

Strengthening the Resilience of Coastal Communities in the North East Atlantic, Mediterranean Region to the Impact of Tsunamis and Other Sea Level-Related Coastal Hazards

CoastWAVE Project B y k ekmece – Istanbul T RKİYE

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Key Achievements, Challenges and Future Actions 05.02.2024

Strengthening the Resilience of Coastal Communities in the North East Atlantic, Mediterranean Region to the Impact of Tsunamis and Other Sea Level-Related Coastal Hazards

Special Thanks!



TÜRKİYE CUMHURİYETİ
BÜYÜKÇEKMECE KAYMAKAMLIĞI



Content

I. Selecting **Büyükçekmece** as a Pilot District

II. **Review of Project Accomplishments**

A. Milestones Achieved

B. Key Performance Indicators (KPIs)

C. Success Stories and Positive Outcomes

III. **Discussion of Challenges Faced and Solutions**

A. Overview of Challenges

B. Mitigation Strategies Implemented

C. Lessons Learned

IV. **Future Project Actions**

A. Next Steps

B. Continued Collaboration

C. Suggestions

CoastWAVE Project

TRRP aims to build resilient communities through awareness and preparedness strategies that will protect life, livelihoods and property from tsunamis in different regions.

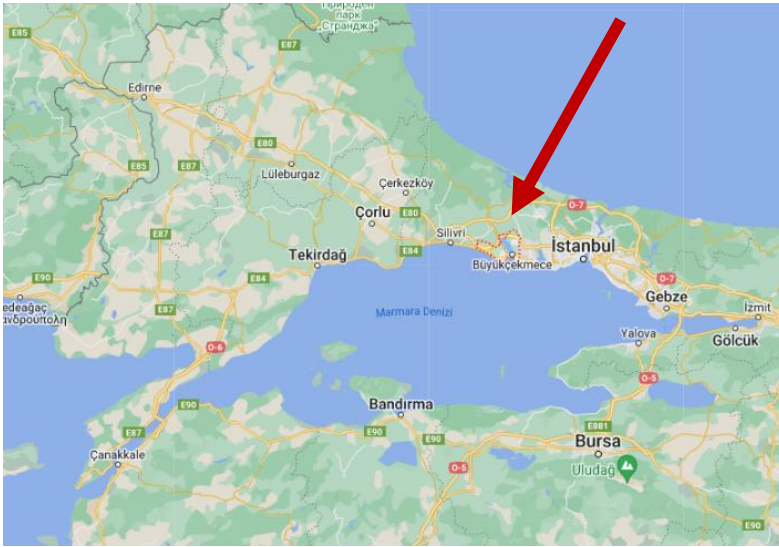
For this aim, The CoastWAVE project pilot countries, funded by EU DG ECHO, officially started on 1 September 2021.

During this time frame, collective efforts were dedicated to the implementation of the CoastWAVE project activities across three components:

- 1) Risk Perception and piloting Tsunami Ready communities;
- 2) Enhancing Detection and alerting systems
- 3) maintaining IDSL.

I. Selecting Büyükçekmece as a Pilot District

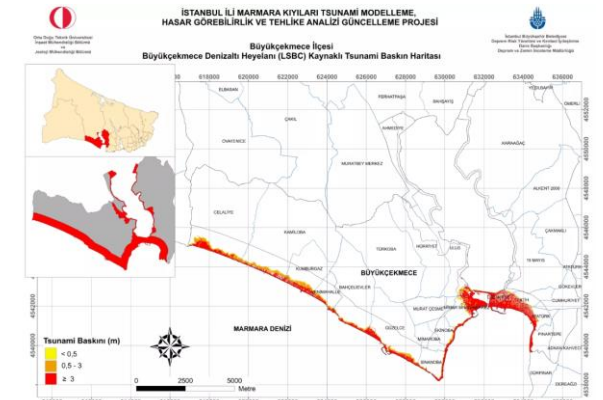
- The income distribution is in average level and represents the general population of Istanbul
- The municipality was positive to collaborate
- The municipality was planning to establish search and rescue unit. It was completed at later stages



| TSUNAMI READY INDICATORS | |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| I | ASSESSMENT (ASSESS) |
| 1 | ASSESS-1. Tsunami hazard zones are mapped and designated. |
| 2 | ASSESS-2. The number of people at risk in the tsunami hazard zone is estimated. |
| 3 | ASSESS-3. Economic, infrastructural, political, and social resources are identified. |
| II | PREPAREDNESS (PREP) |
| 4 | PREP-1. Easily understood tsunami evacuation maps are approved. |
| 5 | PREP-2. Tsunami information including signage is publicly displayed. |
| 6 | PREP-3. Outreach and public awareness and education resources are available and distributed. |
| 7 | PREP-4. Outreach or educational activities are held at least three times a year. |
| 8 | PREP-5: A community tsunami exercise is conducted at least every two years. |
| III | RESPONSE (RESP) |
| 9 | RESP-1. A community tsunami emergency response plan is approved. |
| 10 | RESP-2. The capacity to manage emergency response operations during a tsunami is in place. |
| 11 | RESP-3. Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place. |
| 12 | RESP-4. Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place. |

A. Key Performance Indicators for Büyükçekmece

Key performance indicators of TRRP Guidelines (Assessment, Preparedness and Response) which serve as the standard for reducing tsunami risk at the community level, were followed and achieved during the project for Büyükçekmece to be recognized as 'Tsunami Ready'.



