

INLINE Case Study: Floods in C.Valenciana, 28th December 2025

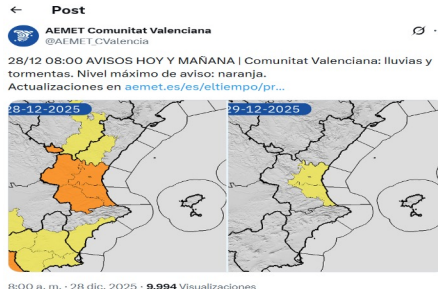
Rosa Torres (SGPCE)

Comunidad Valenciana, 28/12/2025

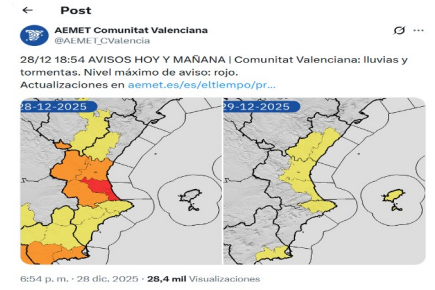
Meteorological Situation - Episode of December 28, 2025



14:00 (28/12/2025)



8:00 (28/12/2025)



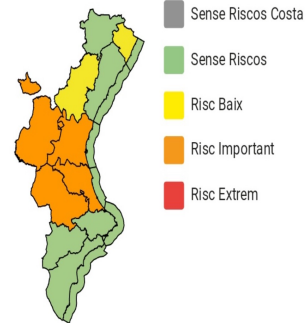
18:54 (28/12/2025)

Institutional Context and Activation of the Special Flood Plan (Dec 27th)

- Protocols and preventive measures activated under the *Norma Básica de Protección Civil* (Real Decreto 524/2023, de 20 de junio, por el que se aprueba la Norma Básica de Protección) and, at the regional level, the *Plan Especial frente al Riesgo de Inundaciones de la Comunidad Valenciana*.

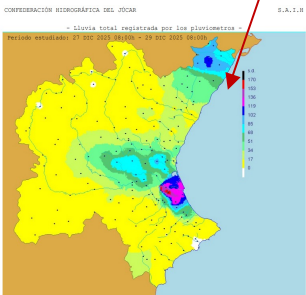
- **18:00h (AEMET)**: Yellow alert activated for the northern coast of Castellón. Rainfall forecasts up to 20 l/m² in 1 hour and 60 l/m² in 12 hours (active until Sunday 08:00 h).

- **20:30h (CCE)**: The regional Emergency Coordination Center (CCE) establishes the Special Flood Plan: Yellow level for the northern coast and southern interior of Castellón; Orange level for rainfall and Yellow level for thunderstorms across the Valencia province.



Regional Government Evolution and Hydrological Warnings (Dec 28th)

Early Impact and Emergency Response in the Vega del Segura Region

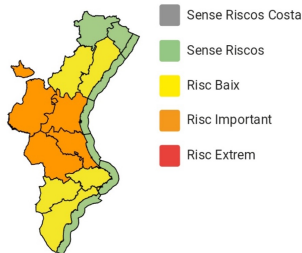
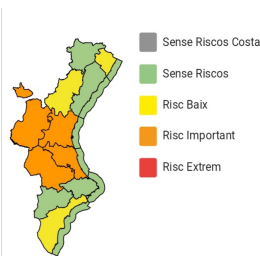


- **07:00h**: A new yellow alert is activated in Castellón (northern coast and southern interior), with an estimated extension until Monday.

- **08:05h (Second CCE Notice)**: The Special Flood Plan is maintained. Previous yellow and orange levels are kept for Castellón and Valencia, while a yellow rainfall alert is added for the southern coast of Alicante.

- **10:55h (Hydrological Alert)**: The Segura Water Agency (CHS) reports a rising river flow trend, triggering an official hydrological warning routed through the CCE-GVA.

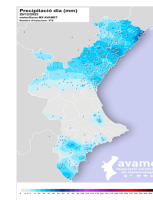
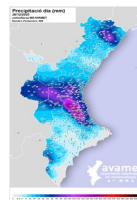
- **12:35h (Third CCE Notice)**: Castelló is set to yellow alert for rainfall and thunderstorms (southern coast and southern interior); Valencia maintains its orange alert for rainfall and yellow for thunderstorms; Alicante elevates the warning to a province-wide yellow alert



- **09:45 - 10:00h**: First rainfall activity reported via social networks in Tavernes de la Valligna and Guadassuar, persisting and gaining intensity towards noon.

- **11:30h (Emergency in the Region of Murcia)**: Heavy rainfall and severe hailstorms forces AEMET to upgrade warnings to orange and red levels. An Es-Alert cell broadcast message is sent to the population of Beniel due to an imminent risk of overflow at the Azarbe del Merancho. Concurrently, the Emergency Plan for the Santomera reservoir is preventively activated at a yellow level after its water level rose by 5 meters.

