

Best solutions

Estibaliz Briz (University of the Basque Country UPV/EHU)





Argumentum.al

Earthquakes



UKinsuranceNET

Subsidence



netherlandsnewslive

Storms

Shelter



Deltares.nl

Floodings



Deltares.nl

Wildfires



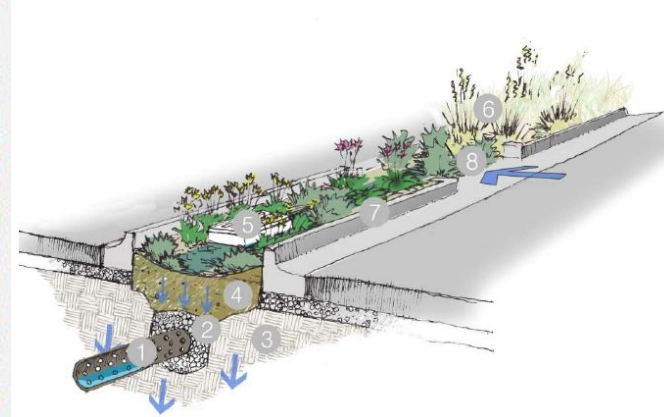
Thelocal.es

Heat waves



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821282

Natural Based Solutions



Shelter

The natural infiltration of rainwater and runoff from streets

The optimal distribution of green spaces should be defined in an urban development **plan**



Avoid flooding at the city scale

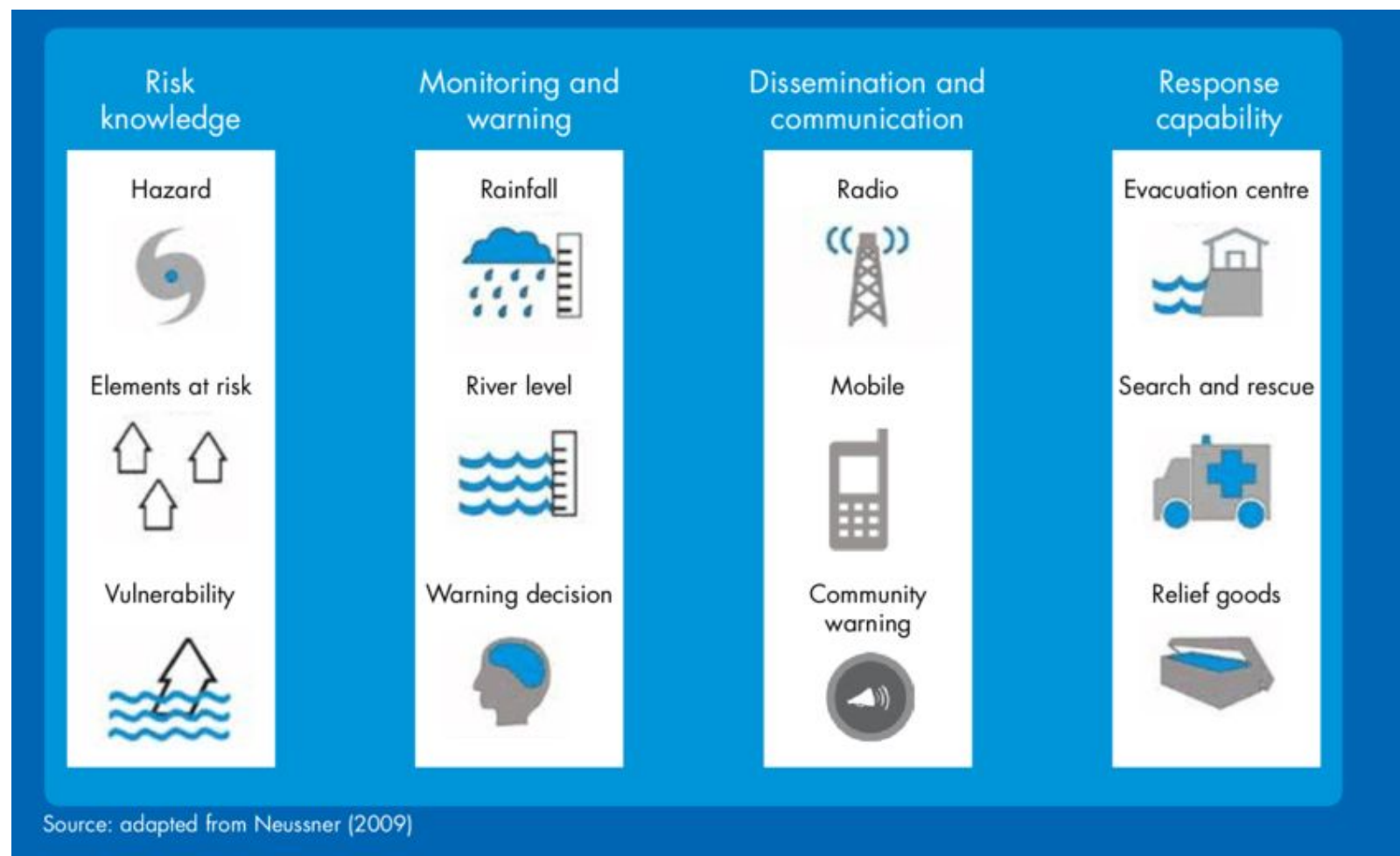
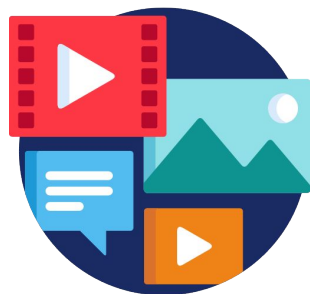