<https://depremezemin.ibb.istanbul/guncelcalismalarimiz/#le-tsunam-blg-ktapiklari>

Assessment. Tsunami Hazard Zones

Identifying Economical & Infrastructural Resources Büyükçekmece, Istanbul

- Fishing – Gurpinar Fish Market
- Agriculture – No, Urbanized Area
- Industry – Several factories
- Tourism – Limited
- Classified buildings under tsunami inundation zone according to seismic tsunami scenario
- Classified buildings under tsunami inundation zone according to nonseismic (landslide) tsunami scenario

| İlçe Genel | Sosyal | | İdari | | İktisadi | | | Mahalle Genel Toplam Bina Sayısı |
|------------------------------------------------|--------------|------------|------------|------------|------------|-------------|------------|-------------------------------------------------|
| | Mesken | Okul | Resmi | Fabrika | İmalat | Ticari | Trafo | |
| 19 Mayıs | 537 | 3 | 18 | - | 1 | 11 | 5 | 622 |
| Atatürk | 1109 | 2 | 6 | - | - | 22 | 12 | 1162 |
| Bahçelievler | 1806 | - | - | - | - | 62 | 5 | 1894 |
| Celaliye | 1930 | 7 | 3 | 13 | - | 37 | 9 | 2038 |
| Dizdarıye | 463 | 1 | 21 | - | - | 39 | 3 | 543 |
| Ekinoba | 464 | 2 | 3 | - | - | 35 | 5 | 530 |
| Fatih | 1129 | 10 | 18 | - | 1 | 58 | 9 | 1247 |
| Güzelce | 2409 | 3 | 7 | 5 | 4 | 52 | 11 | 2541 |
| Kamiloba | 2072 | - | 12 | - | 3 | 51 | 6 | 2164 |
| Kumburgaz | 1402 | 11 | 14 | 2 | 5 | 68 | 2 | 1522 |
| Mimar Sinan Merkez | 861 | 11 | 12 | 218 | 12 | 230 | 3 | 1375 |
| Mimaroba | 655 | 12 | 2 | - | - | 32 | 15 | 728 |
| Pınar-tepe | 1229 | 9 | 4 | 28 | 3 | 63 | 9 | 1379 |
| Sinanoba | 1045 | 3 | - | - | - | 10 | 4 | 1083 |
| Ulus | 1396 | 4 | 14 | 56 | 5 | 93 | 2 | 1605 |
| Yenimahalle | 664 | 1 | - | - | 5 | 38 | - | 721 |
| İlçe Genel MK Gruplarındaki Bina Sayısı | 28230 | 180 | 174 | 557 | 206 | 1373 | 129 | 31652 (İlçe genel toplam bina sayısı) |

| Etkilenen Birimler | Mesken | Okul | Resmi | Fabrika | İmalat | Ticari | Trafo | MK Gruplarındaki Etkilenen Binaların Mahallelere göre Dağılımı |
|--------------------------------------------------------|-------------|----------|-----------|----------|----------|------------|----------|----------------------------------------------------------------------------------------------------------|
| Atatürk | 166 | 0 | 2 | 0 | 0 | 19 | 3 | 190 |
| Bahçelievler | 64 | 0 | 0 | 0 | 0 | 1 | 0 | 65 |
| Celaliye | 139 | 0 | 0 | 0 | 0 | 0 | 0 | 139 |
| Dizdarıye | 10 | 0 | 0 | 0 | 0 | 3 | 0 | 13 |
| Ekinoba | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Fatih | 220 | 4 | 3 | 0 | 0 | 38 | 1 | 266 |
| Güzelce | 15 | 0 | 0 | 0 | 0 | 7 | 0 | 22 |
| Kamiloba | 213 | 0 | 0 | 0 | 0 | 8 | 0 | 221 |
| Kumburgaz | 249 | 0 | 2 | 1 | 0 | 29 | 0 | 281 |
| Mimar Sinan Merkez | 43 | 0 | 8 | 0 | 0 | 45 | 0 | 96 |
| Mimaroba | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| Pınar-tepe | 6 | 0 | 0 | 0 | 0 | 10 | 0 | 16 |
| Yenimahalle | 75 | 0 | 0 | 0 | 0 | 7 | 0 | 82 |
| Etkilenen Binaların MK Gruplarına göre Dağılımı | 1201 | 4 | 15 | 1 | 0 | 169 | 4 | 1394 (MK gruplarındaki etkilenen bina sayısı) 1400 (Toplam etkilenen bina sayısı) |

| Etkilenen Birimler | Mesken | Okul | Resmi | Fabrika | İmalat | Ticari | Trafo | MK Gruplarındaki Etkilenen Binaların Mahallelere göre Dağılımı |
|--------------------------------------------------------|-------------|-----------|-----------|------------|-----------|------------|-----------|----------------------------------------------------------------------------------------------------------|
| 19 Mayıs | 210 | 0 | 0 | 0 | 0 | 1 | 1 | 212 |
| Atatürk | 341 | 0 | 3 | 0 | 0 | 19 | 6 | 369 |
| Bahçelievler | 424 | 0 | 0 | 0 | 0 | 23 | 0 | 447 |
| Celaliye | 408 | 1 | 0 | 0 | 0 | 15 | 1 | 425 |
| Dizdarıye | 463 | 1 | 19 | 0 | 0 | 35 | 3 | 521 |
| Ekinoba | 50 | 0 | 0 | 0 | 0 | 1 | 0 | 51 |
| Fatih | 596 | 7 | 19 | 0 | 0 | 51 | 6 | 679 |
| Güzelce | 676 | 1 | 1 | 0 | 0 | 21 | 0 | 699 |
| Kamiloba | 514 | 0 | 0 | 0 | 2 | 35 | 0 | 551 |
| Kumburgaz | 518 | 3 | 4 | 2 | 5 | 51 | 0 | 583 |
| Mimar Sinan Merkez | 234 | 6 | 8 | 139 | 9 | 157 | 0 | 553 |
| Mimaroba | 16 | 0 | 0 | 0 | 0 | 2 | 0 | 18 |
| Pınar-tepe | 63 | 0 | 0 | 0 | 0 | 16 | 0 | 79 |
| Sinanoba | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 87 |
| Ulus | 220 | 0 | 0 | 0 | 2 | 31 | 0 | 253 |
| Yenimahalle | 22 | 0 | 0 | 37 | 0 | 28 | 1 | 88 |
| Etkilenen Binaların MK Gruplarına göre Dağılımı | 4842 | 19 | 54 | 178 | 18 | 486 | 18 | 5615 (MK gruplarındaki etkilenen bina sayısı) 5657 (Toplam etkilenen bina sayısı) |