RAIN ACCUMULATION 24h, 28th december 2025

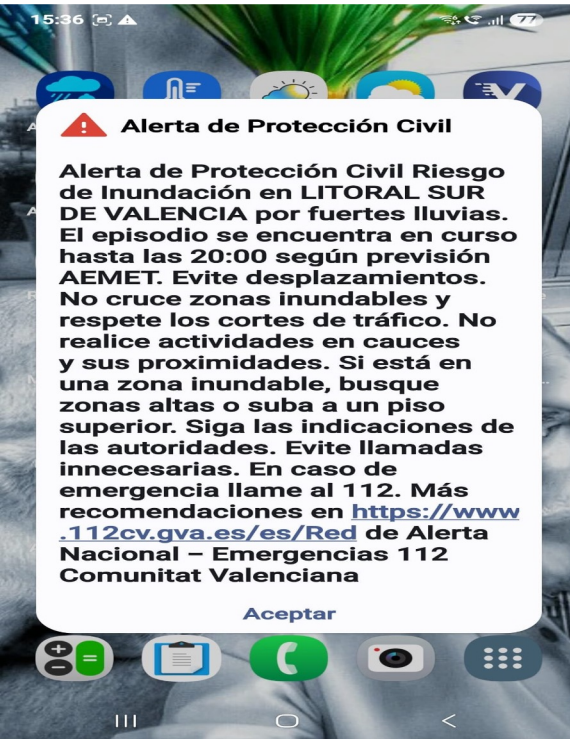


- **166.4 mm** en Alzira.
- **138.2 mm** en Simat de la Valligna.
- **117.0 mm** en Riola.
- **113.0 mm** en Algemésí.
- **108.4 mm** en Xert.

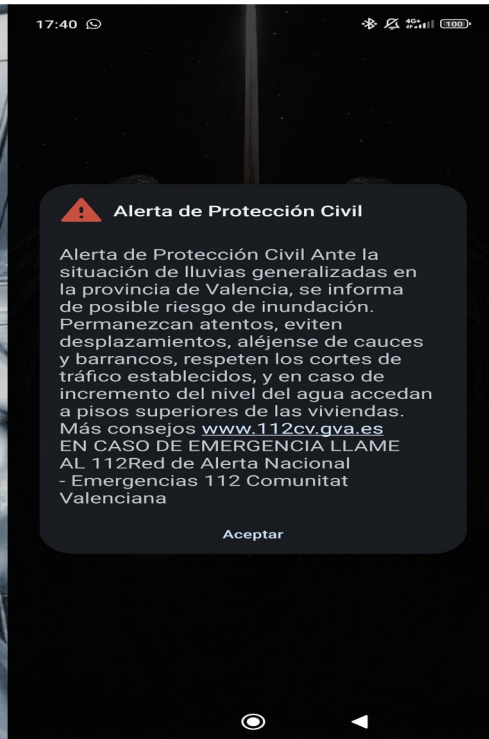
The maps identify two main epicentres with 24-hour rainfall accumulations exceeding 100 mm (indicated in purple and pink): **Central Sector**: The most critical area, located southwest of Valencia city, showing multiple records over 100 mm and local peaks reaching 167 mm and 173 mm.

• **Northern Sector**: A second highly active core in northern Castellón, featuring a maximum record of 136 mm and several points between 80–90 mm.

ES-ALERTS (PWS) ISSUED AND REAL IMPACT OF THE RAIN



The Es-Alert was issued at 15:36 on December 28, 2025, for the southern coast of Valencia.



At 17:40 on December 28, 2025, the Es-Alert was issued for the entire province of Valencia.



Source from X users. Tavernes de la Vallidigna: Rain started: 9:45 h on 12/28/2025. Ribera, Costera, Foia de Bunyol: Situation at 14:30 h, the Barxeta River is very high and it is raining heavily. L'alcúdia: 15:12 h on December 28, 2025, 175 l/m2. Ribera Alta - Valencia: Time: 15:40 h on December 28. Carcaixent: flooding: 17:04 h

FORECAST IN URBAN FLASHFLOOD IMPACT AND SUBCATCHMENT

INLINE Platform

Tools Help DGPC

Capas meteorológicas (3)

Precipitación horaria - percentil 80

Precipitación instantánea - radar AEMet

Precipitación horaria - nowcasting radar

Capas de impacto de inundaciones rep (4)

