

National Tsunami Warning Chains and SOPs

*IOC- UNESCO EU DG-ECHO CoastWAVE Project Workshop -
October 2022*

SPAIN

Ignacio Aguirre Ayerbe

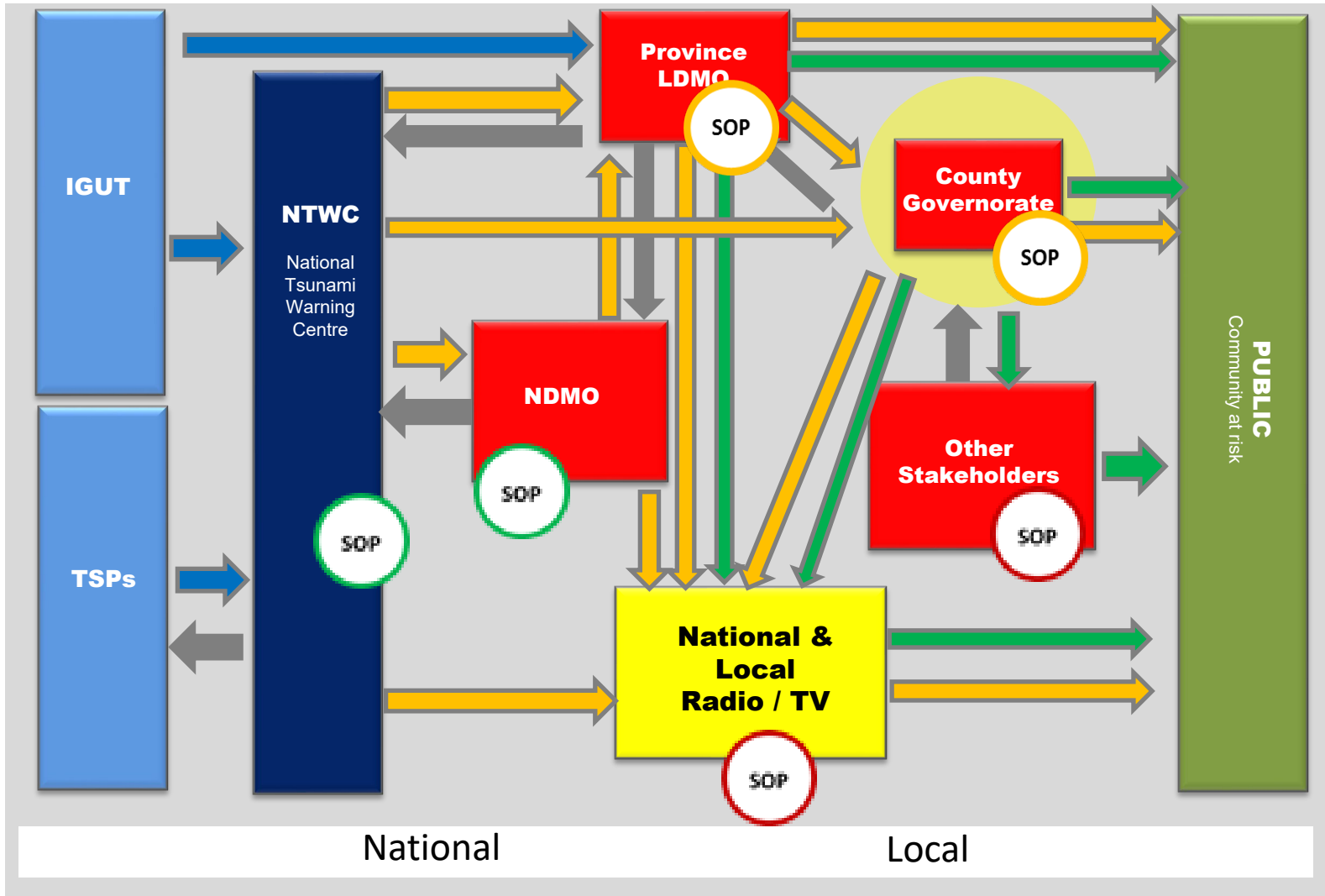
CoastWAVE project Coordination in Spain



5 Min

7 Min

Timeline for the first warning message in case of near-field threats (Minutes after EQ)



