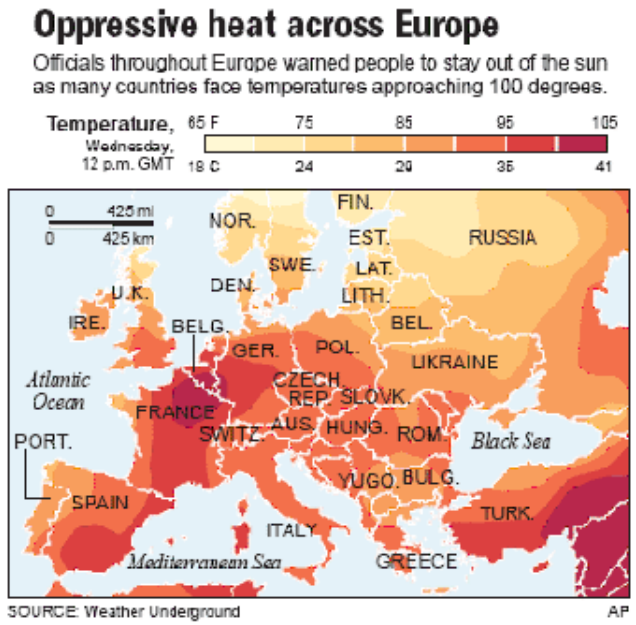
# EXtremeClimTwin

**"Twinning for the advancement of data-driven multidisciplinary research into hydro-climatic extremes to support risk assessment and decision making"**

Call: H2020-WIDESPREAD-2020-5
Topic: WIDESPREAD-05-2020 - Twinning
Type of action: Coordination and Support Action (CSA)
Duration: 01/11/2020-31/10/2023 (36 months)

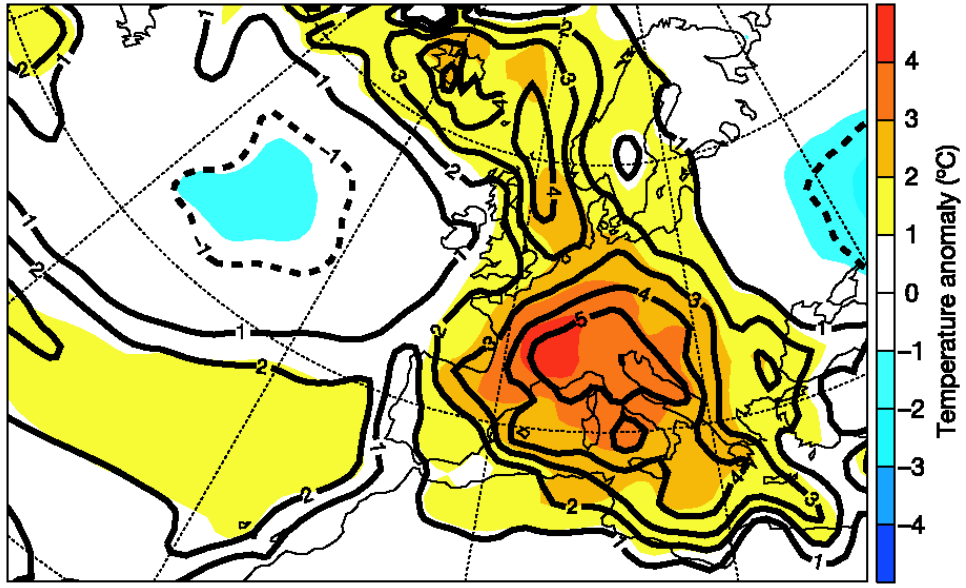
# Motivation

- Large areas across Europe have experienced many intense and long heatwaves;
- Notable impacts on human mortality, regional economies, and natural ecosystems.
- High temperature conditions are accompanied by quite severe social and environmental consequences.