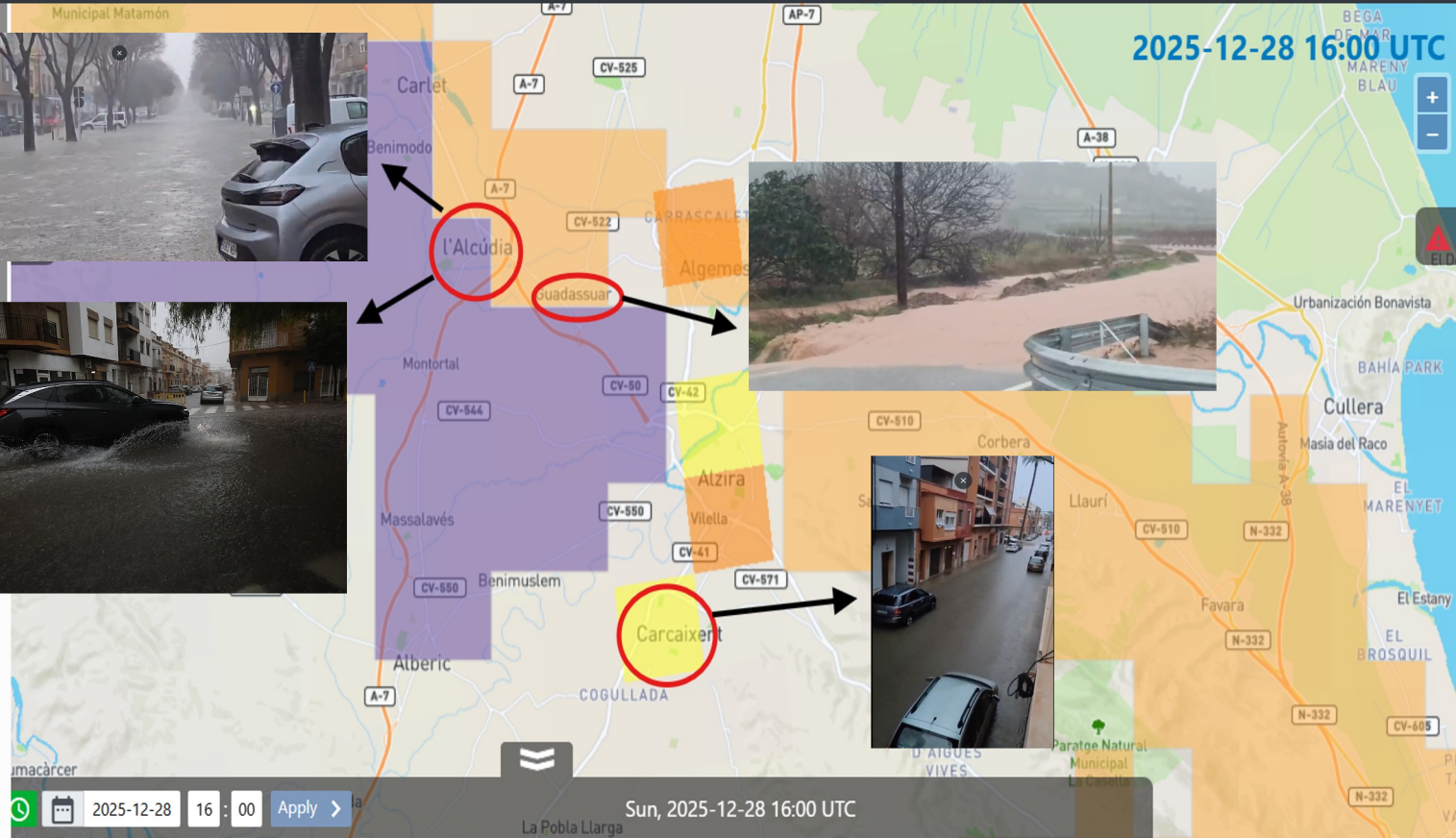
Impacto inundaciones repentinas en la red fluvial

Peligro de inundaciones pluviales en zonas urbanas

Zonas inundadas

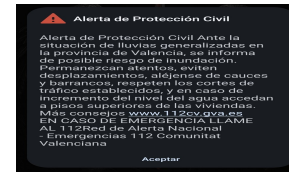
Impacto inundaciones repentinas en subcuencas

Capas de impacto de tormentas (2)



FIELD VALIDATION AND REAL IMPACT

- INLINE's 12:45 UTC alert (predicting flash floods from 13:15 UTC) was successfully validated by the onset of severe storms in **Hoya de Buñol** and the first urban floods in **Guadassuar** at 14:30 h.
- Direct impact on the road network led to immediate traffic disruptions in key segments:
 - **CV-41:** Between Carcaixent and La Pobla Llarga (overflow of Barranc de l'Estret).
 - **CV-424:** Buñol area (Hondico ravine).
 - **CV-505:** Albalat Industrial Park.Ç
- The notification provided a critical lead time of ~1 hour and 45 minutes before physical road closures and urban flooding became restrictive for emergency
- At 15:28 h, CCE upgraded the alert to **RED (Litoral Sur)** with peaks exceeding 200 l/m². The **Es-Alert** system was triggered at 15:36 h for the southern coast and 17:40 h for the Valencia metropolitan area.
- **Severe River Overflows:**
 - **Barxeta Ravine:** Overflowed at Rafelguaraf (>133 mm).
 - **Albaida River:** Complete overflow at Manuel at 19:00 h.
 - **Júcar River:** Flow rates reached critical levels due to daily cumulative rainfall.
- **Emergency Interventions:**
 - **Rescues:** Consortium fire crews rescued 7 people trapped in vehicles at l'Horteta (Torrent).
 - **Evacuations:** Urgent evacuation of 28 residents in La Pobla Llarga and preventive evacuations in Benferri.
 - **Transport:** Flooding of railway infrastructure at 19:15 h led to the suspension of all commercial stops on the **C-2 Cercanías line**.



USE OF INLINE PLATFORM

INLINE notifications, 28 de diciembre de 2025

Notifications Update (forecasting time: 2025-12-28 at 11:00 UTC)

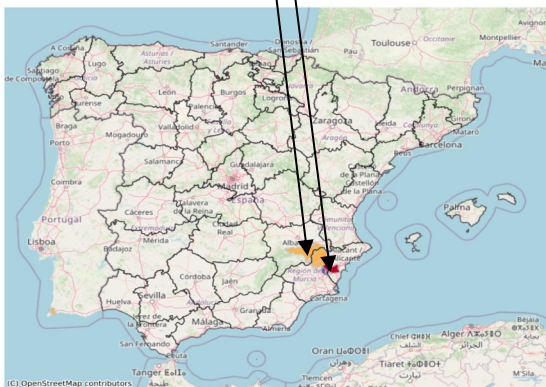
Enviado el: domingo, 28 de diciembre de 2025 12:45

Active notifications:

Detailed list of currently active notifications.

