



Co-funded by
the European Union

Hands-on Analysis of Case Studies

09:30 – 10:30

Aim

Analyse the case studies discussed in previous session using the products on the EDERA web viewer

1. Guided demonstration for 2 case studies:

- Pomar de Cinca, 25th May 2023
- Zaragoza, 6th July 2023

2. Group hands on exercises

3. Cross border hands on exercise

1st Step: Log in to EDERA Platform

<http://gebrada.upc.es/edera-platform/index.php>

Use the username & password sent to you in an email



River floods Case Study: Pomar de Cinca 25th May 2023 from 15:00 UTC



Workflow

- 06:00 UTC – Check Official warnings
 - Have any been issued, what time period do they cover?
 - Does Sub-catchment summary layer highlight anything during the same period
- From ~1-2 hours before expected arrival of event
 - Check the latest forecast each hour
 - **River flash flooding** > check Sub-catchment summary layer
 - If sub-catchments highlighted > check Animated Flash Flood Nowcasting
 - **Urban flooding** > check Storm Impacts layers
 - Check every 15 mins if a signal is shown

06:00 Check Official Warnings

EDERA Platform

Flash flood forecast summary (0-120h)

Official warnings (1)

Official warnings

Official Warnings

Flash flood impact over sub-catchment

Meteorological layer

Seamless precipitation

Flash flood impact

Flash flood impact over

Storm Impact

Animated flash flood

Flash flood past 24h

Static layers

Exposure (1)

Exposure

Flood hazard and risk

Flood Area (T1000)

Flood Area (T050)

Flood Area (T010)

2023-05-25 12:00 - 2023-05-26 06:00

Rain in Centro de Huesca

Time & Duration

From: 2023-05-25 17:00:00+00 UTC

To: 2023-05-25 19:59:59+00 UTC

Severe rain warning. Centro de Huesca

One-hour accumulated precipitation: 30 mm.

Be prepared. Take precautions and keep up to date with the latest weather forecast. Severe damages to people and properties may occur, especially to those vulnerable or in exposed areas.

Forecasting time: Thu, 2023-05-25 06:00 UTC

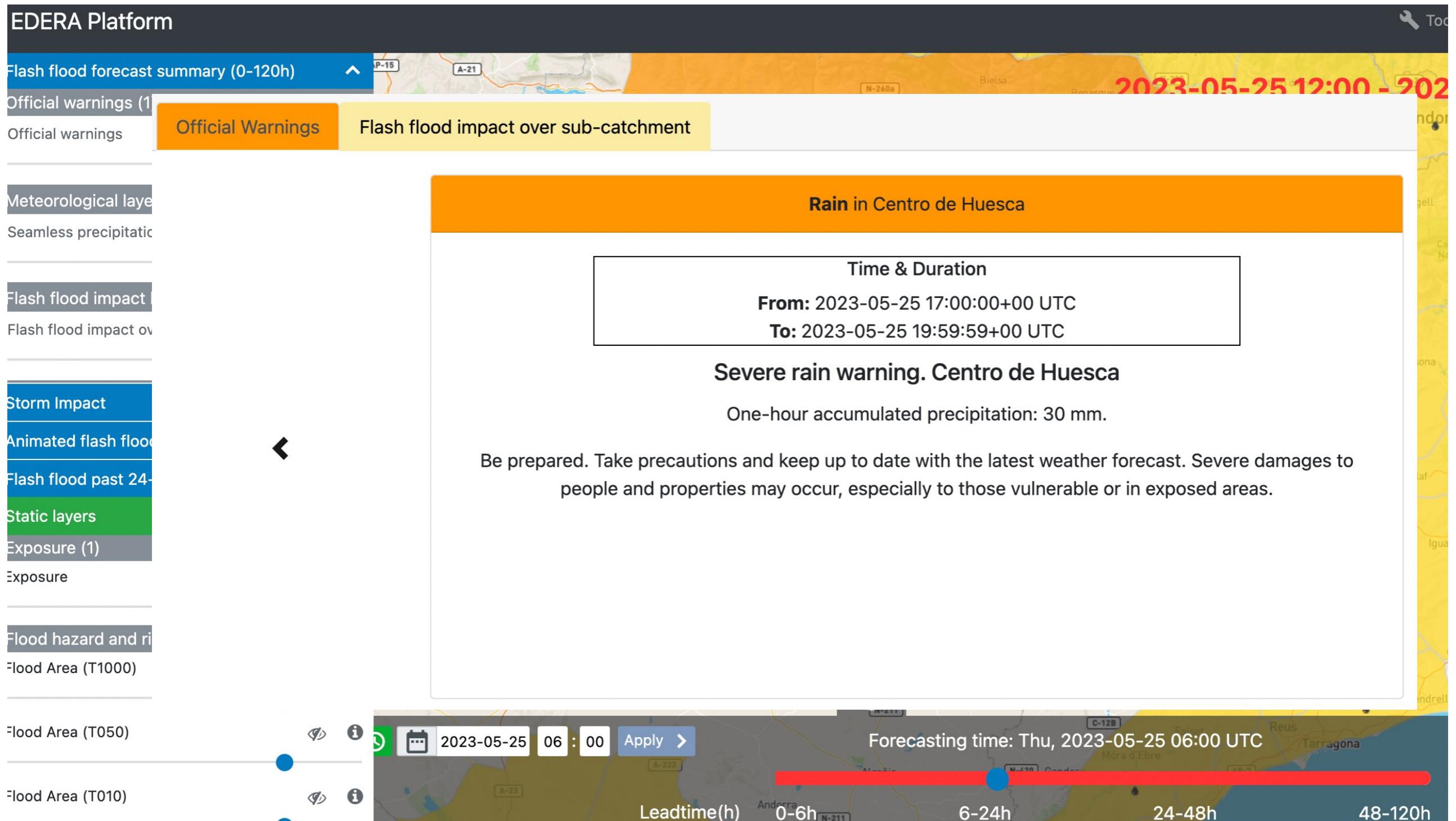
Leadtime(h)

0-6h

6-24h

24-48h

48-120h



06:00 Check Sub-catchment Summary

EDERA Platform

Flash flood forecast summary (0-120h) 

Official warnings (1)

Official warnings  

Official Warnings  Flash flood impact over sub-catchment

Meteorological layers (1)

Seamless precipitation accumulation  

Flash flood impact layers (1)

