

Multi-hazard and risk informed system for Enhanced local and regional Disaster risk management

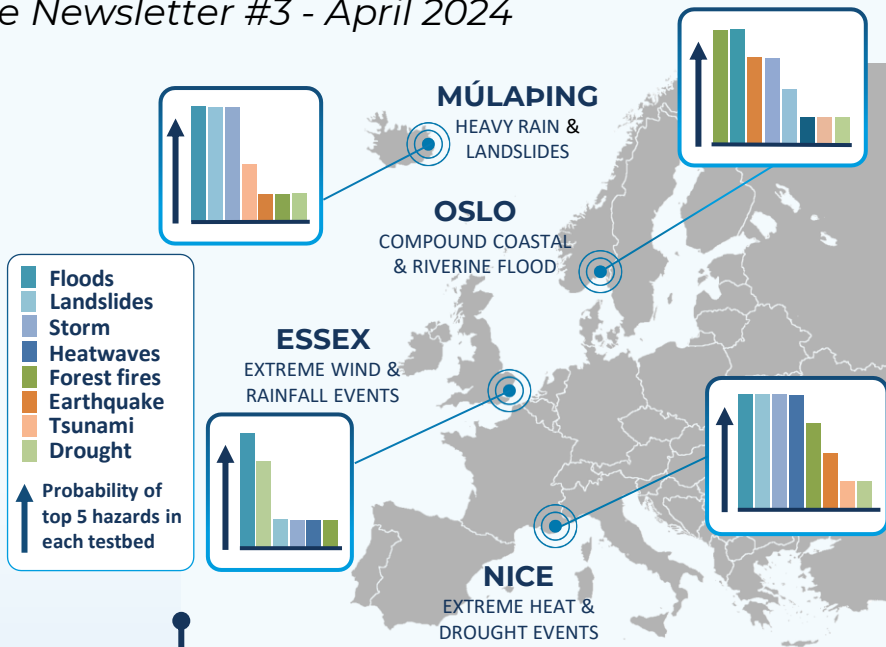


MEDiate Newsletter #3 - April 2024

MEDiate is a 3-year project that aims to develop a decision support system (DSS) for disaster risk management by considering multiple interacting natural hazards and cascading impacts using a novel resilient-informed and service-oriented approach that accounts for forecasted modifications in the hazard, vulnerability and exposure.

**GIVE US YOUR FEEDBACK!**

**MEDiate PROJECT SURVEY**



**MEDiate**  
*in numbers*

NEWSLETTERS

3

TESTBEDS

19

PROJECT MONTH

DELIVERABLES SUBMITTED

13

CONFERENCES & EVENTS

12

WORKSHOPS & INTERNAL MEETINGS

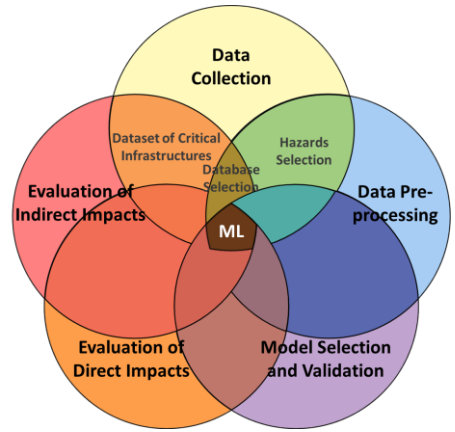
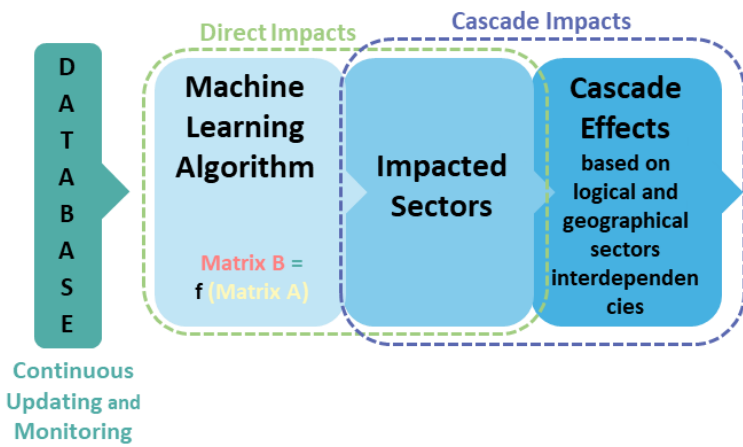
4

