceans, 1.7% in groundwater, 1.7% in glaciers and the ice caps of Antarctica and Greenland, a small fraction in other large water bodies, and 0.001% in the air as vapor, clouds (formed of solid and liquid water particles suspended in air), and precipitation.



1/8 Next Last



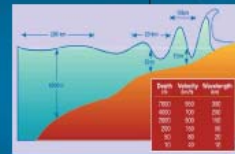
Guía para los gerentes de hoteles

A GUIDE TO TSUNAMIS FOR HOTEL GUESTS

NORTH-EASTERN ATLANTIC
AND MEDITERRANEAN
Tsunami Information Center

NEAMTIC

- In the deep ocean tsunamis travel at a jet airliner speeds but the waves are only centimetres high and cannot be felt aboard ships.
- Tsunamis slow down and grow in height tremendously upon entering shallow water.
- Tsunamis could crest to 10 meters high heights; and it can strike with devastating force, and quickly flood all low-lying coastal areas



WHAT IS A TSUNAMI

- Tsunami is a Japanese word closely translating to 'harbour wave'.
- Tsunamis can happen during the day or night at anytime of the year.
- Tsunamis are generated as a result of water displacement usually triggered by a seismic event such as earthquake. Landslides, volcanic eruptions, nuclear explosions, and even impacts of objects from outer space (such as meteoroids, asteroids, and comets) can also generate tsunamis.
- Tsunamis are a series of waves that may impact coastlines for several hours. The first wave may not be the largest.
- Tsunami waves can come ashore in many different ways among which are: a wall of water (resembling white wash), a rapidly rising tide, and a series of surf like breakers.

TSUNAMI RISK IN THE NEAM REGION



Major tsunami event in the NEAM region

Although less frequent than in the Pacific tsunamis can hit the Mediterranean and North East Atlantic coastal areas causing extensive loss of lives and properties. Major tsunamis with ten-thousands of casualties and severe damage to coastal cities happened for example in Crete in 365, Lisbon in 1775, Messina in 1908 and Aegean Sea in 1956. Even recently a tsunami has been generated in the Izmit Bay, and affected the coastline extensively following the 1999 Izmit earthquake. At some locality the inundation distance ranged up to 35 meters. Furthermore, tsunamis have been generated in 2002 in Stromboli and in 2003 in Algeria though fortunately not very damaging. The Mediterranean area represents the collision between the European and the African plates, and comprises a number of geodynamic regions affected by different seismic activity extended from West to East. Furthermore volcanic and geomorphological processes could be at the origin of tsunamis in the area.

It is not a question of "if" but when it is going to happen !



TSUNAMI EVACUATION PROCEDURES

IN CASE OF TSUNAMI EVACUATION FOLLOW THE PROCEDURES EACH STEP FOR THE SAFETY OF YOURSELF AND OTHER PEOPLE

TSUNAMI EVACUATION INSTRUCTION HAS TO BE FOLLOWED SERIOUSLY EVEN IN THE CASES OF NON-IMPENDING TSUNAMI

- When you feel a strong earthquake and you feel a slow shaking that continues for more than 10 seconds, a tsunami may have been generated.
- Stay calm and do not panic.
- After the shaking stops, move calmly to the designated assembly area (always check evacuation routes and wait for further instruction by the hotel of the staff).
- If the sea level receded, exposing fishes and shells, you should move quickly to higher ground (or to the designated vertical evacuation building) to confirm or to watch the tsunami.
- If you are swimming on the shore you might not feel the earthquake, always be mindful of what is happening on the beach. If you see people curiously gathered on the beach, move away from the sea and go to the assembly area.
- Hotel officials/security will evacuate all guests to higher ground and/or safe area that have been officially designated as tsunami evacuation area. All instructions will be given using a microphone system and/or a megaphone. Listen, follow all of the instruction and move in an orderly manner to the evacuation area.
- During a tsunami stay calm and do not panic. Do not leave the tsunami evacuation area until it is officially announced by the authorities that it is safe to leave the evacuation area. Tsunami will come in several waves and there are time gaps between the waves.
- During a tsunami emergency, the hotel staff, local disaster management office, police and other emergency organization will try to save lives please follow all their instruction and give your full cooperation



