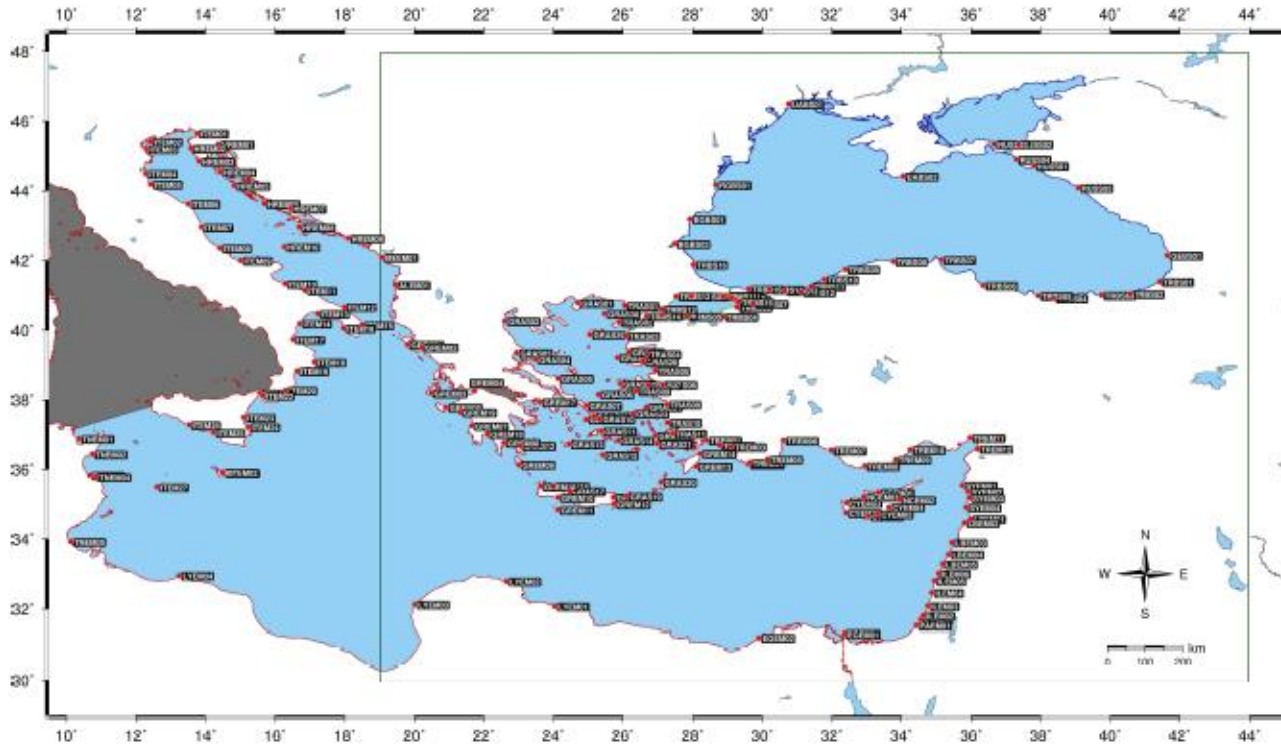


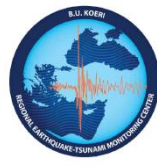
KOERI-TSP UPDATE 2022

TSP-TR is operational since 1 July 2012 together with CENALT.
2022 marks the 10th anniversary of operational NEAMTWS.



SUBSCRIBERS:

CDH (CYPRUS), NIOF (EGYPT), CENALT (FRANCE),
BSH (GERMANY), DWD (GERMANY), NOA (GREECE),
PMO (ISRAEL), INGV (ITALY), NCGR (LEBANON), IPMA
(PORTUGAL), NIEP (ROMANIA), TYPHOON (RUSSIAN
FEDERATION), DGPCE (SPAIN), IGN (SPAIN)
CCS (UNITED KINGDOM), ERCC (EU),
IOC Secretariat
15 Institutions from 13 Member States
2 International Organizations
**AFAD (CPA) and MUĞLA Metropolitan Municipality at
the national level**



