



Foto portada: <https://www.cadizturismo.com/municipios/chipiona/>

# IOC-UNESCO DG ECHO COASTWAVE PROJECT MEETING

Key Achievements, Challenges and Opportunities on the  
Implementation of CoastWAVE Project and Tsunami Ready  
Programme in NEAM Region

## SUMMARY OF ACTIVITIES DEVELOPED IN CHIPIONA



Ayuntamiento  
de Chipiona



*Ignacio Aguirre Ayerbe*  
*IHCantabria*

*CoastWAVE Project coordinator in Spain*

February 5, 2024. Paris

**IHCantabria**  
UNIVERSIDAD DE CANTABRIA

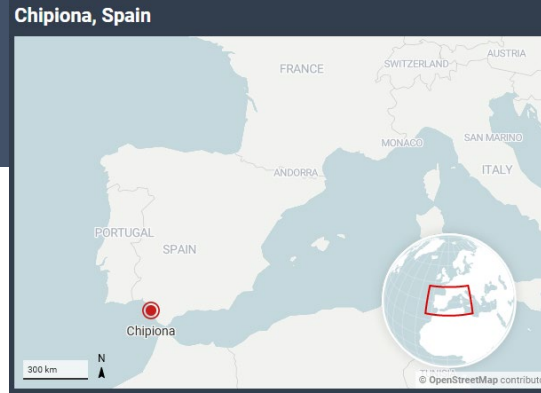
I+D+i para un desarrollo sostenible



## INDEX

- 1 Brief background
- 2 Progress in achieving IOC UNESCO TRRP indicators
- 3 Progress in complementary activities
- 4 Main challenges found so far in the implementation of IOC UNESCO TRRP in Chipiona





## Chronology of *TSU-READY* IHCantabria Project

## Chronology of *CoastWAVE* IOC-UNESCO DG ECHO project

### TSU-READY Activities

### CoastWAVE Activities

2020

First steps  
IHCantabria/UMA/  
Chipiona/UNESCO  
(agreements, letter of  
interest of Chipiona to  
UNESCO, letters of  
support from UNESCO)



12/2020

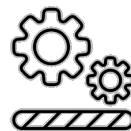
IOC UNESCO  
suggests  
Chipiona as a  
candidate for  
CoastWAVE

02/2021

Letter from Chipiona  
City Council to Junta  
Andalucía

08/ 2021

CoastWAVE  
IOC-UNESCO  
Project starts



12/ 2021

Preliminary tsunami  
inundation and tsunami  
evacuation maps



09/ 2022

IOC UNESCO  
Contracts  
with MS



CoastWAVE activities



02/2024

05/ 2024

Project end

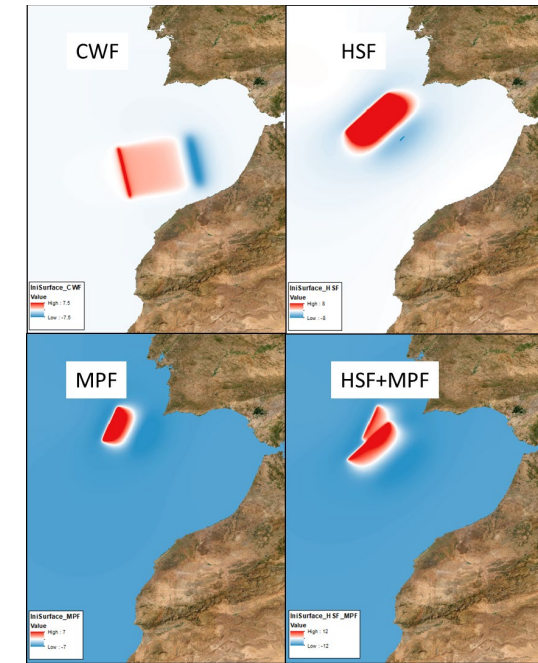
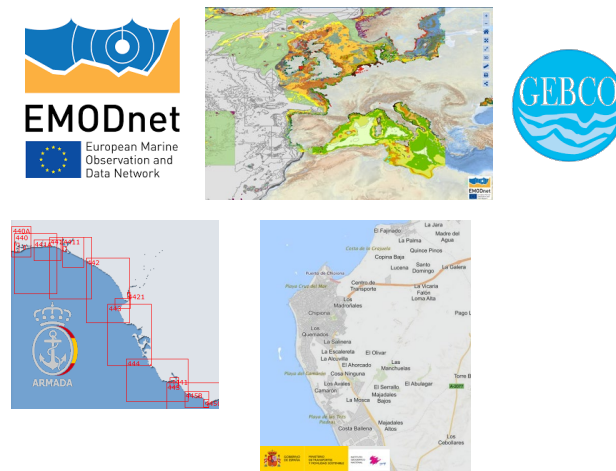
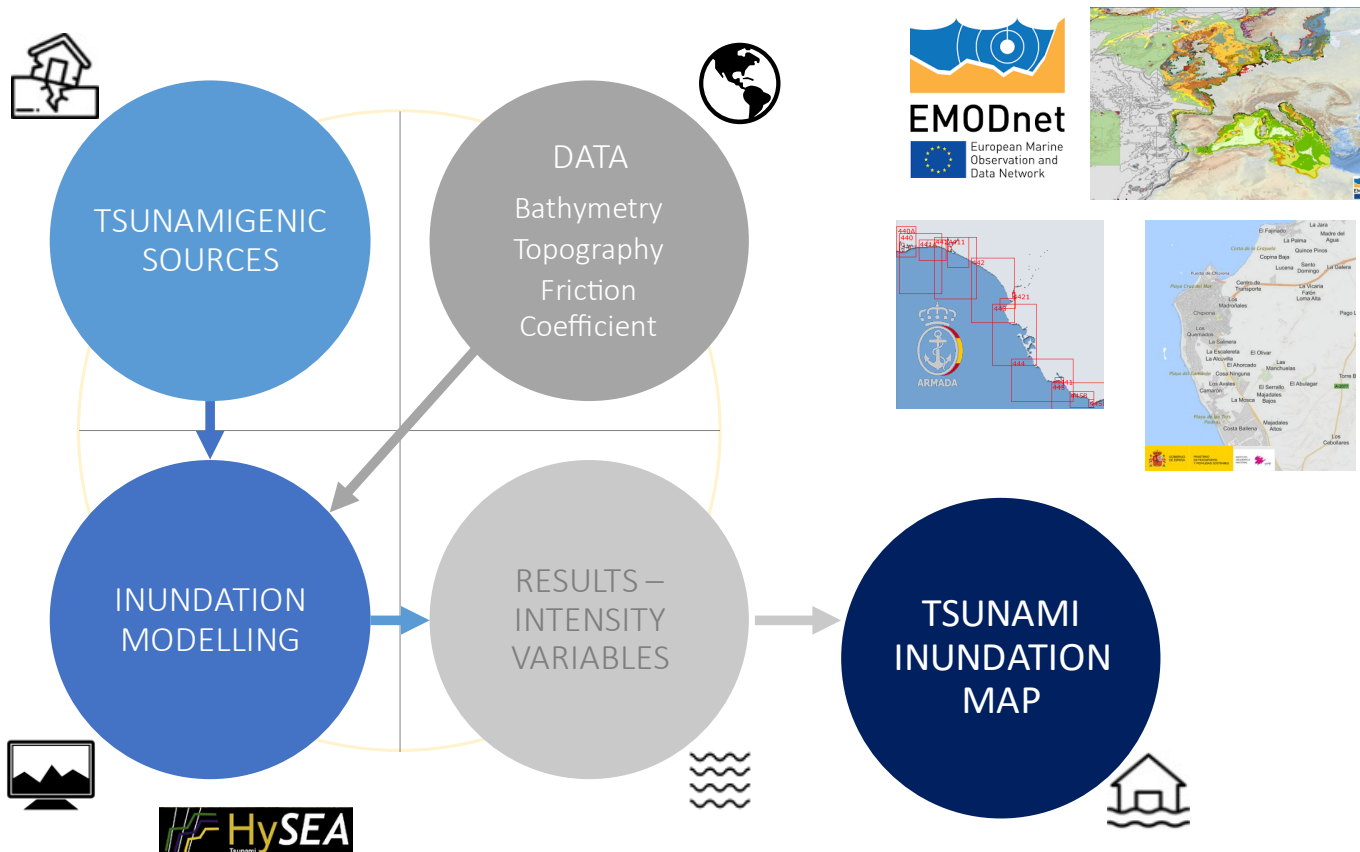
TSUNAMI READY INDICATORS	
<b>1 ASSESSMENT (ASSES)</b>	
1	ASSES-1. Tsunami hazard zones are mapped and designated.
2	ASSES-2. The number of people at risk in the tsunami hazard zone is estimated.
3	ASSES-3. Economic, infrastructural, political, and social resources are identified.
<b>2 PREPAREDNESS (PREP)</b>	
4	PREP-1. Early 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 3 times a year.
8	PREP-5. A community tsunami exercise is conducted at least every two years.
<b>3 RESPONSE (RESP)</b>	
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.