# WHAT'S NEW?

NEW

## ASSESSMENT OF THE PRIMARY TYPES OF CASCADING IMPACTS

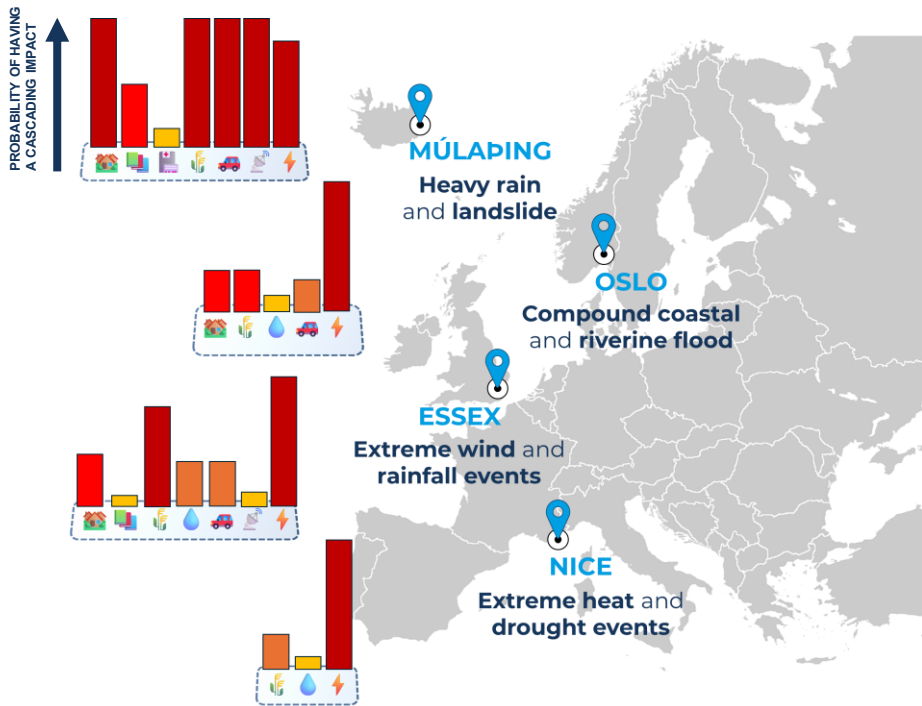
We are excited to share with you the methodology we developed for the assessment of the primary types of cascading impacts resulting from multi-hazard interactions across European regions. The method is structured into five phases. Initially, we focus on data collection, involving literature reviews on cascading impacts and machine learning, as well as the selection of sectors for analysis and the compilation of hazard and disaster databases. Subsequently, data pre-processing enriches databases with contextual data, analyzes correlations, and conducts sensitivity analyses. The methodology is grounded in Machine Learning algorithms, which allow us to discern patterns in data and predict outcomes for new data.



## RESULTS FOR THE TESTBEDS:

**Damaged Homes** 🏠  
**Education** 📖  
**Health** 🏥  
**Agriculture** 🌾  
**Water Supply** 💧  
**Transportation** 🚗  
**Communications** 📡  
**Power and Energy** ⚡

Low High



[LEARN MORE!](#)

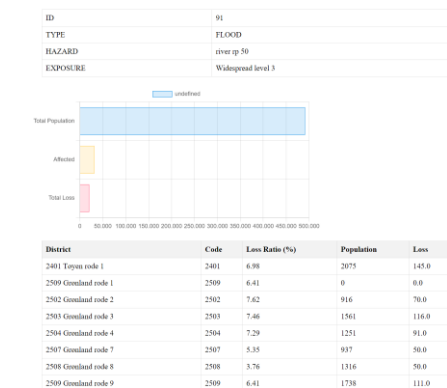
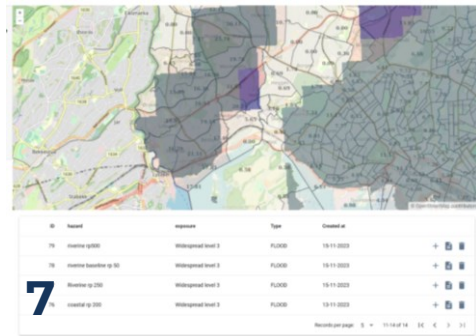
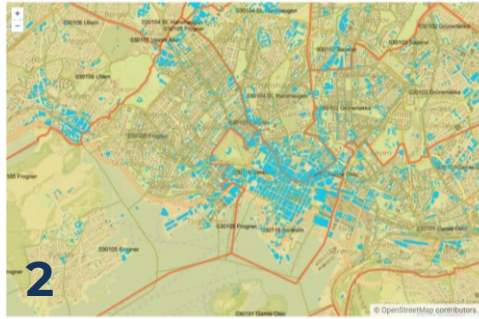
[VISIT OUR WEBSITE](#)

# WHAT'S NEW?

## DSS PLATFORM

NEW

Join us as we unveil the first glimpses of our newly developed Decision Support System (DSS), populated with the results of our project!