Information



Warning



Warning and Advice



Official call for evacuation

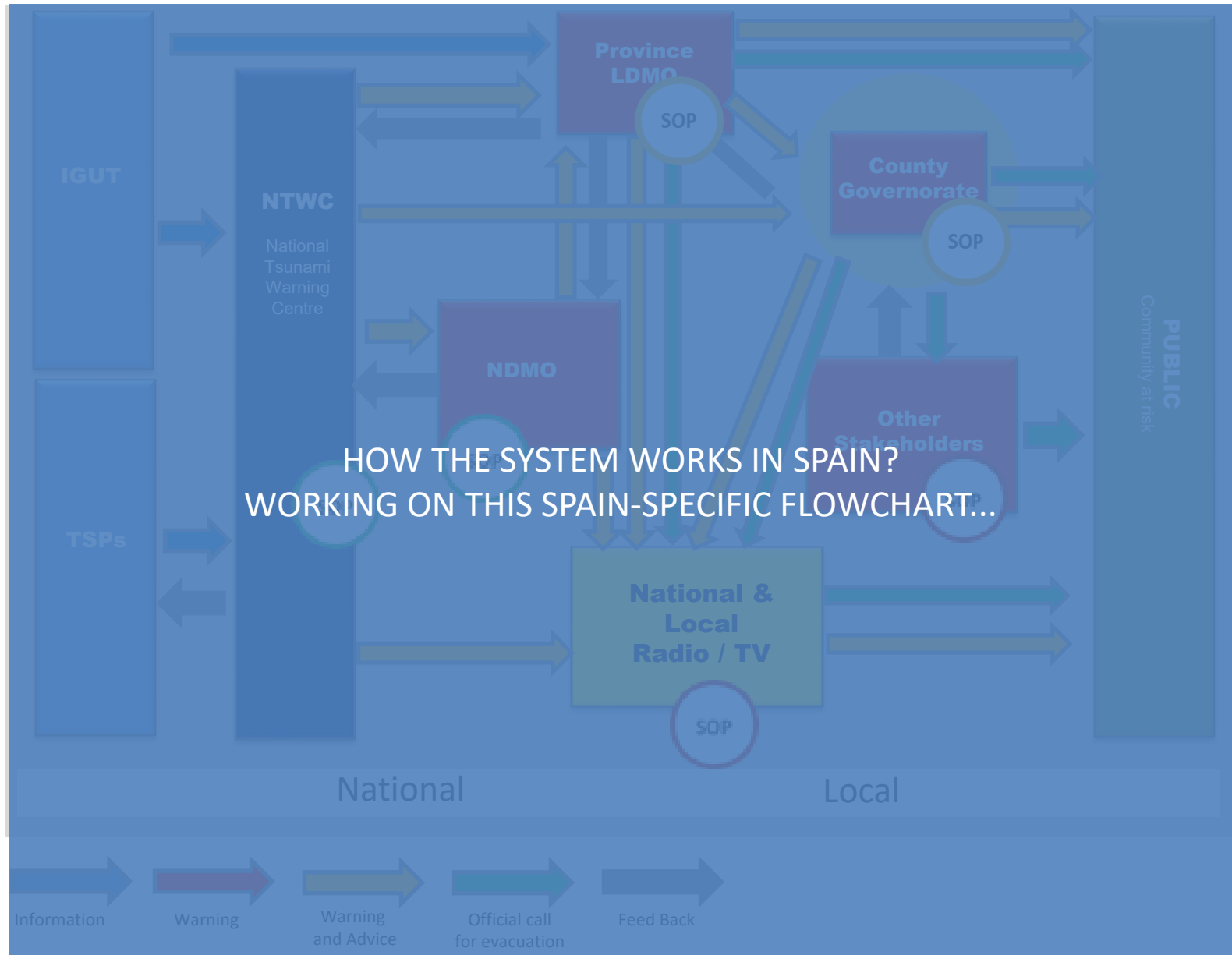


Feed Back

5 Min

7 Min

Timeline for the first warning message in case of near-field threats (Minutes after EQ)

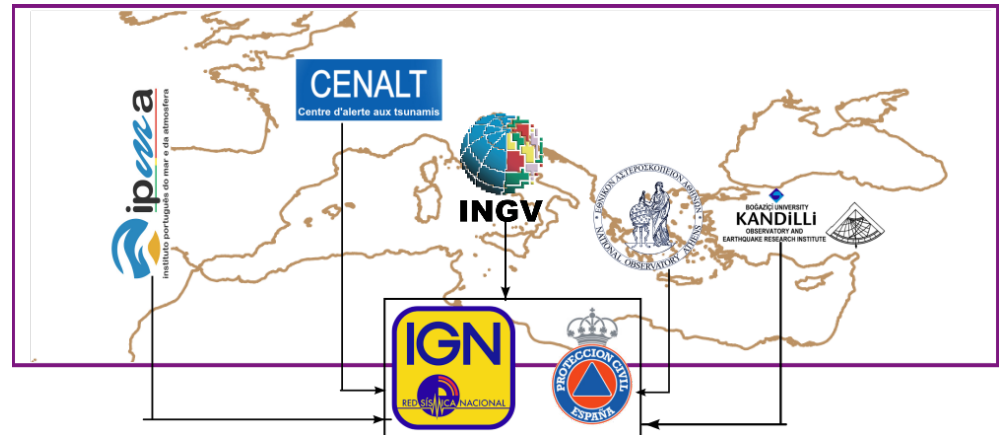


National Tsunami Warning System (SINAM)

Detection, warning and dissemination

Regional Systems – Tsunami Service Providers (TSP)

- Portugal (IPMA)
- France (CENALT)
- Italy (INGV)
- Greece (NOA)
- Turkey (KOERI)



National Systems:

Portugal, France, Italy, Greece, Turkey, **Spain**, Denmark, Germany, Romania.