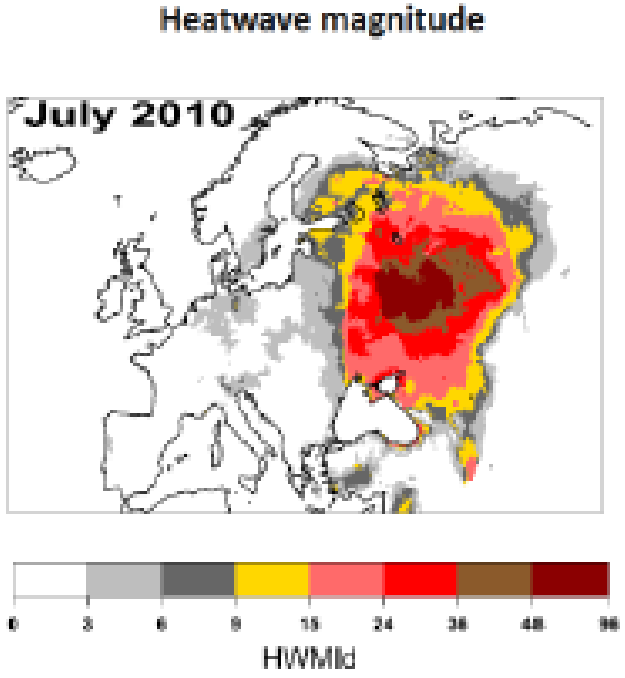




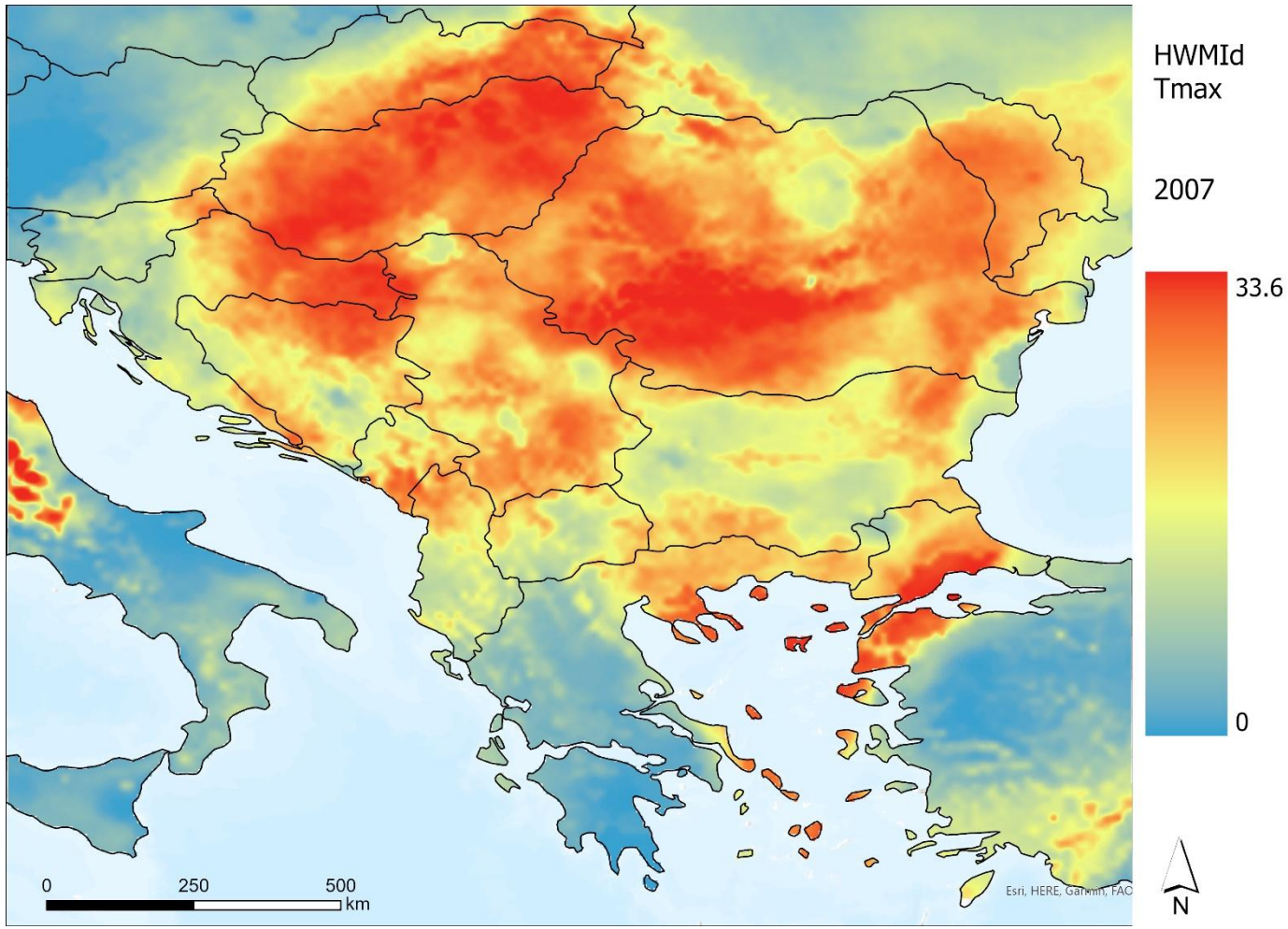
- Disastrous **heatwaves** in recent decades (2003 France, 2010 Russia)
- Russian heat wave in 2010 is on top of the list of ten hottest events (Russo et al., 2015)



