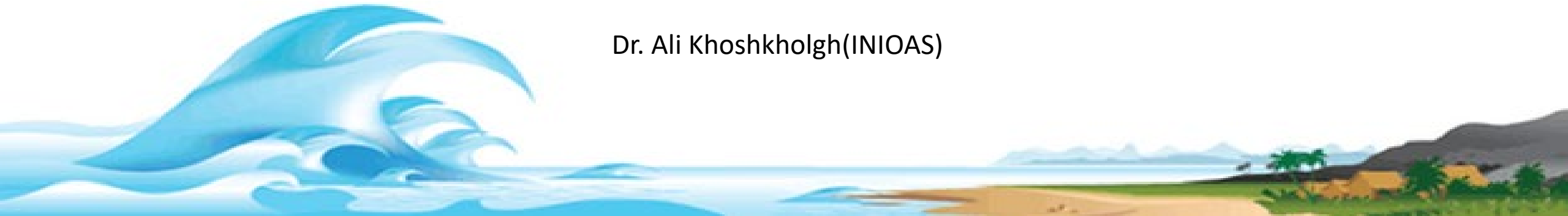
UNESCAP Project on Strengthening Tsunami Warning in the North West Indian Ocean through Regional Cooperation

Phase II

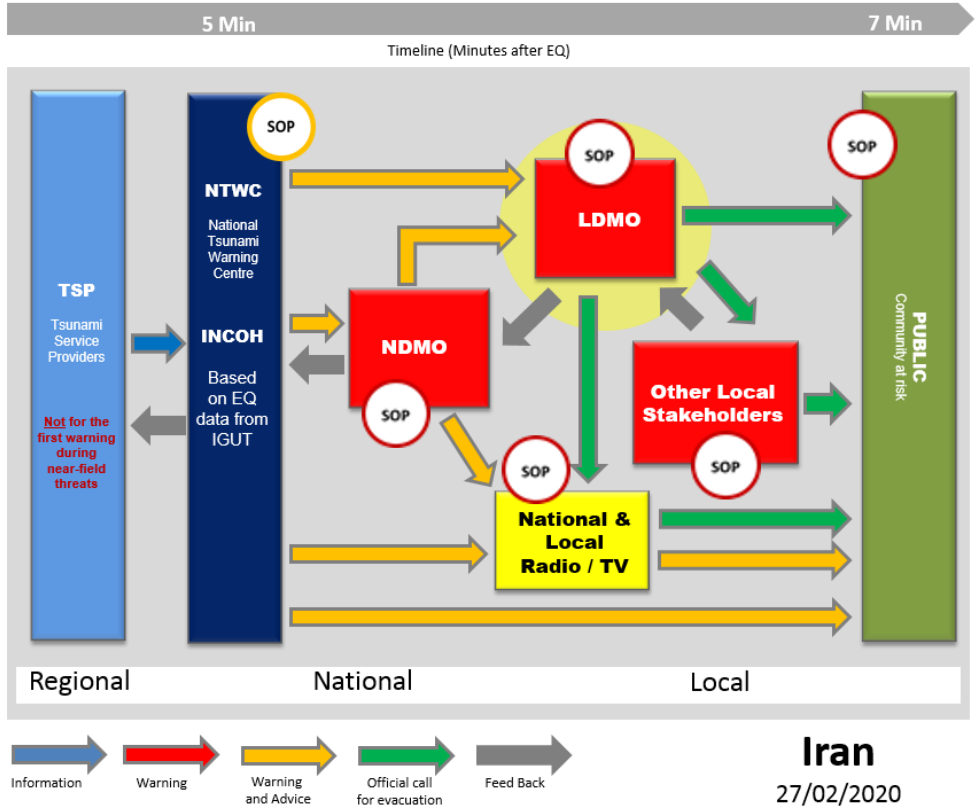
Country Report: Iran

Dr. Ali Khoshkholgh(INIOAS)