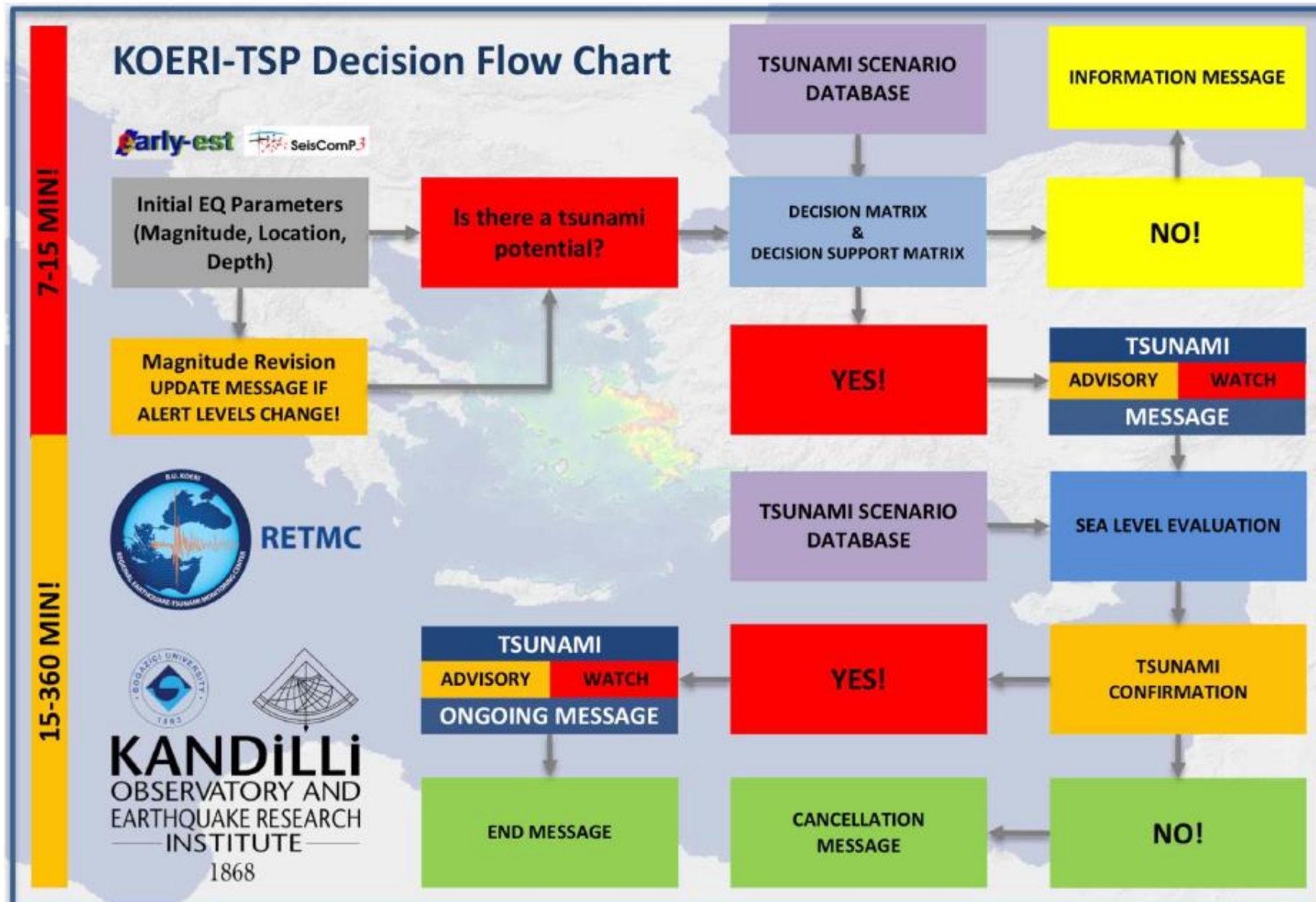
RETMC



Muğla Metropolitan Municipality
Directorate of Fire Department



- Day Shift (8:30-17:30) and Two Night Shifts (17:30-01:00 and 01:00-08:30)
- **One duty officer per shift**
- One stand-by Duty Officer per day shift
- **One back-up Duty officer per night shift**
- Total number of Duty Officers: 16 – 5 of them are assigned only to night shifts.



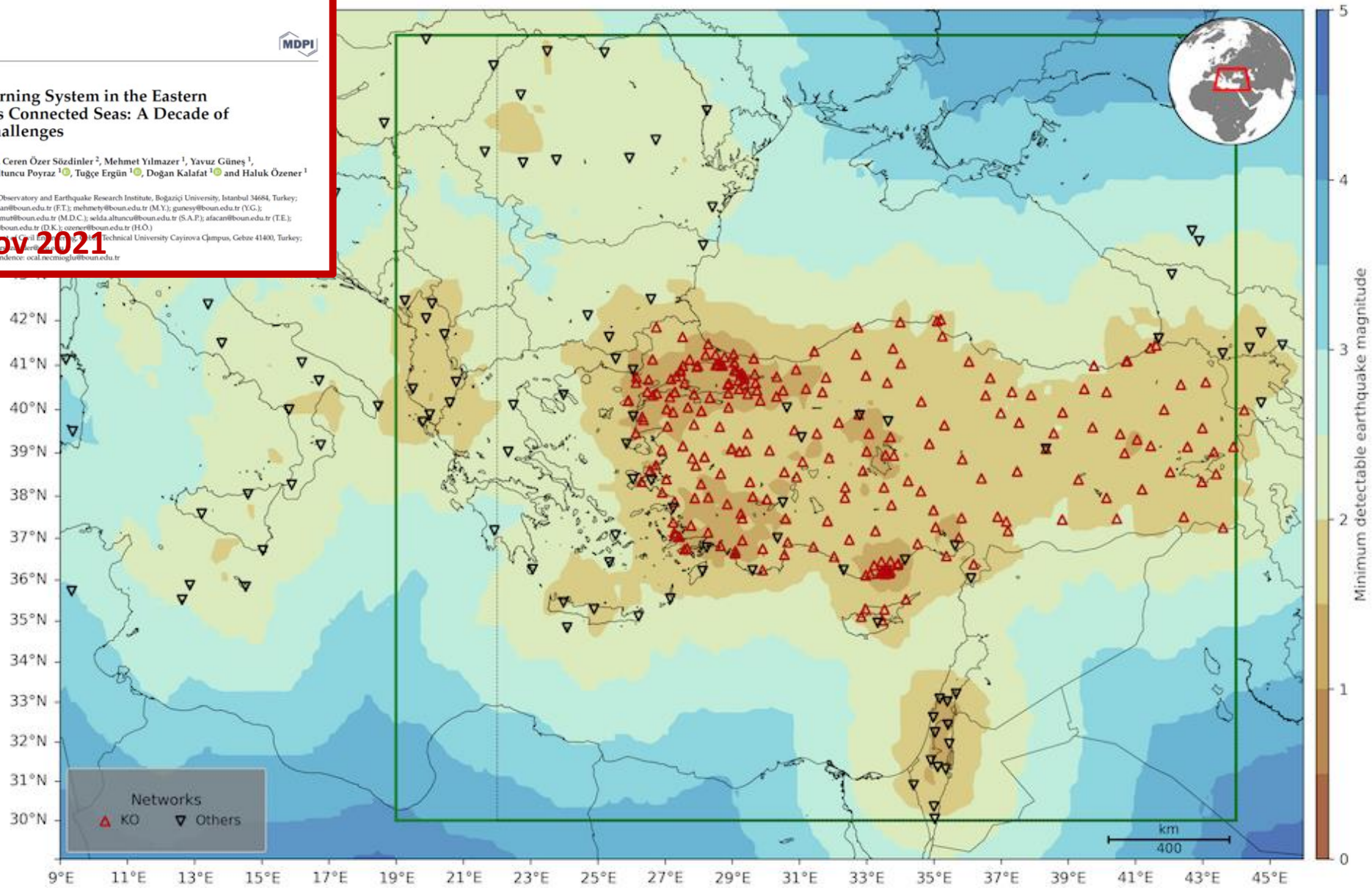
TSP-TR (KOERI)						
Decision Matrix for the Eastern Mediterranean, Aegean and Black Seas						
Depth	Epicentre Location	Earthquake Magnitude	Tsunami Potential	Type of Tsunami Message		
				Local	Regional	Basin-wide
				< 100 km	≥100 - ≤400 km	> 400 km
< 100 km	Offshore or close to the coast (≤ 40 km inland)	5.5 ≤ Mwp or mb ≤ 5.9	Low tsunami potential	Information	Information	Information
		6.0 ≤ Mwp ≤ 6.4	Tsunami potential	Advisory	Information	Information
	Offshore or close to the coast (≤ 100 km inland)	6.5 ≤ Mwp ≤ 6.9	Potential for a destructive tsunami	Watch	Advisory	Information
		7.0 ≤ Mwp or Mwpd ≤ 7.4	Potential for a destructive tsunami	Watch	Watch	Advisory
		Mwpd ≥ 7.5	Potential for a destructive tsunami	Watch	Watch	Watch
	Inland (>40km and < 100km)	6.0 ≤ Mwp ≤ 6.4	Low tsunami potential	Information	Information	Information
	≥ 100 km	Offshore or inland (≤ 100 km)	Mwp ≥ 6.0	Low tsunami potential	Information	Information
NEAMTWS Decision Support Matrix						
Alert Level			Advisory	Watch		
Wave Amplitude			0.2-0.5 m	> 0.5 m		
Run-up			< 1m	> 1 m		
Impact			Current, bore, damage in water possible minor inundation in beaches	Watch impact + inundation of the low-lying coastal land		

