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## Information required for use in a TEP process

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*North-West Indian Ocean Regional Workshops on  
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# Hazard Information

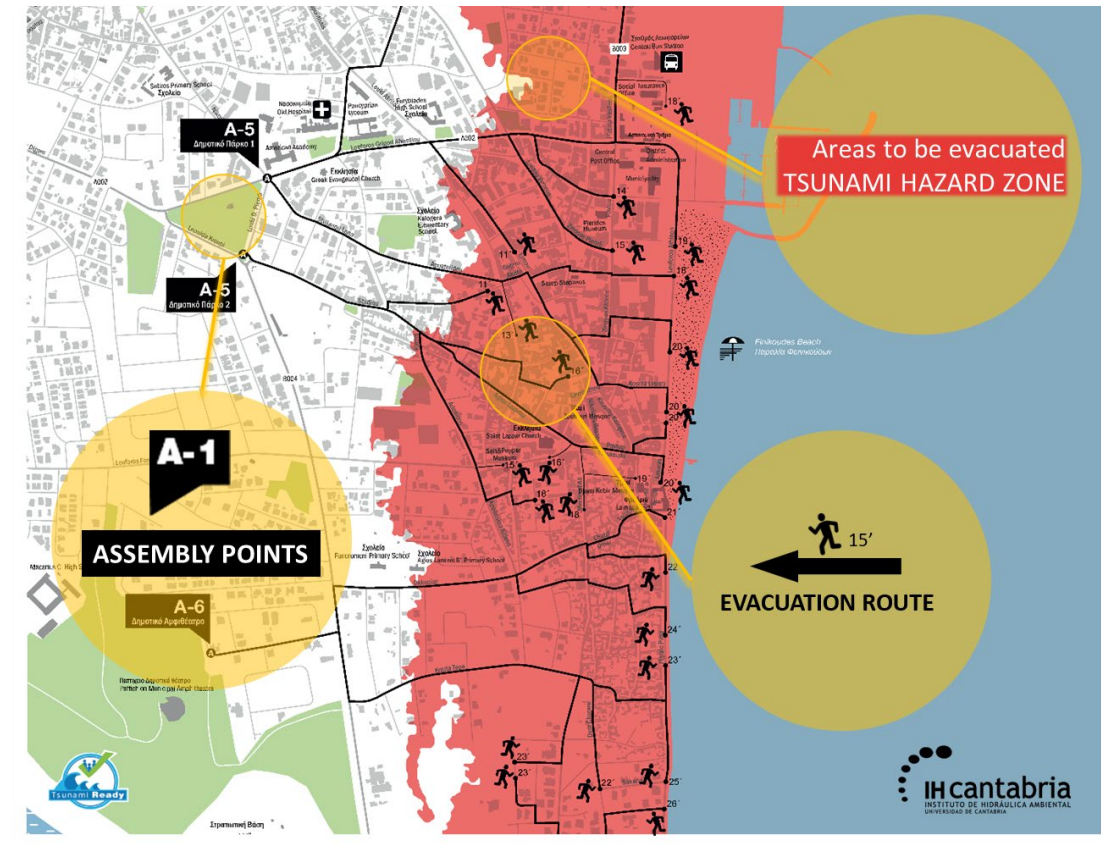
- Location of **tsunami source areas** (seismic and non-seismic) which can affect the area
- Hazard Maps showing **areas that can be inundated** as well as **minimum estimated arrival times (ETA<sub>min</sub>)** for tsunamis of different origins
- **Inundation Map** for selected scenario(s) **that has been agreed upon to serve as basis for TEP**
- **Involve tsunami experts** in providing these information and further background information

# Exposure & Vulnerability Information

- Vulnerability Assessments for TEP mean **identifying the weaknesses** that make your community **vulnerable to losing life and suffering injury** during a tsunami
- It requires information on how many **people** are **exposed**, their spatial distribution and who these people are. Population data can be obtained from local administration or national statistics
- Data on type, size and location of **vulnerable facilities/critical building for evacuation**, like schools, hospitals, etc. that require special attention in the TEP need to be identified and mapped. Analysing potential impact on them is an asset.
- **Evacuation readiness** is another aspect to assess. This includes community awareness regarding self-evacuation, local warning processes and the clarification on mandate and procedures to officially call for evacuation, i.e., a local Tsunami Emergency Response Plan