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

<b>Complementary Activities</b>	
<b>Local Tsunami Ready Committee</b>	✓
<b>National Tsunami Ready Board</b>	🔄
<b>National SOP workshop</b>	✓
<b>Local SOP workshop</b>	✓
<b>Tsunami Detection and Alerting</b>	✓
<b>IDSL support</b>	✓

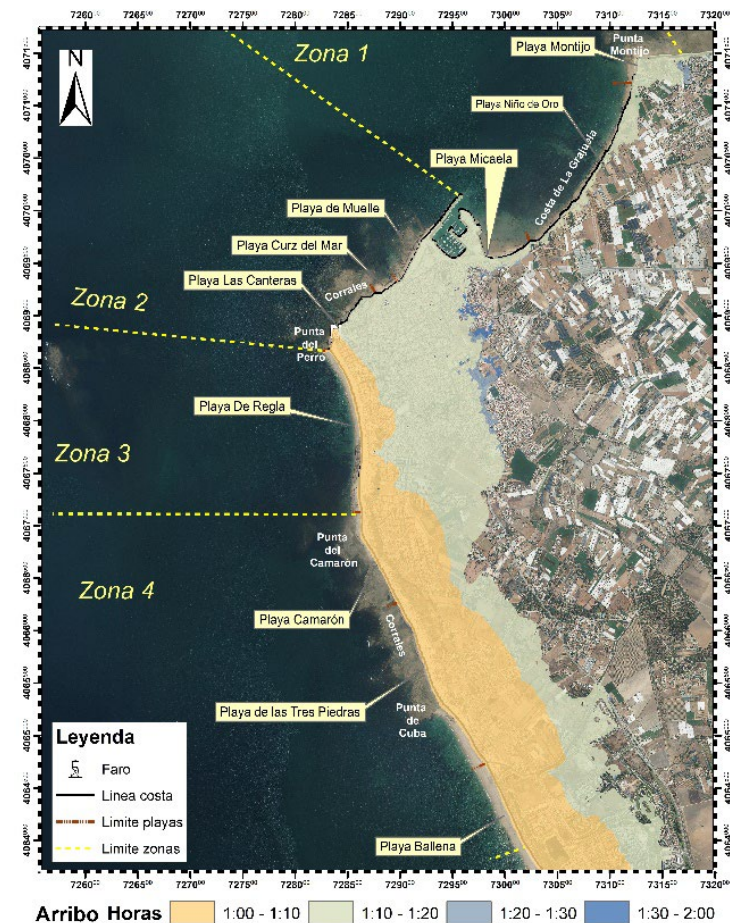
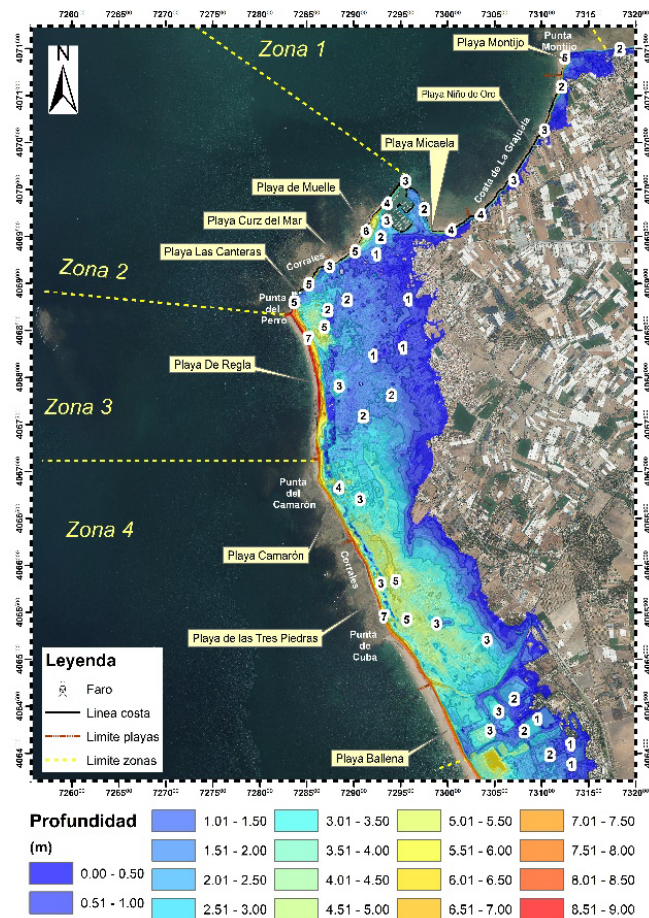
TSUNAMI READY INDICATORS	
I	<b>ASSESSMENT (ASSESS)</b>
1	<b>ASSESS-1.</b> Tsunami hazard zones are mapped and designated. ✓