Flash flood impact over sub-catchment  

Storm Impact 

Animated flash flood nowcasting 

Flash flood past 24-h summary 

Static layers 

Exposure (1)

Exposure  

Flood hazard and risk maps (3)

Flood Area (T1000)  

Flood Area (T050)  

Flood Area (T010)  

2023-05-25 12:00 - 2023-05-25 18:00:00

Lat, L

Impact matrix

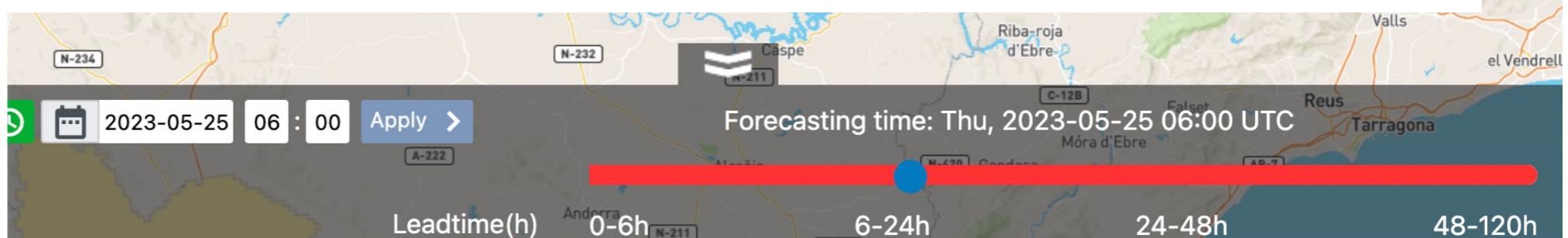
	Low Exposure	Medium Exposure	High Exposure
High Likelihood			
Medium Likelihood			
Low Likelihood	✓		

Exposure information

	#
Total population affected	30
Education facilities affected	
Health facilities affected	
Energy generation facilities affected	
Time of the event peak	2023/05/25 18:00:00

Forecasting time: Thu, 2023-05-25 06:00 UTC

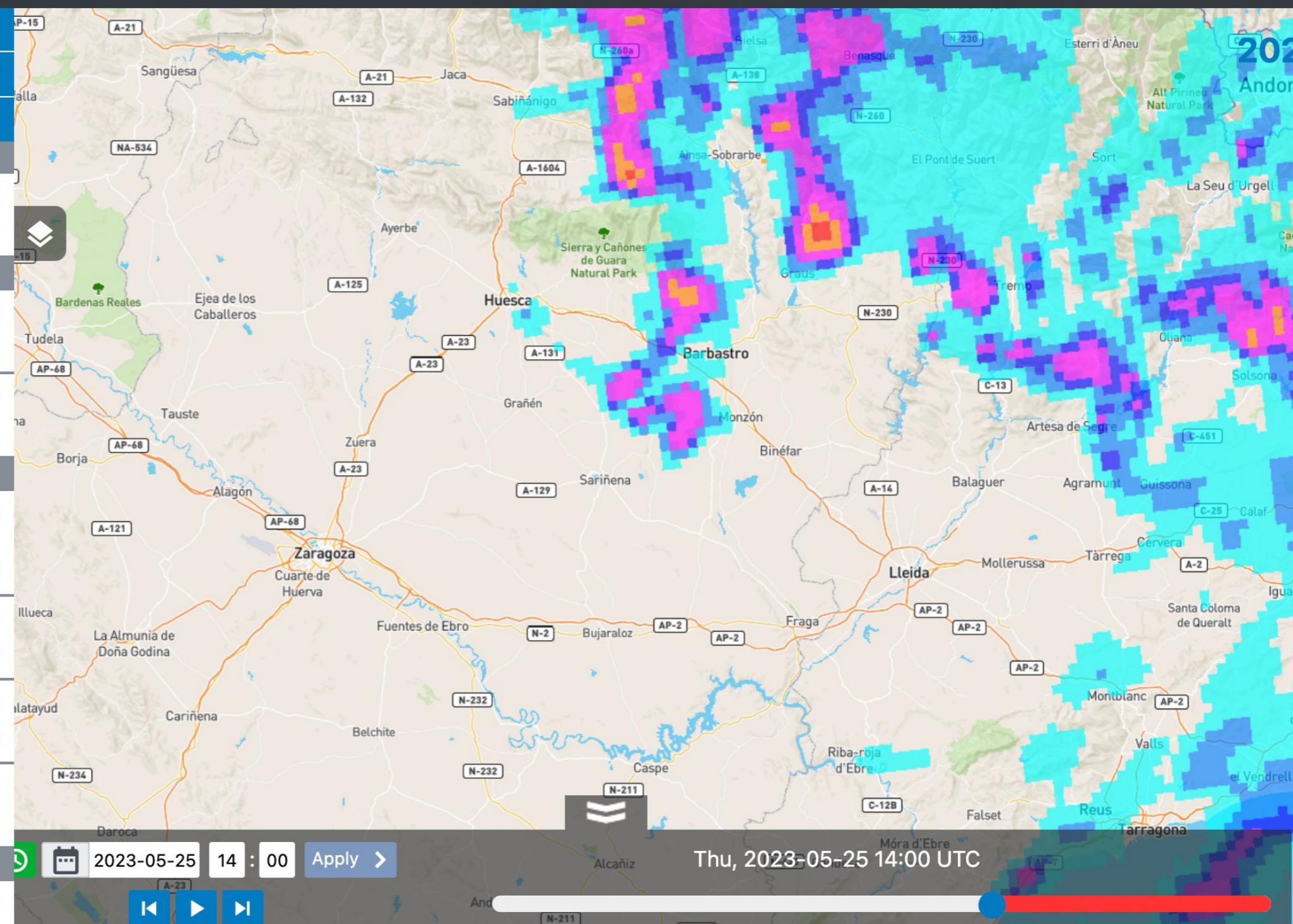
Leadtime(h) 0-6h 6-24h 24-48h 48-120h



14:00 Weather system moves in... as shown by precipitation nowcasting

EDERA Platform

- Flash flood forecast summary (0-120h)
- Storm Impact
- Animated flash flood nowcasting
- Official warnings (1)
- Official warnings
- Meteorological layers (2)
- Hourly precipitation 80th percentile
- Hourly precipitation - radar nowcasting
- Flash flood impact layers (4)
- Flash flood impact over the river network
- Pluvial flood hazard in urban areas
- Flooded areas
- Flash flood impact over sub-catchment
- EFAS (4)
- ERIC Points



