

UNESCO

IOC TSUNAMI SECTION

*INTERGOVERNMENTAL COORDINATION GROUP FOR NORTH-EASTERN
ATLANTIC, THE MEDITERRANEAN AND CONNECTED SEAS, TSUNAMI
WARNING AND MITIGATION SYSTEM (ICG/NEAMTWS)*

JUNE 2021

S U M M A R Y

The Snapshots aim to bring the work of the IOC UNESCO REGIONAL Tsunami Early Warning System (TEWS) to a wider audience. This project of the IOC UNESCO Tsunami Section takes place within the framework of the United Nations Decade of Ocean Science for Sustainable Development and its goal of a Safe Ocean. It complements the more specialized fact sheets by regularly highlighting actions, communities, officers, events, Tsunami service providers and tsunami information centres.

The need to develop the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS) was recognized early in the European Council Conclusions of December 2007 on the development and establishment of Early Warning Systems in the EU, on the establishment of an Early Warning System for tsunamis in the North-East Atlantic and the Mediterranean region, and in the Council Conclusions on Reinforcing the Union's Disaster Response Capacity of June 2008 – towards an integrated approach to managing disasters.

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**TSUNAMI SERVICE PROVIDERS
AND TSUNAMI INFORMATION
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Tourist arrivals
in 2018:
286.2 Million for South
Europe
23.9 Million for North Africa
63.6 Million for the Middle
East



WORLD TSUNAMI AWARENESS 5 NOVEMBER DAY

3 videos have been
published
in collaboration with
UNDRR
for World Tsunami
Awareness Day 2020
(WTAD2020)

NEAMTWS contributes
to the Global target C
(increasing the
access to multi-hazard
early
warning systems, disaster
risk
information and
assessments to
the people by 2030) of the
Sendai
Framework for Disaster
Risk Reduction

7 GLOBAL TARGETS

Reduce

**Mortality/
global population**

2020-2030 Average << 2005-2015 Average

**Affected people/
global population**

2020-2030 Average << 2005-2015 Average

**Economic loss/
global GDP**

2030 Ratio << 2015 Ratio

**Damage to critical infrastructure
& disruption of basic services**

2030 Values << 2015 Values

Increase

**Countries with national
& local DRR strategies**

2020 Value >> 2015 Value

**International
cooperation
to developing countries**

2030 Value >> 2015 Value

**Availability and access
to multi-hazard early warning
systems & disaster risk
information and assessments**

2030 Values >> 2015 Values

Artistic impression
of the earthquake
and tsunami in 1755



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development

1 of the Outcomes of the
Ocean Decade
is a Safe Ocean

The 2020 WTAD
was organized as
a 30-day
campaign





OUR VISION

*NORTH-EASTERN ATLANTIC,
MEDITERRANEAN AND CONNECTED
SEAS*

“

***With an effective Tsunami
Warning and Mitigation
System based on the
participation of Member
States, coastal
communities in the NEAM
region become more
resilient to tsunami and
other sea level related
hazards.***

”



the ICG/NEAMTWS-16 Session in Cannes,
France 2019



OFFICIALS

CHAIR AND VICE-CHAIRPERSON

Professor Maria Ana Baptista from Portugal was elected in May 2020 as the new Chairperson for the Intergovernmental Coordination Group for North-Eastern Atlantic, the Mediterranean and Connected Seas Tsunami Warning and Mitigation System (ICG/NEAMTWS). She is a Professor at the Instituto Superior de Engenharia de Lisboa and a researcher at Instituto Dom Luiz, University of Lisbon. She holds a habilitation title in Geophysics and Geo-information Sciences, PhD in Physics – Geophysics University of Lisbon.

Professor Costas Synolakis became the new ICG/NEAMTWS vice-chairperson. He is also the Secretary of the Division of Natural Sciences, Academy of Athens, Greece and the Chair of Earth Sciences in the 39-person Academy of Athens, which is the only Greek National Academy.

Professor Maria Ana Baptista



Professor Costas Synolakis



DENIS CHANG SENG: SECRETARIAT

Denis Chang Seng is an IOC/UNESCO Programme Specialist working jointly in the Tsunami Unit and the Ocean Observation and Services Section. He supports the coordination of the Global Ocean Observing System (GOOS). In particular he coordinates the GOOS Regional Alliances (GRAs) and the Expert Team on Operational Ocean Forecasting System (ETOofs). In the Tsunami Unit, he is the technical Secretary for the IOCs ICG/NEAMTWS. He is IOC's focal point for the International Network for Multi-Hazard Early Warning System. Earlier, Dr. Chang Seng was also UNESCO's Natural Science Programme Specialist for the Pacific Island States. Previously, he worked at the United Nations University-Institute for Environment and Human Security(UNU-EHS) in Bonn, Germany.