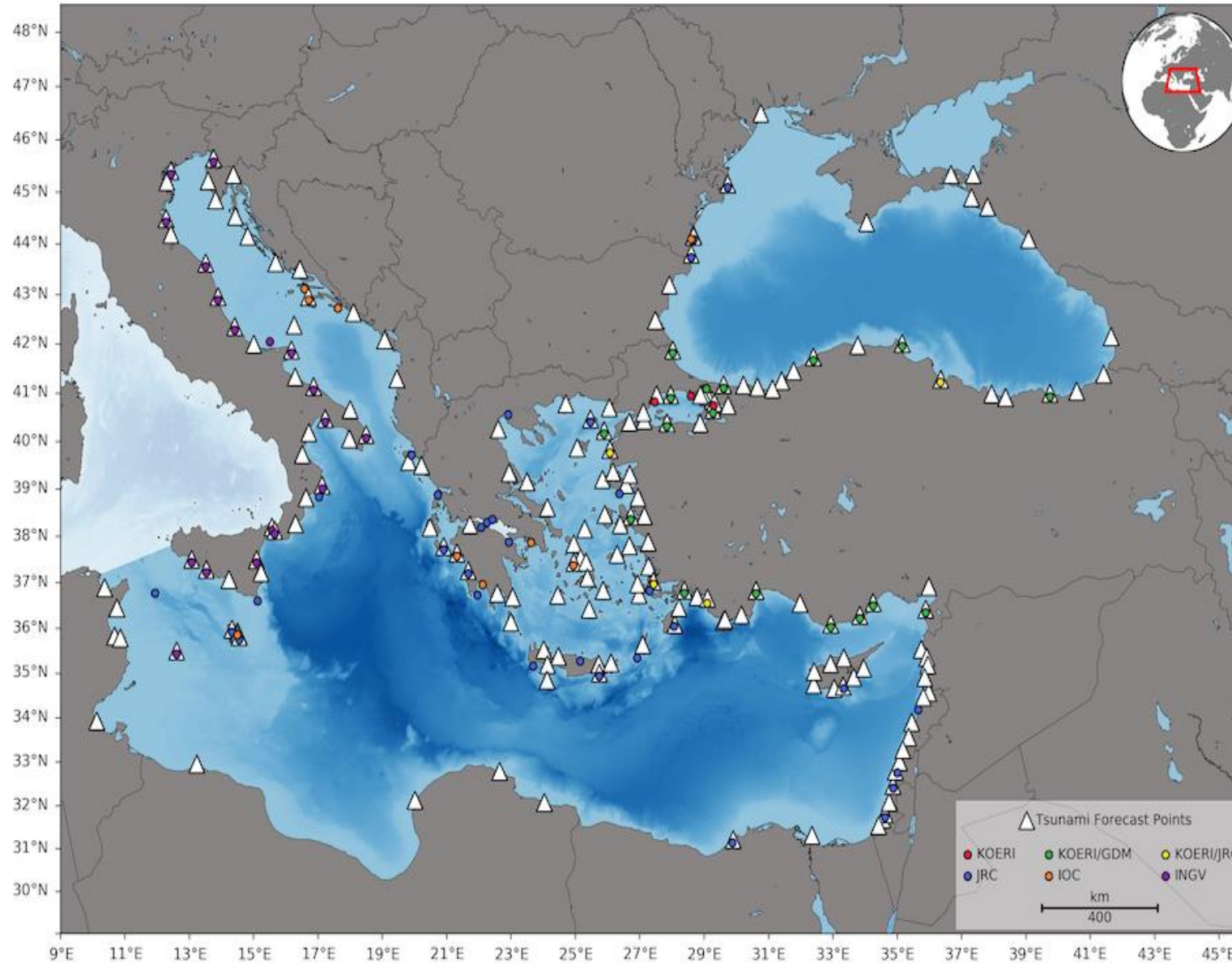
Article
**KOERI's Tsunami Warning System in the Eastern
Mediterranean and Its Connected Seas: A Decade of
Achievements and Challenges**