National Tsunami Warning System (SINAM)

Detection, warning and dissemination

National Tsunami
Warning Centre



NTWC

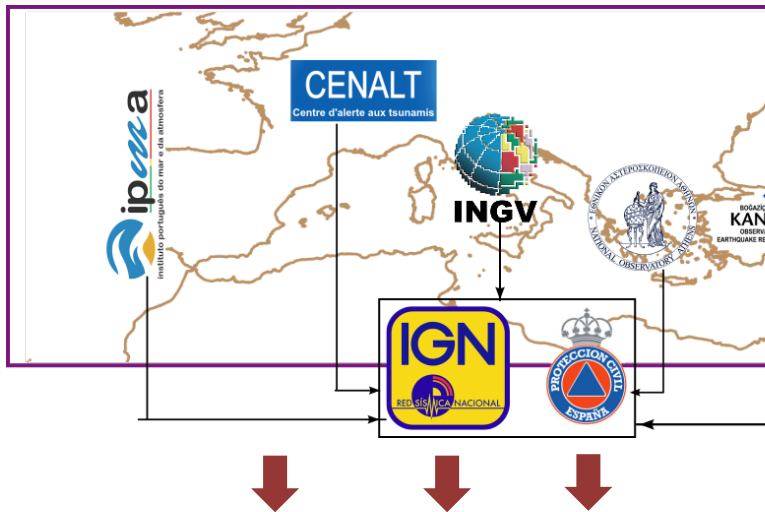
National Tsunami
Warning Focal Point



NTWFC / NDMO

National Tsunami Warning System (SINAM)

Detection, warning and dissemination



TSP + NTWC + NDMO + REDMAR + ... OTHER INT. WARNINGS





Spanish National Disaster Management Office DGPCE

NATIONAL LEVEL

CCAA LEVEL

LOCAL LEVEL

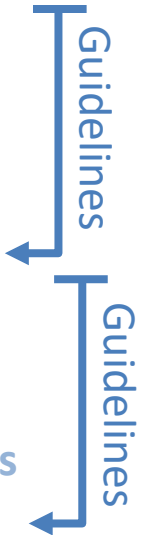
SOCAL LEVEL

- National Emergency Plan for Civil Protection (PLEGEN)
- Special Plans (inund., volc., **tsunami**)
- Basic Plans (nuclear, war)

- Territorial plans
- Special plans

- Territorial plans
- Special plans

- Self-protection plans





Spanish National Disaster Management Office DGPCE

At present we only have the National Tsunami Emergency Plan, so there is still work to be done, as the municipal tsunami plan should be integrated into the regional (CCAA) tsunami plan, which does not yet exist.

On the other hand, as a positive point, it should be noted that Andalusia is currently developing the regional tsunami emergency plan, and we will do the same at the municipal level, in Chipiona, so that everything can be established during this CoastWAVE project..... A great challenge that we have to achieve