TSUNAMI SERVICE PROVIDERS AND TSUNAMI INFORMATION CENTRES



François SCHINDELE, Head of the TSP

CENALT CENTRE NATIONAL D'ALERTE AUX TSUNAMIS

There are five accredited Tsunami Service Providers (TSPs) in the NEAM region: The French National Warning Centre (CENALT), the National Institute of Geophysics and Volcanology (INGV) in Italy, the Portuguese Sea and Atmosphere Institute (IPMA), the Kandilli Observatory and Earthquake Research Institute in Turkey (KOERI) and the Institute of Geodynamics, National Observatory of Athens, Greece (NOA). The Snapshots aim at highlighting the NEAM region TSPs. This first snapshot will showcase the CENALT. The CENALT TSP is located in a building that the CEA (The French Alternative Energies and Atomic Energy Commission) built specifically to house the tsunami warning center. An operator continuously analyzes the seismic signals and verifies that the whole Electronic Chart Display and Information System (ECDIS) is operational. When a strong earthquake occurs in the Western Mediterranean or North-Eastern Atlantic region, the system automatically detects the seismic waves in 1 to 3 minutes and calculates the position of the earthquake and its magnitude. The operator is alerted immediately and validates the automatic processing, makes some corrections if necessary, launches the software for calculating the time of arrival of the tsunami and the software for formatting the warning messages. It then validates the messages, provides the warning messages, and sends them to the French civil security authorities and to other countries. If the tsunami is recorded by tide gauges, the operator measures the tsunami's arrival time as well as its amplitude and sends a new message including these measurements. Moreover, CENALT has participated in four NEAMWave exercises since 2012, with the last one taking place in March 2021.

NEAMTIC NORTH-EASTERN ATLANTIC, MEDITERRANEAN AND CONNECTED SEAS



The North-Eastern Atlantic, Mediterranean and Connected Seas Tsunami Information Centre (NEAMTIC) was established to provide information on warning systems, risks and good practices in respect of tsunamis and other sea-level related hazards for civil protection agencies, disaster management organizations, decision makers, schools, industries in coastal zones and the general public. As such the NEAMTIC supports the development of the NEAMTWS.

There is a need to ensure that people in endangered coastlines are prepared and know what to do, in the event of a tsunami. There is a priority to better educate vulnerable communities about tsunami threats, As celebration to the UN World Oceans Day, 8 June 2021, the ICG/NEAMTWS Secretariat launched social media sites for NEAMTIC on [Facebook](#), [LinkedIn](#), [Instagram](#) and [Twitter](#).



ICG/NEAMTWS MEMBER STATES

ALBANIA, ALGERIA, BELGIUM, BULGARIA,
CAPE VERDE, CROATIA, CYPRUS, DENMARK,
EGYPT, ESTONIA, FINLAND, FRANCE, GEORGIA,
GERMANY, GREECE, ICELAND, IRELAND,
ISRAEL, ITALY, LEBANON, LIBYA, MALTA,
MAURITANIA, MONACO,
MONTENEGRO, MOROCCO,
NETHERLANDS, NORWAY, POLAND,
PORTUGAL, ROMANIA, RUSSIAN
FEDERATION, SLOVENIA, SPAIN,
SWEDEN, SYRIA, TUNISIA, TURKEY,
UKRAINE, UNITED KINGDOM

 Member States
 Non-member States
 TSP & NTWC operational

M E M B E R S H I P

LAST MILE PROJECT GREECE (KOS) AND TURKEY (BODRUM)

On 19 November 2019, an earthquake and tsunami preparedness exercise was organized in the Island of Kos, Greece as part of the 'Tsunami Last Mile' pilot project, funded by the European Commission Directorate General for Humanitarian Aid & Civil Protection. The exercise named KOSWAVE19-LM, was developed by NOA-HLNTWC (the Hellenic National Tsunami Warning Center - National Observatory of Athens) in collaboration with the JRC (Joint Research Centre) and the Municipality of Kos with the objective to test the effectiveness of a new series of technological solutions. It aims to provide tsunami early warnings to the local population, to integrate them into the municipality emergency management plans and procedures and to strengthen its interface with the national tsunami warning system. The exercise sought to provide opportunities for emergency management authorities to define their emergency plans, exercise their operational lines of communications, and promote tsunami preparedness in the community. The exercise scenario is similar to the 20 July 2017 event, when a strong earthquake of magnitude 6.6 struck between Kos Island (Greece) and Bodrum (Turkey), generating a damaging tsunami (1.5m) that hit the Bodrum peninsula and the city of Kos.



Kos, Greece



Bodrum, Turkey



TSUNAMI EVENTS

SAMOS AND IZMIR; GREECE AND TURKEY



On October 30 2020, a significant tsunami triggered by an earthquake of moment magnitude 7.0 (Mw) hit the island of Samos (Greece) and the Aegean coast of the Izmir region (Turkey). The event shed light - once again - on the complexity of warning of locally generated tsunamis with a rapid onset which challenged the ability of local authorities and communities at risk to take early action. According to Turkey's Disaster and Emergency Management Authority (AFAD), one of the confirmed victims in Turkey drowned because of the tsunami that reached a height of up to 2.3m and a maximum runup of 3.8m. This event is a bitter reminder after the wake-up call on 20 July 2017, following the Bodrum (Turkey)-Kos (Greece) tsunami, to increase tsunami preparedness through enhanced sea-level detection networks, education, as well as international cooperation.

THE 1755 EARTHQUAKE AND TSUNAMI



The tsunami generated by the 1755 earthquake affected mainly the coasts of the Iberian Peninsula and Northwest Morocco and was observed all over the North Atlantic Coast. The most destructive waves were observed along the coast of Portugal causing an estimated 60,000 deaths. The downtown of Lisbon was flooded by the rising of the waters of the river Tagus and most historical documents reported waves of 6m height. At Cape S. Vincente (Southwest Portugal) the runup height, evaluated from historical data, was greater than 15m. In the city of Lisbon, the penetration of the water was estimated to be 250m.



UPCOMING FEATURES

The upcoming Snapshot will feature the Italian Tsunami Service Provider (TSP), outcome of the NEAMWave21 exercise and efforts in piloting Tsunami Ready in NEAM region

IOC-TSUNAMI.ORG/NEAMTWS
NEAMTIC.IOC-UNESCO.ORG