14:00 Weather system moves in... check Flash flood impact forecast

EDERA Platform

Flash flood forecast summary (0-120h)



Storm Impact



Animated flash flood nowcasting



Official warnings (1)

Official warnings



Meteorological layers (2)

Hourly precipitation 80th percentile



Hourly precipitation - radar nowcasting



Flash flood impact layers (4)

Flash flood impact over the river network



Pluvial flood hazard in urban areas



Flooded areas



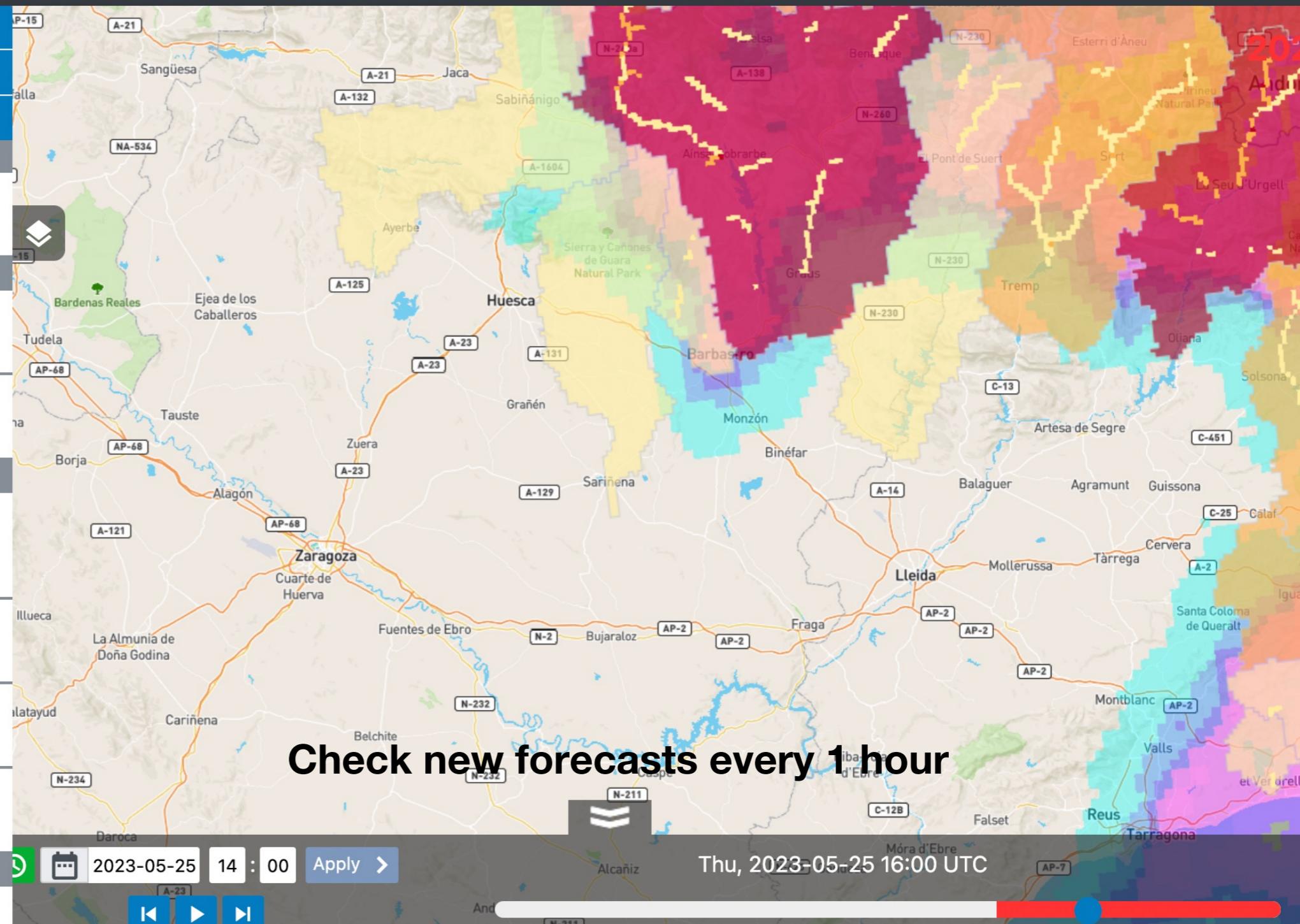
Flash flood impact over sub-catchment



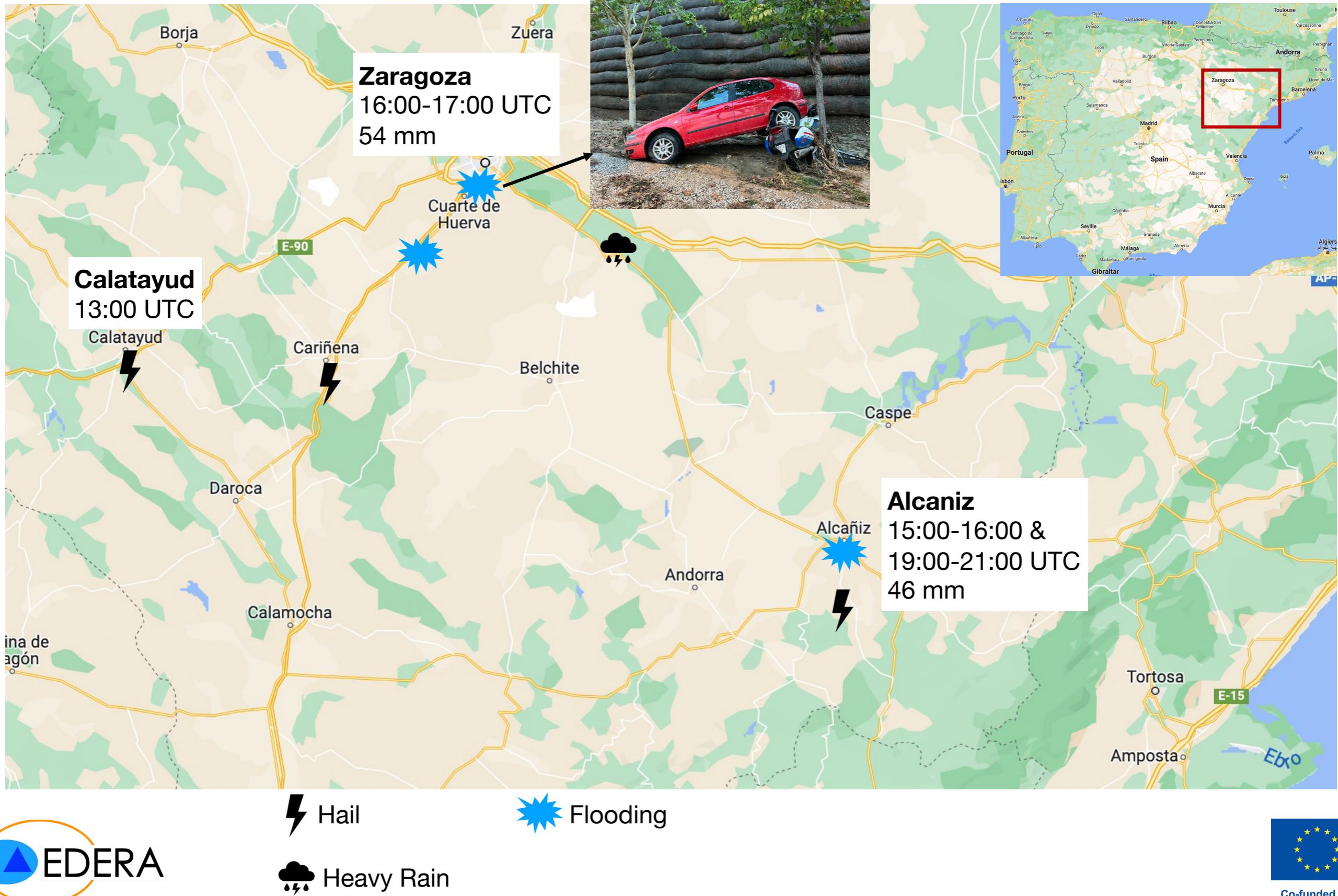
EFAS (4)



ERIC Points



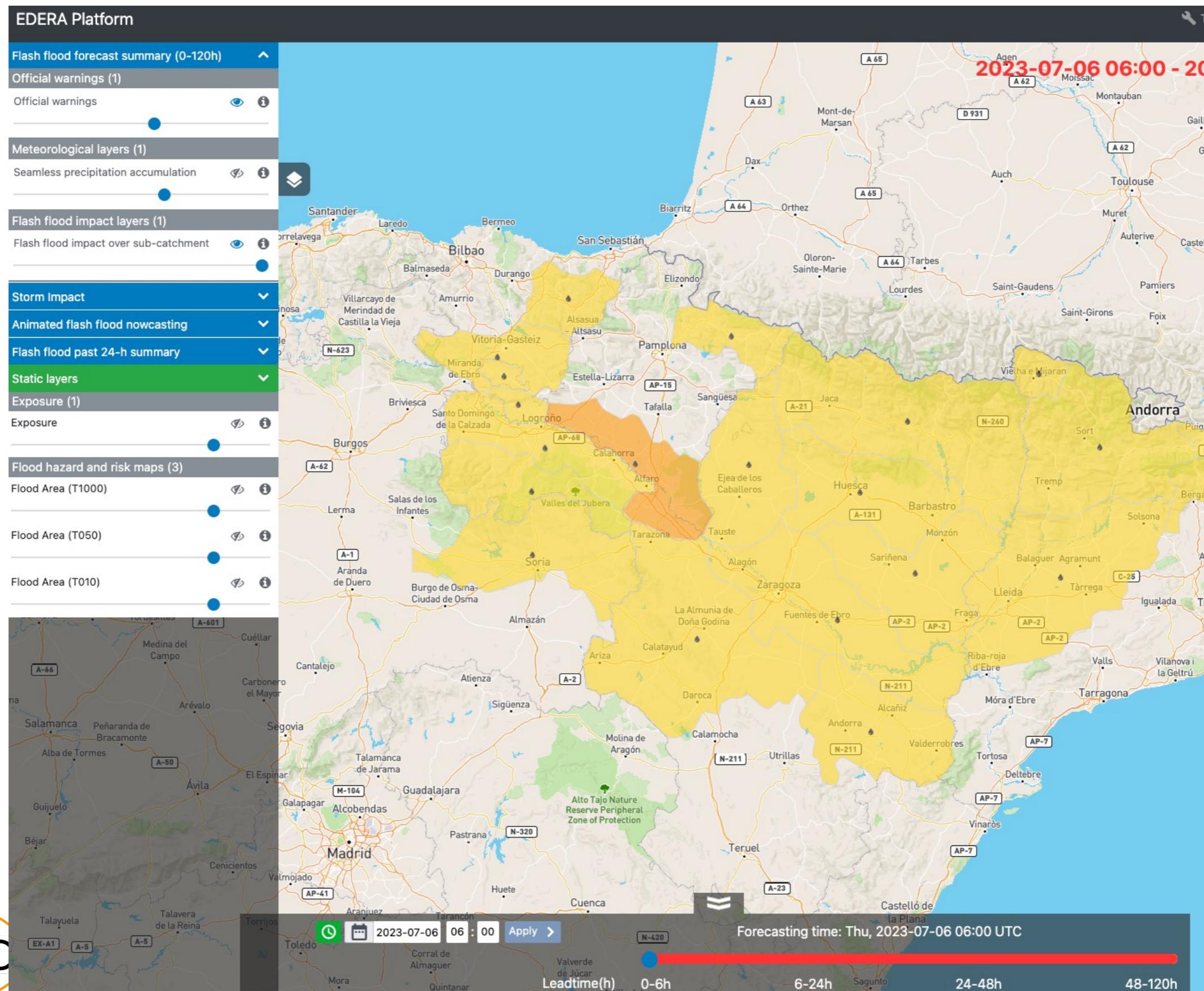
Urban Floods Case Study: Zaragoza, 6th July 2023