Spanish National Disaster Management Office DGPCE

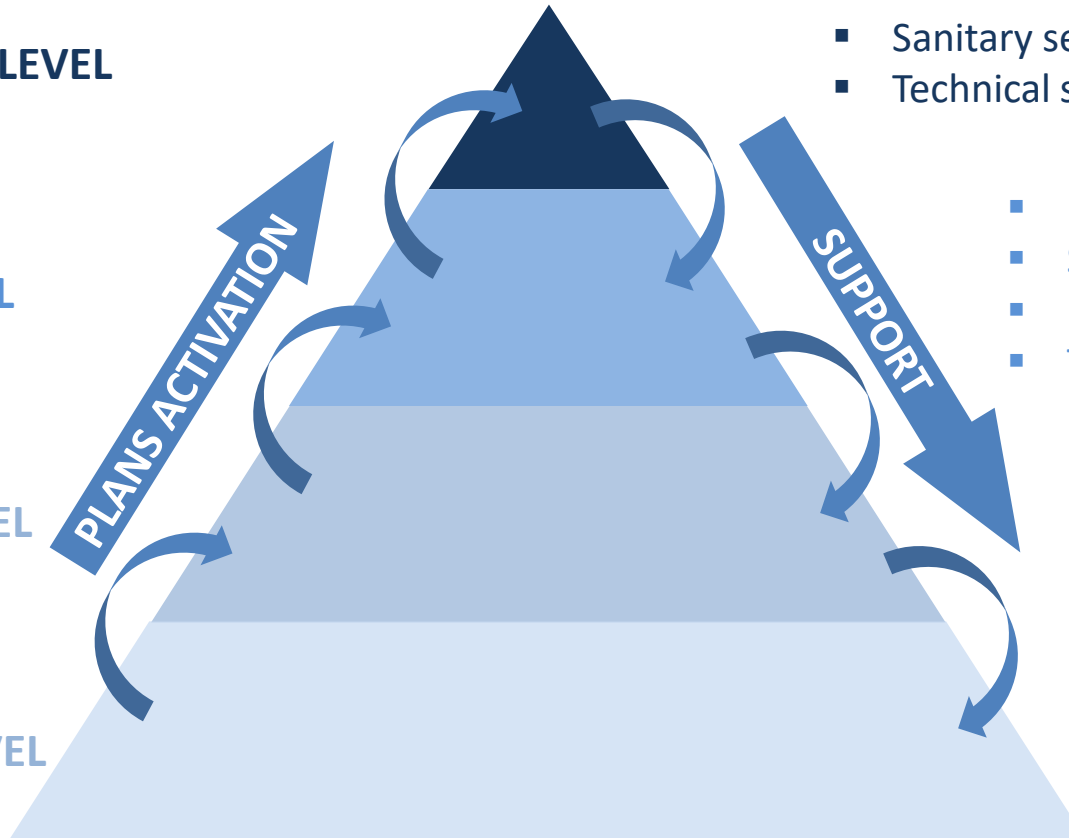
- ## Members of the System
- Army
 - Police
 - Sanitary services
 - Technical services (various)

NATIONAL LEVEL

CCAA LEVEL

LOCAL LEVEL

SOCAL LEVEL



- Fire services (112)
- Sanitary services
- Police (CCAA level)
- Technical services (various)

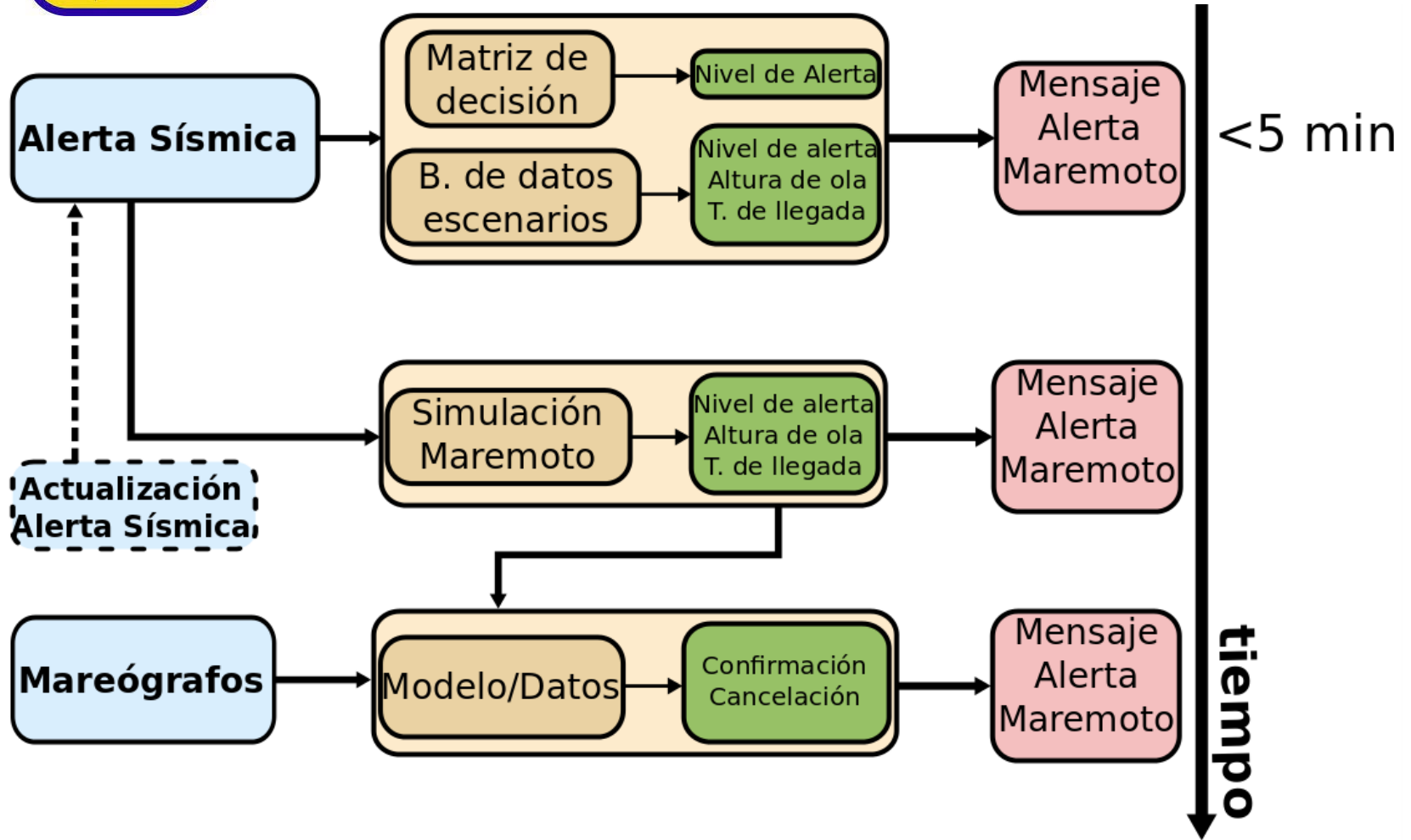
- Fire services (112)
- Local Police
- Sanitary services