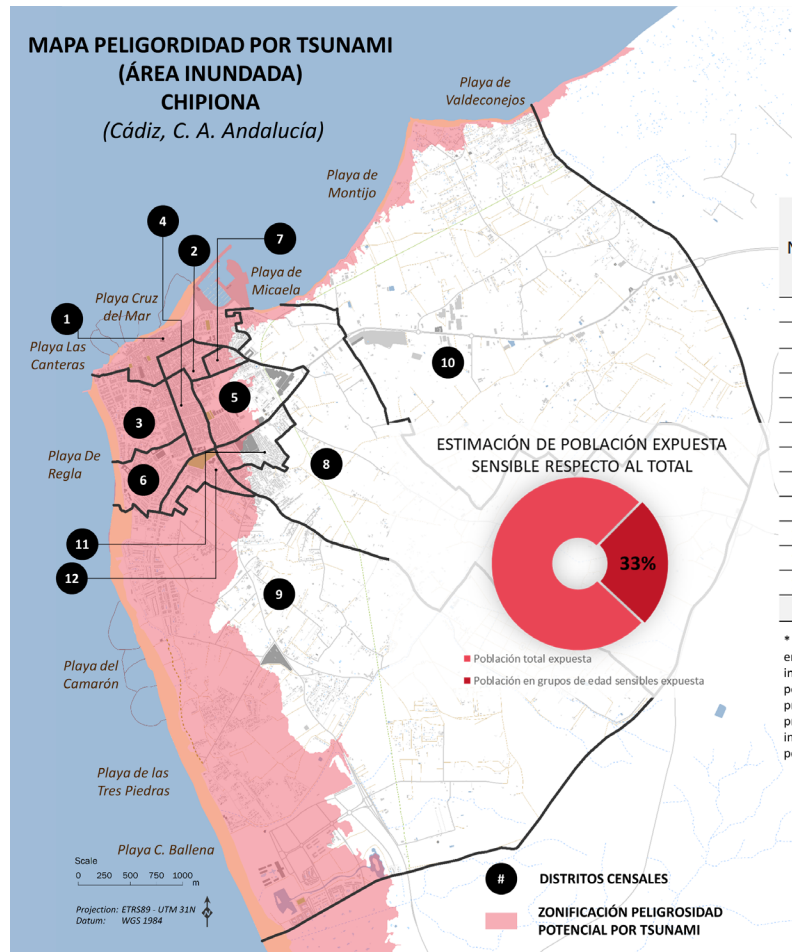
N°	Ref	LONG	LAT	Hypo (km)	LENGTH (km)	WIDTH (km)	STRIKE	DIP	RAKE	SLIP (m)
1	CWF	-9.121	34,53	13.715	170	200	349	5	90	20
2	HSF	-10.32	35.92	33.678	170	100	42	35	90	14
3	MPF	-10.25	36.64	27.943	120	80	20	35	90	12
4	HSF + MPF	-10.32	35.92	33.678	170	100	42	35	90	14
		-10.25	36.64	27.943	120	80	20	35	90	12

TSUNAMI READY INDICATORS	
I	ASSESSMENT (ASSESS)
1	ASSESS-1. Tsunami hazard zones are mapped and designated. ✓

- Inundation Extent
- Inundation Depth
- Estimated Arrival Time



TSUNAMI READY INDICATORS	
1	<b>ASSESSMENT (ASSESS)</b>
2	<b>ASSESS-2.</b> The number of people at risk in the tsunami hazard zone is estimated.



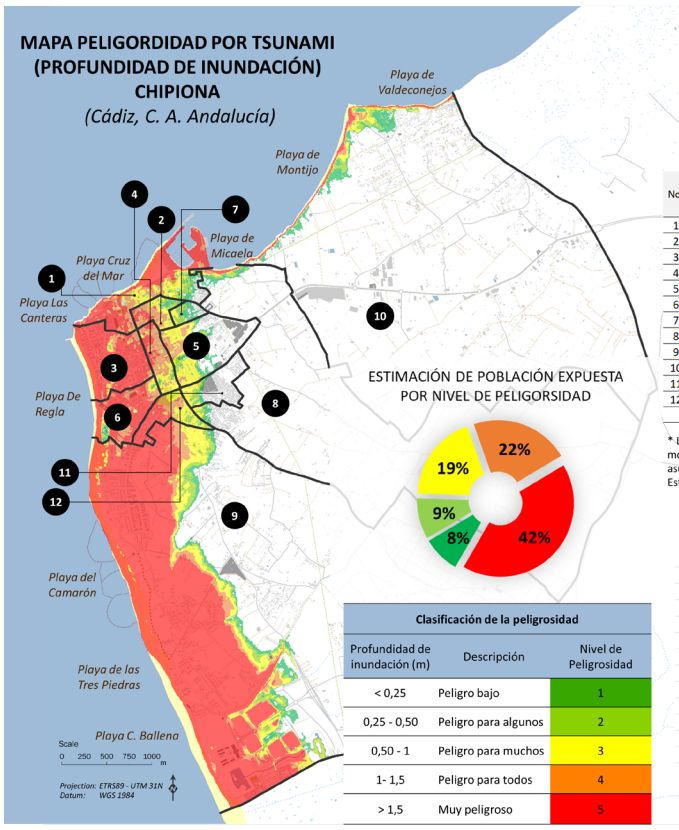
ESTIMACIÓN DE POBLACIÓN EXPUESTA, TOTAL Y EN GRUPOS DE EDAD SENBILES, POR DISTRITOS CENSALES \*

No.	DISTRITO CENSAL	POBLACIÓN TOTAL	POBLACIÓN EXPUESTA				
			TOTAL	TOTAL %	MENORES DE 14	MAYORES DE 65	TOTAL SENSIBLE
1	1101601001	1799	1344	74.7%	189	249	438
2	1101602001	1066	1060	99.4%	160	194	354
3	1101602002	1625	1624	100.0%	233	334	567
4	1101602003	1764	1760	99.7%	219	421	640
5	1101602004	1892	964	51.0%	146	168	314
6	1101602005	1470	1465	99.7%	200	252	453
7	1101602006	1057	781	73.9%	120	134	254
8	1101603001	1776	24	1.3%	5	2	7
9	1101603002	2236	811	36.3%	152	93	245
10	1101603003	1490	47	3.2%	7	8	16
11	1101603004	1866	474	25.4%	85	48	133
12	1101603005	1205	1203	99.8%	215	123	337
<b>Total</b>		<b>19246</b>	<b>11558</b>	<b>60.1%</b>	<b>1733</b>	<b>2025</b>	<b>3758</b>

\* Población total según Instituto Nacional de Estadística (INE, año 2020). La estimación de la población expuesta está basada en la zona de inundación obtenida a partir de las fuentes sísmicas y el modelo numérico empleado en este estudio (ver indicador "Evaluación 1") y, de acuerdo con la disponibilidad de datos, asumiendo una distribución homogénea de la población reflejada en el censo. Nótese que la zona designada como zona de peligro por tsunamis es el resultado de un post proceso del resultado del modelo numérico aplicado, al que se han realizado un ajuste a la línea de costa empleada en el proyecto (que no siempre coincide perfectamente con el cerro topo-batimétrico), y se han incorporado pequeñas zonas que inicialmente no resultan inundadas como resultado del modelo, pero que se encuentran rodeadas por zonas inundadas y por tanto se zonifican como áreas peligrosas.

- **Tsunami hazard zone** (tsunami inundation depth intensity variable).
- **Population:** (National Institute of Statistics, INE, 2020). Analyzing separately sensitive age groups: < 14 and > 65 years old.
- **Temporary population:** (tourism information Municipality Chipiona City Council), approx. x10.
- **Buildings:** (National Cartography, IGN)-
- **Critical buildings:** for evacuation planning and management: (i) buildings and facilities belonging to emergency institutions; (ii) hosting vulnerable population, permanently or temporarily; (iii) buildings that house a large amount of population.