Assessment. Tsunami Hazard Zones

| İSTANBUL İL KÜLTÜR VE TURİZM MÜDÜRLÜĞÜNÜN VERİLERİNE GÖRE KONAKLAMA TESİS KAPASİTELERİ VE YILLIK KULLANILABİLİRLİK DURUMU | | | | | |
|------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------|--------|--------|---------------------------------------------|
| S.Nu. | İlçe Adı | Turizm İşletme ve Basit Konaklama İşletmesi Belgeli Tesis Genel Toplamı | | | |
| | | Tesis | Oda | Yatak | Tesislerin 1 Yıllık Toplam Yatak Kapasitesi |
| 1 | Fatih | 1.249 | 36.333 | 72.459 | 26.447.535 |
| 2 | Beyoğlu | 354 | 16.203 | 32.608 | 11.901.920 |
| 3 | Şişli | 212 | 11.867 | 24.115 | 8.801.975 |
| 4 | Beşiktaş | 93 | 5.522 | 11.148 | 4.069.020 |
| 5 | Bakırköy | 68 | 4.552 | 9.261 | 3.380.265 |
| 6 | Kadıköy | 103 | 3.623 | 7.314 | 2.669.610 |
| 7 | Bahçelievler | 36 | 3.276 | 6.474 | 2.363.010 |
| 8 | Ataşehir | 48 | 2.904 | 5.808 | 2.119.920 |
| 9 | Pendik | 32 | 2.846 | 5.704 | 2.081.960 |
| 10 | Bağcılar | 19 | 2.827 | 5.682 | 2.073.930 |
| 11 | Şile | 163 | 2.702 | 5.405 | 1.972.825 |
| 12 | Büyükkçekmece | 28 | 2.345 | 4.690 | 1.711.850 |
| 13 | Küçükçekmece | 29 | 2.152 | 4.288 | 1.565.120 |
| 14 | Bayrampaşa | 17 | 1.963 | 3.926 | 1.432.990 |
| 15 | Ümraniye | 19 | 1.717 | 3.473 | 1.267.645 |
| 16 | Beykoz | 57 | 1.505 | 3.171 | 1.157.415 |
| 17 | Esenyurt | 15 | 1.556 | 3.019 | 1.101.935 |
| 18 | Zeytinburnu | 17 | 1.510 | 2.952 | 1.077.480 |
| 19 | Sarıyer | 22 | 1.283 | 2.911 | 1.062.515 |
| 20 | Maltepe | 14 | 1.410 | 2.826 | 1.031.490 |

Tourism Potential

-Capacities of Touristic Facilities

Tourist Numbers

-Projected number of foreigners for evacuation

| TAHLİYE ESAS YABANCI SAYISI ÖNGÖRÜSÜ YILLIK ORTALAMA DEĞERLER | | | | | | | |
|------------------------------------------------------------------|------------|------------|---------------|----------------|------------|--------------|-----------------|
| Yıllık Yabancı Geliş Toplamı | OCAK-ŞUBAT | MART-NİSAN | MAYIS-HARİZAN | TEMMUZ-AĞUSTOS | EYLÜL-EKİM | KASIM-ARALIK | YILLIK ORTALAMA |
| 12.500.000 | 145.573 | 173.455 | 187.788 | 247.100 | 214.373 | 172.434 | 228.144 |
| 15.000.000 | 159.519 | 190.072 | 205.777 | 270.771 | 234.909 | 188.952 | 250.000 |
| 20.000.000 | 212.692 | 253.429 | 274.369 | 361.028 | 313.212 | 251.936 | 333.333 |
| Ortalama Değer | 172.595 | 205.652 | 222.645 | 292.966 | 254.164 | 204.441 | 270.493 |

Assessment. Resources

Identifying Political & Social Resources – Büyükçekmece, Istanbul

- Local/National emergency budget
 - National Emergency Budget for Buyukcekmece : AFAD (Disaster and Emergency Management Presidency)
 - Local Emergency Budget : Istanbul Metropolitan Municipality
- DRRs integrated in development planning : EQ: Urban Transformation
- Tsunami Action planning: IMM Earthquake and Ground Investigation Department,
- before (increasing tsunami awareness, tsunami signage, tsunami information boards), during (Early Warning System), after tsunami (should be established)
- Local parliament members support : No local parliament in Türkiye
- Policy and Regulation framework at local, province and national level

Resources that can be used in Büyükçekmece community for TR Implementation:

Istanbul Metropolitan Municipality: Province Level
Istanbul Directorate of AFAD: Province Level
Buyukcekmece Municipality: Local Level

- Several active NGOs mainly expertised and involved in earthquake conditions
- School communities
- Religious associations
- Social and volunteer organizations

- Religious buildings
- Community social facilities: community auditorium
- Hospital and health clinics

Preparedness. Evacuation Maps



Installation of Tsunami Boards and Signage;

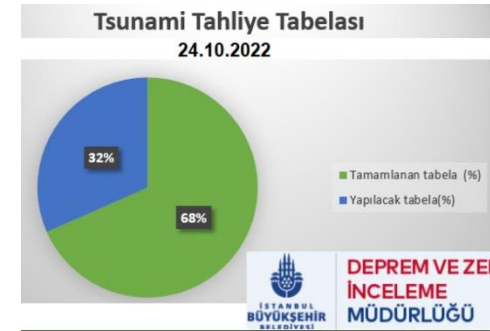
- Determination of the road properties,
- Determination of the width of the roads,
- Population of the district,
- Density and the quality of the buildings in the district,
- Soil condition in the district,
- Alternative roads...