# Identification of Assembly Areas - Information

- Criteria for the selection of assembly areas: Reflect on information needed.
  - ✓ Located out of the tsunami hazard zone
  - ✓ Located out of other potentially hazardous areas
  - ✓ Ownership
  - ✓ Accessibility
  - ✓ Optimal physical conditions
  - ✓ Services, supplies (water and electricity)
  - ✓ Capacity of assembly points



# Information on Tsunami Warning

- **Local institution** with the mandate to **disseminate warnings** and guidance, including official **call for evacuation**
- **Local regulations** on disaster management and early warning
- Structure, actors and procedures of the end-to-end tsunami warning chain, especially also the details on the local level
- **Warning dissemination technology** in place, including sirens. Clarify means of siren sounds!
- Local **broadcast media** which is ready to disseminate warnings and call for evacuation on time



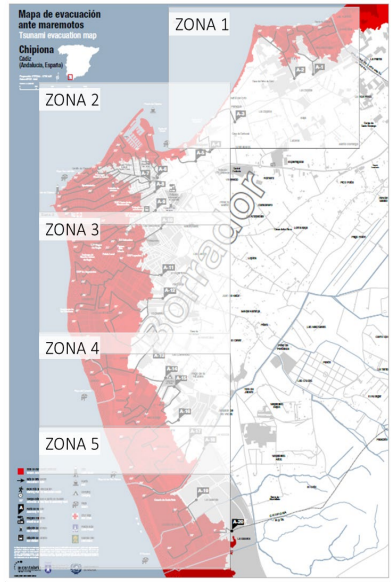
# Base Map

- Consider effort in **designing** the map, useful and easy to read
- **Topographical map** on a scale of 1:25.000 that show contour lines for elevation, land use and spatial distribution of settlements and infrastructure
- **Satellite images** (e.g. Google Earth) or **online maps** (e.g. OpenStreetMap) are useful as well and cover most areas worldwide
- Make sure that information on base map is **up to date!**
- **Scale** ultimately depends on the size of the planning area. Scales between 1:10.000 and 1:25.000 have been proven adequate

# Participatory Process to co-design - Information

- Stakeholder identification & mapping
  - ✓ Involve local residents to get their perspective and learn about short-cuts that can serve as evacuation routes
  - ✓ Involve local authorities and emergency managers
  - ✓ Local authorities approval and social acceptance

# Example



## Mapa de evacuación ante maremotos

### Tsunami evacuation map

# Chipiona

## Cádiz (Andalucía, España)

Proyección: ETRS89 - UTM 30N  
Datum: WGS 1984  
Escala: 1:5000

- Zona de inundación potencial (Tsunami Zone)
- Ruta de evacuación (Evacuation Route)
- Inicio ruta de evacuación (Starting Point of Evacuation Route)
- 32 Tiempo estimado a punto de reunión (Estimated Arrival time to Assembly Point)
- Punto de reunión (Assembly Point)
- Polígono industrial (Industrial Area)
- Estación de servicio (Gas Station)
- Estación de autobús (Bus Station)
- Aparcamiento (Parking)
- Faro (Lighthouse)
- Puerto (Port)
- Camping
- Playa (Beach)
- Centro de salud (Health Centre)
- Cruz Roja (Red Cross)
- Policía local (Local Police)
- Guardia Civil (Civil Guard)
- Protección Civil (Civil Protection)