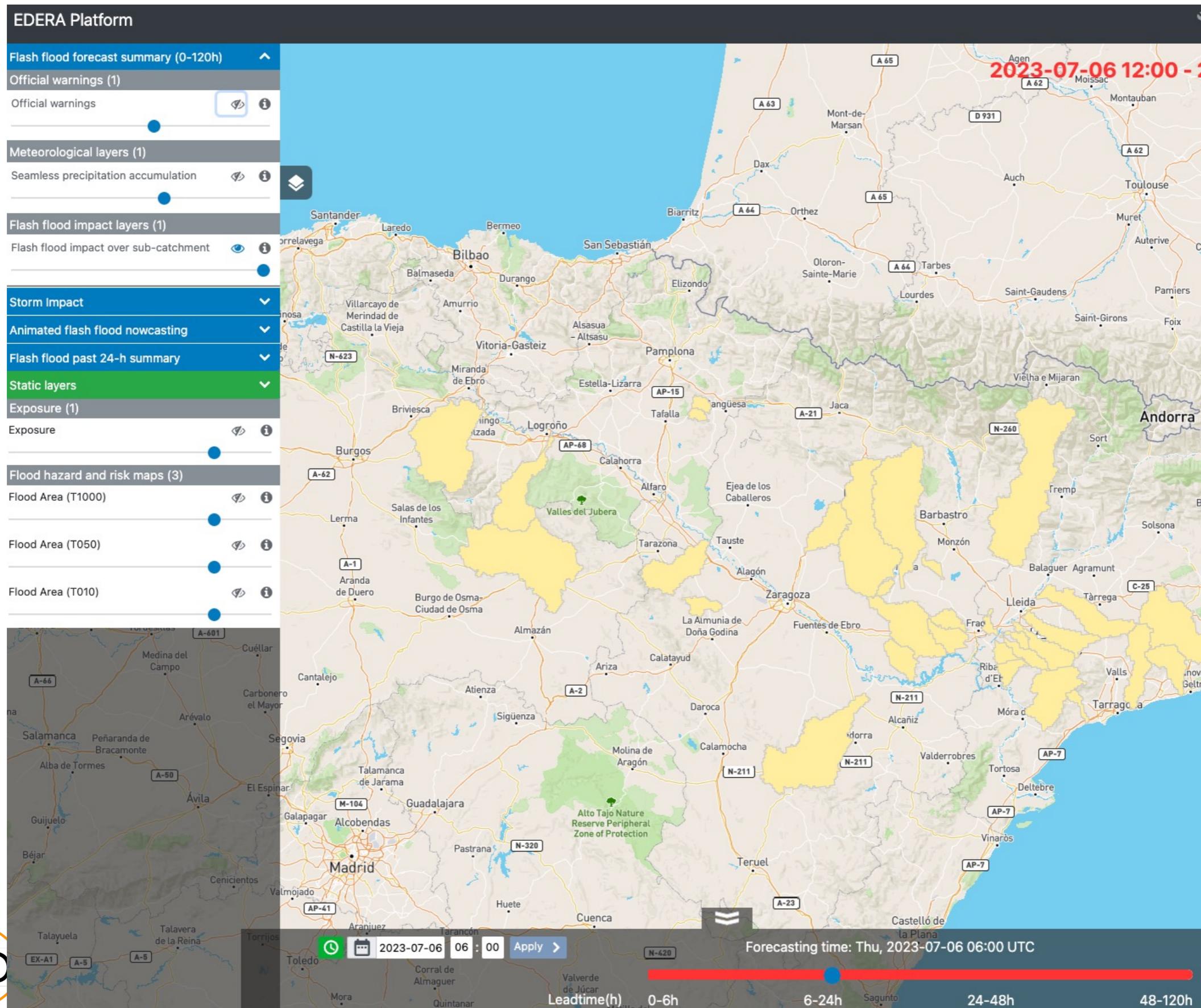
Workflow

- 06:00 UTC – Check Official warnings
 - Have any been issued, what time period do they cover?
 - Does Sub-catchment summary layer highlight anything during the same period
- From ~1-2 hours before expected arrival of event
 - Check the latest forecast each hour
 - **River flash flooding** > check Sub-catchment summary layer
 - If sub-catchments highlighted > check Animated Flash Flood Nowcasting
 - **Urban flooding** > check Storm Impacts layers
 - Check every 15 mins if a signal is shown