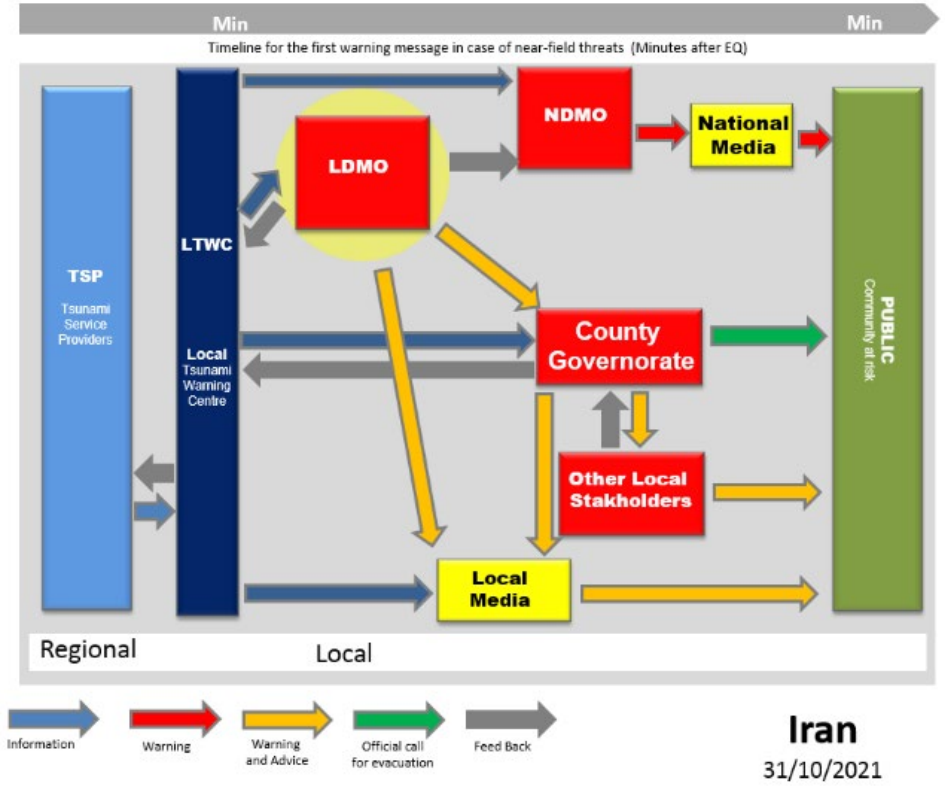


Outcomes of Phase I of Project :

Development and Discussion on Tsunami Warning Chain



Iran
27/02/2020



Iran
31/10/2021

It has not approved by TNC yet

NTWC SOP of IRAN

00:00(mm:ss)-Seismic sensors start recording /EQ felt at coastal area.

05:00(mm:ss)-NTWC receive EQ information from IGUT through SMS/FAX/E-mail/Social media and also Phone if the magnitude is larger than 7.0 at MSZ

07:00(mm:ss)-The proper **B.1**(EQ information and potential of Tsunami generation and Warning Level) will automatically be prepared by NTWC software and disseminate to LDMO/NDMO/Media/Public based on the following criteria through SMS/Fax/E-mail/Social media and also Phone if the magnitude is larger than 7.0 at MSZ based on the following criteria:

Earthquake Magnitude at Makran Area	Warning level	Advice
8.0≤Mwp	Warning	Evacuate to high Ground
7.5≤Mwp<8	Alert	Stay away from beaches
7≤Mwp<7.5	Watch	Be prepared to act
Mwp<7	No threat/threat passed	

10:00(mm:ss)-NTWC receives updated information of EQ from IGUT .

10:00(mm:ss)-NTWC receives feedback from NDMO.