Notification ID	Type	Source	Area	Level	Start time	End time
21784707	Flood	Edera product notification (Flash flood impact)	Alicante/Alacant	3	2025-12-28 11:00 UTC	2025-12-28 19:00 UTC
21784708	Flood	Edera product notification (Flash flood impact)	Murcia	3	2025-12-28 11:00 UTC	2025-12-28 19:00 UTC
21784315	Flood	Edera product notification (Urban Flood)	Valencia/València	3	2025-12-28 11:15 UTC	2025-12-28 12:45 UTC
21784520	Storm	Edera product notification (Storm Impact)	Valencia/València	3	2025-12-28 11:15 UTC	2025-12-28 14:15 UTC
21784522	Storm	Edera product notification (Storm Impact)	Alicante/Alacant	3	2025-12-28 11:15 UTC	2025-12-28 14:15 UTC
21784528	Storm	Edera product notification (Storm Impact)	Murcia	2	2025-12-28 11:15 UTC	2025-12-28 14:15 UTC
21784531	Storm	Edera product notification (Storm Impact)	Albacete	3	2025-12-28 11:15 UTC	2025-12-28 14:15 UTC

Flash flood impact over sub-catchment (0-6h)



Low Medium High Severe
Impact

Notifications Update (forecasting time: 2025-12-28 at 13:00 UTC)

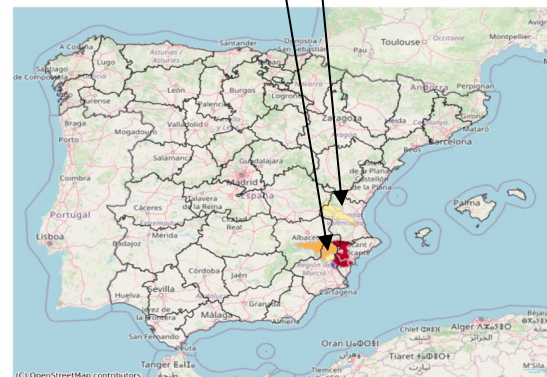
Enviado el: domingo, 28 de diciembre de 2025 15:10

Active notifications:

Detailed list of currently active notifications.

Notification ID	Type	Source	Area	Level	Start time	End time
21788439	Flood	Edera product notification (Urban Flood)	Almería	3	2025-12-28 13:45 UTC	2025-12-28 15:15 UTC
21788478	Storm	Edera product notification (Storm Impact)	Málaga	2	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788479	Storm	Edera product notification (Storm Impact)	Valencia/València	3	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788481	Storm	Edera product notification (Storm Impact)	Alicante/Alacant	3	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788482	Storm	Edera product notification (Storm Impact)	Almería	3	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788483	Storm	Edera product notification (Storm Impact)	Cádiz	2	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788487	Storm	Edera product notification (Storm Impact)	Cuenca	2	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788488	Storm	Edera product notification (Storm Impact)	Granada	2	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788489	Storm	Edera product notification (Storm Impact)	Huelva	3	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788490	Storm	Edera product notification (Storm Impact)	Albacete	2	2025-12-28 13:45 UTC	2025-12-28 16:45 UTC
21788437	Flood	Edera product notification (Urban Flood)	Valencia/València	3	2025-12-28 13:45 UTC	2025-12-28 15:45 UTC
21788438	Flood	Edera product notification (Urban Flood)	Alicante/Alacant	3	2025-12-28 13:45 UTC	2025-12-28 15:45 UTC
21788684	Flood	Edera product notification (Flash flood impact)	Albacete	2	2025-12-28 17:00 UTC	2025-12-28 19:00 UTC

Flash flood impact over sub-catchment (0-6h)



Low Medium High Severe
Impact

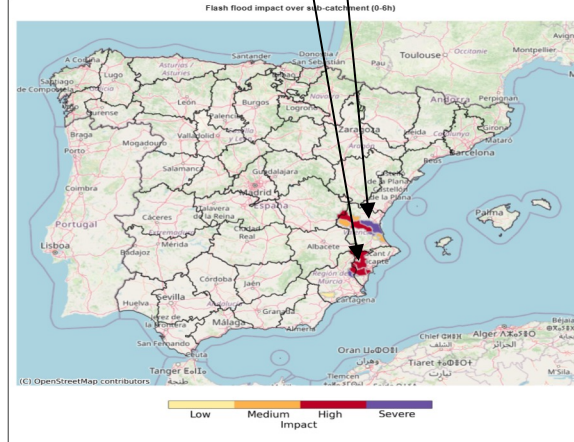
Notifications Update (forecasting time: 2025-12-28 at 17:15 UTC)

Enviado el: domingo, 28 de diciembre de 2025 18:51

Active notifications:

Detailed list of currently active notifications.