A GUIDE TO TSUNAMIS FOR HOTELS

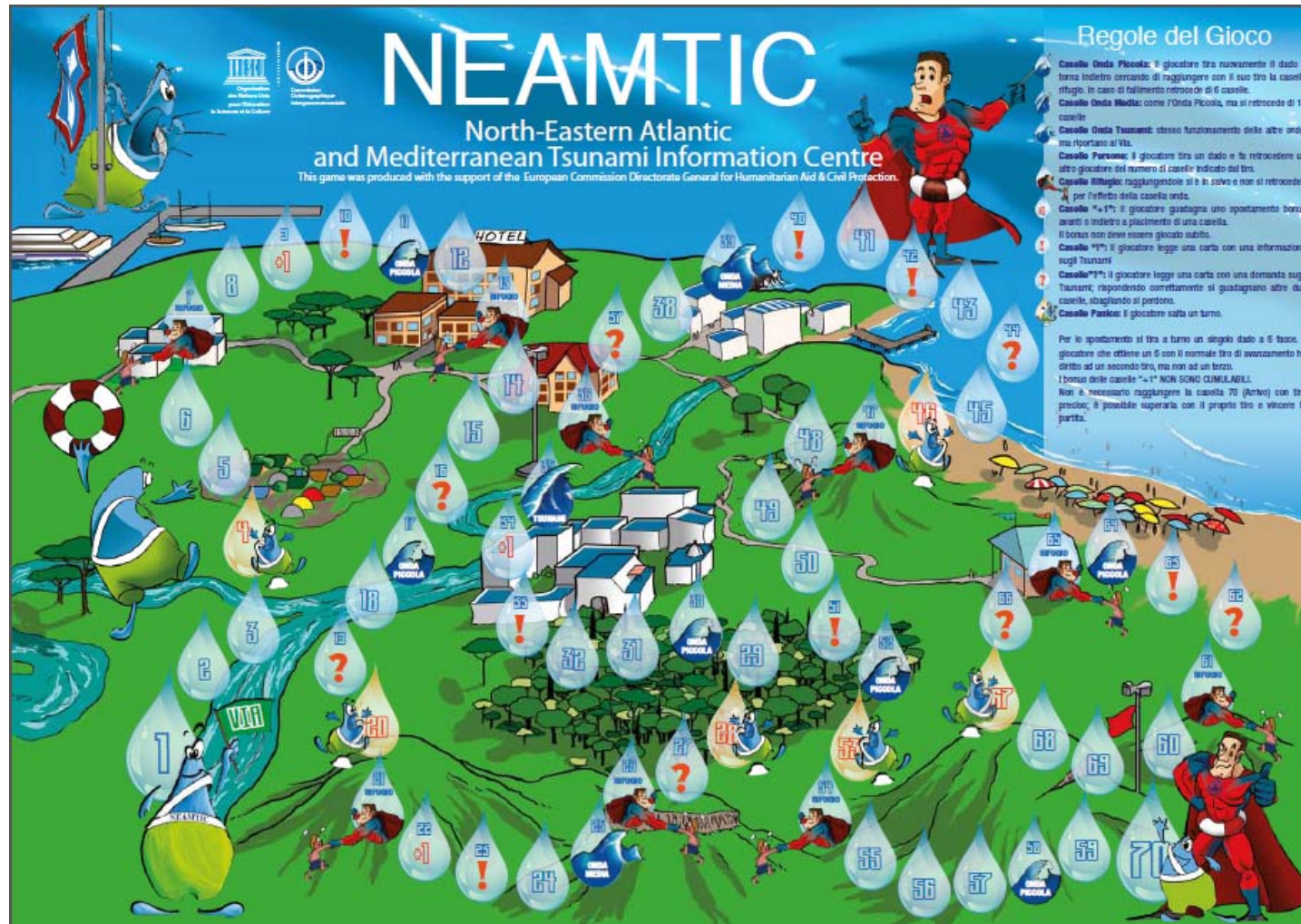


For more information visit:
NEAMTIC.IOC-UNESCO.ORG

Video sobre los riesgos vinculados a los tsunamis y sobre NEAMTWS



Tablero de juego interactivo



Buenas prácticas

- Para los administradores de zonas costeras



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Buenas prácticas

- Para las autoridades encargadas de la protección civil





NEAMTIC is part of the activities to develop the Tsunami Early Warning and Mitigation System for the NEAM region (NEAMTWS).

The objectives of NEAMTIC are:

- ▶ Providing information to civil protection authorities on warning systems for tsunamis and other sea-level related hazards, and on the activities of IOC and European Union (EU) in the field of tsunami preparedness.
- ▶ Making citizens, especially youth, aware of risks of floods from the sea in coastal areas, such as tsunamis, storm surges and strong swells and acquiring knowledge on and practicing safe behaviour.
- ▶ Identifying, sharing and disseminating good practices in plans, methods and procedures to strengthen preparedness for sea level related hazards.
- ▶ Fostering linkages between the EU and IOC on intergovernmental and transnational actions to develop NEAMTWS.

NORTH-EASTERN ATLANTIC AND MEDITERRANEAN Tsunami Information Center

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TSUNAMI RISK IN THE NEAM REGION



Although less frequent than in the Pacific and Indian Ocean, tsunamis can hit the Mediterranean and North East Atlantic coastal areas causing extensive loss of lives and properties. Major tsunamis with ten-thousands of casualties and severe damage to coastal cities happened for example in 986 (Crete), in 1776 (Lisbon), in 1908 (Messina). In 1956 (Aegean Sea). Even recently a tsunami has been generated in the Ionian Bay, and affected the coastline extensively following the 1999 Ionian earthquake. At some locality the inundation distance ranged up to 35 m. Furthermore, tsunamis have been generated in 2002 in Biscaya and in 2008 in Algeria though fortunately not very damaging. The Mediterranean area represents the collision between the European and the African plates, and comprises a number of geodynamic regions affected by different seismic activity extended from West to East. Furthermore volcanic and geomorphological processes could be at the origin of tsunamis in the area.