Öcal Necmioğlu^{1,*}, Fatih Turhan¹, Ceren Özer Sözdinler², Mehmet Yılmaz¹, Yavuz Güneş¹,
Musavver Didem Cambaz¹, Selda Altuncu Poyraz¹, Tuğçe Ergün¹, Doğan Kalafat¹ and Haluk Özener¹

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² Istanbul Kültür Enstitüsü, Technical University Çayirova Campus, Gebze 41400, Turkey; Correspondence: ocal.necmioğlu@boun.edu.tr

Published, Nov 2021







AYLAR	PAZARTESİ						IPMA					
	AFAD			AFAD'DAN GERİ BİLDİRİM			GELEN					
	GİDEN											
	MESAJ	FAX										
ARALIK 2020	1			1			1	1	0			
OCAK 2021	1			1			1	1	1			
ŞUBAT 2021	1	Haziran 2021 Ayından itibaren AFAD'a FAX mesajı gönderilmiştir.			1			1	1	1		
MART 2021	1						1			1	1	0
NİSAN 2021	1						1			1	1	1
MAYIS 2021	1						1			1	1	0
HAZİRAN 2021	1	1	0	2	1	2	1	1	0			
TEMMUZ 2021	1	77	77	2	1	2	1	1	1			
AĞUSTOS 2021	1	77	77	2	1	2	1	1	1			
EYLÜL 2021	1	2	0	2	1	2	1	1	0			
EKİM 2021	1	2	0	1	1	1	1	1	1			
KASIM 2021	1	1	0	1	1	1	1	1	1			
GENEL TOPLAM	12	6	0	16	6	16	12	12	7			

AYLAR	SALI ÜYE ÜLKELER													
	GİDEN			GERİ BİLDİRİM YAPAN ÜYE SAYISI	ÜYELERDEN GERİ BİLDİRİM									
	FAX				E-MAIL		FAX		GTS		SMS			
	MESAJ	BAŞARILI	BAŞARISIZ	BAŞARILI	BAŞARISIZ	BAŞARILI	BAŞARISIZ	BAŞARILI	BAŞARISIZ	BAŞARILI	BAŞARISIZ			
ARALIK 2020	1	22	14	14	14	0	10	4	7	7	Mart 2021 Ayından itibaren ÜYE ÜLKELERE SMS mesajı gönderilmiştir.			
OCAK 2021	1	22	13	12	12	0	7	5	6	8				
ŞUBAT 2021	1	23	12	14	14	0	10	4	7	7				
MART 2021	1	22	19	27	25	2	13	14	9	18			7	17
NİSAN 2021	1	21	17	17	17	0	9	8	7	10			3	10
MAYIS 2021	1	21	17	17	0	8	9	7	7	10			3	10
HAZİRAN 2021	1	22	17	17	17	0	10	7	8	9			5	9
TEMMUZ 2021	1	77	77	18	18	0	9	9	8	10			4	12
AĞUSTOS 2021	1	26	15	23	23	0	12	11	11	12			4	7
EYLÜL 2021	1	19	22	17	17	0	9	8	6	11			4	9
EKİM 2021	1	21	20	14	14	0	5	9	3	11			3	11
KASIM 2021	1	21	17	15	15	0	8	7	7	8			3	10
GENEL TOPLAM	12	240	189		186	10	111	93	86	119	36	95		

ÇARŞAMBA CENALT			PERŞEMBE NOA			CUMA INGV		
GELEN			GELEN			GELEN		
E-MAIL	GTS	FAX	E-MAIL	GTS	FAX	E-MAIL	GTS	FAX
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1	1	1	1	1	0	1	1	1
1	0	1	1	0	1	1	1	1
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1	1	1	1	1	1	1	1	1
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1	1	1	1	1	1	1	1	1
12	11	11	12	11	9	12	12	12

NEAM TSUNAMI SERVICE PROVIDER
KOERI (TURKEY)

REGULAR COMMUNICATION TEST EXERCISE
EVALUATION FORM

İlerleme durumunu kaydetmek için [Google'da oturum açın](#) Daha fazla bilgi

* Gerekli



Delivery Rates

E-MAIL 95%

FAX 55%

GTS %42

SMS %28

>90 90-80 80-70 <70

Every first Monday → National CPA

Every first Tuesday → CTSP

Feedback is poor and problematic.

Reporting of local time instead of UTC, confusion about message receipt times.

Times are not reported at all in some cases.