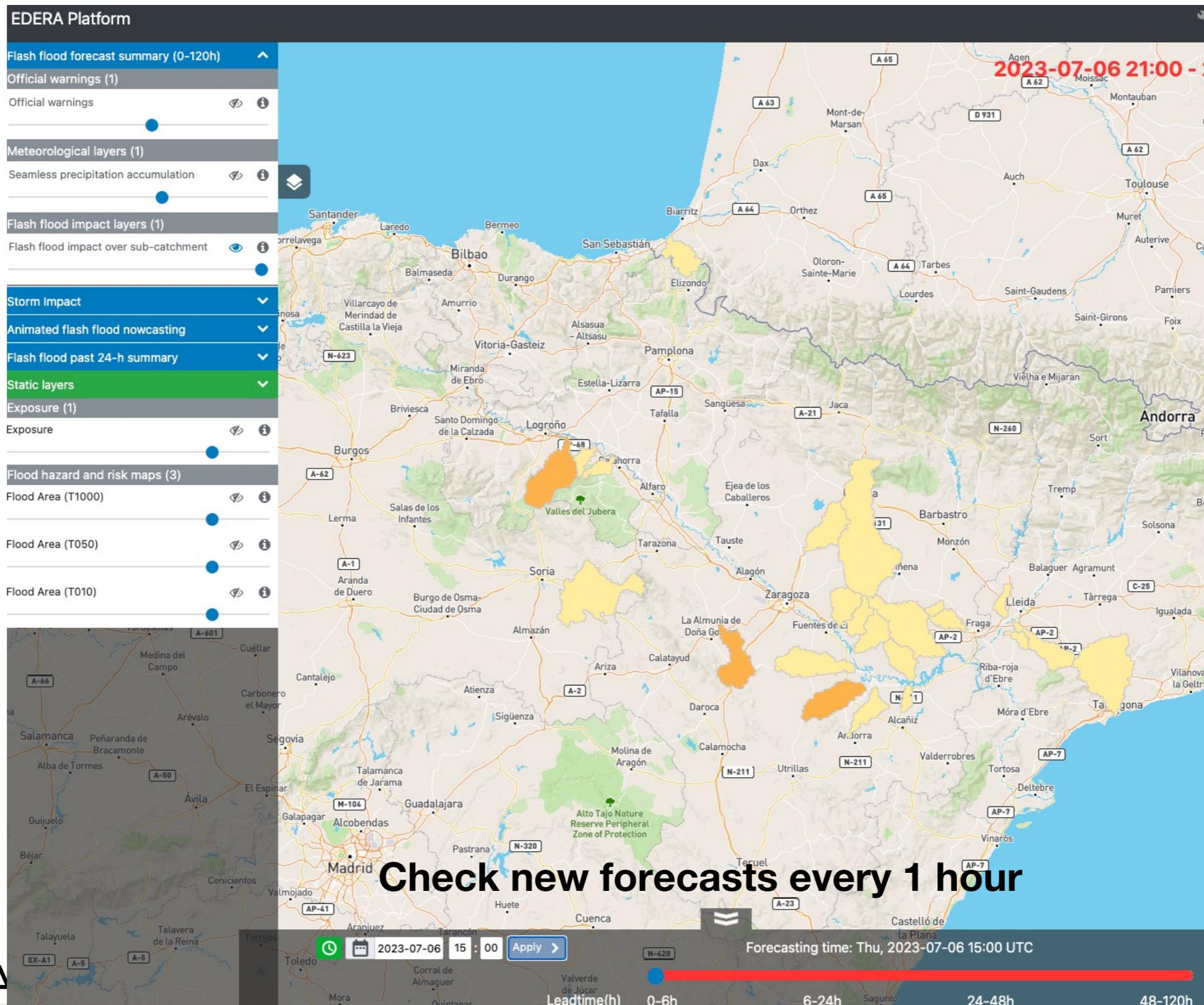
06:00 Check Official Warnings



06:00 Check Sub-catchment Summary

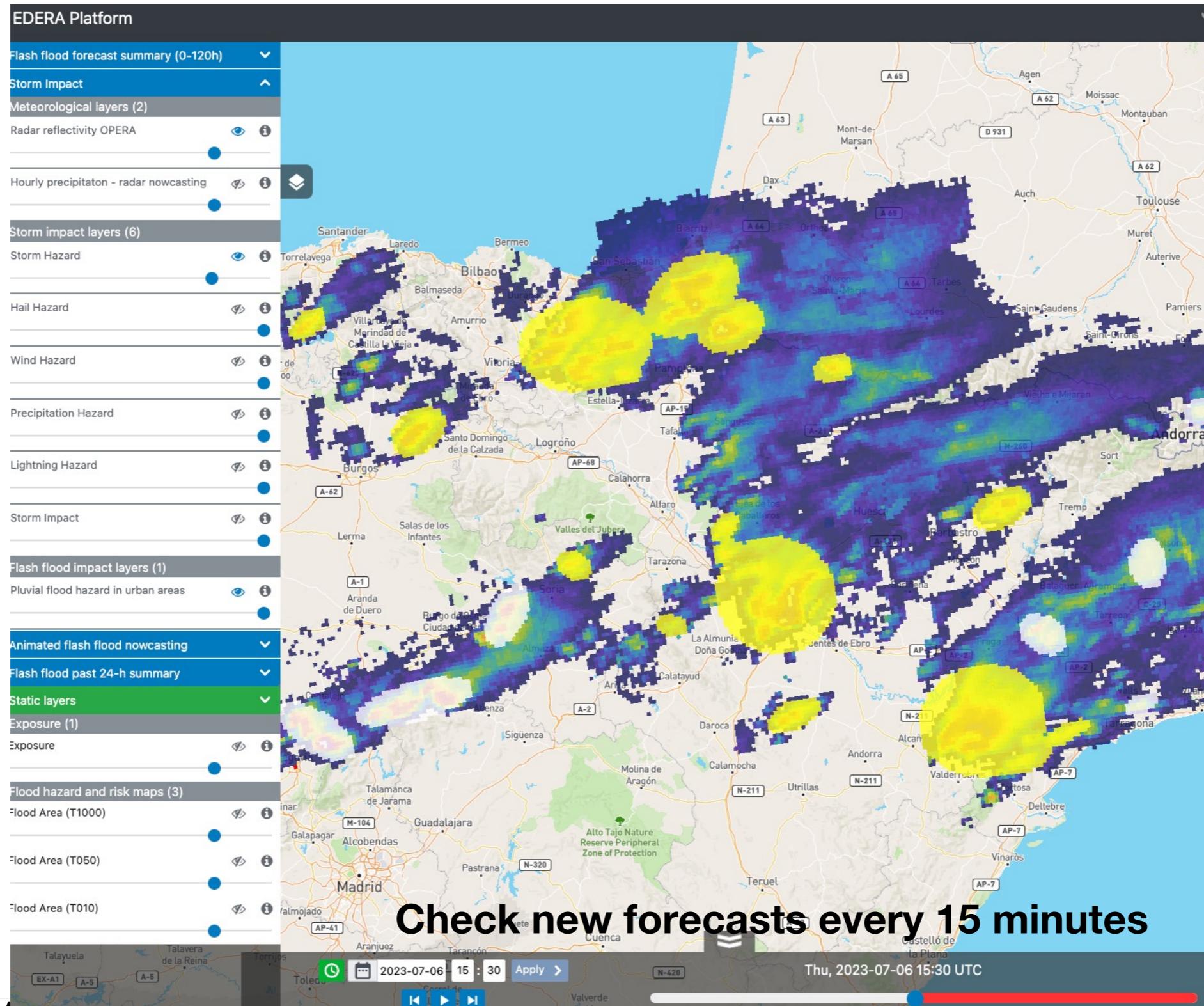


15:00 Weather System is moving in... check River Flash Flood Risk



Co-funded by
the European Union

15:00 Weather System is moving in... check Urban Flash Flood Risk



Co-funded by
the European Union

Spain-Portugal Pilot Site

Case study events for Spain-Portugal

Dates	Affected Area	Description
25/05/2023 ~15:00 – 26/05/2023	Spain <ul style="list-style-type: none">Cinca and Ésera rivers, Huesca	Torrential rains (DANA), hail, flooding. Impacts destroyed roads, highways, municipal infrastructure (2 bridges) and crops.
31/08/2023 to 04/09/2023	Spain <ul style="list-style-type: none">Valencia, Madrid, Catalonia	Valencia: Heavy and persistent rain (DANA), wind gusts 80km/h. Power outages, damage to infrastructure, roads, etc. Madrid: Heavy rainfall (DANA). 3 fatalities, road/tunnel closures, public transportation disruptions, damage to infrastructure
20/03/2022 - 23/03/2022	Spain <ul style="list-style-type: none">Huelva, Isla Cristina, Lepe, Cartaya, Málaga, Almería	Spain: Heavy rain (DANA), storms, coastal warnings, high winds, flooding. Road closures, damage to homes & infrastructure.
04/12/2022 to 08/12/2022 (cross-border event)	Portugal <ul style="list-style-type: none">Loulé, Faro, Lisboa, Setubal Spain <ul style="list-style-type: none">Huelva, Cáceres and Badajoz	Spain & Portugal: Heavy rain showers, strong winds (gusts of up to 70 km/h), frequent and scattered thunderstorms. Localised flooding, damage to local roads and infrastructure, school/business closures.