Notification ID	Type	Source	Area	Level	Start time	End time
21795102	Flood	Edera product notification (Flash flood impact)	Valencia/Valencia	3	2025-12-28 17:00 UTC	2025-12-29 01:00 UTC
21795104	Flood	Edera product notification (Flash flood impact)	Murcia	3	2025-12-28 17:00 UTC	2025-12-28 22:00 UTC
21795103	Flood	Edera product notification (Flash flood impact)	Alicante/Alicant	3	2025-12-28 17:00 UTC	2025-12-29 01:00 UTC
21794909	Storm	Edera product notification (Storm Impact)	Valencia/Valencia	3	2025-12-28 17:15 UTC	2025-12-28 20:15 UTC
21794918	Storm	Edera product notification (Storm Impact)	Murcia	3	2025-12-28 17:15 UTC	2025-12-28 20:15 UTC
21794919	Storm	Edera product notification (Storm Impact)	Granada	2	2025-12-28 17:15 UTC	2025-12-28 20:15 UTC
21794920	Storm	Edera product notification (Storm Impact)	Albacete	3	2025-12-28 17:15 UTC	2025-12-28 20:15 UTC
21794911	Storm	Edera product notification (Storm Impact)	Alicante/Alicant	3	2025-12-28 17:15 UTC	2025-12-28 20:15 UTC
21794912	Storm	Edera product notification (Storm Impact)	Almería	2	2025-12-28 17:15 UTC	2025-12-28 20:15 UTC
21795083	Flood	Edera product notification (Urban Flood)	Murcia	3	2025-12-28 17:30 UTC	2025-12-28 18:30 UTC
21795084	Flood	Edera product notification (Urban Flood)	Valencia/Valencia	3	2025-12-28 18:45 UTC	2025-12-28 19:30 UTC
21795140	Flood	Edera product notification (Punto BARQUIM)	334 - Valencia/Valencia	2	2025-12-28 20:00 UTC	2025-12-29 02:00 UTC



The beginning..

Enviado el: domingo, 28 de diciembre de 2025 12:45

Type	Product	Start Date	End Date	Description
	Urban Flood	2025-12-28 12:00	2025-12-28 13:00	Advertencia de inundación en Valencia/València.
	Punto BARQUIM	2025-12-28 18:00	2025-12-28 20:00	Advertencia de inundación en 313 (Valencia/València).
	Storm Impact	2025-12-28 12:00	2025-12-28 15:00	Advertencia de tormenta en Valencia/València.
	Storm Impact	2025-12-28 12:00	2025-12-28 15:00	Advertencia de tormenta en Valencia/València.

INLINE Platform

Resumen de la previsión de inundaciones (0-120h)

Alertas oficiales (1)

Avisos oficiales

Capas meteorológicas (1)

Acumulación de precipitación prevista

Capas de impacto de inundaciones repentinas (1)

Impacto inundaciones repentinas en las subcuencas

Capas de impacto de tormentas (0-3h) (1)