Status of the TWFP Database ? The link on the IOC web site does not function:

<http://ioc-tsunami.org/images/secure/List%20of%20TWFPs%20and%20TNCs%2014082014.xls>

MESSAGE SENDER *

TWFP_TR

MESSAGE DATE AND TIME *

Please select the correct date and time which is written at the messages header

Tarih Saat
gg-aa-yyy □ : □

MEMBER STATE OF MESSAGE RECEIVER *

Yanıtınız

ORGANIZATION NAME OF MESSAGE RECEIVER *

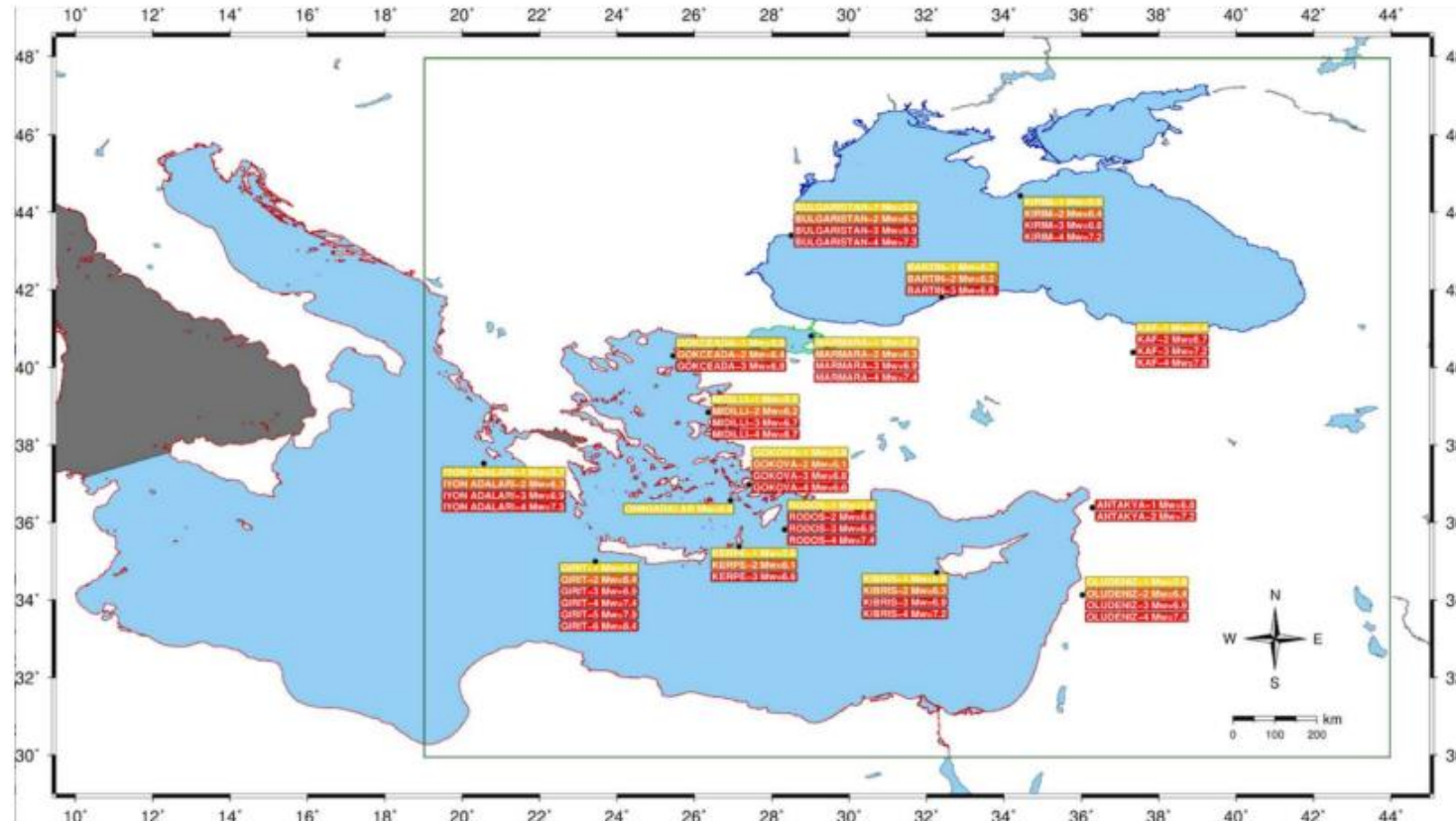
Yanıtınız

Duty Officers Perform a test of the operational system in each shift based on a pre-defined scenario using TsuComp, including testing of the access to the sea-level data.

These test are evaluated regularly and Duty-Officers receive feedback.