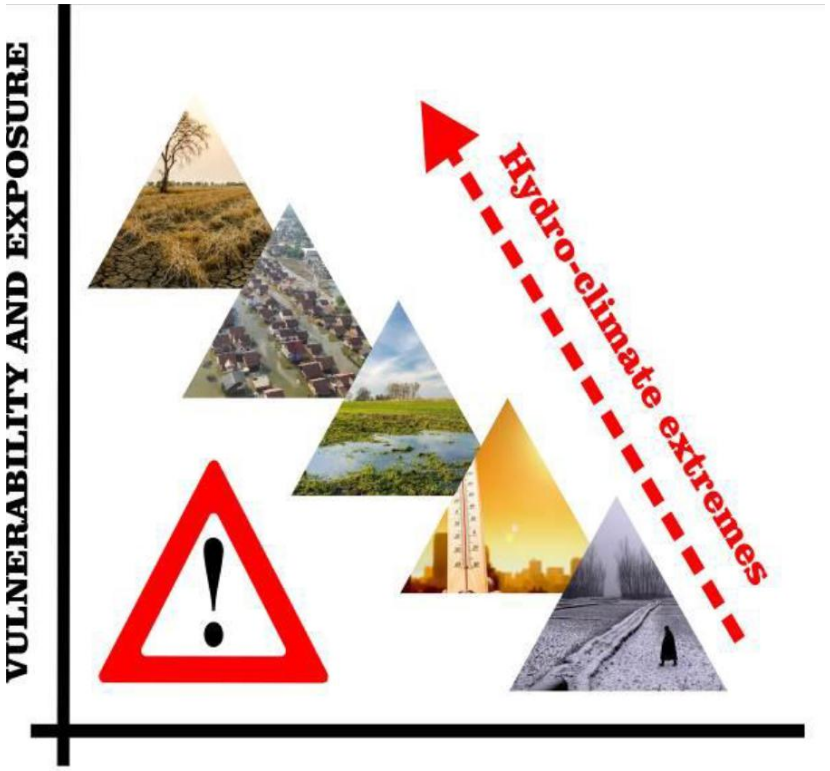

Heat wave 2003
Schär et al. 2004




Russo et al., 2015

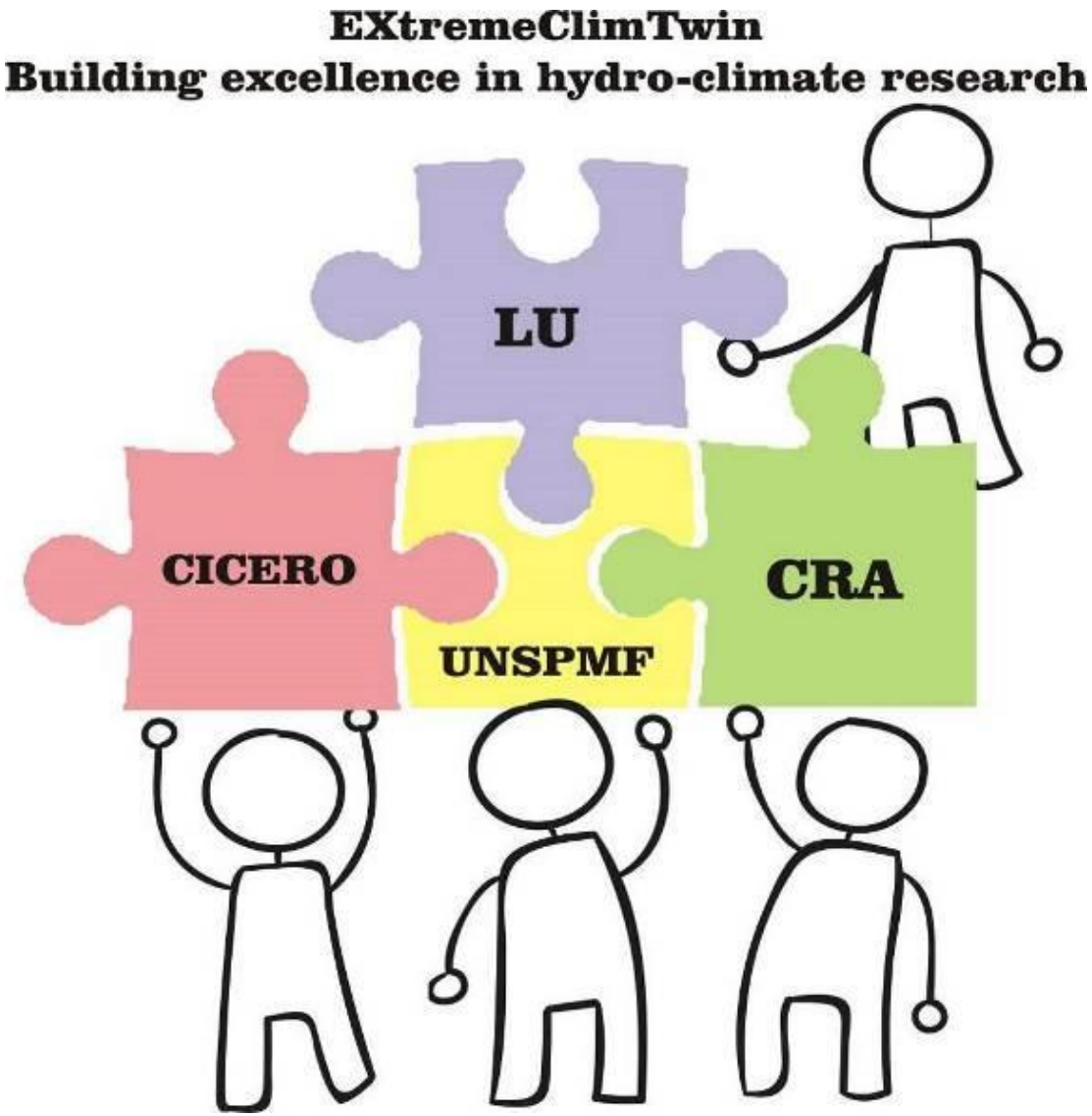



The Balkan Peninsula was affected by particularly intense heat wave during summer 2007. Daily maximum temperature anomalies exceeded 14 °C in some places. Severe social and environmental consequences such as heat related deaths, heat strokes, serious problems in the electrical supply and forest fires were associated with these extremely high temperatures. Serbia, Bulgaria and Greece were the European countries most affected by the heat wave Increasing drought frequency and severity has been observed in southern Europe over recent decades,