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821282

Early warning systems

To alert authorities and/or the public in advance about a coming flood

Improves community preparedness



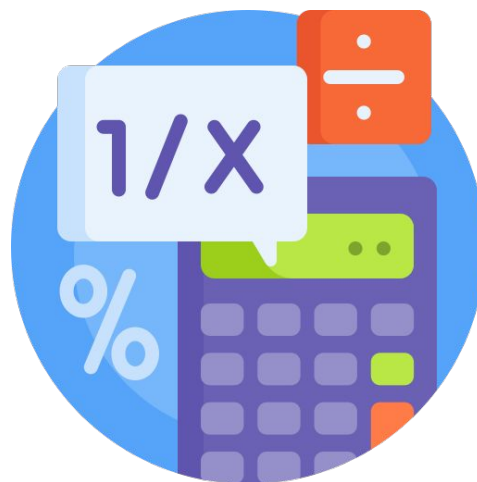
Rapid damage assessment

Web service providing automatic flood and wildfire affected area on satellite data

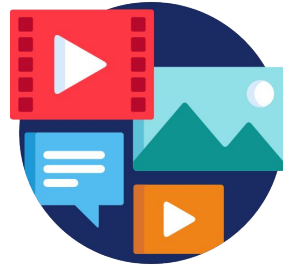


Helpful as first assessment, before manual assessment

Helpful for future better response



Immersite tool



Design of development and construction projects using 3D visualisation.

Easily movable wooden table, a visual display screen, and 3D printed objects.

Explain project impacts.

Illustrate in a simple and educational way the solutions



Shelter



[IMMERSITE® & Vous Ep. 2] Projet d'aménagement du quartier Bonamour de Capbreton (40)



Storage facilities

Cultural heritage object could be saved by storing or relocating in spaces with appropriate conditions :

- constant and moderate temperature
- appropriate relative humidity levels
- reasonable ventilation

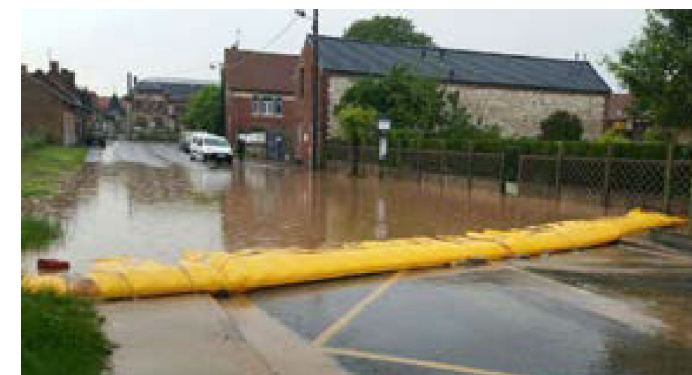
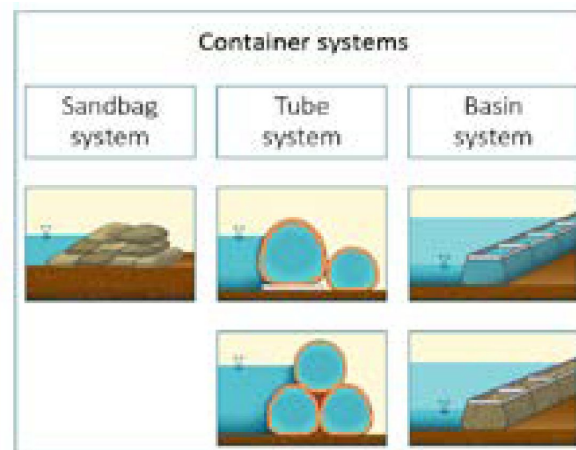


Container systems:

A temporary flood protection system is removed when the flood is passed.