Success Rate
TsuComp 97%

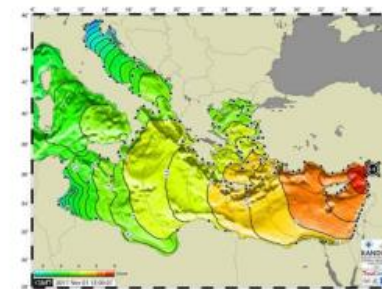
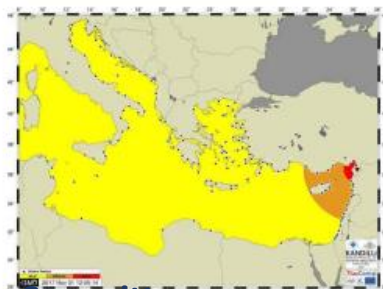
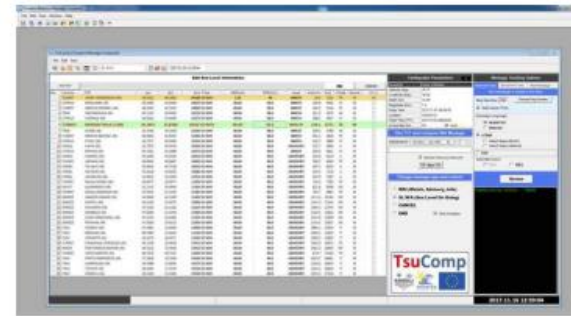
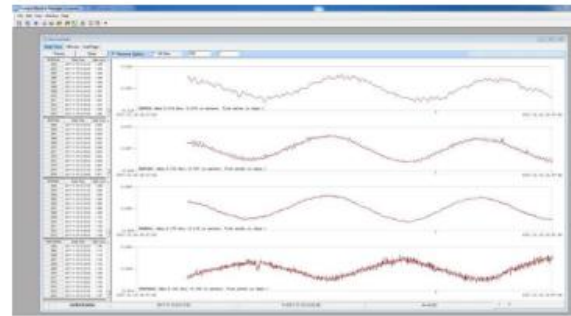
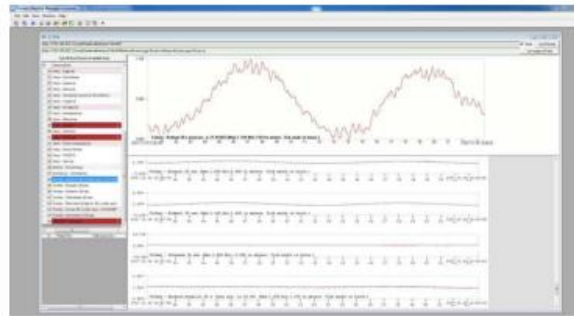
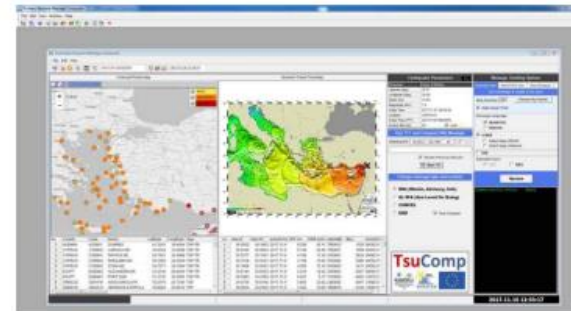
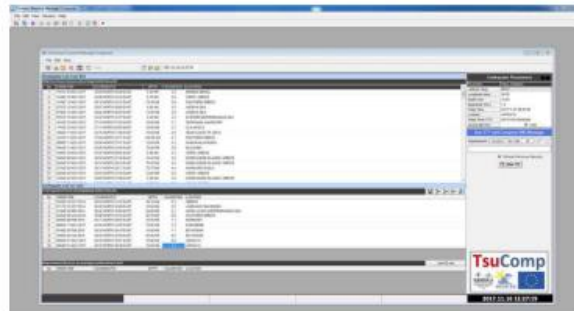
>90% 90%-80% 80%-70% <70%



The maps and related information presented here do not necessarily reflect the views and position of the United Nations, UNESCO, IOC or any affiliated Member State.



... in operations as of 1 January 2018 ...