with the Mediterranean region as a hotspot especially in spring and summer. Additionally, a clear increase was also evident in the Carpathian region.




The complexity of the relationships between atmospheric conditions, extreme precipitation events and flooding along with the observed trends in flood occurrence rate indicate the presence of knowledge gap that should be addressed during the EXtremeClimTwin project.

UNSPMF recognized the need to build capacities in detection and attribution of extreme hydro-climate events through collaborations and training with institutions that examine these events in other parts of Europe.




**University of Novi Sad, Faculty of Science, (UNSPMF) - coordinator**

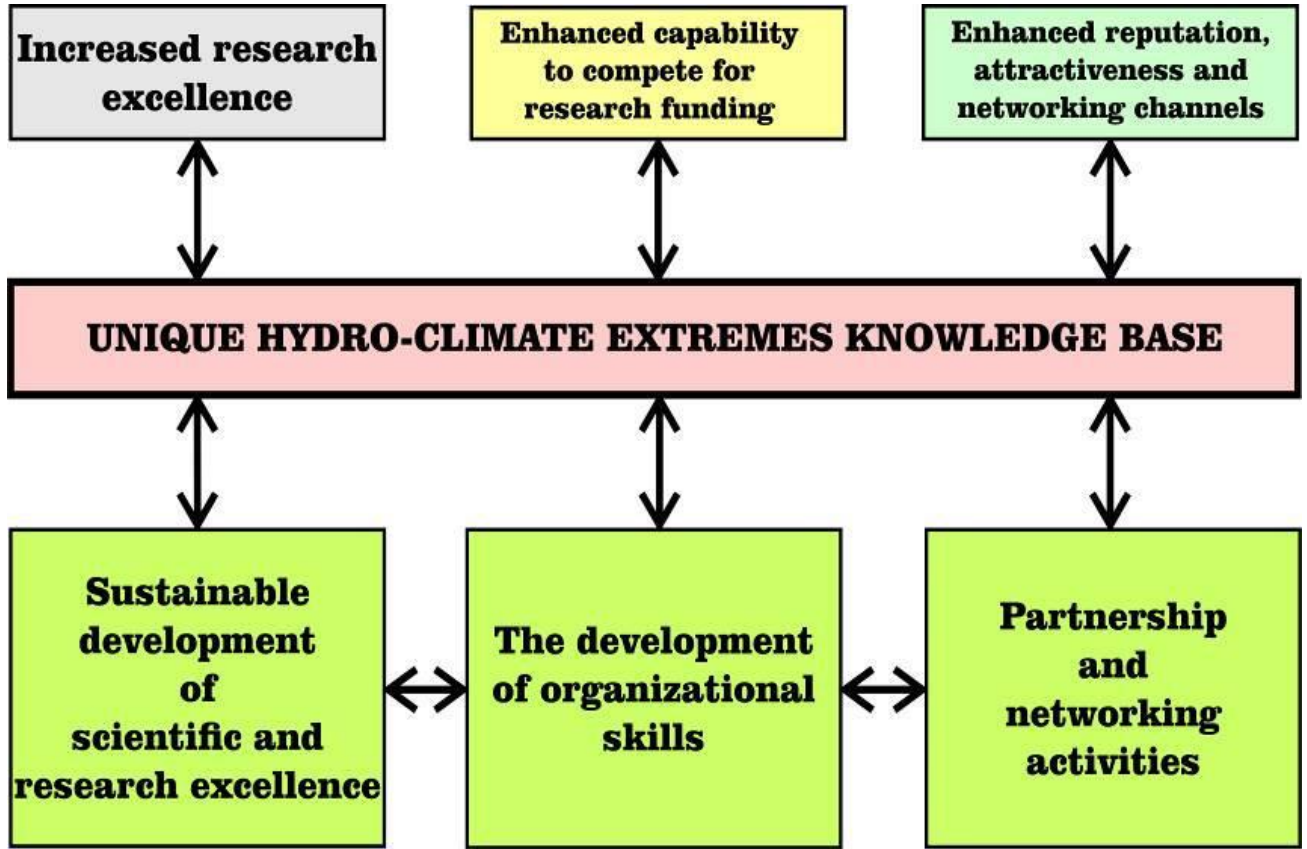
**Climate Risk Analysis (CRA), Germany- Partner**