1 TESTBED SELECTION

2 TESTBED HOMEPAGE

3 LAYERS CONFIGURATION

4 EXPOSURE CONFIGURATION

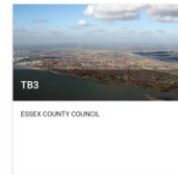
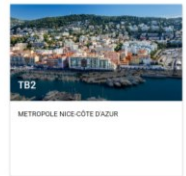
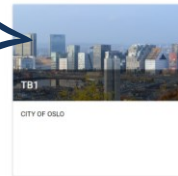
5 HAZARD CONFIGURATION

6 RISK ASSESSMENT

7 SCENARIO CALCULATION

8 VISUALIZATION

9 TABULAR RESULTS



Witness scenarios and hazards come to life through our visualization tools.

Dive deep into scenario results presented in a clear and accessible tabular format.



LEARN MORE!

VISIT OUR WEBSITE

# EVENTS AND WORKSHOPS 2023-2024

## DAMOCLES

MEDiate was presented at DAMOCLES conference in Glasgow, January 17-18, 2023, with a focus on WP2 activities led by Dr. Christopher White. The aim was to enhance disaster risk management, engagement with research communities, industry partners, EU institutions, end-user communities. USTR participated in the DAMOCLES Science-Policy-Practice Workshop. It was an opportunity for knowledge dissemination and stakeholder interaction.



## EGU 2023

USTR took part in the EGU 2023 conference held in Vienna on April 26, 2023. Dr. Christopher White, leading WP2, represented Ustr and participated in the EU multi-hazard projects meeting organized by the Myriad project. The primary aim was to disseminate information within research communities. It was an important discussion and dissemination moment for the project with an international research community.

## BeGEO 2023

The MEDiate project was highlighted at the BeGEO scientists congress, focusing on "Sustainability and Risk: BeGEO Scientists on the Road to the Future". Florencia Victoria De Maio presented "Cascade and Multi-Hazard Analysis in MEDiate for Disaster Risk Management". Attended by early career scientists, researchers, and professionals in geology, environmental science, and disaster risk management, the event enriched discussions on MEDiate's contributions.



## SEMINAR ON FLOOD LOCAL WARNING

NORSAR participated in the NVE Seminar in Lillehammer (Norway), addressing local consequence-based flood warnings. Organized by the Norwegian Water Resources and Energy Directorate (NVE), it aimed to empower local authorities with disaster risk management tools. The discussions focused on developing consequence-based flood warnings, relevant to MEDiate's risk-based impact metrics and cascading impacts consideration.



## EUSEW 2023

The MEDiate project showcased at European Sustainable Energy Week 2023 in Brussels, with an informative stand led by Rita De Stefano from RINA-C. The stand focused on climate change mitigation and energy transition challenges. Interactive sessions offered insights into project objectives and challenges through gaming format.



## WLF 2023

RINA contributed to the 6<sup>th</sup> World Landslide Forum (WLF) in Florence, Italy, from November 14 to 17, 2023. Camilla Lanfranconi presented "Assessment of current and future multi-risk interactions and cascading impacts across Europe: a case study in Oslo, Norway" in the session "Cascading multi-hazard risks: submarine landslides, tsunamis, and impacts on infrastructures," moderated by Shinji Sassa and Finn Lovholt.



## Project meeting at EUCENTRE

WP4 Co-development meeting convened at EUCENTRE, Pavia, Nov 22, 2023. It aimed to refine technical guidance for the MEDiate Decision Support System. 28 participants attended, focusing on hazard integration and impact metrics.



## TRA2024

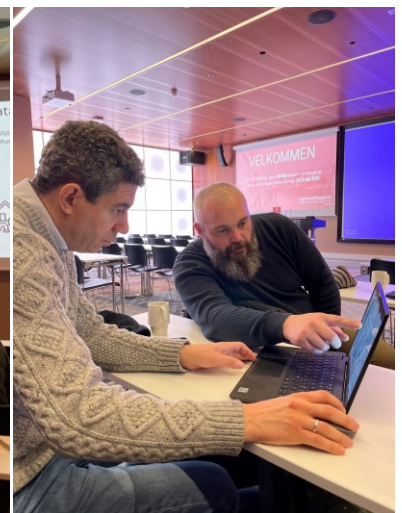
Florencia Victoria De Maio (RINA-C) presented the poster "Assessment of cascading impacts across Europe: an innovative approach for a resilient infrastructure and society" at Transport Research Arena 2024 in Ireland. The event gathered global experts to discuss future transport and mobility, emphasizing carbon-free, accessible options across all modes.