- Self-protection
- Civil Associations
- ONGs
- Citizens



Spanish Tsunami Warning System

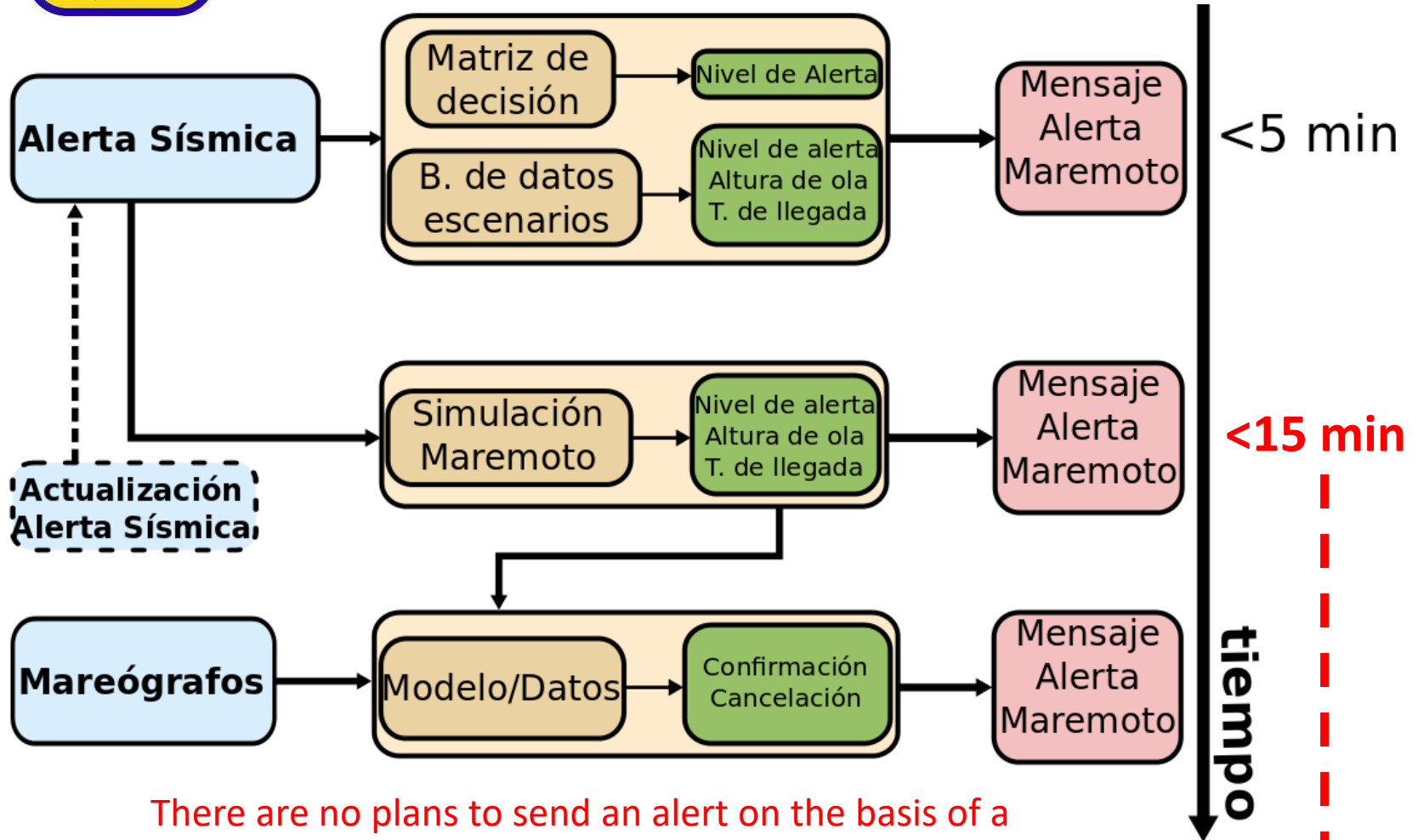
Detection, warning and dissemination





Spanish Tsunami Warning System

Detection, warning and dissemination