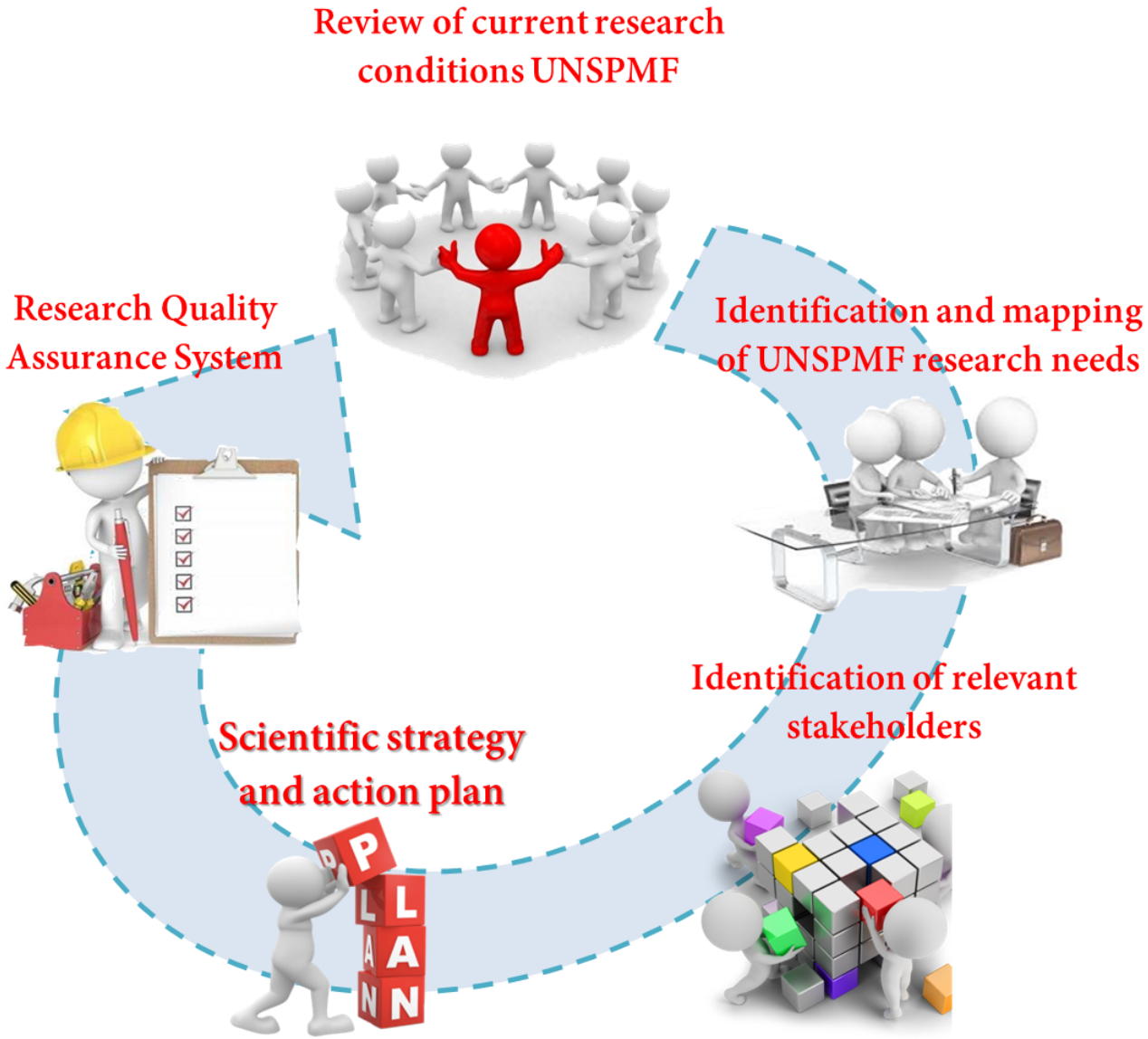
**Loughborough University, Department of Geography and Environment (LU), Great Britain - Partner**

**Centre for International Climate Research (CICERO), Norway - Partner**

## 1.1 Objectives

The overall objective **EXtremeClimTwin** is to **sustainably strengthen research and enhance networking skills** in the field of hydro-climate extremes between **UNSPMF** and internationally leading counterparts in EU.