Event #	Message #	Date	UTC Time	Location	Latitude (KOERI)	Longitude (KOERI)	Latitude (USGS)	Longitude (USGS)	Δ Epicenter (ΔE)	Δ Hypocenter (ΔH)	Depth (KOERI)	Depth (USGS)	Δ Depth (ΔD)	Magnitude (KOERI-TSP)	Magnitude (USGS)	Δ Magnitude (ΔM)	Alert Level	Latency (min)	SE	SD	SM	SA	SL	S
1	N/A	09.07.2012	13:55	Eastern Mediterranean	35.51	28.99	35.60	28.92	12.3	36.8	21.1	55.8	-34.7	6.0 ML	5.6 mww	0.4	N/A	N/A	3	1	1	1	1	
2	N/A	12.09.2012	03:27	Eastern Mediterranean	34.48	23.99	34.78	24.11	35.4	41.9	10	32.4	-22.4	5.5 ML	5.5 mww	0.0	N/A	N/A	1	2	4	1	1	1.9
3	N/A	23.12.2012	13:31	Black Sea	42.49	41.02	42.42	41.08	9.0	13.6	5	15.2	-10.2	5.8 Mw(mB)	5.7 mww	0.1	N/A	N/A	4	3	4	1	1	
4	1	08.01.2013	14:16	Aegean Sea	39.66	25.53	39.66	25.54	1.0	3.0	10	12.8	-2.8	6.2 ML	5.7 mww	0.5	INFORMATION	29	4	4	1	4	1	
5	2	17.01.2013	21:17	Egypt	31.75	30.45	32.03	30.62	34.9	36.3	10	20.0	-10	5.5 Mw(mB)	4.9 mb	0.6	INFORMATION	9	1	4	1	4	3	
6	3	17.02.2013	03:12	Ionian Sea	37.33	20.74	37.33	20.74	0.1	6.4	10	3.6	6.4	5.4	4.9 mb	0.5	INFORMATION	6	4	4	1	1	4	
7	4	15.06.2013	16:11	Crete	34.19	24.88	34.40	25.02	26.7	26.7	10	10.0	0	6.0 Mw (mB)	6.2 Mwp	0.2	INFORMATION	6	2	4	3	4	4	3.1
8	5	16.06.2013	21:39	Crete	34.16	24.97	34.35	25.16	27.1	28.6	10	19.0	-9	5.9 Mw (mB)	6.0 mww	0.1	INFORMATION	6	2	4	4	4	4	
9	6	12.10.2013	13:11	Greece	35.56	23.31	35.51	23.25	7.3	10.1	47	40.0	7	6.4 Mw	6.6 mww	0.2	WATCH	14	4	4	3	4	2	
10	7	28.12.2013	15:21	Antalya Bay - Turkey	35.95	31.27	36.03	31.31	9.4	32.1	10	40.7	-30.7	6.1 Mwp	5.9 mww	0.2	INFORMATION	6	4	1	3	4	4	
11	8	24.05.2014	09:25	Aegean Sea	40.24	25.33	40.29	25.39	7.4	18.2	23	6.4	16.57	6.6 Mw	6.9 Mw	0.3	WATCH	18	4	3	2	4	1	3.1
12	9	29.08.2014	03:45	Aegean Sea	36.63	23.54	36.69	23.71	16.0	17.1	86	80.0	6	5.6 Mw	5.8 mww	0.2	INFORMATION	9	3	4	3	4	3	
13	10	16.04.2015	18:07	Crete	35.06	26.88	35.19	26.82	15.2	15.6	16.5	20.0	-3.5	6.2 Mw	6.0 mww	0.2	INFORMATION	6	3	4	3	1	4	3.0
14	11	12.06.2017	12:28	Lesbos	38.83	26.32	38.93	26.37	11.7	11.9	10	12.0	-2	6.3 Mwp	6.3 mww	0.0	ADVISORY	10	3	4	4	4	3	
15	12	20.07.2017	22:31	Bodrum-Kos	36.96	27.51	36.93	27.41	9.2	10.0	11	7.0	4	6.6 Mw	6.6 mww	0.0	WATCH	19	4	4	4	4	1	
16	13	05.02.2019	02:26	Albania	39.07	20.54	39.05	20.59	4.5	5.0	10	7.7	2.27	5.6 Mw	5.4 mww	0.2	INFORMATION	5	4	4	3	4	4	
17	14	20.03.2019	06:34	Aydın-Turkey	37.45	29.43	37.41	29.53	10.1	14.9	19	8.0	11	5.8 Mwp	5.7 mww	0.1	INFORMATION	13	3	3	4	4	2	
18	15	01.06.2019	04:26	Greece-Albania	40.48	20.51	40.53	20.70	17.1	17.1	10	10.0	0	5.5 Mwp	5.2 mww	0.3	INFORMATION	8	3	4	2	4	3	
19	16	19.07.2019	11:13	Greece	38.11	23.51	38.10	23.53	2.1	10.2	20	10.0	10	5.5 Mwp	5.3 mww	0.2	INFORMATION	9	4	4	3	4	3	3.4
20	17	21.09.2019	14:04	Albania	41.34	19.42	41.34	19.53	9.2	9.2	20	20.0	0	5.8 Mw	5.6 mww	0.2	INFORMATION	9	4	4	3	4	3	
21	18	26.09.2019	10:59	Marmara Sea	40.83	28.17	40.90	28.15	8.3	8.6	10	8.0	2	5.7 Mwp	5.7 mww	0.0	INFORMATION	8	4	4	4	4	3	
22	19	26.11.2019	02:54	Albania	41.39	19.41	41.51	19.53	16.8	20.6	10	22.0	-12	6.5 Mwp	6.4 mww	0.1	WATCH	6	3	3	4	4	4	
23	20	27.11.2019	07:23	Crete	35.53	23.11	35.72	23.23	23.4	23.5	71	69.0	2	6.1 Mwp	6.0 mww	0.1	ADVISORY	9	2	4	4	4	3	
24	21	10.12.2019	21:58	Crete	35.1	26.34	35.50	26.45	45.2	52.0	83.5	57.9	25.6	5.7 Mw	5.4 mww	0.3	INFORMATION	9	1	2	2	4	3	
25	22	30.01.2020	01:28	Dodecanese Islands	35.13	27.94	35.16	27.88	5.8	5.8	10	10.0	0	6.1 Mwp	5.5 mww	0.6	ADVISORY	7	4	4	1	1	4	
26	23	30.01.2020	11:21	Dodecanese Islands	35.08	27.79	35.18	27.78	11.3	11.3	10	10.0	0	5.8 Mwp	5.7 mww	0.1	INFORMATION	8	3	4	4	4	3	
27	24	21.03.2020	00:49	Greece-Albania	39.41	20.48	39.36	20.64	14.8	14.8	10	10.0	0	5.8 Mwp	5.7 mww	0.1	INFORMATION	6	3	4	4	4	4	
28	25	02.05.2020	12:51	Crete	34.06	25.67	34.18	25.71	14.0	14.0	10	10.0	0	6.7 Mwp	6.5 mww	0.2	ADVISORY	12	3	4	3	4	2	3.3
29	N/A	18.05.2020	23:22	Crete	34.14	25.53	34.19	25.52	5.2	7.2	5	10.0	-5	5.6 Mwp	5.7 mww	0.1	N/A	N/A	4	4	4	1	1	
30	26	20.05.2020	23:43	Crete	35.07	20.25	35.16	20.28	10.3	10.8	10	13.5	-3.5	5.7 Mwp	5.7 mww	0.0	INFORMATION	8	3	4	4	4	3	
31	27	18.09.2020	16:28	Crete	34.71	25.18	35.04	25.30	38.0	39.1	35	44.0	-9	5.8 Mwp	5.9 mww	0.1	INFORMATION	7	1	4	4	4	4	
32	28	30.10.2020	11:51	Samos Island	37.89	26.83	37.90	26.78	4.1	11.8	10	21.0	-11	7.0 Mwp	7.0 mww	0.0	WATCH	11	4	3	4	4	2	
33	29	03.03.2021	10:16	Greece	39.8	22.16	39.75	22.18	5.2	5.6	10	8.0	2	6.3 Mwp	6.3 mww	0.0	INFORMATION	9	4	4	4	4	3	
34	30	21.06.2021	22:14	Dodecanese Islands	36.37	27.08	36.44	27.04	8.4	8.9	12	9.0	3.0	5.6 Mwp	5.5 mww	0.1	INFORMATION	8	4	4	4	4	3	
35	31	01.08.2021	04:31	Dodecanese Islands	36.34	27.06	36.40	27.01	7.6	10.2	17	10.1	6.9	5.8 Mwp	5.6 mww	0.2	INFORMATION	8	4	4	3	4	3	
36	32	27.09.2021	06:17	Crete	35.17	25.22	35.24	25.27	9.4	10.2	10	6.0	4	6.1 Mwp	6.0 mww	0.1	ADVISORY	13	4	4	4	4	2	3.6
37	33	12.10.2021	09:24	Crete	34.91	26.26	35.17	26.22	29.1	29.5	15	20.0	-5	6.2 Mwp	6.4 mww	0.2	ADVISORY	6	2	4	3	4	4	
38	34	19.10.2021	05:32	Crete	34.46	28.35	34.59	28.39	14.7	34.8	10	41.5	-31.5	6.0 Mwp	5.9 mww	0.1	INFORMATION	9	3	1	4	4	3	
39	35	26.12.2021	18:59	Crete	34.98	26.96	35.14	26.92	18.6	18.6	10	10.0	0	5.5 Mwp	5.6 mww	0.1	INFORMATION	10	3	4	4	4	3	
40	36	29.12.2021	05:08	Crete	34.84	25.07	34.87	25.12	5.2	6.3	67	70.6	-3.6	5.6 Mwp	5.7 mww	0.1	INFORMATION	8	4	4	4	4	3	
41	37	11.01.2022	01:07	Offshore Cyprus Island	35.08	31.82	35.15	31.91	10.9	10.9	20	19.6	0.4	6.4 Mwp	6.6 mww	0.2	ADVISORY	8	3	4	3	1	3	3.3
42	38	16.01.2022	11:48	Aegean Sea	40.03	24.34	40.04	24.37	2.6	2.7	10	9.3	0.7	5.5 Mwp	5.5 mww	0.0	INFORMATION	10	4	4	4	4	3	