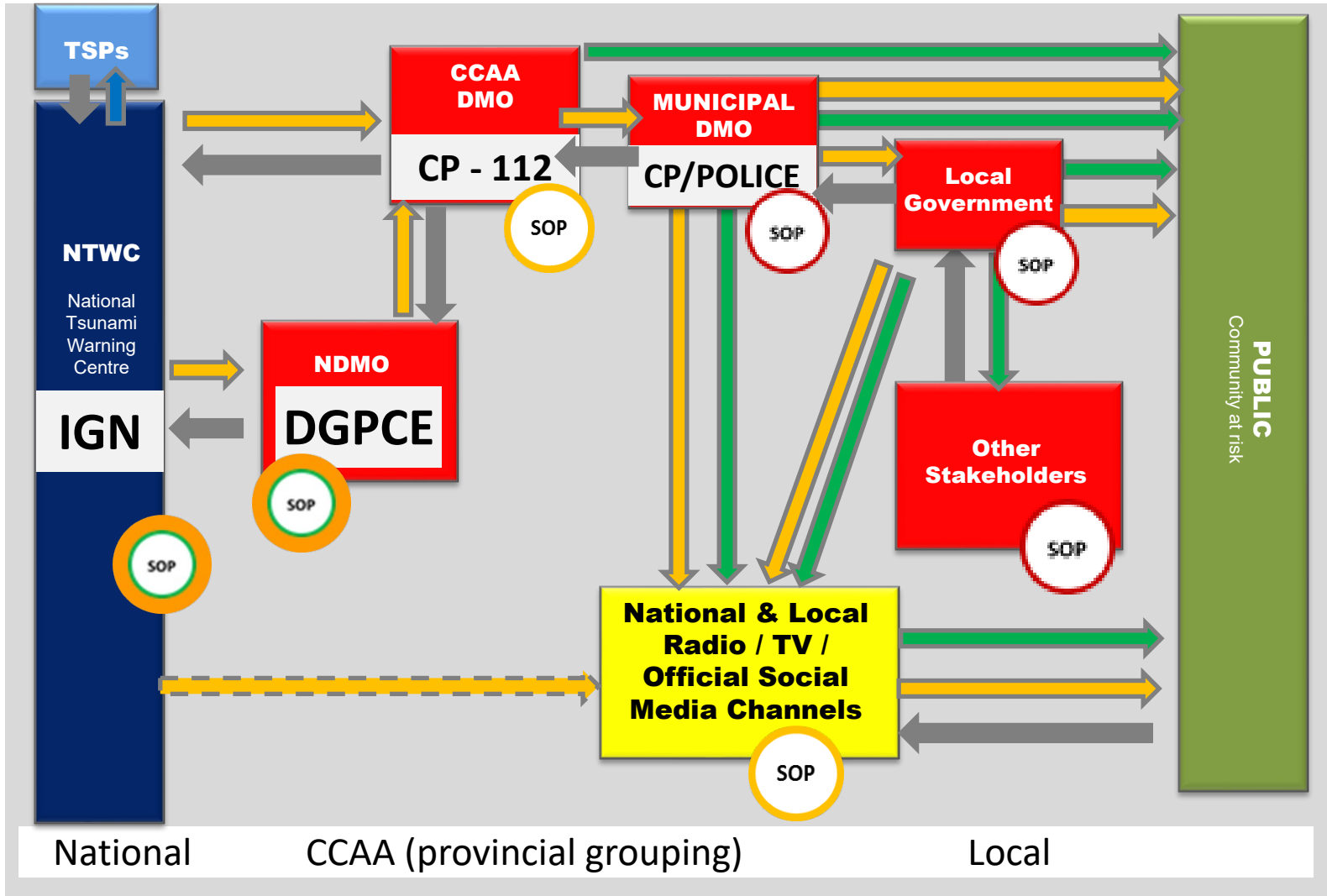
There are no plans to send an alert on the basis of a simulation. Not sufficiently tested, in terms of initial tsunami source characterisation parameters, to do so in a systematic way.