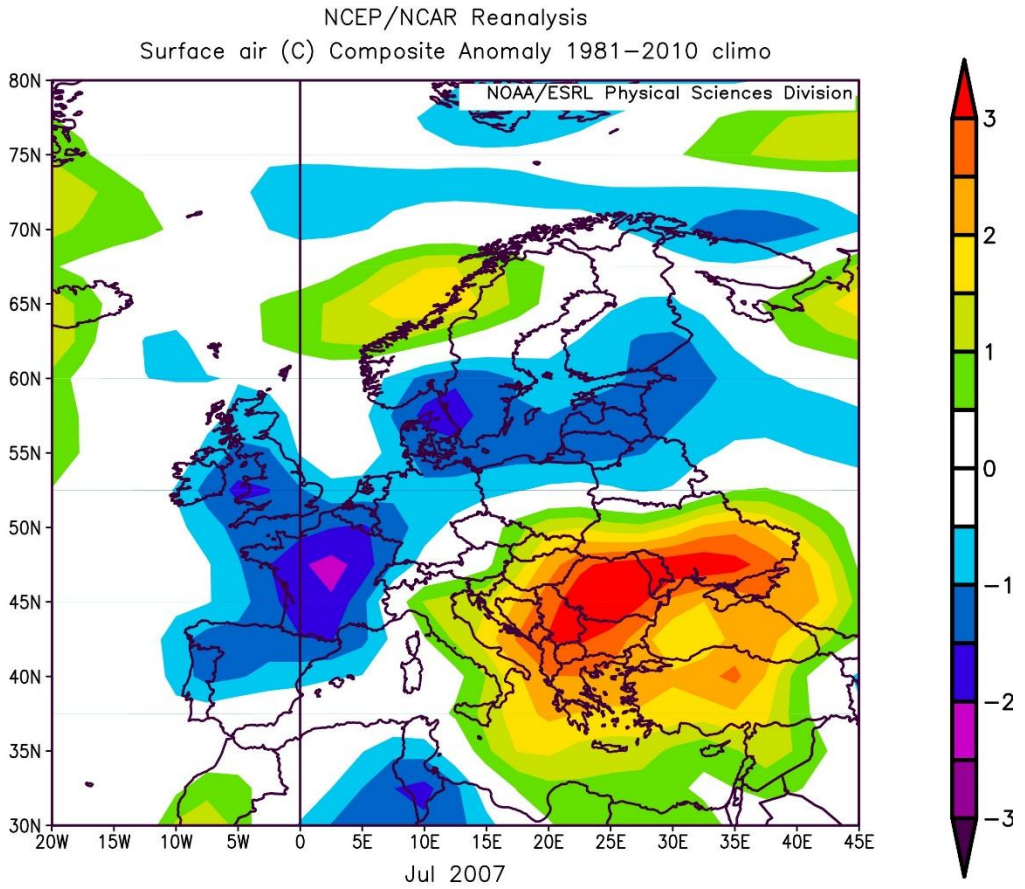



**Objective 1. To raise the research profile and scientific excellence of UNSPMF;**

will be achieved through activities set in WP2. The aim of the WP2 is the development and implementation, of **The Strategy (**Figure**)** that will focus on improving research and adopting new methods for detection and analysis of extreme events as well as uncertainty assessments.

**Objective 2. To enhance the current and scale up the overall research capacity of the UNSPMF in the field of temperature extremes**

**Objective 2.** will be achieved through activities defined in WP3. The overall objective of WP3 is the training of current personnel operating in the existing UNSPMF research group for use of innovative statistical techniques and models in order to explore 'intelligent' approaches to identify temperatures extremes and evaluate their socioeconomic impact.



**Objective 3**. To significantly increase research skills, knowledge, and innovation of the UNSPMF in the field of hydrological extremes.

**Objective 3.** will be reached through the task defined in WP4. The WP4 is strongly focused on increasing scientific skills and improving research capacities of UNSPMF in the field of extreme hydrological events in South East Europe with respect to the driving mechanism and the major modes of variability of extreme precipitation and damaging floods.

**Objective 4.** To unlock the potential of Early Stage Researchers (ESR) at UNSPMF by enlarging their scientific networks and ensuring the sustainability of research partnership among partner institutions.

The focus of WP5:

- ✓ 4 Workshops for ESRs at UNSPMF
- ✓ on line courses in climate and hydrological time series analysis
- ✓ ESRs practical training

**Objective 5.** To facilitate strategic linking of UNSPMF with internationally-leading research institutions through sustainable partnerships which provide transfer of knowledge, results and methodologies.

Objective 5. will be achieved through activities outlined in WP2, WP3, WP4 and WP5.

The events will enhance the ability to make visible the results of the **EXtremeClimTwin** project and facilitate the communication with stakeholders and public companies.

## Important Networks

COST Action DAMOCLES «Understanding and modeling compound climate and weather events»
http://damocles.compoundevents.org/

COST Action CA19139 - Process-based models for climate impact attribution across sectors
https://www.cost.eu/actions/CA19139/#tabs|Name:overview

Knowledge Action Network on Emergent Risks and Extreme Events – Risk KAN
www.risk-kan.org

World Climate Research Programme (WCRP) – new Strategic Plan 2018-2028
https://www.wcrp-climate.org/