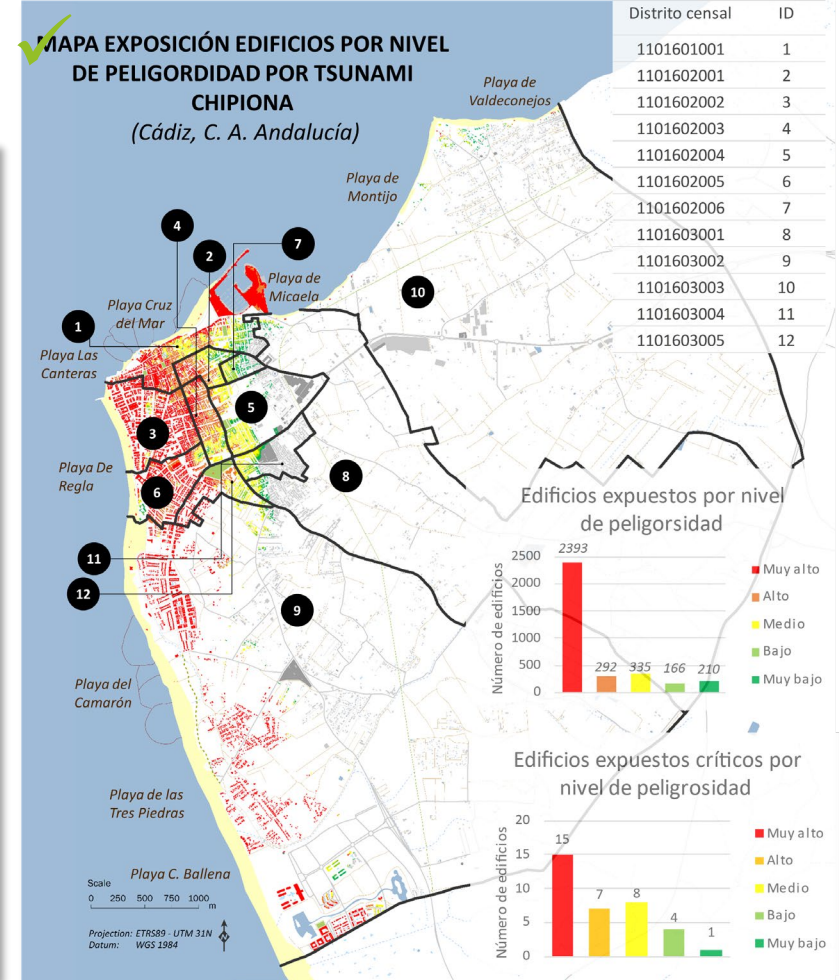
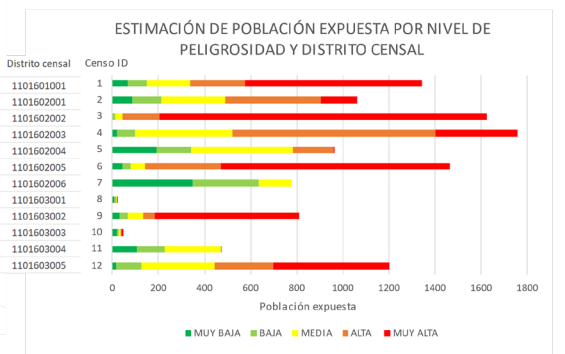
TSUNAMI READY INDICATORS	
1	<b>ASSESSMENT (ASSESS)</b>
2	<b>ASSESS-2.</b> The number of people at risk in the tsunami hazard zone is estimated.



### ESTIMACIÓN DE POBLACIÓN EXPUESTA POR NIVEL DE PELIGROSIDAD Y DISTRITO CENSAL (Chipiona, Andalucía)

No.	DISTRITO CENSAL	POBLACIÓN TOTAL EXPUESTA	POBLACIÓN EXPUESTA POR CLASE DE PELIGROSIDAD									
			MUY BAJA	BAJA	MEDIA	ALTA	MUY ALTA					
		Personas	%	Personas	%	Personas	%	Personas	%			
1	1101601001	1344	68	5.0%	81	6.0%	187	13.9%	239	17.8%	770	57.3%
2	1101602001	1060	88	8.3%	123	11.6%	279	26.3%	414	39.1%	156	14.7%
3	1101602002	1624	0	0.0%	10	0.6%	34	2.1%	158	9.7%	1421	87.5%
4	1101602003	1760	21	1.2%	76	4.3%	422	24.0%	882	50.1%	358	20.3%
5	1101602004	964	191	19.8%	149	15.4%	443	45.9%	177	18.3%	5	0.5%
6	1101602005	1465	43	2.9%	35	2.4%	62	4.3%	331	22.6%	995	67.9%
7	1101602006	781	348	44.5%	286	36.6%	148	18.9%	0	0.0%	0	0.0%
8	1101603001	24	10	42.7%	5	19.8%	4	18.0%	2	8.1%	3	11.4%
9	1101603002	811	34	4.1%	35	4.3%	66	8.2%	52	6.4%	625	77.0%
10	1101603003	47	19	39.5%	8	17.6%	7	15.0%	4	8.6%	9	19.4%
11	1101603004	474	106	22.4%	122	25.6%	241	50.8%	6	1.2%	0	0.0%
12	1101603005	1203	15	1.3%	110	9.2%	319	26.5%	253	21.0%	506	42.1%
<b>TOTAL</b>		<b>11558</b>	<b>942</b>	<b>8.2%</b>	<b>1039</b>	<b>9.0%</b>	<b>2212</b>	<b>19.1%</b>	<b>2517</b>	<b>21.8%</b>	<b>4848</b>	<b>41.9%</b>

\* La estimación de la población expuesta está basada en la zona de inundación obtenida a partir de las fuentes sísmicas y modelo numérico empleado en este estudio (ver indicador "Evaluación 1" y, de acuerdo con la disponibilidad de datos, asumiendo una distribución homogénea de la población reflejada en el censo municipal del Instituto Nacional de Estadística (INE, año 2020).



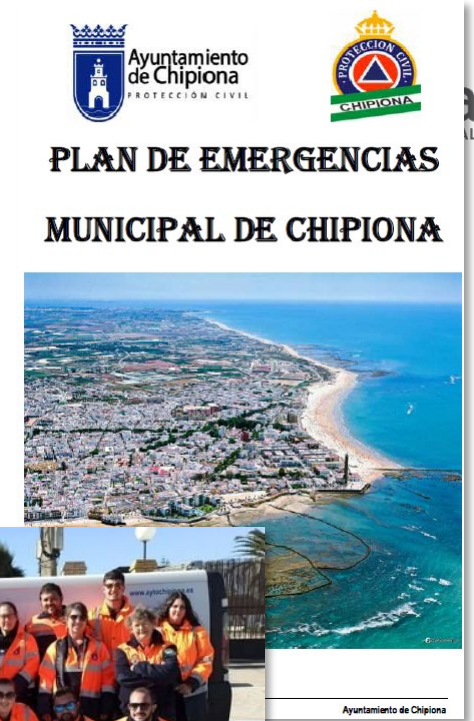
Nombre	Nivel de peligrosidad
Lonja de pescado	5
Cruz Roja	5
CIN y el Litoral El Camaleón	5
Estación de servicio	5
Faro de Chipiona	5
Policia Local	5
Santuario de Nª Sª de Regla	5
Centro de Salud El Arroyo	5
Museo del Moscatel	5
Colegio Divina Pastora	5
Casa Mi Abuela Rocío	5
Castillo de Chipiona	5
Fundación Vita	5
Centro Docente Privado V. de Regla	5
Residencia Infantil S. Carlos *	5
Mercado Mpal. de Abastos	4
Centro de Mayores	4
CEIP Los Argonautas	4
CEIP Lapachar	4
IES Salmedina	4
IES Salmedina	4
CEIP Cristo de las Misericordias	4
Guardia civil	4
Estación de autobuses	4
Parroquia Nª Sª de la O	4
Polideportivo	4
CEIP Maestro M. Aparcero (I)	4
CEIP Maestro M. Aparcero (II)	4
CEI Pepita Pérez	4
Expocabalgata	4
Protección Civil	4
Ambulatorio	4
CEIP Príncipe Felipe	4
IES Caepionis	4
Albergue Inturjovent *	4



TSUNAMI READY INDICATORS	
I	<b>ASSESSMENT (ASSESS)</b>
3	<b>ASSESS-3.</b> Economic, infrastructural, political, and social resources are identified. ✓

Municipal resources available, in economic, infrastructural, political and social terms, to face and reduce the tsunami risk have been identified and inventoried. The inventory includes:

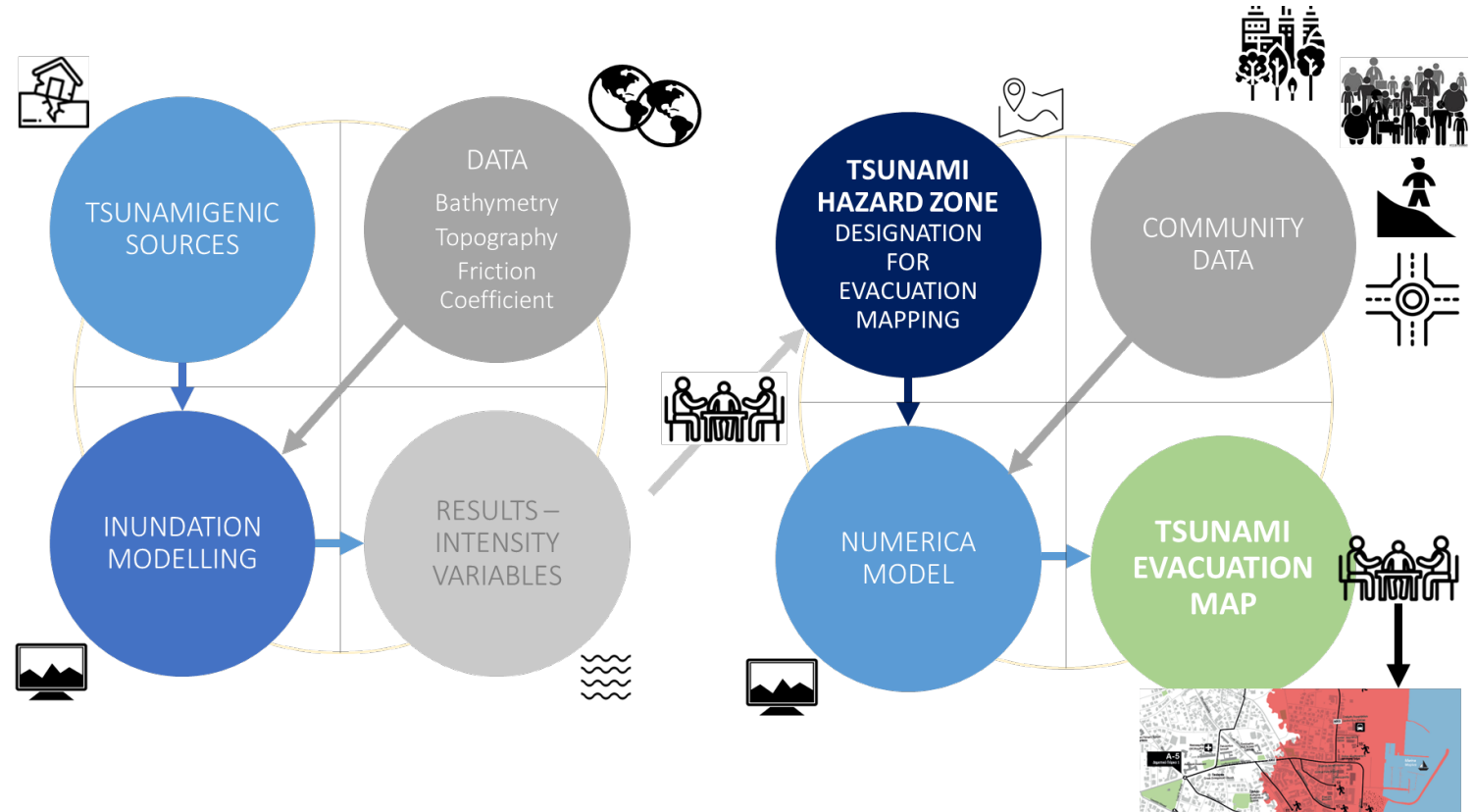
- Local budget for the emergency:** Municipal Security and emergency budget (2023).
- Existing Emergency plans:** (i) Municipal Emergency Plan, (ii) Tsunami Emergency Plan and Integrated Safety and (iii) Rescue Plan for the Beaches.
- EOC** to centralize receipt and dissemination of tsunami warnings 24/7 (Local Police HQ.).
- Buildings** or public spaces that **can be used as temporary shelters** or meeting points.
- Public buildings available for meetings**, workshops, training, exhibition, etc.
- Updated list of all kinds of emergency resources and assets** included in the Municipal Emergency Plan.
- Social and volunteer organizations** in place local networks, local school parents' associations (who may be available to help if needed).



TSUNAMI READY INDICATORS	
II	<b>PREPAREDNESS (PREP)</b>
4	<b>PREP-1.</b> Easily understood tsunami evacuation maps are approved. ✓

### Community-based Tsunami Evacuation maps

Technical and participatory approaches (Co-design)



TSUNAMI READY INDICATORS	
II	PREPAREDNESS (PREP)
4	PREP-1. Easily understood tsunami evacuation maps are approved.

## Community-based Tsunami Evacuation maps Technical & participatory approaches (Co-design)

**Mapa de evacuación ante maremotos**  
Tsunami evacuation map

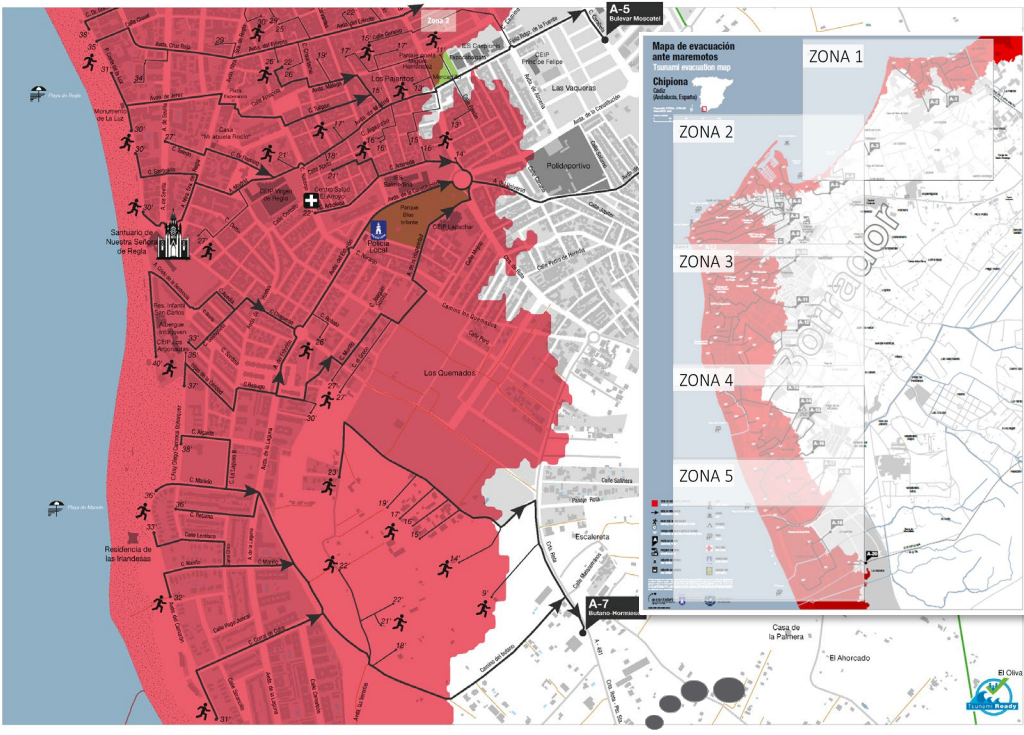
**Chipiona**  
Cádiz (Andalucía, España)

Proyección: ETRS89 UTM 30N  
Datum: ETRS89  
Sistema: UTM

**Legend:**

- Zona de aislamiento potencial
- Ruta de evacuación
- Área ruta de evacuación
- Término estimado a punto de reunión
- Peligro industrial
- Estación de servicio
- Estación de autobuses
- Aparcamiento
- Faro
- Puerto
- Campes
- Playa
- Centro de salud
- Cruz Roja
- Policia local
- Guardia Civil
- Protección Civil

Logos: IH Cantabria, Ayuntamiento de Chipiona, Universidad de Málaga



**IH cantabria**  
INSTITUTO DE HIDRÁULICA AMBIENTAL  
UNIVERSIDAD DE CANTABRIA



TSUNAMI READY INDICATORS	
II	<b>PREPAREDNESS (PREP)</b>
5	<b>PREP-2.</b> Tsunami information including signage is publicly displayed.
6	<b>PREP-3.</b> Outreach and public awareness and education resources are available and distributed.