5 Min

(5+3) approx 8 Min

(5 + 3 + 3-8??) 10-16?? Min

Timeline for the first warning message in case of near-field threats (Minutes after EQ)



Information

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Warning and Advice

Official call for evacuation

Feed Back

- SOPs complete and tested / not fully tested
- SOPs partially complete
- SOPs not started

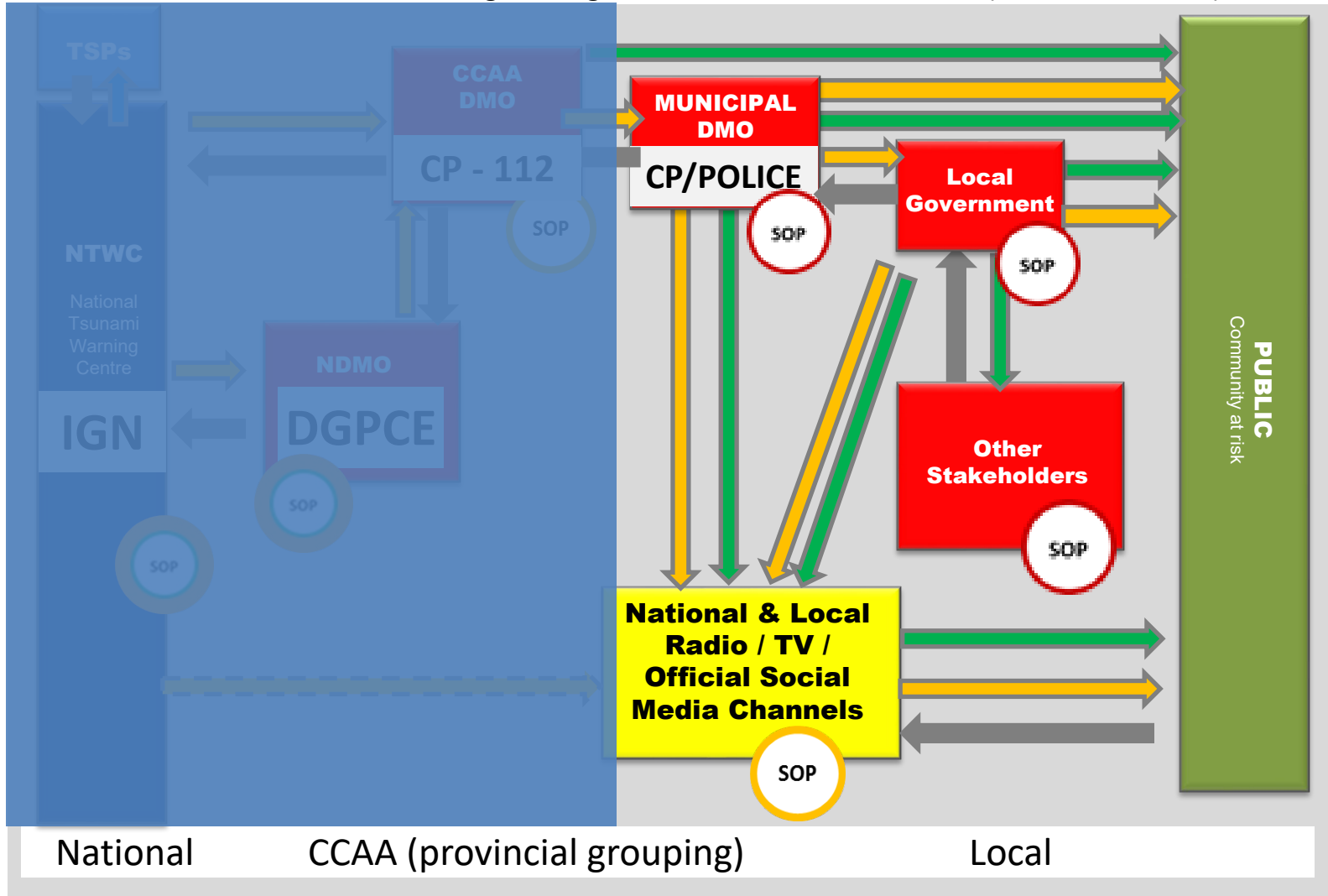


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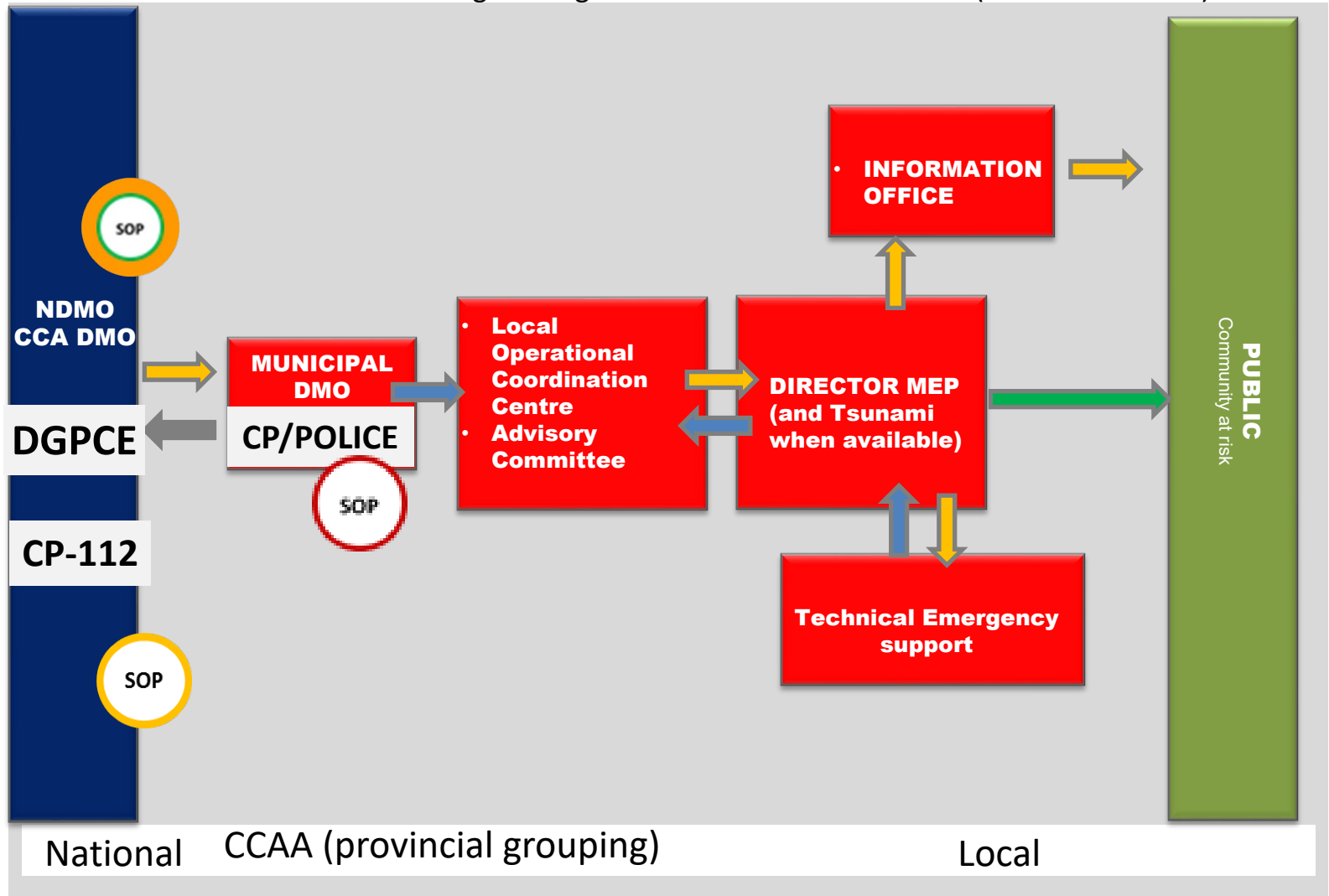
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- SOPs not started



7 Min

(5 + 3 + 3-8??) 10-16?? Min... if abbreviated protocols apply

Timeline for the first warning message in case of near-field threats (Minutes after EQ)



National Tsunami Warning System (SINAM)

Gaps and challenges

- Chipiona is a municipality of less than 20,000 inhabitants, so according to the *Ley de Bases de Régimen Local* it is not yet obliged to provide Civil Protection services.

However, there is a **floating tourist population** throughout the year, which in the summer season multiplies up to 8 times (approx. 150,000 people), which means that the need for a Civil Protection Service is more than evident.

- The development of the current **Municipal Emergency Plan** was mainly carried out by Civil Protection volunteers... approved by the Civil Protection Commission of the Junta de Andalucía (CCAA level)... however, it **needs to be updated**.