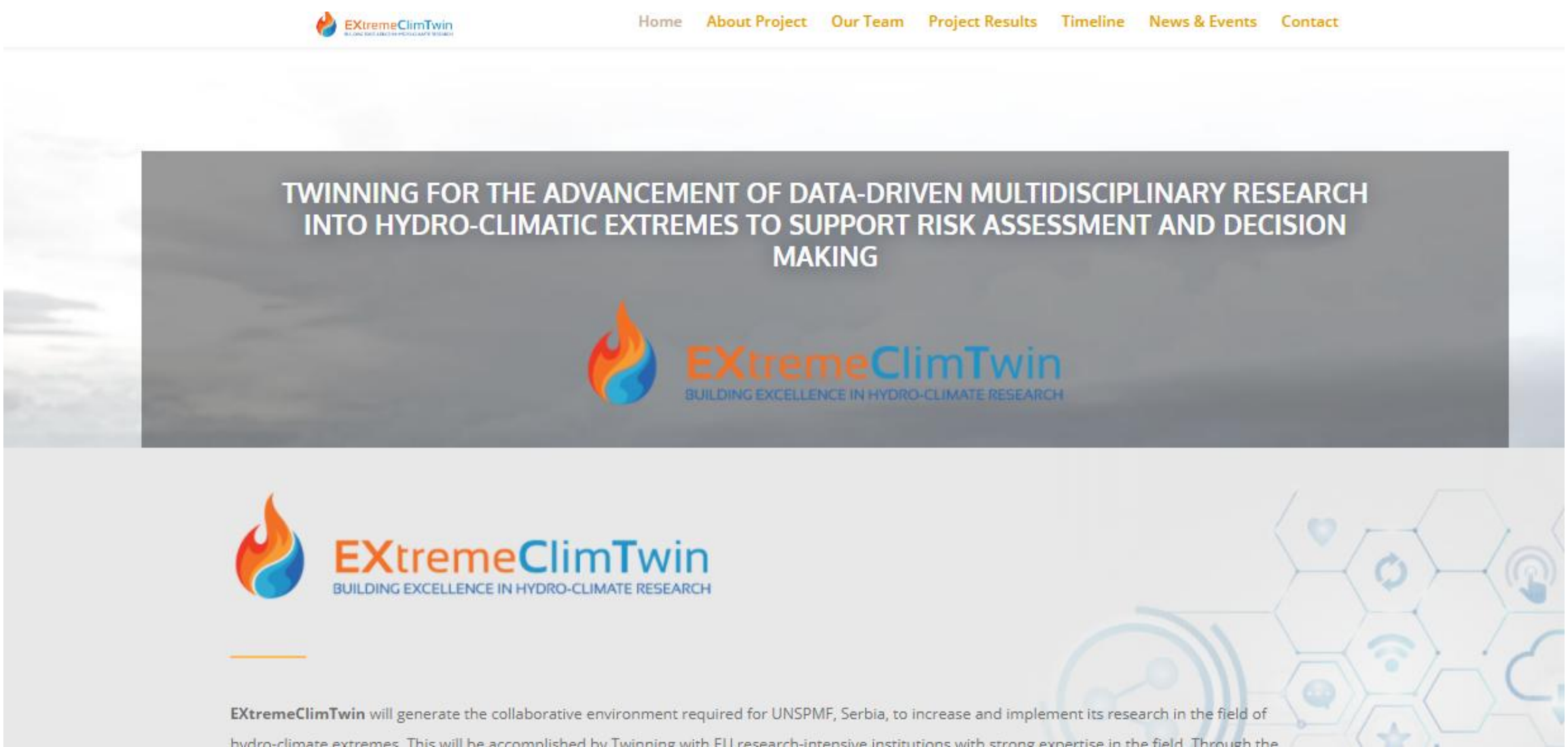
Very important task in EXtremeClimTwin is:

# Building capacity of UNSPMF research staff
## (Experienced Researchers, Early-Stage Researchers), leadership, and dedicated research supporting staff in research management and administration

- **Roadmap and training plan for building efficient institutional research administrative support**

Focus on strengthening the research management and administration skills of the UNSPMF.
**Goals → to upgrade a research management/administration unit**
**& improve service provided to the researchers**

https://extremeclimtwin.pmf.uns.ac.rs/



EXtremeClimTwin

BUILDING EXCELLENCE IN HYDRO-CLIMATE RESEARCH

GA No 952384


EXtreme Clim Twin
Published by Tin Lukić · 26 November at 14:08 ·

A new published paper provides good theoretical background for extensive future research of extreme bioclimate conditions over Europe... best is yet to come 😊😎💪 Congratulations to our research team!!! https://www.mdpi.com/2073-4433/11/12/1276