Preparedness. Signage



Tsunami Information Board and Tsunami Evacuation Route signage in Istanbul: 130/130 information board, (%100 completed) 437/640 signage (%68 completed) installed by **Istanbul Metropolitan Municipality, IMM**

(https://twitter.com/kemald_depreml/status/1584432000160919553)



Preparedness. Signage



IBB–UKOME Collaboration!

(UNESCO ITIC Standards & National signage standards.)



**ODTÜ
METU**



Preparedness. Signage



Problems & Results:

Many problems solved with the collaboration of IMM with UKOME (Directorate General of Transportation and Coordination)

- i. Objections to the installation of the signage at Büyükkada district solved by UKOME.
- ii. Infrastructure problems during the installation of signage solved by ISKI.
- iii. Installations cut by the complaints due to the excavation waste solved by IMM, performing some additional landscape design in some regions.
- iv. *Complaints received from the local community during the installation of the signage at Karaköy region, which is mainly caused by the concerns of the community due to the degradation of their property. (IMM faced with the concerns of the local people which accused IMM, wasting money for useless efforts due to the belief that there is not any risk of tsunami in Istanbul).*
- v. *Some other difficulties occurred during the information of signage and IMM faced with the enforcement of some local authority (muhtarlık) in order to change the place of the installed signage. Problem solved with personal communication.*

Preparedness. Signage



Ongoing Problems to Solve:

*Some of the signage takes place in earthquake assembly area.
This problem will be discussed with AFAD.*



According to the ongoing regulations Schools can not be evacuated to any area rather than the schoolyard. However some of the schools are inside the tsunami inundation area (eg. Büyükçekmece Anadolu Lisesi). This problem will be discussed with AFAD.

Preparedness. Tsunami Awareness



Büyükçekmece Tsunami Awareness
and Risk Mitigation Meeting
Büyükçekmece Municipality



Preparedness. Tsunami Awareness



**WORLD
TSUNAMI
AWARENESS
DAY**
5 NOVEMBER



5 Kasım 2023
Dünya Tsunami Farkındalık Günü



Preparedness. Tsunami Awareness

İLÇE TSUNAMI BİLGİ KİTAPÇIKLARI

İSTANBUL TSUNAMI EYLEM PLANI

Tsunami Tahliye Yolu

Tsunami uyarılarını ciddiye alın. Bir tsunami durumunda, hemen yüksek bir yere gidin. Yüksek bir yere gidemezseniz, bir binanın üst katına veya iç kısımlarına gidin. Tsunami dalgaları geri çekildiğinde, tekrar geri döneceğini unutmayın.

Tsunami Güvenli Bölge

TSUNAMI GERÇEKLERİ

YASADIĞINIZ BÖLGENİN TSUNAMİ TEHLİKESİ HAKKINDA BİLGİ EDİNİN. SEMTİNİZDE BULUNAN TSUNAMİ TABELALARINI TANIYIN.

TSUNAMİ İÇİN ÖNCEDEN ALINMASI GEREKEN ÖNLEMLERİ ÖĞRENİN, BU BİLGİLERİ AİLENİZ VE YAKINLARINIZLA PAYLAŞIN.

AİLE BİREYLERİ İLE ACIL DURUM BULUŞMA PLANINIZI HAZIRLAYIN.

SAHİL KENARINDA YAŞIYORSANIZ, SEMTİNİZDE BULUNAN TSUNAMİ TAHLİYE YOLLARINI ÖĞRENİN.

TSUNAMİ KAÇIŞ YOLLARINI VE TOPLANMA ALANLARINI PLANLAYIN.

KUVVETLİ BİR DEPREM SONRASINDA BİRKAÇ DAKIKA İÇİNDE DAHI TSUNAMİ OLUŞABİLECEĞİNİN FARKINDA OLUN.

DENİZ KİYISINA YAKINSANIZ KUVVETLİ BİR DEPREM SONRASI DENİZDEN HEMEN UZAKLAŞIN VEYA GÜVENLİ YÜKSEK BİR YERE (DİKEY) TAHLİYE YAPIN.

TSUNAMİ TEHLİKESİ SONA ERİNCENE KADAR TSUNAMİ GÜVENLİ BÖLGE'DE KALIN.

