

A STREAM OF SOLUTIONS TO COPE WITH FLOODING RISKS

Publications in EU magazines

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Project Acronym	STREAM
Project ID Number	10249186
Project Title	Strategic Development of Flood Management
Priority Axis	2 – Safety and Resilience
Specific objective	2.2 – Increase the safety of the Programme area from natural and man-made disaster
Work Package	Number 2
Work Package Title SYSTEM	Communication activities; g
Activity Number	2.5 and
Activity Title	Media Relations
Partners in Charge	PP14 - City of Venice,
Partners involved	All Partners,
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Deliverable Description

Two articles on relevant EU magazines were published by the STREAM project. The first one was published on the Platinum Magazine - II sole24ore on July 2022 describing the project aims, activities, outputs and expected results and the challenges to be tackled. The second article was published on Euractive digital paper on June 2023 presenting project results and achievements.



The high water phenomenon in Venice

Floods along the Adriatic coast: Italy-Croatia alliance

The "Stream" project, as part of the cross-border cooperation between the two countries, has developed tools for monitoring, forecasting risks and alerting the population

he frequency of floods along the Adriatic coast is increasing year by year and the phenomenon, due to ongoing climate change, is set to grow further in the next 50-100 years. Italy and Croatia, with the contribution of European funds, have joined forces to develop actions that can govern the phenomenon, giving territories and populations tools to face the changes and not suffer from them. This is how the Stream project was born, led by the Development Agency of the Zadar Province - Zadra Nova - and financed by the Interreg Italy-Croatia 2014-2020 programme, which will be concluded at the end of the year after 33 months of activities, 9 pilot actions developed, and 9 million 411 thousand and 657 euros of investments. Sixteen partners are involved on both sides of the Adriatic Sea and the list

includes regional agencies, local authorities, universities and research centres. Stream,



which stands for "Development of Flood Management Strategies", aims at improving the flood risk management capacity of local authorities and emergency services to help reduce the damage and losses caused by such events. Indeed, fluvial flooding, pluvial flooding in urban areas and coastal flooding caused by extreme weather conditions are causing damage to the population, environment and infrastructure in the project areas. Stream, therefore, intends to build shared knowledge on flood risk; to strengthen the intervention capacity of civil protection services; to raise awareness among citizens on the correct behaviour to adopt in case of floods. In addition, the development of flood monitoring tools and innovative forecasting and warning systems, management plans and training activities is planned. Among the tools developed in the two and a half years of the project are an online platform to collect and share data on floods in the Adriatic Sea, as well as flood forecasting and warning systems to support risk management and rescue.



Il fenomeno dell'acqua alta a Venezia

Inondazioni lungo le coste adriatiche: alleanza Italia-Croazia

Il progetto "Stream", nell'ambito della cooperazione transfrontaliera tra i due Paesi, ha sviluppato strumenti di monitoraggio, previsione dei rischi e di allertamento della popolazione

a frequenza delle inondazioni lungo le coste adriatiche sta crescendo di anno in anno e il fenomeno, a causa dei cambiamenti climatici in corso. è destinato a crescere ulteriormente nei prossimi 50-100 anni. Italia e Croazia, con il contributo di fondi europei, hanno unito le migliori forze per sviluppare azioni che possano governare il fenomeno, dando ai territori e alle popolazioni strumenti per affrontare i cambiamenti e non subirli. È nato così il progetto Stream, guidato dall'Agenzia di Sviluppo della provincia di Zara - Zadra Nova - e finanziato dal programma Interreg Italia-Croazia 2014-2020, che si concluderà a fine anno dopo 33 mesi di attività, 9 azioni pilota sviluppate e 9 milioni 411 mila e 657 euro di investimenti. Sedici i partner coinvolti sulle due sponde del Mar Adriatico e l'elenco è composto da agenzie regionali, autorità locali,

università e centri di ricerca. Stream, acronimo di "Sviluppo di strategie per la gestione delle



inondazioni", ha come obiettivo il miglioramento della capacità di gestione del rischio di alluvioni da parte delle autorità locali e dei servizi di emergenza, per contribuire a ridurre i danni e le perdite causate da tali eventi. Infatti, inondazioni fluviali, inondazioni pluviali nelle aree urbane, inondazioni costiere causate da condizioni metereologiche estreme stanno causando danni alla popolazione, all'ambiente e alle infrastrutture nelle aree interessate dal progetto. Stream, perciò, intende costruire conoscenze condivise sul rischio di inondazione; potenziare la capacità di intervento di servizi della Protezione civile; sensibilizzare i cittadini sul corretto comportamento da tenere in caso di alluvioni. Inoltre, è stato previsto lo sviluppo di strumenti di monitoraggio delle alluvioni e innovativi sistemi di previsione ed allertamento, piani di gestione e attività di formazione. Tra gli strumenti messi a punto nei due anni e mezzo di progetto ci sono una piattaforma online per raccogliere condividere i dati sulle alluvioni in Adriatico, e sistemi di previsione e allertamento delle alluvioni a supporto della gestione del rischio e dei soccorsi.