12:00(mm:ss)-Updated EQ information and the details of tsunami information including warning level, Maximum wave height and tsunami estimated time arrival by NTWC software will be issued to LDMO/NDMO/Media/Public through SMS/Fax/E-mail Social media at **B.2.** The warning level at this bulletin is based on estimated wave height as follow:

Threshold of Estimated Wave Height	Warning level	Advice
>2m	Warning	Evacuate to high Ground
0.5-2m	Alert	Stay away from beaches
0.2-0.5m	Watch	Be prepared to act
<0.2m	No threat/threat passed	

15:00 Based on sea level monitoring and other witnesses, the information of **B.2** will be confirmed and updated at **B.3** and will be issued to LDMO/NDMO/Media/Public through SMS/Fax/E-mail Social media. It could to be updated every **5 minutes**.

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00:00+Max T4+2hr- NTWC will issue **Final Bulletin** as cancellation of warning to LDMO/NDMO/Media/Public through SMS/Fax/E-mail Social media.

Bulletins Issued by NTWC

Bulletine 1

Warning ■

Issued by Iranian National Center for Ocean Hazard

Date:

Earthquake Information:

Magnitude: Depth:
Date: Origin Time:
Latitude: Longitude:
Location:

Evaluation:

Due to the characteristics of the earthquake, there is a grea
Makran region, and the danger of tsunami waves threatens
the Oman Sea. Potential tsunami waves will reach the country
about 20 minutes after the earthquake).

Advice:

In addition to creating high-risk waves and currents, tsunam
even low-lying areas and create flooding. Therefore, in additi
lying coastal areas need to be evacuated and local residents
away as possible. Due to the higher altitude and danger c
recommended to change the position of ships to deep w
available until the tsunami waves reach the shores, it is not p
to the deep waters and only the ships in the sea should be pr

Updates:

Upon receipt of new information about the specifications of t
forecasts, subsequent tsunami announcements will be mad
time available for the arrival of tsunami waves, it is necessary
the necessary measures based on this announcement and as

Bulletine 2

Warning ■
Alert □

Issued by Iranian National Center for Ocean Haza

Date:

Earthquake Information:

Magnitude: Depth:
Date: Origin Time:
Latitude: Longitude:
Location:

Evaluation:

Given the seismic characteristics of the earthquake an
great potential for a massive tsunami in the Makra
threatens all the southern coasts of the Oman Sea. Po
shores in a very short time (on average about 20 minut
in the next section are at risk of tsunamis.

Tsunami threat at coastal area:

The list below shows the estimated height and arrival ti
the country in the Oman Sea. The areas where the ma
than 0.5 m are not listed below.

Name	Max H(m)
Chabahar	12m
Jask	10m

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Advice:

In addition to creating high-risk waves and currents
penetrate even low-lying areas and create flooding. Th
across the country's coast in the Oman Sea, low-lying
residents flee to high-altitude areas (especially high-ris
altitude and danger of tsunami waves in shallow areas
ships to deep waters. However, due to the short time
shores, it is not possible to transfer the ships of the por
sea should be prevented from moving towards the por

Updates:

Upon receipt of new information about the specificatio
forecasts, subsequent tsunami announcements will be
time available for the arrival of tsunami waves, it is nec
the necessary measures based on this announcement a

Bulletine 3 (Confirmation of Tsunami Threat)

Warning ■

Issued by Iranian National Center for Ocean Hazard

Date:

Earthquake Information:

Magnitude: Depth:
Date: Origin Time:
Latitude: Longitude:
Location:

Evaluation:

Sea level observation have confirmed that a tsunami was generated. Maximum wa
observed so far:

Name	Max Observed Wave Height(m)
Chabahar	...
Jask	...

.

Tsunami threat at coastal area:

The list below shows the estimated height and arrival time of tsunami waves on th
the country in the Oman Sea. The areas where the maximum tsunami height is e
than 0.5 m are not listed below.