### Qué hacer en caso de tsunami

Tenga identificadas las zonas de evacuación accesibles en 15 minutos a pie ¡Las carreteras y puentes pueden estar dañados!

Diríjase a lo más elevado y tierra adentro posible

Aléjese de ríos y estuarios ¡El mar puede adentrarse por ellos!

Si es arrastrado agárrese a algo que flote

Si está en una embarcación, navegue mar adentro hasta que la profundidad sea superior a 100 metros

Suba por encima de una 3ª planta o azotea de una construcción sólida Como último recurso súbase a un árbol

Si el terremoto ha afectado a la zona, tenga precaución con los cables y objetos que puedan caer

## Guía didáctica TSUNAMIS

112 Emergencias Junta de Andalucía

Recomen unesco ICG/NEAMTWS TSUNAMI EXERCISE NEAMWave23 Ejercicio de evacuación CEIP Maestro Manuel Aparero Chipiona, Cádiz, España

¡Deprisa, ponte a salvo! Sigue la ruta de evacuación

Atento a las indicaciones

Dirígete al punto de reunión

TSUNAMI READY INDICATORS	
<b>II</b>	<b>PREPAREDNESS (PREP)</b>
7	<b>PREP-4.</b> Outreach or educational activities are held at least three times a year.



- November 30, 2020. Presentation of the Tsunami Risk Action Plan for Chipiona: TsunamiReady Plan.
- May 5, 2021, online Tsunami Webinar.
- September 28, **2021**. Workshop for the validation of the preliminary tsunami evacuation maps in Chipiona.
- September 29, **2021**. Field visit for the validation of the preliminary tsunami evacuation maps in Chipiona.
- Oct. 18, **2021**. Evacuation maps for tsunami evacuation in Chipiona: Testing times required for the population in the event of a walking evacuation due to a tsunami warning.
- November **2021**. Commemoration of 1755 Lisbon tsunami: traditional procession of the Cristo de las Misericordias (Christ of the Mercy). (news link)
- November **2021**. Commemoration of 1755 Lisbon tsunami: Conference held by the Official Town Chronicler, entitled “This was the Tsunami of 1755 in Regla and Chipiona”.
- November **2021**. Commemoration of 1755 Lisbon tsunami: Conferences.
- November **2021**, Opening of the Tsunami Ready municipal office.
- November **2021**. Guided school visits to the Chapel of Cristo de las Misericordias (Christ of the Mercy), La Cruz del Mar monument and the Tsunami Ready municipal office.
- October 19 and 20, **2022**, military maneuvers were carried out in Chipiona by the Military Emergency Unit, which consist of the establishment of a provisional shelter for victims, as a simulation of actions against the risk of tsunamis.
- November 18, **2022**, the I Conference on tsunami management in the Gulf of Cádiz. Tsunami Ready office of Chipiona.
- November **2022**. Coastal risk perception surveys of the CoastWAVE project, aimed at schoolchildren, personnel related to emergency management, and the general population, carried out in December 2022. Information on participation and results must be in IH Cantabria

TSUNAMI READY INDICATORS	
II	<b>PREPAREDNESS (PREP)</b>
7	<b>PREP-4.</b> Outreach or educational activities are held at least three times a year.



Delegación de Educación aytochipiona.es

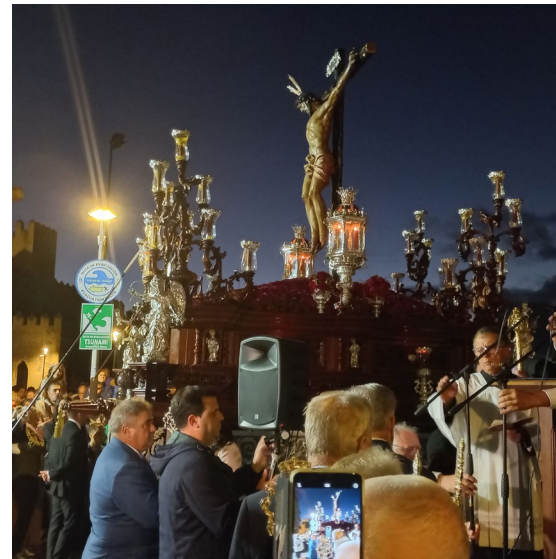
**ACTIVIDADES EN CONMEMORACIÓN DEL MAREMOTO DE LISBOA DE 1755**  
*Chipiona 2023*

- 30, 31 de octubre y 3 de noviembre - Ermita  
11:00 - Visita de Grupos Escolares.
- 30 de octubre - Parroquia Ntra. Sra. de la O  
21:30 - Presentación Restauración de Cuadro Histórico del Maremoto.
- 1 de noviembre - Parroquia Ntra. Sra. de la O  
18:30 - Procesión del Stmo. Cristo de las Misericordias.
- 2 de noviembre - Edificio San Fernando  
17:00 - Jornadas de Concienciación sobre el riesgo de Maremoto (inscripción: tsunamiready@aytochipiona.es)
- 3 de noviembre - Cruz del Mar  
12:30 - Ejercicio Tsunami Walk.  
(inscripción: tsunamiready@aytochipiona.es)

DELEGACIONES DE ALCALDÍA - PRESIDENCIA Y EDUCACIÓN

### ACTIVITIES AROUND WTAD 2023 AND NOV. 1<sup>ST</sup>.

- **Tsunami awareness** activities for **students**
- Restoration of the historical painting on the 1755 tsunami in Chipiona
- Procession Nov 1<sup>st</sup>, commemorating 1755 tsunami in Chipiona
- **Tsunami Awareness Day Conference**
- **Tsunami Walk Exercise**



TSUNAMI READY INDICATORS	
II	<b>PREPAREDNESS (PREP)</b>
8	<b>PREP-5:</b> A community tsunami exercise is conducted at least every two years.