AFAD
T.C. BÜYÜKÇEKMECE BELEDİYESİ

unesco
International Hydrographic Commission

European Union
Funded by European Union
Horizon Europe

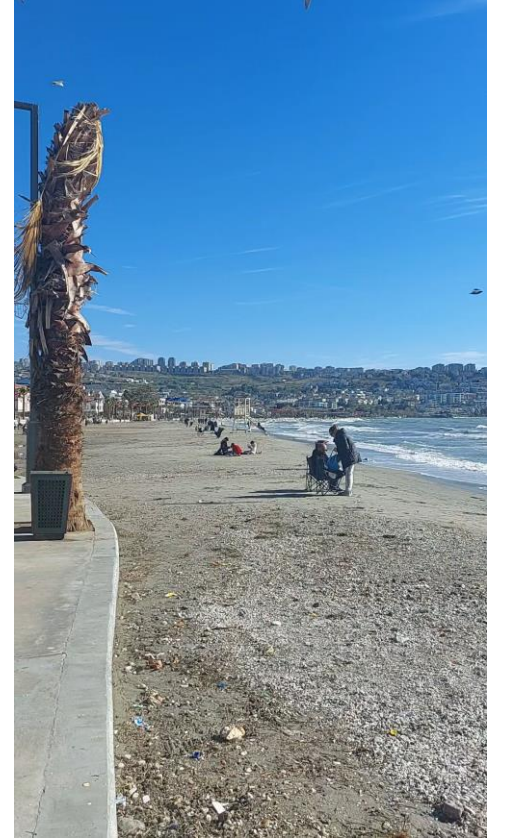
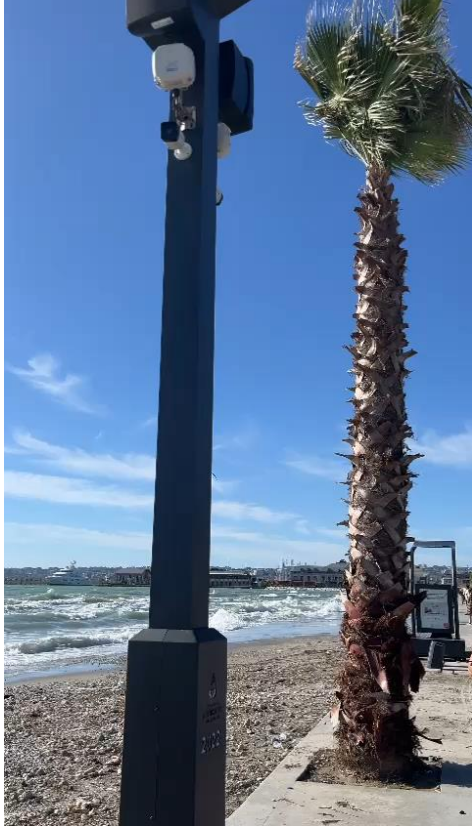
2021-2030
United Nations Decade of Ocean Science for Sustainable Development

Tsunami Ready

AKIŞIKLAR

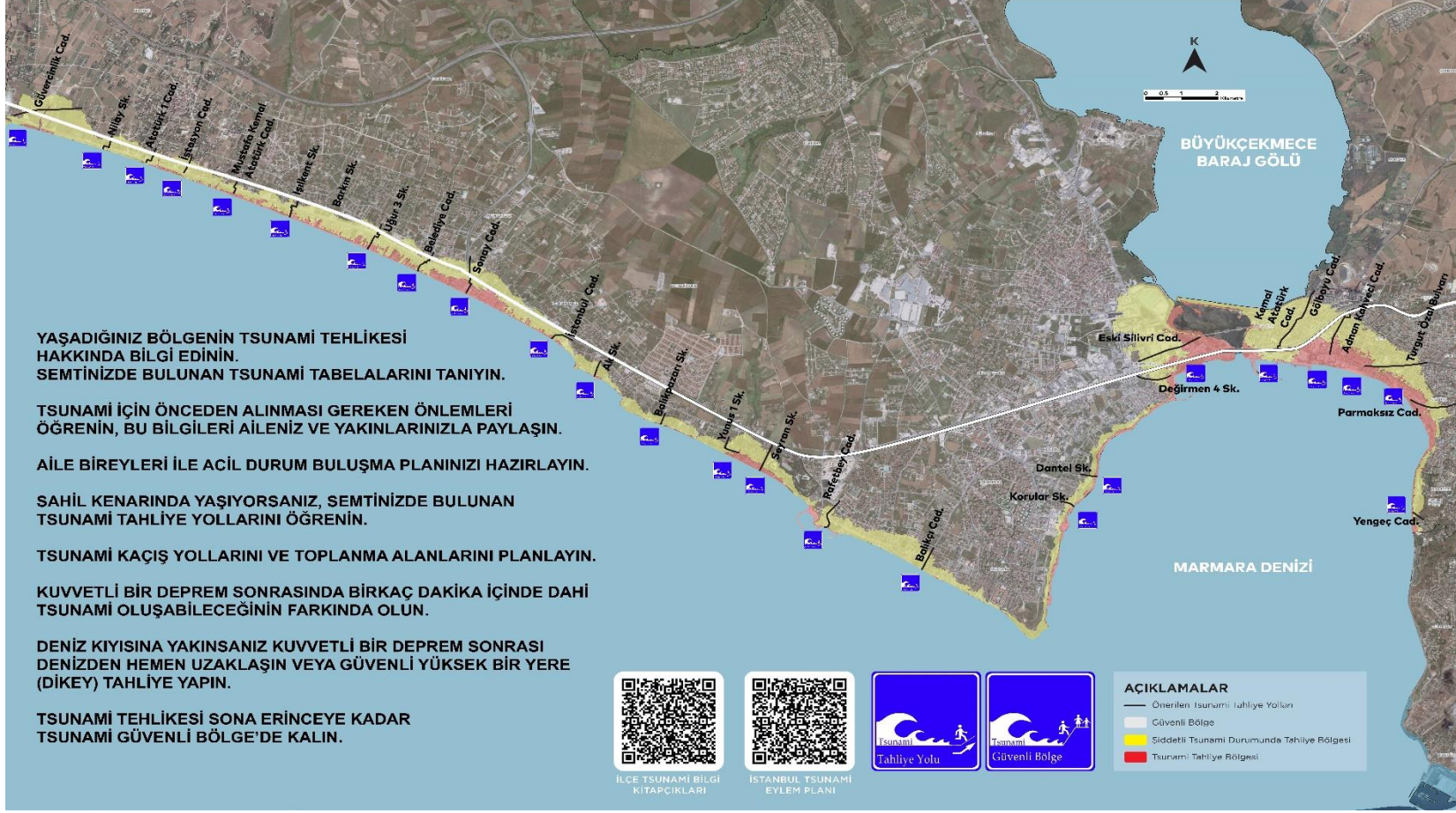
- Çizilen Tsunami Tahliye Yolları
- Güvenli Bölge
- Yükseklik Tsunami Durumunda Tehlike Bölgesi
- Tsunami Tahliye Bölgesi