ES-PT pilot site

Autoridade National de Emergência e Proteção Civil

CIM Região Coimbra

Instituto Português do Mar e da Atmosfera

Agência Portuguesa do Ambiente



Dirección General de Protección Civil y Emergencias

Agencia de Medio Ambiente y Agua de Andalucía

Protección Civil de Andalucía

Protección Civil de Puente Genil

Asociación de Operadores de Protección Civil de Andalucía

Agencia Valenciana de Seguridad y Respuesta a las Emergencias

Protección Civil de Cataluña

Agencia Estatal de Meteorología

CH Guadiana

Spain-Portugal Pilot Site

Case study events for Spain-Portugal

Dates	Affected Area	Description
22/10/2023	Spain <ul style="list-style-type: none">• Huelva (Ayamonte, Cartaya, Isla Cristina), Cádiz (Moguer) Portugal <ul style="list-style-type: none">• Algarve (Vila Real de Santo António, Faro)	Storm Bernard, heavy rainfall and strong winds (gusts more than 100km/h). One fatality, localised flooding, fallen trees, road closures.
23/09/2021	Spain <ul style="list-style-type: none">• Huelva (Ayamonte, Cartaya, Isla Cristina, Lepe), Extremadura (Zafra, Mérida, Villafranca de los Barros, Almendralejo), Mallorca (Alcúdia, Ferreries) Portugal <ul style="list-style-type: none">• Algarve (Vila Real de Santo António, Altura y Monte Gordo) and Alentejo	Torrential rains, localised flash flooding. Road closures, school closure, damage to homes and local businesses.

ES-PT pilot site

Autoridade National de Emergência e Proteção Civil

CIM Região Coimbra

Instituto Português do Mar e da Atmosfera

Agência Portuguesa do Ambiente



Dirección General de Protección Civil y Emergencias

Agencia de Medio Ambiente y Agua de Andalucía

Protección Civil de Andalucía

Protección Civil de Puente Genil

Asociación de Operadores de Protección Civil de Andalucía

Agencia Valenciana de Seguridad y Respuesta a las Emergencias

Protección Civil de Cataluña

Agencia Estatal de Meteorología

CH Guadiana

Workflow

- 06:00 UTC – Check Official warnings
 - Have any been issued, what time period do they cover?
 - Does Sub-catchment summary layer highlight anything during the same period
- From ~1-2 hours before expected arrival of event
 - Check the latest forecast each hour
 - **River flash flooding** > check Sub-catchment summary layer
 - If sub-catchments highlighted > check Animated Flash Flood Nowcasting
 - **Urban flooding** > check Storm Impacts layers
 - Check every 15 mins if a signal is shown

Feedback after the coffee break...

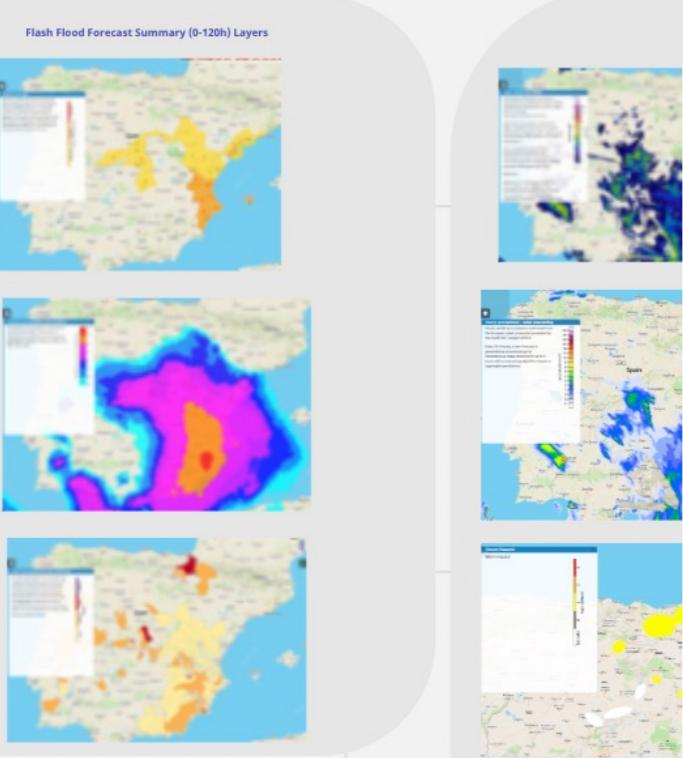
A link was sent to you in a recent email



EDERA
Early warning Demonstration of pan-European rainfall-induced impact forecasts

Comentarios de la sesión práctica

- **¿Qué productos te parecieron útiles? ¿Por qué?**
- **¿Qué productos no te parecieron útiles? ¿Por qué?**
- **¿Qué productos fueron algo útiles? ¿Cómo podemos mejorar estos productos?**
- **¿Qué productos no utilizó durante la evaluación? ¿Por qué?**