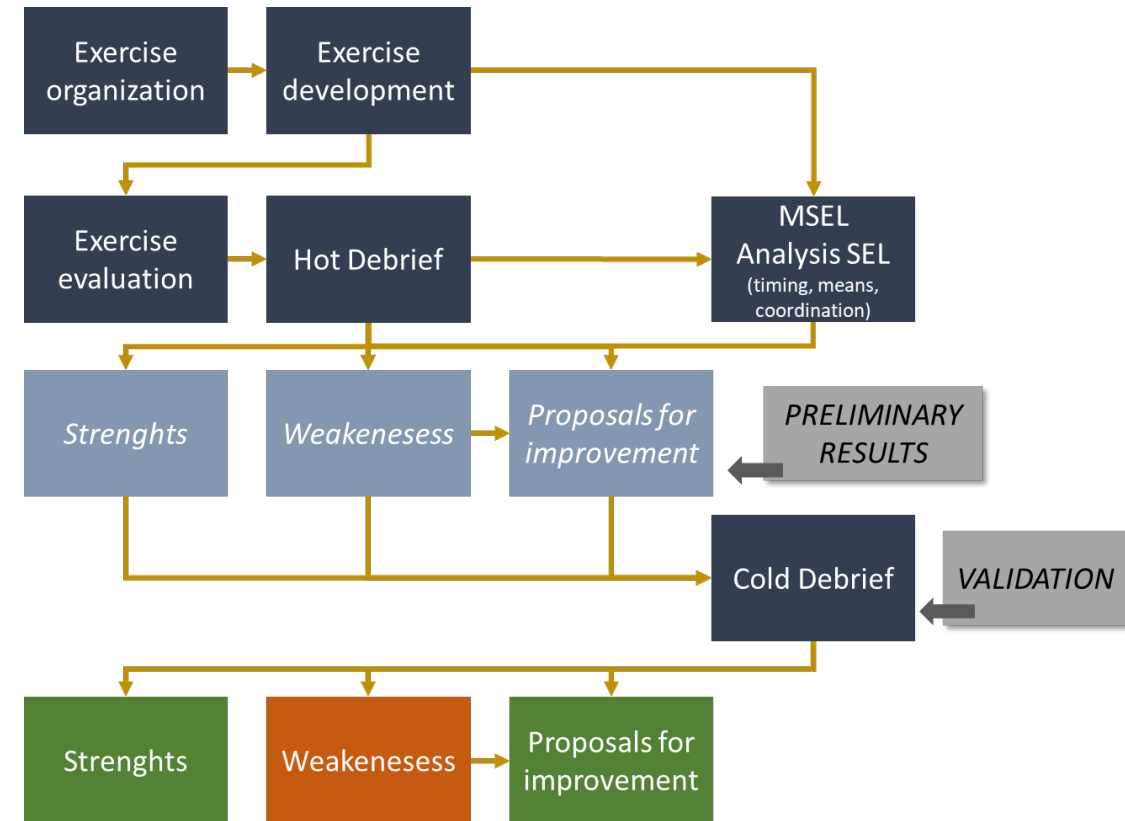


### Specific OBJECTIVES at NATIONAL and A.C. LEVEL are:

1. Evaluate the means and times for issuing the alert at national and Autonomous Community level.
2. Evaluate the means and times for receiving the alert at national and Autonomous Community level.
3. Evaluating the tsunami warning communication sequence in Spain.

### Specific OBJECTIVES at the MUNICIPAL LEVEL are:

1. Assess the means and timing of receipt of alert at the municipal level.
2. Assess the means and timing of issuing the warning at municipal level.
3. Evaluate the activation of the Municipal Emergency Plan and the CEIP's self-protection plan.
4. Evaluate the process and effectiveness of the evacuation route and assembly point



TSUNAMI READY INDICATORS	
II	<b>PREPAREDNESS (PREP)</b>
8	<b>PREP-5:</b> A community tsunami exercise is conducted at least every two years.



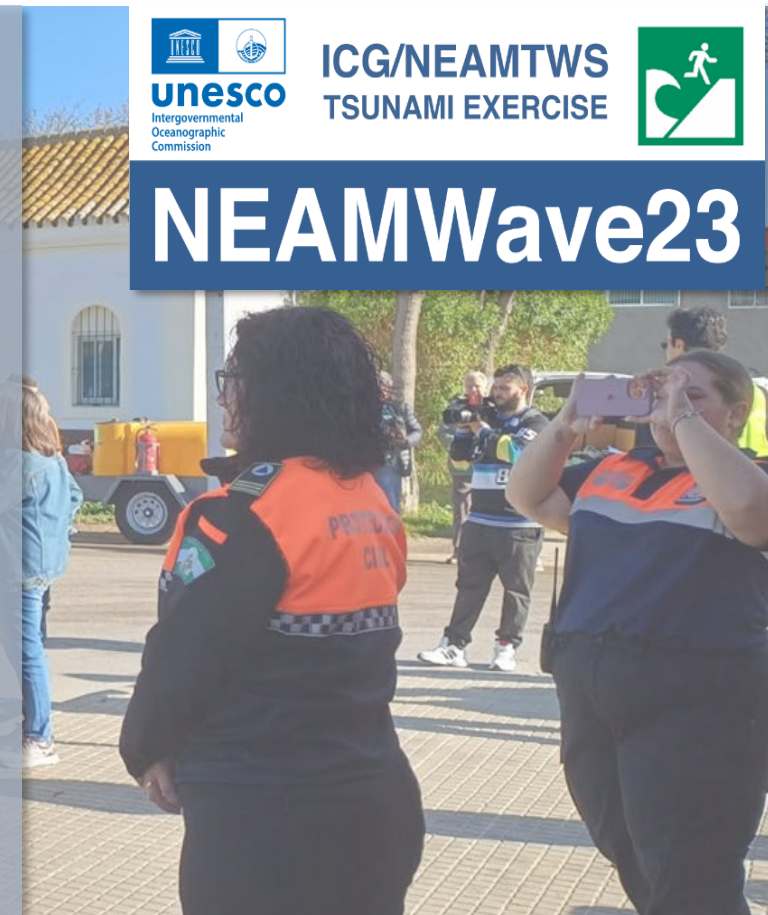
Nearly 300 participants, including 11 institutions and 213 students between 3 and 12 years old.



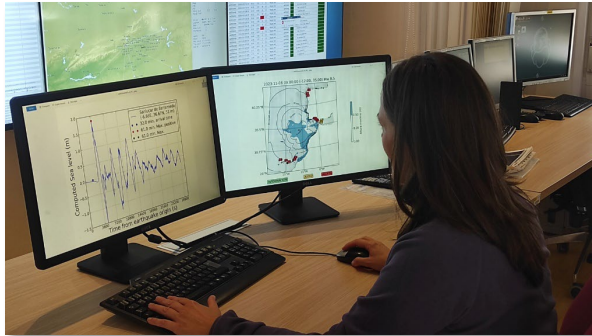
The tsunami warning communication chain in Spain (times and means), from the national level through the autonomous community to the municipal level, was tested. One school was evacuated to the nearest Assembly Point.



The exercise identified some areas for improvement in coordination, communication and the evacuation process.