Preparedness. Tsunami Awareness



Siren Systems Tested During the 5ht of November WTAD

Preparedness. Outreach and education resources



Preparedness. Outreach and education resources



TSUNAMİDEN KENDİMİZİ NASIL KORUYABİLİRİZ?



- !!! Yaşadığınız bölgenin tsunami tehlikesi hakkında bilgi edinin.
- !!! Tsunami için önceden alınması gereken önlemleri öğrenin, bu bilgileri aileniz ve dostlarınızla paylaşın.
- !!! Sahil kenarında bulunuyorsanız; tsunami tahliye yollarını öğrenin, toplanma alanlarına ulaşmayı planlayın.
- !!! Kuvvetli bir deprem sonrasında birkaç dakika içinde dahi tsunami dalgasının kıyıya ulaşabileceğinin farkında olun.
- !!! Deprem çantası hazırlayın ve ulaşılması kolay bir yerde bulundurun.



Bu materyal Tsunami Bilgilendirme El Kitabı'ndan uyarlanmıştır.
https://ahlab.boun.edu.tr/sites/ahlab.boun.edu.tr/files/uploaded/tsunami_kitap.pdf



Bu materyal Çocuklar için Deprem ve Tsunami El Kitabı'ndan uyarlanmıştır.
https://ahlab.boun.edu.tr/sites/ahlab.boun.edu.tr/files/uploaded/cocuklar_icin_deprem_ve_tsunami_kitap_compressed.pdf



Bu materyal Çocuklar için Deprem ve Tsunami El Kitabı'ndan uyarlanmıştır.
https://ahlab.boun.edu.tr/sites/ahlab.boun.edu.tr/files/uploaded/cocuklar_icin_deprem_ve_tsunami_kitap_compressed.pdf

Preparedness. Outreach and educational activities



Preparedness. Outreach and educational activities



Educational activities performed at KOERI Disaster Preparedness Laboratory.

Preparedness. Outreach and educational activities



AFAD A F A D İstanbul 
@IstanbulAFAD

Ulusal Tsunami Uyarı Merkezi ve Tsunami Servis Hizmetlerinin onuncu yılını anma ve kutlama etkinlikleri kapsamında Marmara Denizi'nde planlanan tatbikat nedeniyle Büyükçekmece Anadolu Lisesinde 762 öğrenciye yönelik Tsunami Farkındalık Eğitimi düzenlenmiştir.



<https://twitter.com/IstanbulAFAD/status/1589564360032407552?t=Gpvr5hciMuPqJRisKuk5VA&s=03>

Preparedness. Tsunami Drill Exercise

10th Anniversary of KOERI & World Tsunami Awareness Day
4-5 November 2022

KOERI TSUNAMI DRILL (TSUNAMI READY COASTWAVE PILOT DISTRICT BÜYÜKÇEKMECE İSTANBUL) ,
TSUNAMI EVALUATION MEETING & TSUNAMI EARLY WARNING WORKSHOP

EARTHQUAKE SCENARIO & TSUNAMI DRILL

METU
GTU

KOERI

IMM
AFAD

TSUNAMI EVALUATION MEETING

KOERI, AFAD, IMM
METU, GTU
UNESCO/IOC, EC-JRC,
Istanbul Büyükçekmece Municipality,
Istanbul Provincial Police Department,
Istanbul Gendarmerie Commander,
İstanbul Provincial Directorate of National Education
District Governorship,
Constabulary,
IMM Fire Department
IMM Earthquake and Soil Investigation Directorate ...

TSUNAMI EARLY WARNING WORKSHOP

KOERI
UNESCO/IOC
EC-JRC,
IMM, AFAD,
METU, GTU, YTU,
General Directorate of Mapping
Office of Navigational Hydrography and Oceanography

TSUNAMI DRILL OBSERVERS

UNESCO/IOC
EC-JRC

Preparedness. Tsunami Drill Exercise, 4 November 2022



Fotoğraf: İbrahim Halil Aktürk/AA

İstanbul

Boğaziçi Üniversitesi Kandilli Rasathanesi ve Deprem Araştırma Enstitüsü koordinasyonunda, Afet ve Acil Durum Yönetimi Başkanlığı İstanbul İl AFAD Müdürlüğü, İstanbul Büyükşehir Belediyesi (İBB), Gebze Teknik Üniversitesi (GTÜ), Ortadoğu Teknik Üniversitesi (ODTÜ) tarafından hazırlanan tsunami tatbikatı gerçekleştirildi.