Name	Max H(m)	ETA(min)
Chabahar	12m	25min
Jask	10m	25min

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Advice:

In addition to creating high-risk waves and currents, tsunamis appear to hav
penetrate even low-lying areas and create flooding. Therefore, in addition to closi
across the country's coast in the Oman Sea, low-lying coastal areas need to be e
residents flee to high-altitude areas (especially high-risk areas) as soon as possible
altitude and danger of tsunami waves in shallow areas, it is recommended to cha
ships to deep waters. However, due to the short time available until the tsunam
shores, it is not possible to transfer the ships of the ports to the deep waters and c
sea should be prevented from moving towards the ports.

Updates:

Upon receipt of new information about the specifications of the earthquake, as we
forecasts, subsequent tsunami announcements will be made and issued. Howeve
time available for the arrival of tsunami waves, it is necessary to announce tsunam
the necessary measures based on this announcement and as quickly as possible.

Bulletine 4 (All Clear Message)

Issued by Iranian National Center for Ocean Hazard

Date:

Earthquake Information:

Magnitude: Depth:
Date: Origin Time:
Latitude: Longitude:
Location:

Evaluation:

Sea level observation have confirmed that a tsunami was generated. Maximum wave amplitudes which was observed are as follws:

Name	Max Observed Wave Height(m)
Chabahar	...
Jask	...

.

Tsunami threat at coastal area:

The list below shows the estimated height and arrival time of tsunami waves on the southern coast of the country in the Oman Sea. The areas where the maximum tsunami height is expected to be less than 0.5 m are not listed below.

Name	Max H(m)	ETA(min)
Chabahar	12m	25min
Jask	10m	25min

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Advice:

In addition to creating high-risk waves and currents, tsunamis appear to have the potential to penetrate even low-lying areas and create flooding. Therefore, in addition to closing ports and docks across the country's coast in the Oman Sea, low-lying coastal areas need to be evacuated and local residents flee to high-altitude areas (especially high-risk areas) as soon as possible. Due to the higher altitude and danger of tsunami waves in shallow areas, it is recommended to change the position of ships to deep waters. However, due to the short time available until the tsunami waves reach the shores, it is not possible to transfer the ships of the ports to the deep waters and only the ships in the sea should be prevented from moving towards the ports.

Updates:

Upon receipt of new information about the specifications of the earthquake, as well as more accurate forecasts, subsequent tsunami announcements will be made and issued. However, due to the short time available for the arrival of tsunami waves, it is necessary to announce tsunami warnings and take the necessary measures based on this announcement and as quickly as possible.

Bulletins Issued by NTWC

مرتبه هشدار (تهدید زیاد)
مرتبه هشدار (تهدید متوسط)
مرتبه مشاهده (تهدید کم)

اطلاعیه شماره ۱ سونامی

صادره توسط مرکز ملی پیش‌بینی و هشدار مخاطرات دریایی ایران

مورخ: ۱۳ ام شهریور ماه، سال ۱۳۹۷ (۴ ام سپتامبر سال ۲۰۱۸) - ساعت: ۱۰:۳۷

الف- اطلاعات زمین‌لرزه:

بزرگی: Mwp ۸/۵

زمان مبدأ: ۱۰:۳۰ (به‌وقت ایران) - ۶:۰۰ (UTC)

مختصات مرکز زمین‌لرزه: ۵۸٫۲ طول جغرافیایی - ۲۴٫۸ عرض جغرافیایی

موقعیت (منطقه جغرافیایی): گسل مکران

عمق زلزله: ۱۰ کیلومتر

ب- ارزیابی:

با توجه به مشخصات زلزله رخداده و همین‌طور نتایج شبیه‌سازی سناریوهای سونامی، پتانسیل زیادی برای وقوع سونامی عظیم در ناحیه مکران وجود داشته و خطر امواج سونامی احتمالی در زمان بسیار کمی به سواحل کشور

ج- خطر سونامی در سواحل کشور در دریای عمان:

در لیست زیر حداکثر ارتفاع تخمینی امواج سونامی، زمان رسیدن اولین موج (بلندتر از ۰/۵ متر)، به همراه احتمال آب‌گرفتگی در سواحل جنوبی کشور در دریای عمان ارائه شده است.

