

STREAM - Strategic development of flood management

2014 - 2020 Interreg V-A Italy - Croatia CBC Programme - Strategic Project

Strategic theme 3 - Flood risk

Specific objective 2.2 - Increase the safety of the Programme area from natural and man-made disaster

Start date 01/04/2020 - **End date** 31/12/2022

TOTAL BUDGET € 9.411.657,83

INTRODUCTION

In the last decades flooding frequency has increased along the Adriatic coasts and is expected to further do so in the next 50 to 100 years. This is a tangible effect of climate change that local communities experience. STREAM thus aims to reduce human and socio-economic losses in case of flood hazards, by improving flood risk management of local authorities and emergency services with a cross-border approach. Partners will work together to develop risk monitoring tools and early warning procedures, with a combined bottom-up and top-down approach. Data sharing, exchange of practices and capacity building schemes will bring additional know-know to stakeholders in the project area. Particularly, STREAM will set up a flood cadastre, flood risk maps, and a flood risk management plan. Another key element will be reaching the largest possible audience. To do so authorities will organize workshops, info-days and events, to improve the citizen's readiness and rescue operations in case of flooding. In fact raising their awareness in order to adopt correct behaviors is essential to minimize losses. Once they are achieved, STREAM results can be transferred and put into practice in other coastal regions facing similar problems.

PARTNERSHIP

The Zadar County development agency ZADRA NOVA is the project's Lead Partner (LP) being in charge of the coordination. In addition, 20 other Project Partners (15 PPs + 5 APs) are involved in the project: 12 Italian and 8 Croatian institutions:

PP1 - DUBROVNIK NERETVA COUNTY (HR)

PP2 - PUBLIC INSTITUTION RERA SD FOR COORDINATION AND DEVELOPMENT OF SPLIT DALMATIA COUNTY (HR)

PP3 - UNIVERSITY OF ZADAR (HR)

PP4 - REGIONAL AGENCY FOR PREVENTION, ENVIRONMENT AND ENERGY IN EMILIA-ROMAGNA (IT)

PP5 - REGIONAL STRATEGIC AGENCY FOR THE ECOSUSTAINABLE DEVELOPMENT OF THE TERRITORY - APULIA REGION (IT)

PP6 - NATIONAL RESEARCH COUNCIL (CNR) (IT)

PP7 - EURO-MEDITERRANEAN CENTER ON CLIMATE CHANGE FOUNDATION (IT)

PP8 - POLITECHNIC UNIVERSITY OF MARCHE (IT)

PP9 - MARCHE REGION (IT)

PP10 - PUBLIC BODY FOR THE RIGHT TO STUDY – TERAMO (IT)

PP11 - PUBLIC INSTITUTION DEVELOPMENT AGENCY OF LIKA-SENJ COUNTY – LIRA (HR)

PP12 - KARLOVAC COUNTY (HR)

PP13 - TOWN OF POREČ – PARENZO (HR)

PP14 - CITY OF VENICE (IT)

PP15 - IUAV UNIVERSITY OF VENICE (IT)
PP16 - CROATIAN WATERS (AP) (HR)
PP17 - REGIONAL DEVELOPMENT AGENCY OF PRIMORJE-GORSKI KOTAR COUNTY (AP) (HR)
PP18 - REGIONAL AGENCY FOR TERRITORIAL SAFETY AND CIVIL PROTECTION- EMILIA-ROMAGNA REGION (AP) (IT)
PP19 - EMILIA-ROMAGNA REGION (AP) (IT)
PP20 - PUGLIA REGION (AP) (IT)

PROJECT MAIN OBJECTIVES

The project will contribute to a significant improvement of knowledge of floods in project area, which will lead to improved monitoring of risks and increase in management capacity to promptly react to flood disasters. Using the necessary education, drills and workshops and equipping of the urgent services, STREAM Project will enhance readiness of urgent services, and will shorten the reaction time of urgent services. Finally, STREAM project partners will develop systems in order to train citizens how to react in case of flood, it aims at increasing the capacity of inhabitant and other stakeholders in preventing and reacting during the flood events.