<https://youtu.be/8NX58DIYIt0>

Preparedness. Tsunami Drill Exercise



Preparedness. Tsunami Drill Exercise



4 November 2022, Tsunami Drill Evaluation Meeting, Büyükçekmece, İstanbul

Preparedness. Tsunami Early Warning and Risk Mitigation Workshop, KOERI



5 November 2022

Other Activities



Tabiat tarihi Müzesi
Konferans Salonu /
Natural History Museum
Conference Hall

11 NİSAN/APRIL Salı/Tuesday

Doğu Akdeniz Bölgesinde Tarihsel Tsunamiler Oturumu [Session on Historical Tsunamis in the Eastern Mediterranean Region]

Oturum Eş Başkanları/Session Co-Chairmen:
Şükrü Ersoy & Ahmet Cevdet Yalçınar

| | |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 09.00-09.15 | Son Yıllarda Ege Denizi'nde Meydana Gelen Tsunamiler, Bulgu ve Değerlendirmeler <i>Findings and Assessment of Recent Tsunamis in the Aegean Sea</i> Gözde Güney Doğan, Ahmet Cevdet Yalçınar |
| 09.15-09.30 | 30 Ekim 2020 Ege Denizi Tsunamisinin Teos Marina'daki Yüzer Yapılarda, Deniz Araçlarında ve Deniz Tabanında Oluşturduğu Hasarların Belirlenmesi <i>Tsunami-induced Hazards in the Teos Marina Considering the Floating Docks, the Marine Vessels, the Sea Bed Scour and Deposition due to the 30 October 2020 Aegean Sea Tsunami</i> Bergüzar Öztunalı Özbahçeci, Gözde Güney Doğan, Yağız Arda Çiçek, Hilal Çelik, Göktürk Karaca, Elif Öztürk, Elif Girgin, Rabia Karagöz, Cem Ali Sağır, Ceyla İnmeler, Doğan Kısacık, Işıktan Güler, Ahmet Cevdet Yalçınar |
| 09.30-09.45 | Kıyı Topluluklarının Tsunamilerin Etkisine ve Deniz Seviyesiyle İlgili Diğer Kıyı Tehlikelerine Karşı Direncinin Güçlendirilmesi (CoastWAVE), "Tsunami Hazır" Kentler (Tsunami Ready): İstanbul <i>Strengthening the Resilience of Coastal Communities Against the Impact of Tsunamis and Other Coastal Hazards Related to Sea Level (CoastWAVE), "Tsunami Ready" Cities (Tsunami Ready): Istanbul</i> Musavver Didem Cambaz, Ahmet Cevdet Yalçınar, Haluk Özener, Doğan Kalafat, Gözde Güney Doğan, Selda Altuncu Poyraz, Tuğçe Ergun, Gülüm Tanırcan, Fatih Turhan |
| 09.45-10.00 | Kıvrımlı Kanalda Tsunami Dalgası İlerlemesinin İncelenmesi <i>Investigation of Tsunami Wave Progress in the Convoluted Channel</i> H. Anıl Anı Güner, Yalçın Yüksel, Mehmet Öztürk, Cihan Şahin, G. Güney Doğan, Şükrü Ersoy, Cem Yılmaz, Barış Aydın, Onur Altıntaş, Merve Ayaz, Ahmet Cevdet Yalçınar |
| 10.00-10.15 | Baraj Rezervuarlarında Heyelan Kaynaklı Tsunamiler <i>Landslide Induced Tsunamis in Dam Reservoirs</i> Hakan Ersoy, Murat Karahan, M. Oğuz Sünnetci, Ömer Yüksek, Tuğçe Anılan |
| 10.15-10.30 | Ara/Break |

CONFERENCE ON TÜRKİYE'S CONTRIBUTIONS TO THE UN DECADE OF OCEAN SCIENCE

OPERATIONALIZATION OF KOERI TSUNAMI WARNING SYSTEM in the EASTERN MEDITERRANEAN and Its CONNECTED SEAS: A Decade of Achievements and Challenges

Presenter Name: Dr. Musavver Didem CAMBAZ
Institution: Boğaziçi University-KOERI
Email Address: didem.samut@boun.edu.tr



KOERI Team: Doğan Kalafat, Fatih Turhan, Yavuz Güneş, Pınar Deniz, Seda Işık, Mehmet Özer, Tuğçe Ergün, Selda Altuncu Poyraz, Kivanç Kekovalı, Haluk Özener

26.09.2023 ANKARA, TÜRKİYE

#OceanDecade

THE SCIENCE WE NEED FOR THE OCEAN WE WANT



Response. Sea Level Observations



25,26,28 September 2023 CoastWAVE IDSL Training

IDSL Sea Level measurement stations training was carried out on 25-26, 28 September 2023, under the coordination of IOC/UNESCO ICG/NEAMTWS and with the support of DG ECHO, training was organized for the countries participating in the project. Before the training, KOERI took part as a beta tester in the preparation of the training manual.

5 October 2023 CoastWAVE IDSL Installation



Preparedness. Table-Top Tsunami Exercise

7-8 November 2023

NEAMWAVE23 TSUNAMI EXERCISE TABLE-TOP TSUNAMI EXERCISE, TSUNAMI READY COASTWAVE PILOT DISTRICT BÜYÜKÇEKMECE İSTANBUL, SOP WORKSHOP

NEAMWAVE23
JOINT EARTHQUAKE SCENARIO

INGV, KOERI,NOA

TABLE-TOP TSUNAMI EXERCISE, BUYUKCEKMECE

KOERI, METU, AFAD
IMM Earthquake and Soil Investigation Directorate
Büyüçekmece Municipality,
Büyüçekmece District Governorship,
Turkish Wireless and Radio Amateur Society (TRAC)

TSUNAMI SOP WORKSHOP

KOERI
UNESCO/IOC
EC-JRC,
IMM, AFAD,
METU, GTU,YTU,
General Directorate of Mapping
Turkish Wireless and Radio Amateur Society (TRAC)
Office of Navigational Hydrography and Oceanography