Riesgo tormentas

Storm Impact

Previsión de inundaciones repentinas a corto

Forecasting time: Sun, 2025-12-28 12:00 UTC

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

Filter

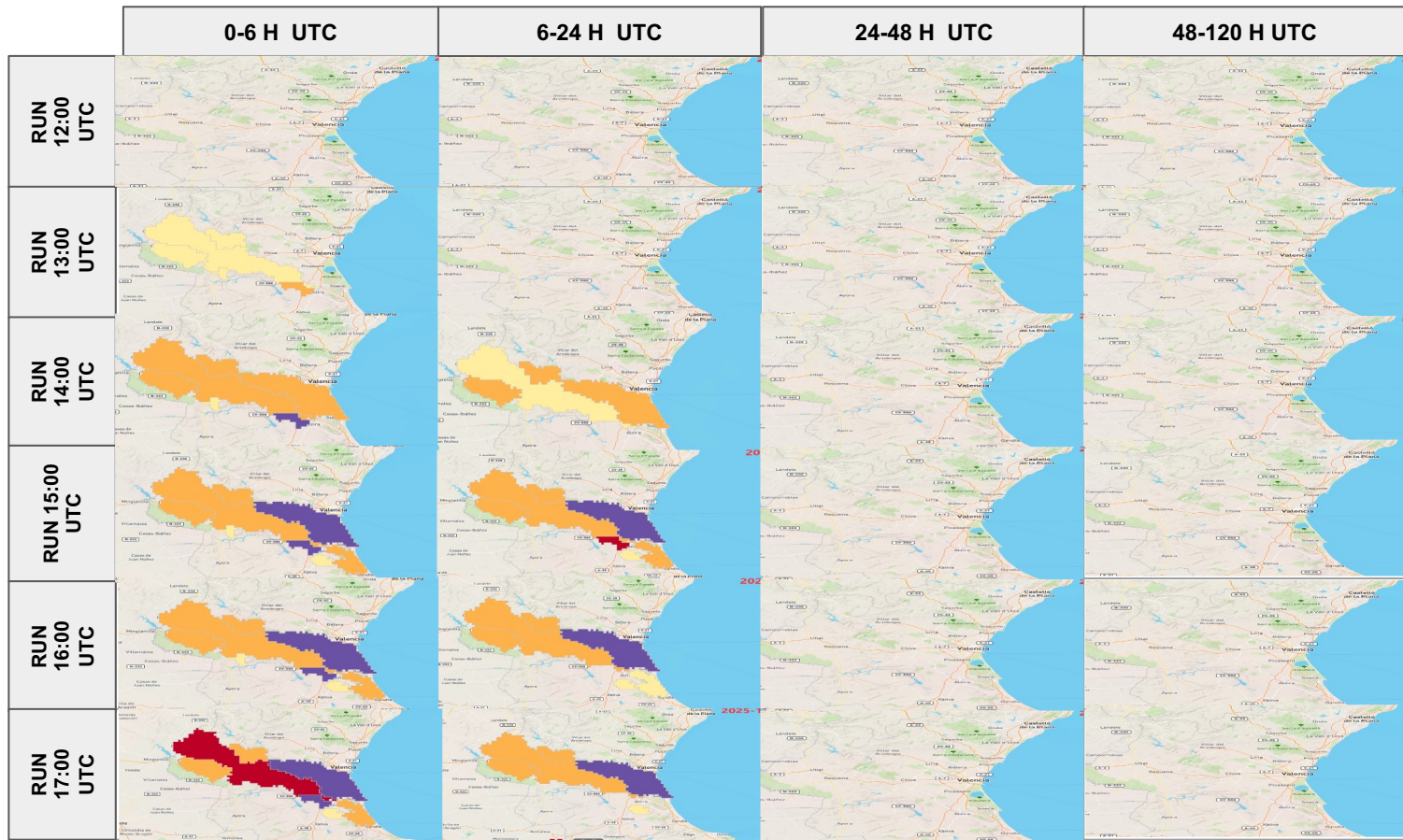
Severe (3) **High (1)** **Medium (9)**

Alicante/Alacant
Source: INLINE
Type: INLINE event notification
Hazards:

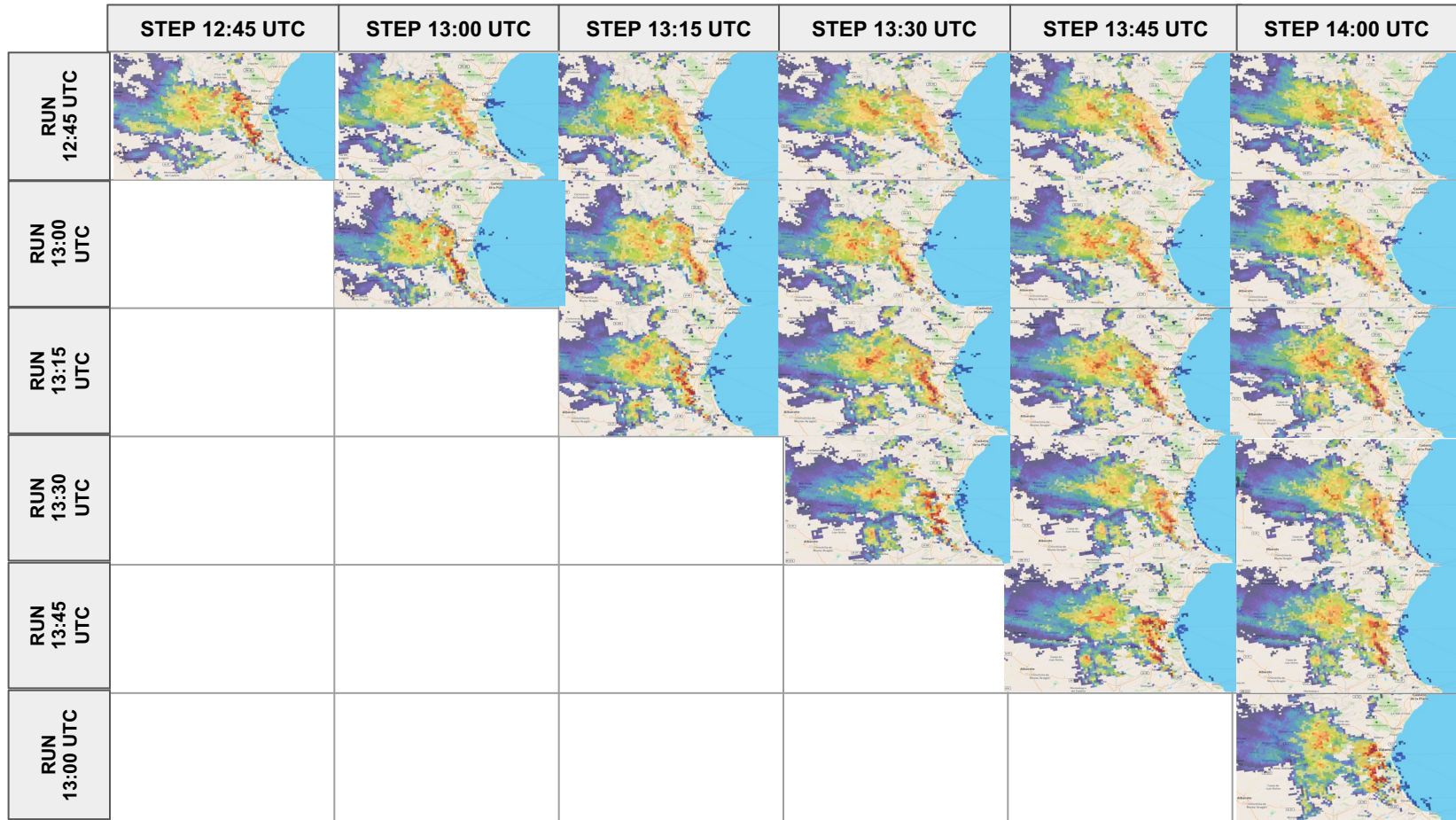
Murcia
Source: INLINE
Type: INLINE event notification
Hazards:

Valencia/València
Source: INLINE
Type: INLINE event notification
Hazards:

MONITORING - IMPACT OF Flash FLOODS in Subcatchments.