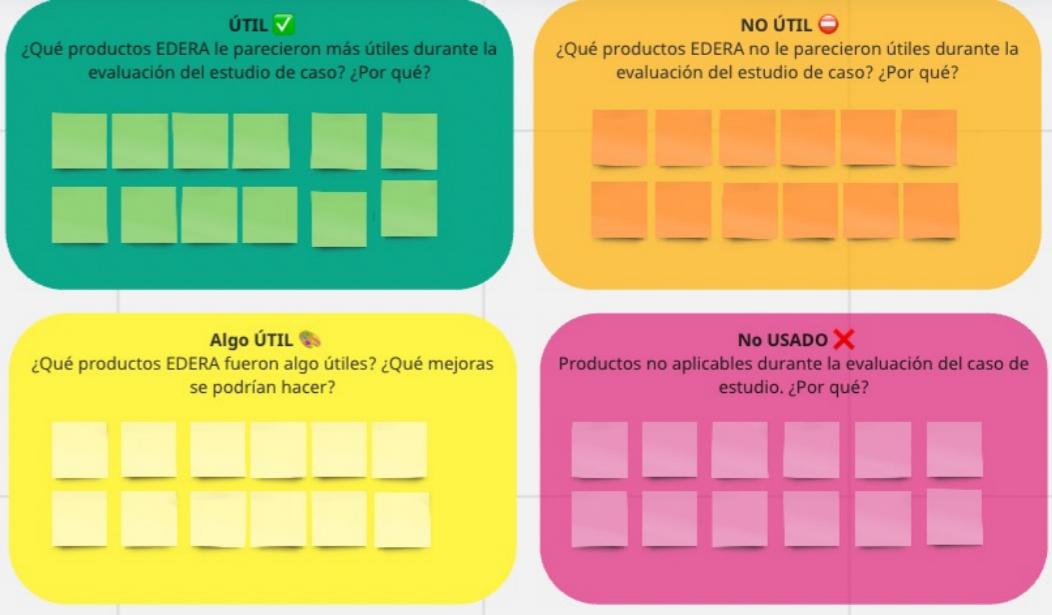


CÓMO VOTAR 

Tome una nota adhesiva de color de una categoría y colóquela en el producto que le resultó más útil/no útil/etc. durante la evaluación.

Haz doble clic para escribir un comentario en tu nota adhesiva.

Haga clic derecho para duplicar una nota adhesiva.

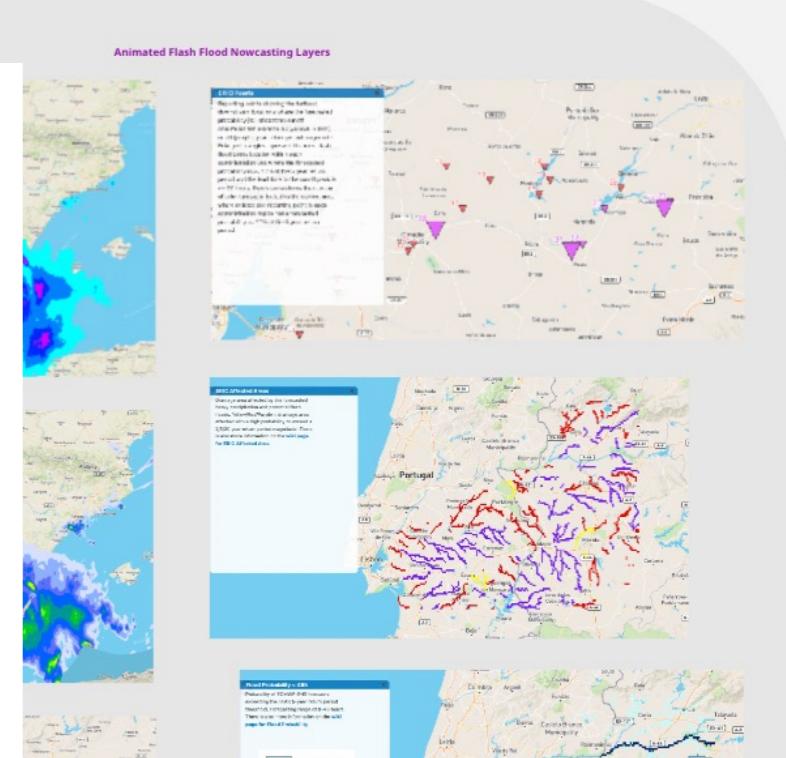


ÚTIL ✓
¿Qué productos EDERA le parecieron más útiles durante la evaluación del estudio de caso? ¿Por qué?

NO ÚTIL ✗
¿Qué productos EDERA no le parecieron útiles durante la evaluación del estudio de caso? ¿Por qué?

Algo ÚTIL 🌟
¿Qué productos EDERA fueron algo útiles? ¿Qué mejoras se podrían hacer?

No USADO ✗
Productos no aplicables durante la evaluación del caso de estudio. ¿Por qué?





Hands-on session - Groups

Portugal – stay in this room

Group #	Names	Event	Helper
1	Sandra Correia (IPMA), Cristina Simões (IPMA), José Lopes (CIM), Alexandre Vicente (ANEPC)	Storm Bernard Algarve (PT) – 22 nd Oct '23	Abel Gomes
2	Ricardo Ramos (IPMA), Hélder Correia (ANEPC), Ricardo Fernandes (ANEPC), Paulo Salgueiro (APA)		
3	Alexandra Fonseca (IPMA), Pedro Ferreira (ANEPC), Hugo Rosa (ANEPC), Carlos Mota (ANEPC)		

Spain – go to classroom upstairs

Group #	Names	Event	Helper
4	Jorge Suarez (AVRSE), Rosa Torres (DGPCE)	Valencia/Madrid (ES) – 4 th Sep '23	Rosa Torres
5	Rafael Gálvez (PCPG), Antonio Arenas (DGPCE Huelva)	Andalucia (ES) 23 rd Sep '21	Ana Durán
6	Francisco Senra (UTAF-INFOCA), Francisco Castello (UTAF-INFOCA), Isabel Vazquez (UTAF-INFOCA)	Andalucia (ES) 23 rd Sep '21	Antonio Santiago (Online)

Cross-Border Exercise: Groups

Group #	Names
1	<p>Sandra Correia (IPMA), Cristina Simões (IPMA), José Lopes (CIM), Alexandre Vicente (ANEPC)</p> <p>Alexandra Fonseca (IPMA), Pedro Ferreira (ANEPC)</p> <p>Antonio Arenas (DGPC Huelva), Antonio Santiago (AMAYA), Ana Durán (AMAYA)</p>
2	<p>Ricardo Ramos (IPMA), Hélder Correia (ANEPC), Ricardo Fernandes (ANEPC), Paulo Salgueiro (APA)</p> <p>Hugo Rosa (ANEPC), Carlos Mota (ANEPC)</p> <p>Jorge Suarez (AVRSE), Rosa Torres (DGPC), Rafael Gálvez (PCPG)</p>