*atmosphere*

MDPI

*Review*

**Review of Biometeorology of Heatwaves and Warm Extremes in Europe**

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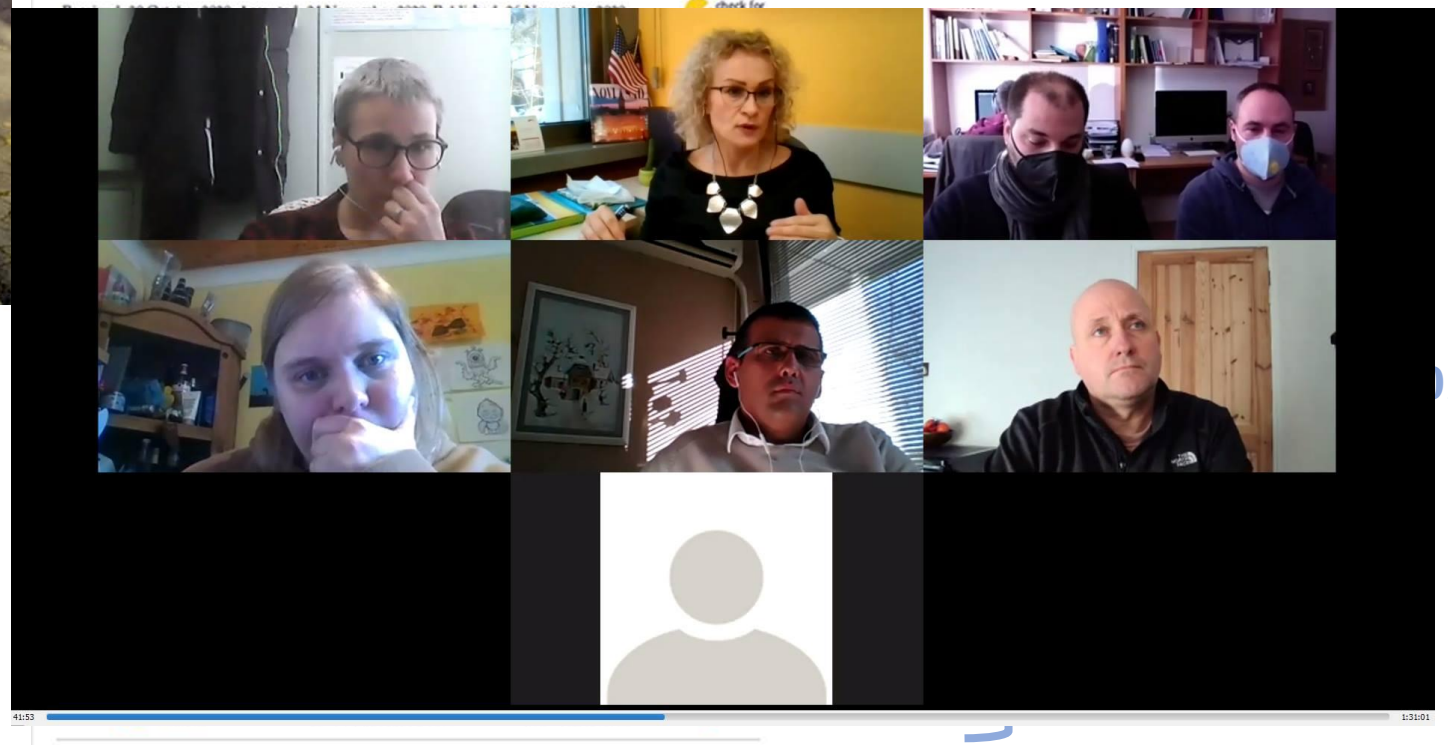
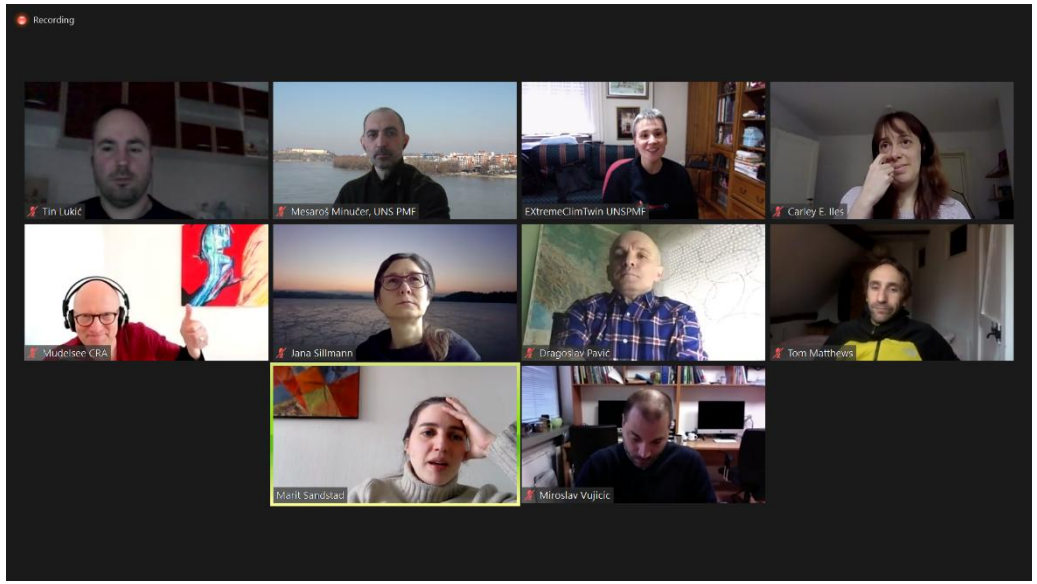


# Covid-19 triggered risks and solutions related to project implementation

# COMMUNICATE COMMUNICATE COMMUNICATE



Regular project meeting – every Friday



# THANK YOU FOR YOUR ATTENTION