OBSERVERS

Office of Navigational Hydrography and Oceanography
Bogaziçi University



Response. SOP Workshop

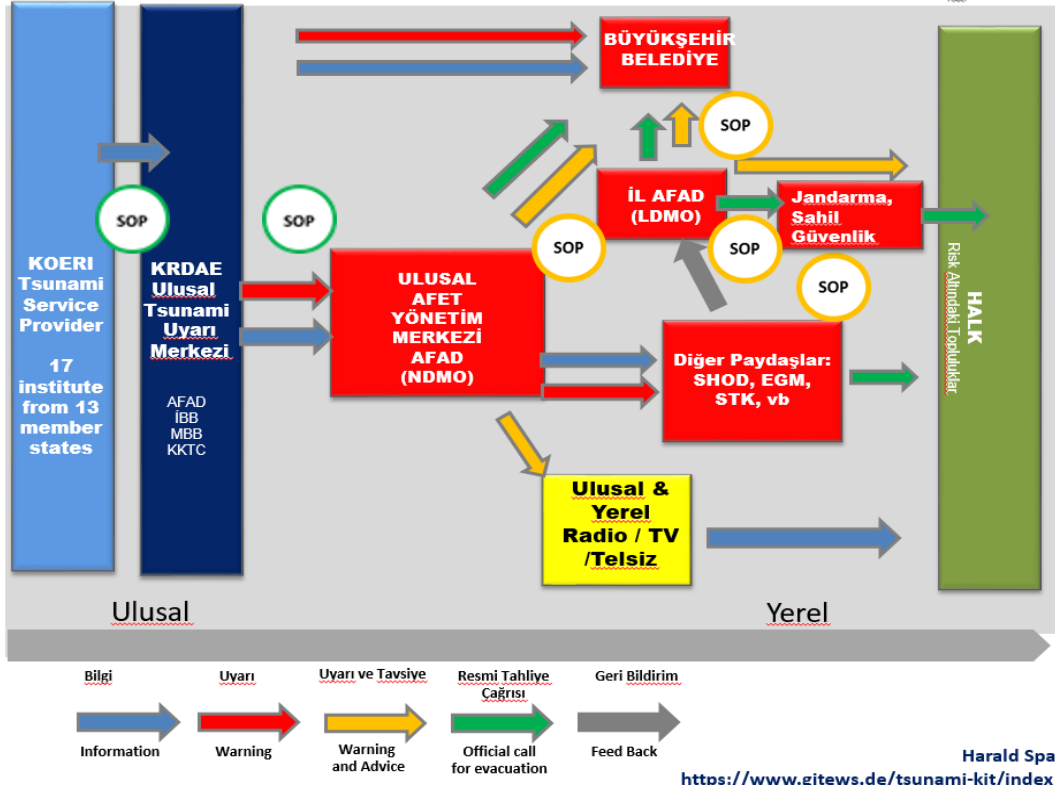


SOP Workshop:

Disaster and Emergency Management Department (AFAD),
Istanbul Metropolitan Municipality,
Büyükçekmece District Governorate,
Büyükçekmece Municipality,
Middle East Technical University (METU),
Turkish Wireless and Radio Amateur Society (TRAC),
Office of Navigation, Hydrography and Oceanography (SHOD)
and Boğaziçi University (KOERI).

Response. SOP Workshop

TSP/NTWC
TÜRKİYE



SİREN SİSTEMİNİN ÜLKE GENELİNDEKİ KURULUM DURUMU

İkaz ve Alarm Sistemi (İKAS) ülke genelinde yaygınlaştırılacaktır



AFAD

Afet ve Acil Durum Yönetimi Başkanlığı

NTRB & TRLC

NTRB - Ulusal Tsunami Hazır Konseyi Üyeleri:

| | | |
|---------------|------------------------------------------------------------------------------------------------------------|------|
| AFAD: | Abdullah Özçelik (Abdullah.ozcelik@afad.gov.tr) | CPA |
| AFAD: | Prof. Dr. Orhan Tatar (orhan.tatar@afad.gov.tr) | CPA |
| KRDAE: | Prof. Dr. Haluk Özener (ozener@bogazici.edu.tr) | NTWC |
| KRDAE: | Dr. Musavver Didem Cambaz (didem.samut@bogazici.edu.tr) | NTC |
| ODTÜ: | Prof. Dr. Ahmet Yalçiner (yalciner@metu.edu.tr) | NTC |
| SHOD: | Dr.Müh.Bnb. Emre Tükenmez (etukenmez@shodb.gov.tr) | IOC |

TRLC- Tsunami Hazır Lokal Komitesi Üyeleri:

| | | |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------|---------|
| Büyükçekmece Municipality: | Caner Denizli (caner.denizli@bcekmece.bel.tr) | (Chair) |
| AFAD İstanbul: | Kaan Tankut Aktar (istanbul.planlama@afad.gov.tr) | |
| Büyükçekmece District Governorate: | Dr. Güler Doğan (buyukcekmece@istanbul.gov.tr) | |
| Büyükçekmece District Governorate : | Dursun İlçi (buyukcekmece@istanbul.gov.tr) | |
| İstanbul Metropolitan Municipality: | Dr. Evrim Yavuz (evrim.yavuz@ibb.gov.tr) | |
| İstanbul Metropolitan Municipality : | Y. Müh.Esra Kalkan Ertan (esra.ertan@ibb.gov.tr) | |



III. Discussion of Challenges Faced and Solutions

A. Difficulties

(6 Feb 2023 earthquake sequences)

B. Mitigation Strategies Implemented

Integrating TEW messages to AYDES (AFAD)

C. Lessons Learned – importance of collaboration with civil defense members

IV. Future Project Actions

A. Next Steps for new TR cities/communities

B. Continue Collaboration with key partners

C. Improve the TR steps with the lessons learned at Büyükçekmece, Istanbul

Thank You...