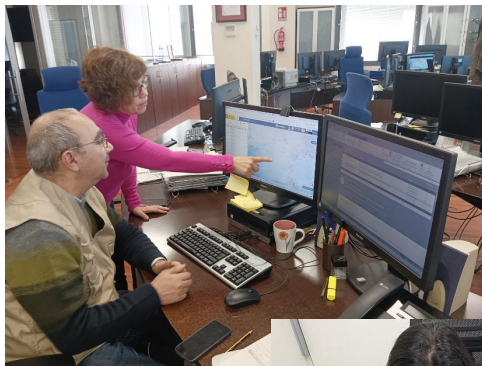




**IGN**



**Jefatura  
Policía  
Local**



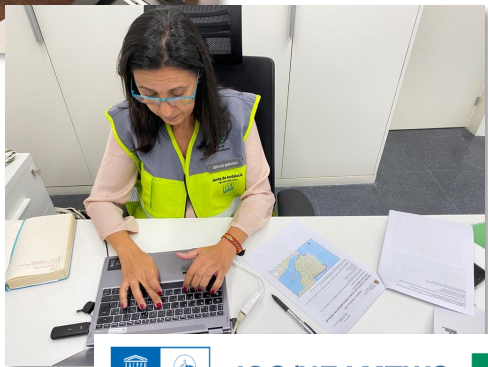
**DGPCE**



**Evacuación CEIP  
M.M. Aparecro**



**DGEPC  
Junta  
Andalucía**



    
**ICG/NEAMTWS  
TSUNAMI EXERCISE**  
**NEAMWave23**



**Ayuntamiento  
de Chipiona**

     
**¡Deprisa, ponte a salvo!**  
Sigue la ruta de evacuación  
**Ejercicio de evacuación**  
CEIP Maestro Manuel Aparcero  
Chipiona, Cádiz, España



     
**NEAMWave23**  
Fundado por  
European Union  
Hazard Mitigation Act  
**CHIPIONA  
(SPAIN)**  
JOINS  
NEAMWAVE23 TSUNAMI EXERCISE

**IOC UNESCO**  
[Video link](#)

TSUNAMI READY INDICATORS	
<b>III</b>	<b>RESPONSE (RESP)</b>
9	<b>RESP-1.</b> A community tsunami emergency response plan is approved.
10	<b>RESP-2.</b> The capacity to manage emergency response operations during a tsunami is in place.
11	<b>RESP-3.</b> Redundant and reliable means to timely receive 24-hour official tsunami alerts are in place.
12	<b>RESP-4.</b> Redundant and reliable means to timely disseminate 24-hour official tsunami alerts to the public are in place.



**RESP – 1 IS IN PROGRESS.**

**LOCAL TSUNAMI EMERGENCY PLAN IS A COMPLEX DOCUMENT THAT NEEDS TO BE ENDORSED BY AUTONOMOUS COMMUNITY AND NATIONAL LEVEL**

### RESP - 2

- Local Police HQ is the EOC, with capacity to manage emergencies

### RESP - 3

- Telephone line
- E-mail.
- Mobile phone.
- 112 Andalusian Platform for Emergency Management.
- Radio frequency

### RESP – 4

- 10 different means...
- 112 cell broadcasting.

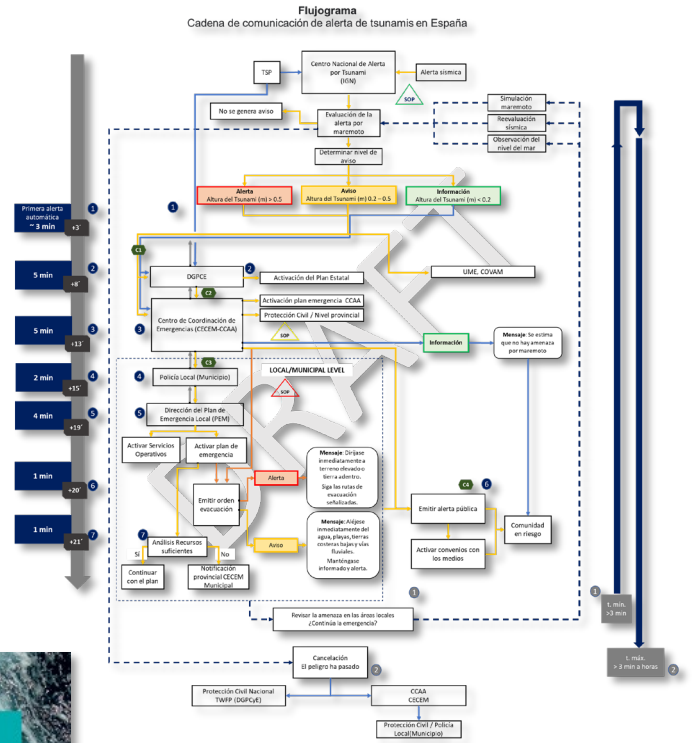
- Complementary Activities
- Local Tsunami Ready Committee ✓
- National Tsunami Ready Board ✓
- National SOP workshop ✓
- Local SOP workshop ✓
- Tsunami Detection and Alerting ✓
- IDSL support ✓



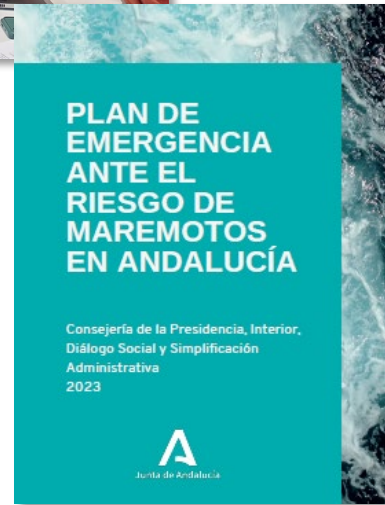
National SOP Workshop, April 19, 2023.



Local SOP Workshop, December 15th, 2023.



Tsunami Warning Chain, Spain. Draft flowchart.



Tsunami Emergency Plan, Andalusia.



### Governance:

- **Integration of TRRP in existing national governance structure**, especially relevant for warning communication mechanisms and **Local Tsunami Emergency Plan**.
- **Establishment of NTRB**. Several meetings have been held in which the different obstacles encountered by NCPA in chairing the NTRB have been discussed and options to overcome them have been proposed, but the decision has been continuously postponed, and the process has slowed down. The most mentioned and most relevant reason for this reluctance seems to be related to the lack of human resources (not enough staff available and lack of adequate tsunami technical/scientific expertise) and financial resources to cover this work.

As the project is coming to an end, there is an urgent need to find a solution for the creation of the NTRB. Alternative options are being explored in which NTWC would chair and TNC would act as the secretariat of the NTRB.

- **Institutional coordination and potential conflicts**

The TRRP is a cross-cutting program involving different administrations at the national, Autonomous Community and municipal levels. Given the number of different departments, different interests, and sometimes different political tendencies/parties, this is a major challenge

### Resources:

- **Financial resources to achieve the accomplishment of the 12 indicators.** Developing all the indicators required in the PRTR in a technically and scientifically sound manner is costly and requires specialized personnel. IHCantabria have had to co-finance a significant part of the project.
- **Sustainability of TRRR.** Continuous support by scientific and disaster/emergency experts is needed.

### General:

- **Signage.** Although in general terms, in Chipiona there is a relatively high awareness of tsunami risk and an acceptance of the TRRP, signage, etc., the hazard zone signs have been considered too large, and disturbing for urban design. It is perceived that these signals indicate that one should not be in that area under any circumstances, creating a feeling of insecurity in the area where leisure is most popular, both for the permanent and temporary population.

### Recognition process. Technical level requirements

- **Lack of precision, at times, regarding the specific requirements to meet the indicators in MG74.** This has led to some confusion and disagreement when it comes to addressing some indicators.



We would like to express our strongest gratitude to IOC/UNESCO for the financial, technical, logistical, and general support.

We would especially like to thank the UNESCO/IOC **Tsunami Resilience Section** for their continued willingness to assist and their always positive attitude throughout the process.



Ayuntamiento de Chipiona



# Thank you!

## IOC-UNESCO DG ECHO COASTWAVE PROJECT MEETING

Key Achievements, Challenges and Opportunities on the  
Implementation of CoastWAVE Project and Tsunami Ready  
Programme in NEAM Region

## SUMMARY OF ACTIVITIES DEVELOPED IN CHIPIONA



Ayuntamiento  
de Chipiona



*Ignacio Aguirre Ayerbe*

*IHCantabria*

*CoastWAVE Project coordinator in Spain*

February 5, 2024. Paris

**IHCantabria**  
UNIVERSIDAD DE CANTABRIA

I+D+i para un desarrollo sostenible