

# Land matters for flood risk management! The COST Action about Natural Flood Retention on Private Land: LAND4FLOOD

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## INTRODUCTION: MANAGING FLOODS REQUIRES MANAGING LAND

Floods are among the most expensive natural disasters, and the risk of flooding will increase in the future. To cope with flood risks, traditional flood risk management needs to be complemented by natural flood retention. The land needed for such measures are mostly on private land. It is imperative to understand not only the hydrological effects of natural flood retention, but also socio-economic consequences and instruments of land management to access the land. Only limited part of contemporary approaches considered land management as significant topic in the flood risk management. Therefore, efficient and effective land management for flood retention and resilience is needed. The COST action LAND4FLOOD (CA 16209) therefore addresses natural flood retention on private land from a trans- and interdisciplinary perspective.

## RECENT ACTIVITIES: PROVIDING AN ACADEMIC BASIS

The activities have so far focused on the inter- and transdisciplinary challenges. Different formats are used to facilitate for this:

- Organization of series of workshops on different topics such as “Strategies for achieving flood resilience”, “Delivering Nature-Based Solutions (NBS)”, “NBS for flood retention in Southern Europe”, “Compensation Mechanism for Flood Storage”, “Innovative and successfully implemented strategies for achieving resilience in Flood Risk Management with a special focus on private and public property flood resilience” and organization of stakeholders meetings.
- Publication of policy briefs entitled “How Private Land Matters in Flood Risk Management?” that is also translated in French and Spanish and “Compensation for Flood Storage” that is available in Portuguese, Spanish, Czech and French versions.
- Support of multiple Short Term Scientific Missions (STSM) and ITC and conference grants.
- Publication of book about “Nature-based Flood Risk Management on Private Land” and multiple scientific papers.
- Preparation of the LAND4FLOOD leaflet (i.e. <http://www.land4flood.eu/wp-content/uploads/2019/10/Leaflet-LAND4FLOOD-final.pdf>) that is translated into Albanian, Bulgarian, Slovakian and Slovenian languages. , Slovakian and Slovenian languages.

Nature based solutions for flood retention in Southern Europe

WORKSHOP DOCUMENTATION



COST Action CA16209 Natural Flood Retention on Private Land (LAND4FLOOD)



WORKSHOP DOCUMENTATION Compensation Mechanisms for Flood Storage

WORKSHOP DOCUMENTATION



COST Action - CA16209 Natural Flood Retention on Private Land (LAND4FLOOD)



REGIONAL WORKSHOP Delivering Nature-Based Solutions: Learning from international best practice

WORKSHOP DOCUMENTATION



COST Action - CA 16209 Natural Flood Retention on Private Land (LAND4FLOOD)



LAND4FLOOD – Regional Workshop Workshop and study trip: Multi-purpose land use agreements in floodplains and flood water storage reservoirs

WORKSHOP DOCUMENTATION



COST Action - CA 16209 Natural Flood Retention on Private Land (LAND4FLOOD)



COST LAND4FLOOD PhD-Workshop Documentation

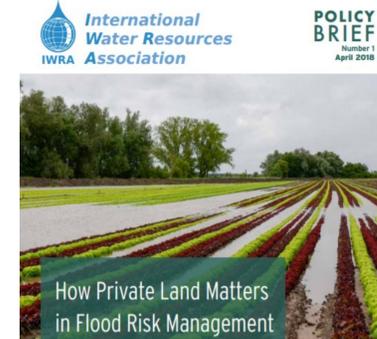
WORKSHOP DOCUMENTATION



COST Action - CA 16209 Natural Flood Retention on Private Land (LAND4FLOOD)



Multiple workshops have been organized within the scope of the LAND4FLOOD project



Two policy briefs have been published within the scope of the LAND4FLOOD project



**Land for Flood Retention and Resilience:**  
How can access to private land be included in future flood risk management?  
COST Action LAND4FLOOD (CA 16209)

**FLOODS NEED LAND!**  
Almost every large flood event of past decades has been followed by calls for more flood retention. Although this has led to considerable efforts in flood risk management, use of land for implementation of risk reduction measures is still limited. Effective and efficient land management for flood retention and resilience is needed!  
Climate change is likely to increase the frequency and magnitude of flooding events. While flood damage occurs on both public and private land, it is on private land that providing space for flood risk management is more difficult. Dikes can only provide limited protection and flooding can also be expected in areas that were not flooded in the past. Preparing cities and landscapes for more frequent and intense flood events is essential. Storing the water in retention areas and preparing cities to be flooded without major damage are both options to respond to increasing flood risk.

**WHERE TO PUT THE WATER?**  
But where can we put the abundance of flood water? The water cycle offers three options:  
(A) in the hinterland, before the water reaches rivers;  
(B) upstream of cities in flood polders (flood storage);  
(C) or in resilient cities (better design cities to withstand damages from floods).

The technical and hydrological conditions for these options are relatively well known, but these measures need access to more land - which is often privately owned. Obtaining private land uses for public needs is complicated, time-consuming and expensive. Mobilising private land for flood retention and resilience means coordinating different actors and institutional management plans.  
ed to retain or store water to create more flexible, instruments of land policy, property risk management still needs hydraulic engineering negotiation and incentivising land-

IWRA Webinar - N°27



Flood Resilience of Private Properties - 28 January 2020



LAND4FLOOD is bottom-up initiative where members play the most important role

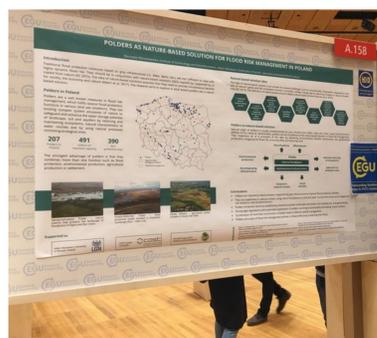
## NEXT STEPS: REACHING OUT TO POLICY

The COST action runs until September 2021. The future ongoing academic and transdisciplinary activities, such as STSMs, workshops, research projects, special issues, and books aim at valorising and disseminating on the knowledge of the network of academics and practitioners from more than 38 countries.

One of the milestones is a major forthcoming book project that will bring together knowledge about flooding land and how to implement spatial flood risk management and resilience. It starts with the main finding of LAND4FLOOD: land is needed for flood risk management to store excess water and retain it without major damage. However, this land is often in private ownership. This book proposal will explore different options regarding storage of water in the catchment during flood events: in the hinterland with decentral measures, along the rivers in polders, and in resilient cities. The book will put the focus on land as a biophysical system (including hydrological aspects), as a socio-economic resource, and as a possible solution for flood risk reduction (i.e. asking for policy interventions to activate the land for flood protection measures). These three areas (i.e. hinterland, along the streams, in resilient cities) and the three analytical lenses (i.e. processes to influence stakeholders and interests in land, socio-economic context of land and environmental conditions of land for retention) will indicate how to use land to reduce the impact of flooding.. This book will be released as one of the key products of LAND4FLOOD.

Next to that, the key policy messages shall be communicated and disseminated to practice and policy to valorise on the achievements of the network.

Follow @LAND4FLOOD on Twitter and visit on <http://www.land4flood.eu>. for more inspiration.



Multiple STSMs and ITCs were supported by the LAND4FLOOD

LAND4FLOOD leaflet is translated into multiple languages, IWRA webinar was also organized and numerous scientific publications were published