## EGU 2024

The MEDiate project was featured in three sessions at EGU2024, focusing on multi-hazard risk assessments and citizen-centered approaches to natural hazards and risk governance with presentations from Ustr, IUSS, NORSAR, IMO, Deltares and IIASA. The EGU General Assembly 2024 convened April 14-19 in Vienna. It unites geoscientists, showcasing their research covering Earth, planetary and space sciences topics.

## WP5 workshop with Oslo testbed stakeholders



In early December, NORSAR and the Oslo testbed held a workshop focused on stakeholders' views regarding natural hazards and their ability to implement decision support systems. The workshop utilized Oslo's emergency planning forum, which includes key stakeholders in emergency management across the city and region, representing various sectors. During the workshop, participants acknowledged challenges in information and communication within disaster risk management, such as delayed essential information and information overload. However, there was consensus that a decision support system could enhance crisis handling effectiveness and foster unified situational awareness across stakeholders. All testbeds will continue conducting workshops with their stakeholders to ensure that the development of MEDiate meets end-users' needs.

# WEBINARS AND WORKSHOPS 2024

## UNESCO Chair - Multi-hazard and Risk-informed System for Enhanced Local and Regional Disaster Risk Management

On March 7, 2024, the Coordinator inaugurated a series of webinars on the UNESCO Chair platform dedicated to MEDiate. The first of these focused on "Multi-hazard and Risk-informed System for Enhanced Local and Regional Disaster Risk Management" featuring a detailed summary of our project. The presentation highlighted the novelty and added value of key exploitable results, including the Decision-Support System for disaster risk management considering multiple interacting natural hazards and cascading impacts, which is being developed in the project.



**Multi-hazard and Risk-informed System for Enhanced Local and Regional Disaster Risk Management**



**Dr. Abdelghani Meslem**  
NORSAR - Coordinator of the MEDiate project

7th March 2024 - 14:00-16:00 (UK)  
ONLINE





**SAVE THE DATE** 

## NEXT EVENTS AND WORKSHOPS 2024

INTERPRAEVENT 2024  
conference

10-13 June  Vienna (AU) 

WCEE2024 - 18<sup>th</sup> World Conference on Earthquake Engineering

30 Jun-5 July  Milan (IT) 

Demo on the platform to Italian Department of Civil Protection

Rome (IT) 

Natural Hazards and Risks in a Changing World – 3<sup>rd</sup> conference

 Amsterdam (NL)  12-13 June

UR24 - Understanding Risk Forum 2024

 Hyogo (JPN)  16-13 June

Sustainable Places 2024  
conference

 Luxembourg  23-25 Sept

Demo on the platform to Regional Department of Civil Protection

 Milan (IT)

**Stay tuned for more webinars and events as part of the same initiative!**

**FOLLOW US TO STAY UPDATED**



# MEDiate & RELATED PROJECTS

## THE MYRIAD PROJECT



The workshop "Reducing Risks Together: Bridging Disaster Resilience and Climate Adaptation Strategies" together with CLIMAAX at the European Civil Protection Forum on June 5<sup>th</sup>!

**Reducing Risks Together: Bridging Disaster Resilience and Climate Adaptation Strategies**  
European Civil Protection Forum 2024  
5th June 2024  
Brussels, Belgium

myriad\_eu  
Reducing risks together

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 101003276

## THE PARATUS PROJECT



The session "Tools and challenges in assessing compounding and multi-hazard risk in the evolving technological landscape" was organised together with The HuT Nexus Project, MYRIAD-EU and PARATUS Project. It was held during the EGU 2024!



#EGU24

### NH 10.6

**Tools and challenges in assessing compounding and multi-hazard risk in the evolving technological landscape**

Convener: Funda Atun  
Co-conveners: Cees van Westen, Michele Calvello, Marleen de Ruiter, Ivan Van Bever

**ABSTRACT SUBMISSION DEADLINE:**  
10th JANUARY



This Project received funding from European Union's Horizon Research and Innovation Programme call HORIZON-CL3-2021-DRS-01 under Grant Agreement N° 101074075

### GET IN CONTACT



Stay tuned for more news as part of the same initiative!

FOLLOW US TO STAY UPDATED