STREAM: a European project to improve the flood risks management capacity





EUROPEAN UNION

European Regional Development Fund

STREAM project logo

In the past 40 years alone, climate-related events have caused more than 487 billion euros of financial losses in the EU with the economic cost of river flooding in Europe averaging more than 5 billion euros per year. In line with the new European Climate Change Adaptation Strategy recently presented by the European Commission, in April 2020 a three-year transnational cooperation project between Italy and Croatia, STREAM (Strategic development of flood management), has been developed with the aim of implementing shared strategies to improve flood management in both coastal areas.

Where the project stems from

The INTERREG IT-HR co-funded project is led by the Zadar Development Agency (HR) and involves 16 Italian and Croatian partners on both coasts of the Adriatic Sea. In recent decades, flood events have increased along the Adriatic coasts and are expected to do so again in the next century with the risk of serious damage to the population, environment, and infrastructure.

Extreme weather conditions and flooding are also becoming more frequent along the Adriatic coast, and the situation is exacerbated by the general rise in sea level and temperature. There is therefore a need to develop more effective and timely management of flood events on the Adriatic coast by increasing the level of information about potential risks as well as the effectiveness of early warning and monitoring systems.



Gospic 13.3.2018 GS Press

Project objectives

The project is not just devoted to strengthen cooperation between the two countries in managing coastal and rainfall flood interventions, but also to reduce human and socio-economic losses by improving flood risk management by local authorities and emergency services with a cross-border approach.

Specifically, the objectives of the STREAM project aim both at strengthening adaptation and collaboration strategies between the Italian and Croatian regions to build greater resilience to flooding, and at an improved information and data sharing system for increasing knowledge about coastal flooding in the Italian-Croatian area. This way, the improvement of risk monitoring will result in a reduction of significant losses caused by floods and it is going to raise awareness for citizens to adopt proper behaviors during floods and flood events.

Project Activities

In order to bring this project to life, it was essential to develop a whole series of strategic actions: from the creation of an online platform for flood risk monitoring in the Adriatic basin for the collection and management of information in open source mode, to the development of risk plans for flood management, as well as the creation of a flood forecasting system for the entire Adriatic-Ionian area and an early warning system.



In addition, activities were implemented to upgrade the operators of emergency management services and civil defense and coast guard services, including the modernization of equipment and facilities according to the latest technologies.

The first phase of the project, coordinated by the University of Zadar and in cooperation with CNR and IUAV Venice, includes the creation of flood risk management data and information. The development of this database was then used for the development of the IT platform (I-flood) into which all data related to floods in Italy and Croatia were poured according to the logic of open data.

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installing_ondametric buoy

A crucial activity of the project is represented by a multimodal system (EWS) for forecasting weather, wind, waves, and sea level in the Ionian Adriatic basin, which will complement existing forecasting systems. This forecasting system is complemented by an early warning system in case of floods (developed by CNR-IMAR in Venice, with the support of the Municipality of Venice), which will enable local governments, populations, and productive activities to react promptly and limit damages in case of calamitous events.

Project Outcomes

Among the main outputs of the project we can include several tools and procedures:

- The development of the SEA-STORMS web platform for sharing measurements and forecasts, an interactive geo-visualization tool to make the results available to the general public;
- The creation of an international online platform I-FLOOD for collecting and sharing flood data in the Adriatic in an open source mode;
- Two flood cadastres in Italy and Croatia and developed a coastal flood registry in Croati;
- Three flood risk management plans covering all aspects of flood risk management plans;
- Flood risk and coastal flood hazard maps for the Adriatic and Ionian region through;
- Training schemes for Civil Defense volunteers and Coast Guard operators and purchase of new equipment;
- Awareness-raising and information activities targeting citizens on flood warning systems and behavior procedures.

To sum up, by fostering cooperation between the Italian and Croatian regions for sharing information and data in cross-border areas, STREAM can be considered an extremely valuable tool for more effective and timely flood management by local authorities of the Adriatic and for increasing the level of information on potential risks among local communities.

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