نام منطقه	ارتفاع سونامی (متر)	زمان رسیدن موج به ساحل	احتمال آب‌گرفتگی (زیاد، کم)
چابهار	۱۶	۱۰:۵۰	زیاد
جاسک	۱۴	۱۰:۵۶	زیاد

د: توصیه‌ها:

این سونامی علاوه بر ایجاد امواج و جریان‌های نیرومند مخاطره‌آمیز، قدرت نفوذ به نواحی خشکی کم ارتفاع و ایجاد آب‌گرفتگی را نیز دارا است. بنابر این علاوه بر تعطیلی بنادر و اسکله‌ها در سراسر سواحل کشور در دریای عمان، نیاز است تا نواحی ساحلی کم ارتفاع تخلیه شده و ساکنان محلی هر چه سریعتر به سمت نواحی مرتفع دور از ساحل بگریزند (به ویژه مناطق با احتمال آب‌گرفتگی زیاد).

ه: به روز رسانی:

از طریق بررسی داده های میدانی و مشاهدات عینی وقوع سونامی تایید گشته است و با توجه به زمان اندک موجود برای رسیدن امواج سونامی، نیاز است هشدارهای سونامی اعلام و اقدامات لازم بر اساس این اطلاعیه و با سرعت ادامه یابد.

موقعیت: گسل مکران، سواحل ایران

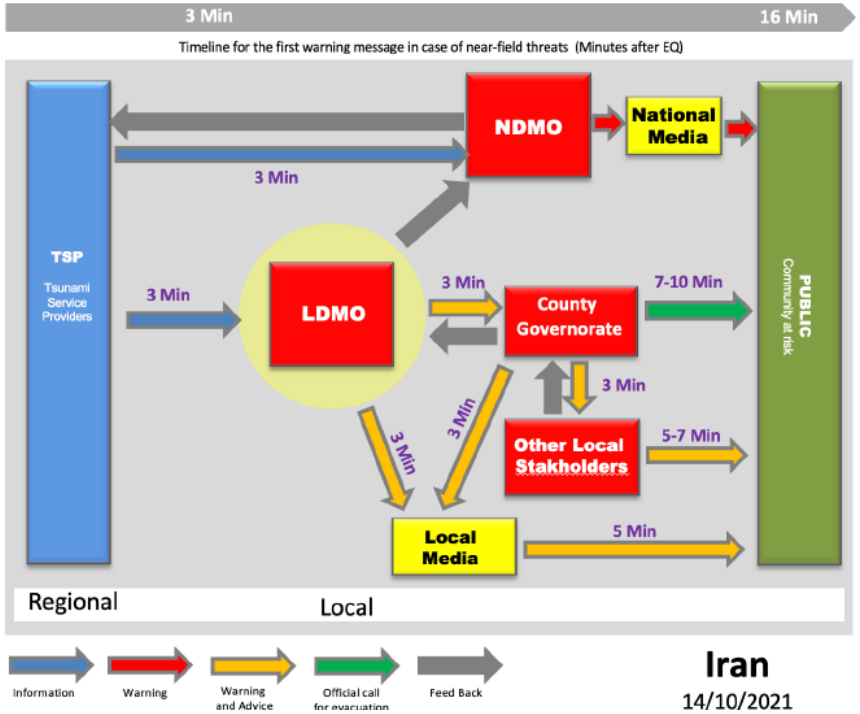
مانور سونامی 2018 اقیانوس هند
(IOWave18)
اطلاعیه شماره ۱ سونامی توسط
مرکز ملی پیش‌بینی و هشدار
مخاطرات دریایی ایران صادر شد.
زمان وقوع زلزله: ۱۰:۳۰ ۱۳ شهریور
۱۳۹۷
بزرگی زلزله: ۸/۵
مختصات کانون زلزله: ۵۸/۲ طول
جغرافیایی - ۲۴/۸ عرض جغرافیایی
موقعیت: گسل مکران، سواحل ایران
برای اطلاع از جزئیات
به لینک زیر مراجعه شود:
www.inio.ac.ir