Must be installed before the flood event.

Only functional when the barrier is fully erected before the water rises, so, they need prior warning and time to be installed



Free-standing and frame barriers

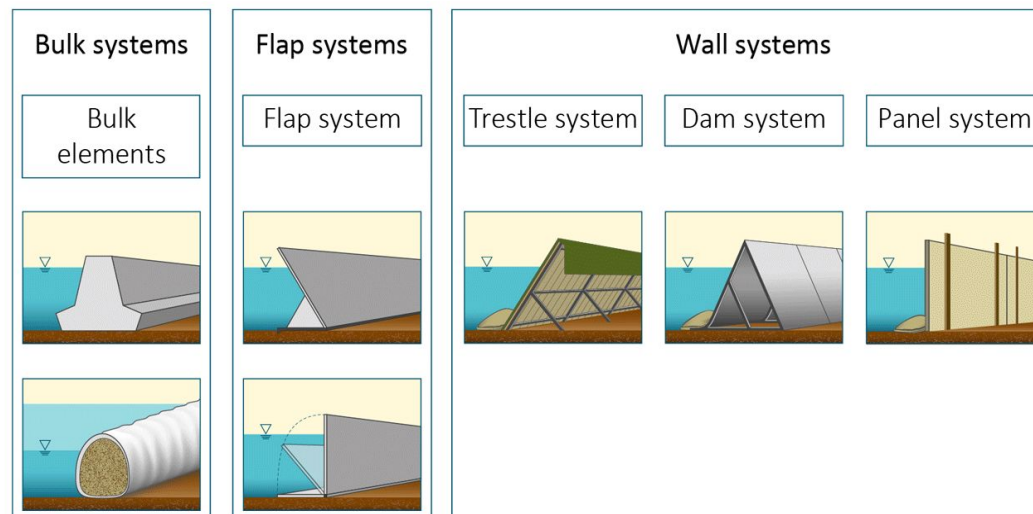
A temporary flood protection system is removed when the flood is passed.

Must be installed before the flood event.

Only functional when the barrier is fully erected before the water rises, so, they need prior warning and time to be installed

Free standing barriers are modular with enough resistance for self-supporting.

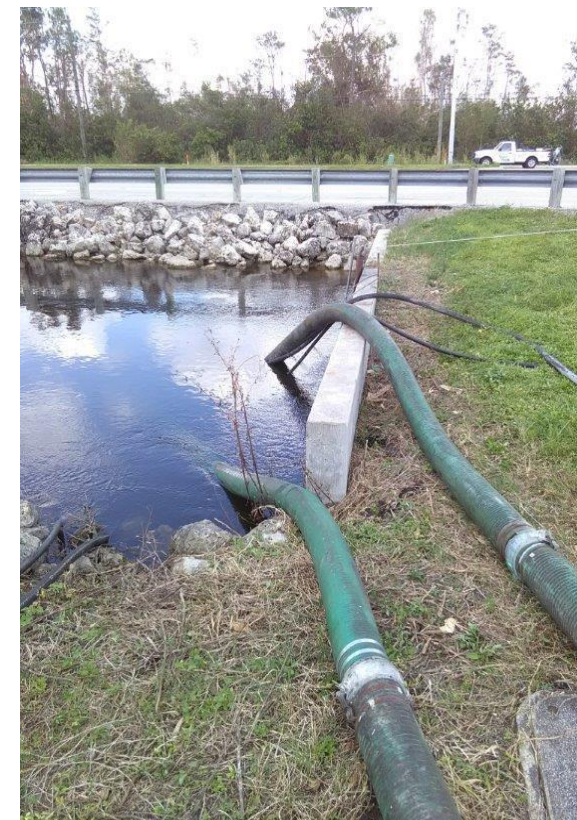
Made of impermeable materials which are joined together to form a continuous wall



Installation of check systems and pumps (district)

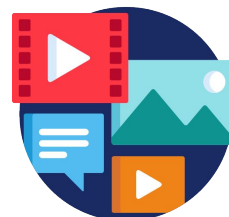
Installation of sum pumps, pipes and check systems to extract flood water

Previous study of the flooding level to select the system and its capacity



SUMMARY

Cultural/Natural Heritage management supported by digital tool



Training and awareness of citizens, public bodies..



Creating safe areas maps



Cultural heritage flood management plan and Emergency/Recovery p



Assessment



...and many more....



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821282

Thank you!

Contact us

 Website: www.shelter-project.com

 contact@shelter-project.com

 @Shelter_EU

 @shelterprojectsocial

 [The SHELTER Project](#)

 [The SHELTER Project](#)