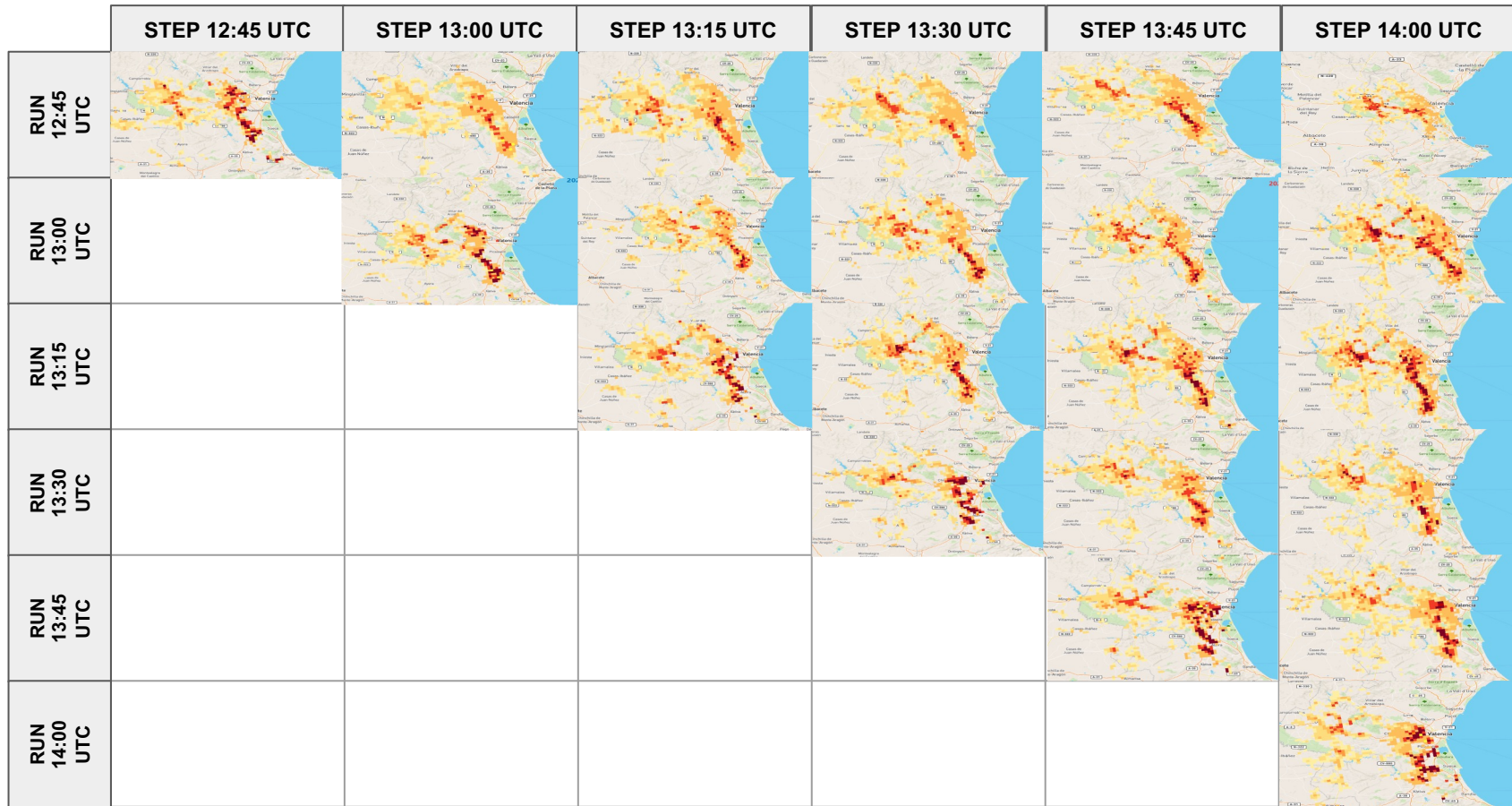
STORM IMPACT: OPERA



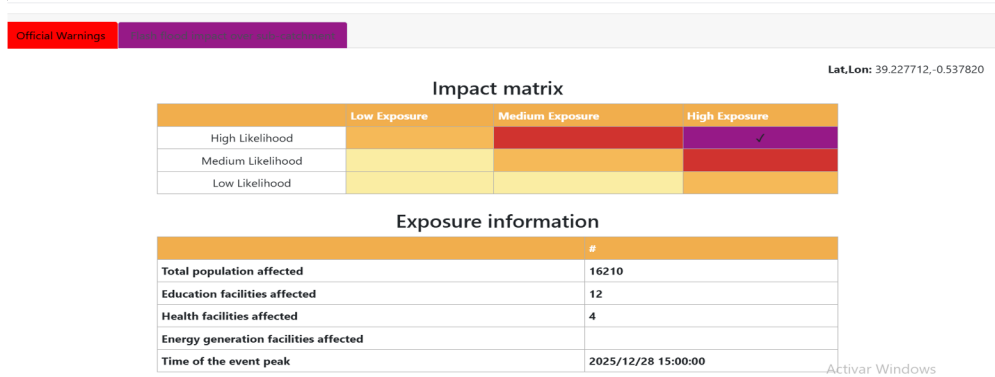
INLINE - RAINFALL FLOOD HAZARD IN URBAN AREAS