Message INCOH

Back

DMO SOPs

Due to unsolved issues related to the set-up of the overall warning chain in Iran, it wasn´t possible yet to develop SOPs at the DMO levels. During the TTF consultancy the overall set-up of the warning chain has been discussed with the LDMOs in of the Hormozgan and Sistan & Baluchestan:



Media SOPs

According to the Disaster Management Law in Iran, the broadcasting media has a role to play in raising public awareness regarding disasters, in announcing warnings, and providing information to the public during an emergency.
Building a relationship with national and local media in the context of tsunami early warning is still at a very early stage.
Before starting further discussions on Media SOPs for warning dissemination, , the set-up of the overall warning chain has to be clarified.

Observations and issues to consider

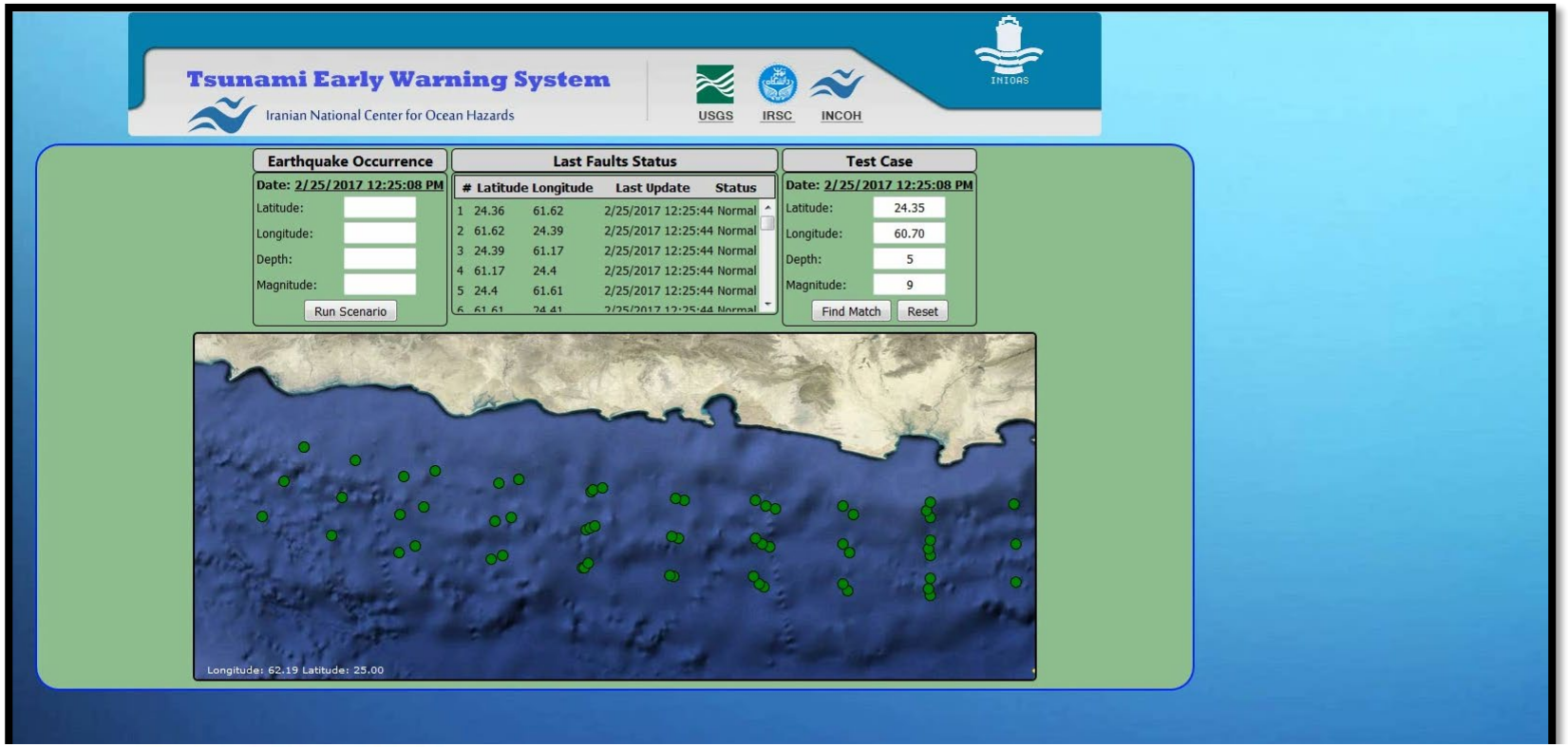
- Before the development of DMO and Media SOPs can be initiated, it is necessary to consolidate and agree upon the overall national tsunami warning chain among all the authorities.