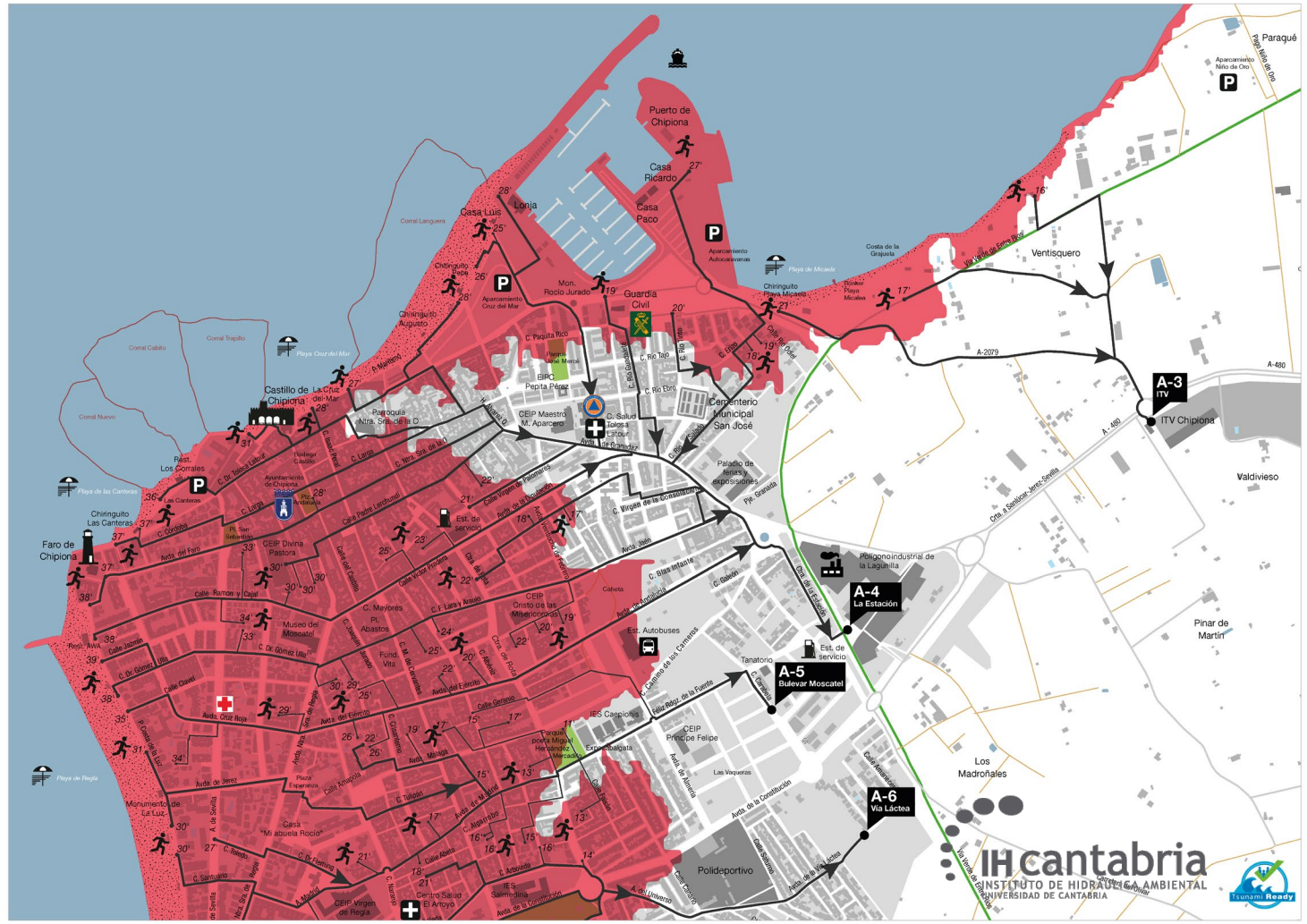
Los tiempos mostrados en el mapa representan el tiempo necesario para evacuar a un punto de reunión de emergencia, desde cualquier punto de partida de evacuación. Por razones de seguridad, se ha considerado una velocidad máxima relativamente lenta, aproximadamente 50 km/hora, atribuida a las personas mayor o con discapacidad.

The times shown on the map represent the time required to evacuate to an assembly point from the reference point to the assembly point. For safety reasons, a relatively slow average speed of approximately 50 km/hour, attributed to the elderly people with a slow pace, has been considered for this purpose.

El área inundada en los alrededores de Chipiona (Cádiz) ha sido determinada por el INCHGOE, con la colaboración de otras instituciones. Este mapa muestra el resultado de los trabajos realizados por el Ayuntamiento de Chipiona, con el apoyo técnico de la Universidad de Cantabria. Este mapa es un producto de la colaboración entre el Ayuntamiento de Chipiona y la Universidad de Cantabria. Este mapa es un producto de la colaboración entre el Ayuntamiento de Chipiona y la Universidad de Cantabria.

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THANK YOU