STORM IMPACT - RISK OF FLOODING IN URBAN AREAS

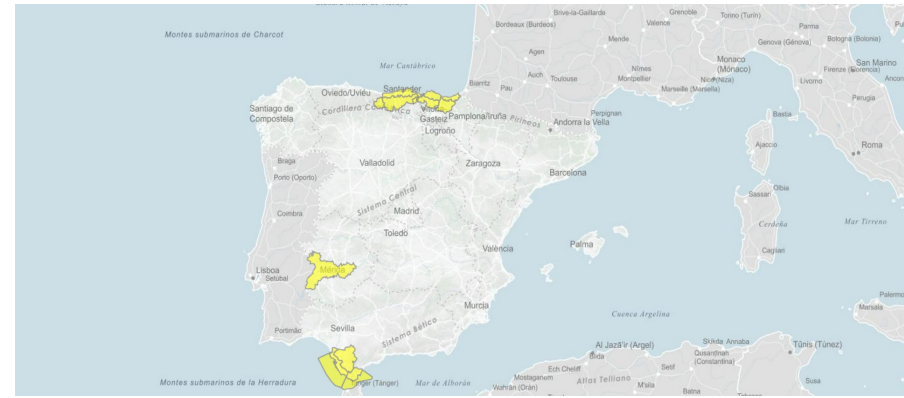
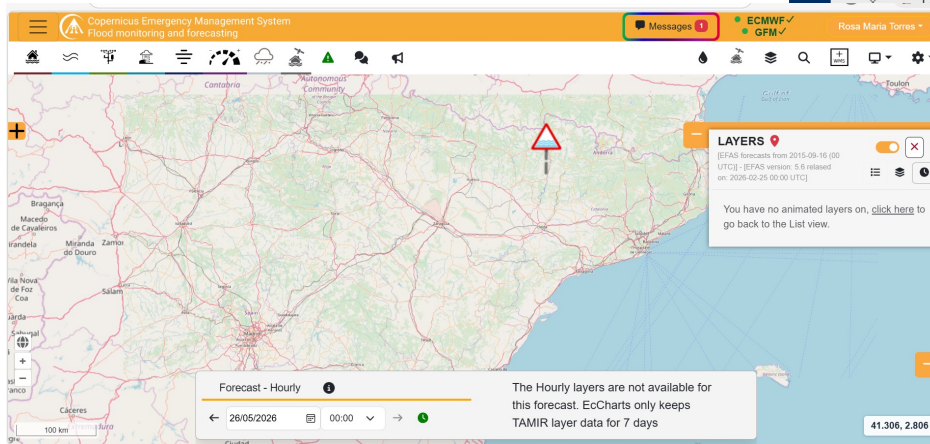


STUDY EVENT PEAK AND IMPACT L'ALCÚDIA Y CARLET



According to the checks performed, the zone highlighted by INLINE was among the hardest hit, reaching 224 mm in L'alcúdia. There are several proofs that flooding was already underway by 3:00 PM, with accumulations at 175mm. While flooding occurred around 3:00 PM, the event persisted until reaching these totals, leading to more severe floods in the region. Consequently, the impact period cannot be restricted to one specific time, though the hour flagged by INLINE matches the accumulated rainfall data. Furthermore, the platform preceded the 5:40 PM Es-Alert for the Valencia province, even though an Es-Alert was issued at 3:36 PM for the southern coast of Valencia, covering L'alcúdia.

Future?: how to implement INLINE IN Spanish NATIONAL ALERT NETWORK, Regional Platforms / Early Warning platforms in Water Agencies, ERCC, EFAS....

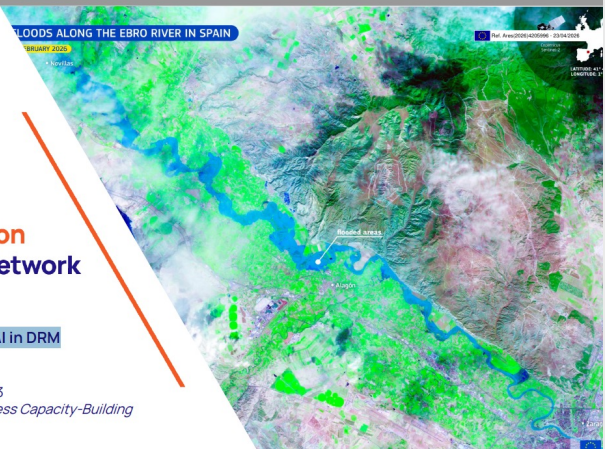



European Union

**Union
Civil Protection
Knowledge Network**

Capacity-Building for AI in DRM

Gaetano VIVO, DG ECHO B.3
Prevention and Preparedness Capacity-Building



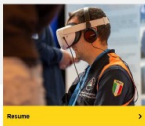
Artificial Intelligence for DRM

eLearning course

- First module introducing opportunities for the use of AI along the disaster risk management cycle
- **Aim:** Increase awareness of DRM specific AI capabilities
- **Target audience:** policymakers and operational staff

Introduction to artificial intelligence in disaster risk management

Less than an hour Beginner



Course details

This course will provide general information on use cases of artificial intelligence (AI) and machine learning (ML) in the field of disaster risk management (DRM) and preparedness as well as introduce relevant ethical and legal requirements.



- Further modules going in depth on specific topics to come throughout the year

Union Civil Protection Knowledge Network

Artificial Intelligence for DRM

Operationalising AI tools through Innovation Procurement

- Study to identify MS/PS project needs and priorities for AI scale up (Interviews with national authorities)
- Matching needs with EU-funded projects and European private sector initiatives
- EU financial support for increasing AI investment through Pre-Commercial Procurement



Would you like to share your priorities and ideas?
Express interest to be interviewed for the study