- An institution which is able to operate 24/7 and serve both tsunami prone provinces is highly recommended to be selected as NTWC.

- In general, but also in particular in view of the absence of a functioning national tsunami early warning service, it is considered a high priority to develop and strengthen community SOPs to deal with imminent tsunami threats. This includes awareness and knowledge regarding the tsunami risks and how to recognize and respond to natural warning signs. Self-protection arrangements and self-evacuation procedures should be the focus here

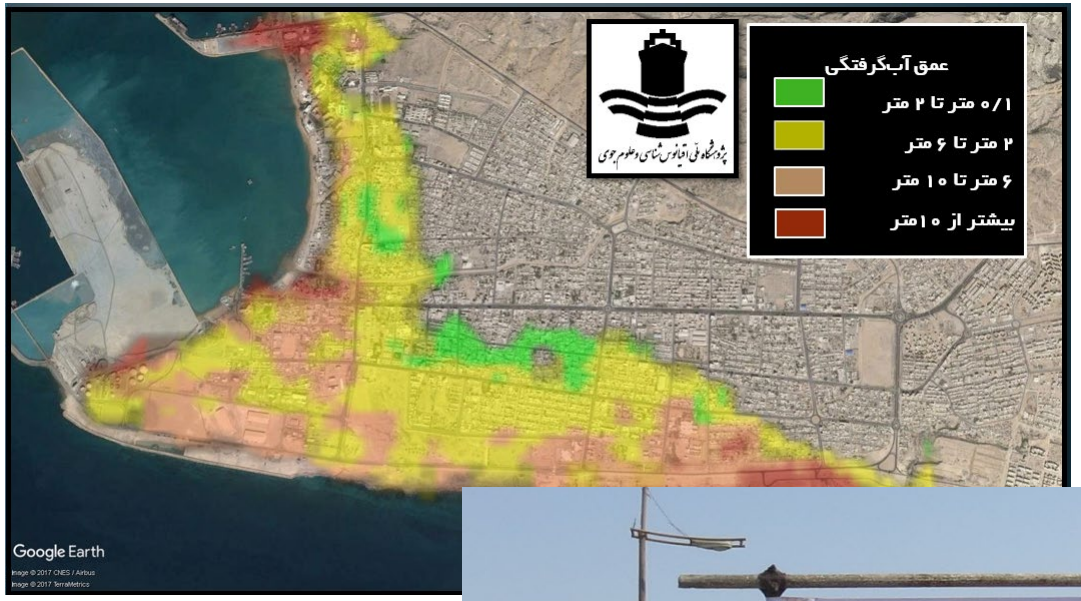
Our Plans as NTWC are :

- Complete and Improvement of our web based tsunami early warning system



Our Plans as NTWC are :

- Developing Inundation maps and Evacuation maps for Chabahar and Jask



Our expectations from Phase II :

- Finalising the Tsunami Warning Chain in active cooperation with NDMO, LDMO and Media

- Providing SOPs of all stakeholders involved at Tsunami Warning Chain

- Providing standard and precise inundation and evacuation maps for Chabahar and Jask

Thank you for your attention