



Green Infrastructures to mitigate Flood risks in Urban and suburban areas and to Improve the quality of rainwater Discharges

NEWSLETTER ABOUT THE PROJECT, CURRENT INFORMATION,
PROGRESS AND UPCOMING ACTIVITIES.

GiFluid Newsletter

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About the project

The GiFluid project commenced in 2021 and saw the construction of two Green Roofs, at the GHAJN National Water Conservation Centre in Rabat, Malta and at the Di3A headquarters, University of Catania, Sicily.

The implementation of the Green Roof holds significant importance for the Energy and Water Agency (EWA) and the University of Catania, as it will generate crucial data to inform future policy frameworks pertaining to stormwater management and flood risk mitigation. Through this installation, various aspects of the Green Roof's functionality will be measured, including the correlation between rainfall and runoff discharge, water retention capacity, runoff water quality, and the water required for plant irrigation. The GiFluid project concluded in 2023 and received funding from the Interreg V-A Italy – Malta Programme.



Green Lab Training in Sicily and Malta

As part of the GiFluid project, a two-day training workshop was organized in both Sicily and Malta. GreenLab aimed at promoting sustainable solutions for rainwater management through green infrastructures such as green roofs and rain gardens. This training aimed to bring together technicians and professionals under the age of 35 from both Malta and Sicily. In total, almost 100 people attended both workshops.



During both training workshops, a number of specialists presented research and case studies on nature-based solutions (NBS) and urban planning. Topics covered included the features and benefits of green roofs, the selection of suitable plants, and the importance of planning in mitigating hydraulic risks. Over the four days, hands-on workshops were organized on designing green roofs and rain gardens, resulting in interdisciplinary groups of participants presenting proposals, guided by experienced professionals.



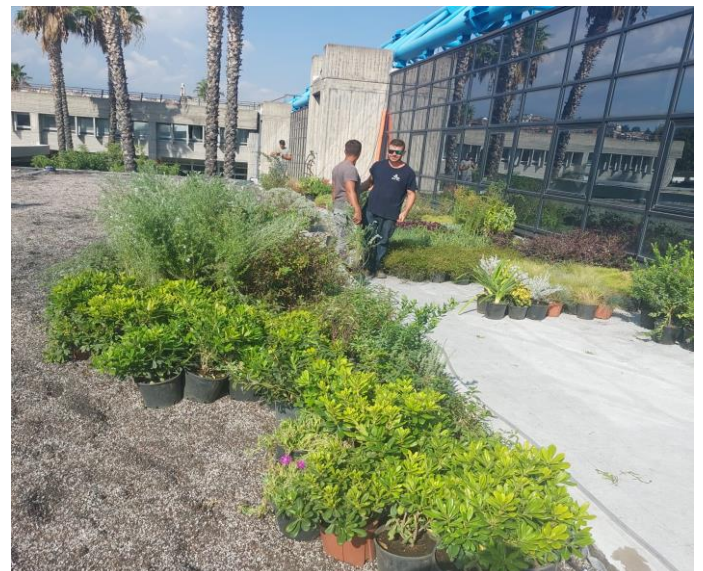


Construction of Green Roofs in Malta and Sicily

Throughout the summer of 2023, significant progress was made with the construction of two green roofs, one in Malta at Għajn Centre in Rabat, and the other in Sicily at the University of Catania. The construction process proceeded efficiently, incorporating various essential layers. These included waterproofing layers to ensure the roofs' integrity, protective layers to safeguard the underlying membrane, and a specialized growing layer. In Malta, the layer comprised of volcanic lapillus, pumice stone, and organic compost, serving as a porous sponge, retaining water crucial for sustaining the planted vegetation.



The Green Roof at the University of Catania employed three distinct growing layers. This strategic approach allowed for thorough testing and assessment of their energy efficiency and hydraulic capabilities.





GiFluid Promotion at events

From the start of the project, we have worked on promoting GiFluid through various events in Malta and Sicily. At the very start, a technical seminar was held at the University of Catania, where over 200 participants attended several workshops to learn about the work being carried out in Malta and Sicily as part of this innovative project.

Throughout the year, the project was once again promoted at the Ghajn Open Weekend in Rabat, aiming to raise awareness about the concept of green infrastructure and its myriad of benefits. Over 1000 visitors attended this event.



Other events promoting the project included the 'Expo Ecomed - Progetto Comfort, Highlighting Urban Planning with Green Solutions'. During this event, a session titled "Addressing Extreme Events and Climate Change: Tomorrow's Urgent Imperative" focused on hydrological extreme events like floods, droughts, and landslides, particularly in Sicily. The session featured presentations from university professors, territorial governance representatives, technicians, the Energy and Water Agency, and companies.





GiFluid Promotion at events

GiFluid was featured at the FlowPath conference, showcasing a simulation illustrating the potential impact of introducing more green roofs in urban areas, specifically focusing on the flow of rainfall.



Additionally, a research paper on "Performance Evaluation of HEC-HMS and HEC-RAS Models to locate nature-based solutions in a Sicilian Hydrological river Basin" was presented at the WICC event in Athens. The study highlights the effectiveness of these models in identifying nature-based solutions.





Inauguration of the Green Roofs in Malta and Sicily

In October and November of 2023 we saw the completion of both green roofs in Malta and Sicily. The Green Roof in Malta boasts a diverse array of vegetation tailored to thrive in Malta's unique climate. In addition, it incorporates photovoltaic (PV) panels to generate clean energy, making it quite unique.



While the Green Roof in Sicily also features a diverse array of vegetation tailored to thrive in Sicily's unique climate. The roof includes multiple pollinator houses, providing shelter for bees, butterflies, and other pollinators.





Final Remarks

As the GiFluid project concludes, we take a moment to reflect on the remarkable journey from its inception. It has been truly exciting to witness the implementation of pilot projects on both islands, aimed at reducing urban flooding and helping mitigate the effects of climate change.

We extend our heartfelt thanks to all those who contributed to the success of the GiFluid project. We eagerly anticipate how this initiative will pave the way for similar projects on the islands in the future.

Together, we have made strides towards a more sustainable and resilient future for our communities. Let this be a stepping stone for the transformative projects yet to come.