PROJECT STRUCTURE AND WPs DESCRIPTION

The project is divided in Working Packages (WPs) covering the project preparation (WP0), management (WP1), communication activities (WP2), creating flood knowledge documents (WP3), development of innovative technologies and systems of flood forecasting and early warning system (WP4), and PILOT PROJECTS (WP5) with nine pilots being developed in different regions of both countries.

WP0, WP1 and WP2 concern the administrative, financial, communication and management aspects of the project, whereas WP3, WP4 and WP5 focus on the technical activities of the project.

WP3 (CREATING FLOOD KNOWLEDGE DOCUMENTS) aims to create base for flood risk management in project area by creating Flood cadastre, Flood risk maps, flood hazard maps and FRMP. Establishing international platform and International management board, flood risk management will be enhanced reaching an improved knowledge related to floods. The 5 activities that compose WP3 are: (3.1) flood cadastre, (3.2) flood hazard and risk mapping, (3.3) flood risk management plan, (3.4) international flood platform, (3.5) international management board

WP4 (DEVELOPMENT OF INNOVATIVE TECHNOLOGIES AND SYSTEMS OF FLOOD FORECASTING AND EARLY WARNING SYSTEM) aims at flood forecasting, that will be enhanced by the development of a multi-model system which will provide sea conditions, including storm surge and waves contributions, and total sea level forecast over the Adriatic and Ionian seas, allowing also the integration of the sea forecasts into site specific newly developed and existing coastal forecasting systems. Existing EWS will be improved/developed in order to improve risk knowledge, monitoring and warning service, dissemination and communication and response capability. Civil protection officers, schools and University students and stakeholders will be educated to ensure the use of the new tools, dissemination of alert and project activities. Activities of WP4 are: (4.1) flood forecasting system, (4.2) response system improvement - communication technologies, (4.3) flood early warning system integration/update, (4.4) education of stakeholders.

The knowledge and tools developed and implemented in WP3 and WP4 will be gathered and used in pilot projects deployment WP5 (PILOT PROJECTS). Pilot projects will focus on different aspects and criticalities common in the Adriatic area such as sea flooding in the coastal areas, flooding in small-medium watersheds with dam's regulation and pluvial floods. Water resources management related to energy production or irrigation use, urban drainage system and wastewater treatment plants, coastal inundations and related impacts will be investigated in case of severe meteo-marine. Pilots of WP5 are: (5.1) MARCHE PILOT PROJECT, (5.2) EMILIA-ROMAGNA COAST, (5.3) PO DELTA PILOT SITE, (5.4) VENEZIA PILOT SITE, (5.5)

PUGLIA PILOT SITE, (5.6) ADSU PILOT, (5.7) URGENT SERVICES PILOT, (5.8) SMART URBAN DRAINAGE SYSTEM, (5.9) KARLOVAC PILOT ACTIVITIES.

MAIN OUTPUTS

In term of communication activities, the projects aims to raise awareness of inhabitants through project activities on the proper behavior in flood hazards, promoted sustainable urban drainage system as the best practice for the management of storm-water in a changing climate.

Within the WP3, the main expected outputs consists of the creation of a flood cadastre considered as base for flood knowledge and for flood risks assessment, also for flood risk management plan creation. Moreover, three Flood risk management plans will be created or updated, if already adopted and considered necessary after Stream analysis. Flood Risk Management Plan will cover all aspects of flood risk management with a focus on prevention, protection, preparedness, including flood forecasts and early warning systems, and taking into account the features of a particular river basin or subsoil. The last output of WP3 activities consists of the generation of an International Flood platform.

As part of WP4 activities, EWS will be developed and improved by act. 4.2. and 4.3. in order to impact on flood rescue management and urgent services promptness in case of flood disaster. Improved knowledge related to floods is direct result of education of stakeholders carried out. Urgent services members as well as civil protection officers and volunteers will be educated and capable to adequate use of innovative and adequate equipment what will lead to a better and promptly reaction in flood hazard situations.

One of the project STREAM outputs is “urgent services” capacity built. It is based on improvement of urgent services action of work, in terms of knowledge improvement and services equipping. Innovatively equipped urgent services with some of the newest technology, laptops and modern means of communication provides quality respond to crisis situations.