

# THE

# CLIMATE

# RESILIENCE

# CLUSTER

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## *How communities are taking charge of climate adaptation in Catalonia*

Spain is on the front lines of climate change. The country is experiencing an uptick in floods, heatwaves, wildfires and droughts, underlining the urgency of resilient, community-focused solutions. The [deadly floods in Valencia](#) in October 2024 offered a sobering glimpse into what climate impacts can mean for people's lives and homes. In response to such climate challenges and as part of the [RESIST Project](#), Catalonia is pioneering multi-hazard early warning systems and progressing with plans that aim to keep communities safe and prepared.

Adaptation measures need to consider both local and global drivers of resilience to compounded risks and the cascading effects of climate change. Relevant climate information is a prerequisite for anticipating climate change, reducing uncertainty and assessing risks to biodiversity, people and infrastructure at regional and local scales, as well as for planning adaptation measures, piloting territorial transitions and evaluating the effectiveness of these measures.

However, climate information alone does not provide a full understanding of how climate risks are experienced locally, and what solutions and strategies need to be developed to manage these risks.



## *A New Model for Early Warnings in Catalonia*

In Catalonia, the RESIST Project has turned its focus on the municipalities of Terrassa and Blanes — both chosen for their vulnerability to extreme weather and their contrasting urban and semi-urban landscapes. Here, teams are implementing an impact-based early warning system designed to tailor alerts to specific threats such as flood risks or wildfire dangers. Recognising Catalonia's unique vulnerability to climate events, these multi-hazard systems are part of a larger push to equip communities with the knowledge and time they need to act effectively.

## *Focusing on the People Most at Risk*

What sets RESIST's approach apart is its commitment to inclusive resilience. Building protective systems for all, especially those in society's most vulnerable groups, lies at the heart of this initiative. This means creating risk communication strategies for older people, who may live alone, and for young migrant communities, who often reside in informal housing where extreme weather poses significant risks.

To ensure this, RESIST has introduced site-specific alert systems that recognise the particular needs of each area. Each warning is finely tuned to the location's vulnerabilities, a system that aims to save time, reduce exposure and allow timely evacuations.

## *Laying the Foundations with Technology and Awareness*

Progress in Catalonia's early warning infrastructure is already visible. Terrassa and Blanes are equipped with the [ARGOS system](#), which collects and shares real-time hazard data with city officials and emergency responders. Alongside this, RESIST has rolled out risk awareness surveys and community-focused initiatives to help residents understand and prepare for climate threats. For those living in flood-prone areas, the measures go further. Civil Protection teams in Terrassa, for instance, have started building a comprehensive hazard impact database and are installing flood-detection sensors to better monitor risk in real time. These actions are part of a broader effort to prepare first responders, equipping them with the tools and training to act effectively during emergencies.

## *Creating a Blueprint for the Future*

RESIST's goals don't end in Catalonia. The project envisions a future where adaptable early warning systems reach more communities throughout Europe. The lessons learned here—through rigorous testing, monitoring, and community collaboration—are intended to help shape adaptable models that other vulnerable municipalities can adopt, both in Catalonia and beyond. As Catalonia adapts to an increasingly volatile climate, the region's efforts to build resilience serve as a testament to what community-centred planning can accomplish. Here, the focus isn't just on technology and alerts; it's on people and their safety, forging a model for climate preparedness that other regions may one day follow.



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