NEAMTIC is a two-year project (2011-2012) funded by the European Union Directorate General Humanitarian Aid & Civil Protection, coordinated by the Intergovernmental Oceanographic Commission of UNESCO and done in partnership with the following institutions:

- Commissariat à l'énergie atomique et aux énergies alternatives (France)
- Presidenza del Consiglio dei Ministri - Dipartimento della Protezione Civile (Italy)
- National Observatory of Athens (Greece)
- Faculdade de Engenharia de Geociências da Universidade de Lisboa (Portugal)

Furthermore NEAMTIC is supported by:

- Islamic Educational, Scientific, and Cultural Organisation (ISESCO)
- Kandilli Observatory and Earthquake Research Institute (Turkey)

NEAMTIC.IOC-TSUNAMI.ORG






TSUNAMI PROPAGATION TIME



Tsunamis slow down but grow in size as they come ashore. In the Mediterranean basin they propagate in a very short time. In fifteen minutes, a large area of the coast near the source of the tsunami is hit, and within an hour the tsunami has crossed the basin and arrived on the opposite coast.

WHAT IS A TSUNAMI?



A tsunami is a series of enormous waves created by an underwater disturbance usually associated with earthquakes occurring below or near the ocean. A tsunami propagation velocity is reduced in shallow water while the height of its waves rapidly increases.

An earthquake is one of nature's tsunami warning signs. If you're at the beach and the ground shakes so hard that you can't stand up, a tsunami may have been generated.

Tsunami may be preceded by a rapid fall in sea level as the ocean retreats exposing fish and rocks on the sea bottom.

Tsunamis travel at jet airplane speeds in the deep ocean, where the waves are only tens of centimetres high. Tsunamis slow down and grow in height tremendously upon entering shallow water.

After an earthquake, move quickly inland and to higher ground.

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NORTH-EASTERN ATLANTIC AND MEDITERRANEAN Tsunami Information Center

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*This flyer is realised in the context
of the EU DG ECHO project NEAMTIC*

NEAMTIC

The Tsunami Information Centre for the North-eastern Atlantic, the Mediterranean and connected seas (NEAMTIC) make citizens aware of risks of tsunamis and other sea level hazards, to acquire knowledge on safe behaviour, and to foster the linkages between the European Commission and IOC on intergovernmental and transnational actions to develop the NEAMTWS.

Intergovernmental Oceanographic Commission

FOR MORE INFORMATION

ON ICG/NEAMTWS

Intergovernmental Oceanographic Commission
of UNESCO Tsunami Programme

<http://www.ioc-tsunami.org/>

NEAMTIC Website:

neamtic.ioc-unesco.org/

neamtic.ioc-unesco.org/

NEAMTWS Secretariat :

IOC/UNESCO

1 rue Miollis

75732 Paris cedex 15

France

ICG NEAMTWS GOVERNANCE

The Intergovernmental Coordination Group meets regularly to establish and implement working plans in the NEAM region.

To address specific technical issues it has formed four working groups and one task team:

- **Working Group 1 - Hazard Assessment and Modelling**

The working group is responsible for collecting information on local and distant tsunami inundation maps for coastal communities using internationally accepted numerical model methodology. Estimates of coastal areas susceptible to tsunami flooding will be available from a network of modellers and data managers who will be sharing community-modelling tools via the Internet.

- **Working Group 2 - Sismic and Geophysical Measurements**

The working group is responsible for developing and deploying, based on existing organizations and functions, a network of early warning tsunami detection instruments in seismically active coastal areas.

- **Working Group 3 - Sea Level Data Collection and Exchange, Including Offshore Tsunami Detection and Instruments.**

The working group will be responsible for developing and deploying a network of real-time sea level networks for the international tsunami warning system and to supplement regional tsunami warning centres.

- **Working Group 4 - Public Awareness, Preparedness and Mitigation.**

Refine procedures for testing the communication of tsunami alert messages between NTWCs and TWFPs, including speed and availability within NEAMTWS region.



NORTH-EASTERN ATLANTIC AND MEDITERRANEAN Tsunami Warning System

NEAMTWS



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Intergovernmental
Oceanographic
Commission



IOC

Conclusiones y próximos retos

- Desarrollar nuevos centros nacionales de alerta contra los tsunamis (NTWC),
- Instar a la participación de las autoridades encargadas de la protección civil (CPA),
- Desarrollar nuevos productos de alerta para casos de tsunamis siguiendo el modelo de otros ICG,
- Realizar ejercicios de tsunami (a gran escala),
- Contar con la participación activa de todos los Estados Miembros,
- Mejorar la red de detección ,
- Desarrollar mapas de evacuación y riesgo,
- Aumentar la sensibilización.

Thank you!

¡Gracias!

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