- Chipiona Tsunami Emergency Plan must be annexed to the MEP and must be **approved by**, (i) the Plenary of the City Council, and secondly by the Civil Protection Commission at the CCAA level.
- Currently, the Tsunami Emergency Plan for Andalusia (CCAA level) is under development, so the Chipiona Municipal Tsunami Emergency Plan **cannot yet be approved by the Civil Protection Commission at the CCAA level**.

National Tsunami Warning System (SINAM)

Gaps and challenges

- A **tsunami SOP** needs to be established within the Tsunami Municipal Emergency Plan, with simplified and abbreviated protocols (ideally with a high degree of automation) and aligned with higher level procedures (CCAA and National Level).
- When **issuing** a mass **warning** to the **population**, through various **redundant** channels, it is necessary to highlight the need for **coordination** of multiple actors through decentralized (e.g., task trees) or automated protocols.
- Considering that the regional plan is expected to be approved soon, and given the characteristics of a tsunami event, the emergency will go beyond the local level. In the case of activation of a higher-level Emergency Plan, the local structure would be integrated into the structure of the higher-level plan.
- Given that a tsunami event is very likely to be associated with a seismic event, it is highly advisable to foster the **development of the Local Emergency Plan for Seismic Risk**, following the guidelines of the existing Emergency Plan for Seismic Risk at the level of the CCAA of Andalusia.