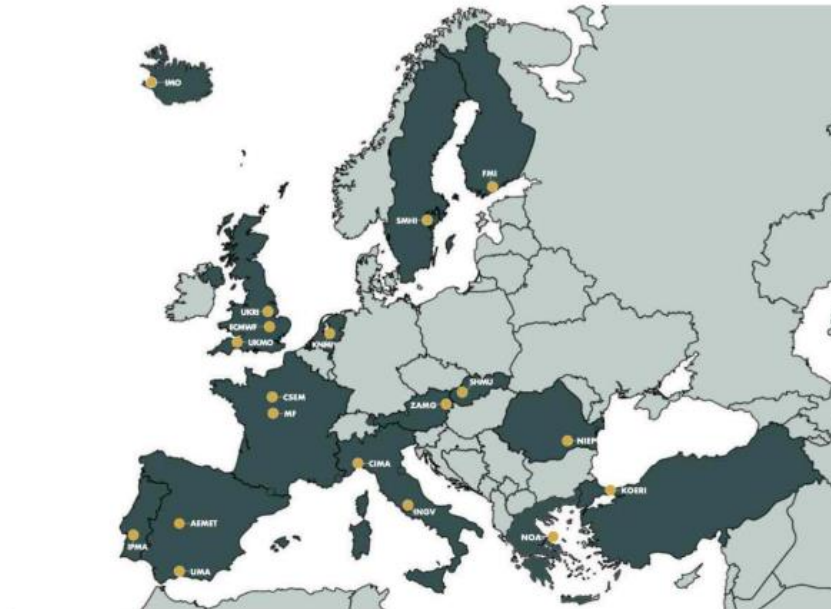
Legend

Latency (min)	≤ 7 min	<7-10 ≤ min	<10-15 ≤ min	> 15 min
ΔM (USGS-KOERI)	≤ 0.1	0.1 < Mdiff ≤ 0.2	0.2 < Mdiff ≤ 0.3	> 0.3
ΔD, ΔE, ΔH (USGS-KOERI)	≤ 10 km	10 km < Mdiff ≤ 20 km	20 km < Mdiff ≤ 30 km	> 30 km
Alert Level	CORRECT		WRONG	
Performance Metric	Good	Acceptable	Poor	Bad
	4	3	2	1



ARISTOTLE-eENHSP

All Risk Integrated System **T**Owards The hoListic Early-warning
enhanced European Natural Hazards Scientific Partnership





Tsunami Ready

During the first WG4- Tsunami Ready Group Meeting on 6 April 2021, KOERI presented an overview of what has been achieved during the Last Mile Turkey project completed in 2019 with the support of EC-JRC and in partnership with Middle East Technical University (METU) focusing on Bodrum in light of the experience of 20 July 2021 Mw 6.6 Bodrum-Kos earthquake and tsunami.



On 5 October 2021, KOERI has communicated IOC Tsunami Secretariat our confirmation of support and interest in the involvement in the "Strengthening the Resilience of Coastal Communities in the North-East Atlantic and Mediterranean Region to the Impact of Tsunamis and Other Sea Level-Related Coastal Hazard" project jointly undertaken by DG-ECHO and IOC Tsunami Secretariat.

CoastWAVE

KOERI with the partnership of METU joined the "Strengthening the Resilience of Coastal Communities in the North-East Atlantic and Mediterranean Region to the Impact of Tsunamis and Other Sea Level-Related Coastal Hazard" project jointly undertaken by DG-ECHO and IOC. This project is expected to play a key role in the adaptation of Global Tsunami Ready Standards and Guidelines and pilot Tsunami Ready within the framework of the ICG/NEAMTWS.

Duty Officers/ New Responsibilities

TNC Türkiye: Musavver Didem Cambaz (Primary)	(Dr., KOERI)
Ahmet Cevdet Yalçiner (Secondary)	(Prof., METU)
KOERI TSP: Musavver Didem Cambaz	(Dr., KOERI)
KOERI NTWC: Doğan Kalafat	(Assoc Prof., KOERI)
Tsunami Ready: Doğan Kalafat	(Assoc Prof., KOERI)
Gülüm Birgören	(Assoc Prof., KOERI)
Selda Altuncu Poyraz	(Dr., KOERI)
Tuğçe Ergün	(Dr., KOERI)
Musavver Didem Cambaz	(Dr., KOERI)

Special thanks to KOERI-RETMC Staff Members...

