

# EDERA: Early warning Demonstration of pan-European rainfall-induced impact forecasts

Local Training Workshop with End-Users, Helsinki, 09 Nov 2023

# Introduction Session

14.00 - 14.30

# Workshop Agenda

## **DAY 1**

**Introduction Session (14.00 - 14:30)**

**Group introductions (14.30 - 15:45)**

- *Participants present a storyline of how you dealt with recent events in your region (using the chosen case studies, if possible).*
- *Group discussion on what major events have occurred over last 5 years.*

**Coffee Break (15.45 - 16:15)**

**Guided demonstration of EDERA Platform and Products (16:15 – 17:00)**

**Co-design session – EDERA checklist (17:00 – 17:50)**

- *Participants work with us to create a workflow checklist when using EDERA products (checklist will be tested in hands-on session on DAY 2)*

**Evening Meal – Kappeli (19:30 – 21:00)**

# Workshop Agenda

## **DAY 2**

***Presentation of Local Case Studies (09:00 – 09:30)***

***Hands-on analysis of EDERA products (09:30 – 10:30)***

- Participants interpret EDERA products for selected case studies using the co-designed checklist from DAY 1.*

***Coffee Break (10:30 – 11:00)***

***Feedback Session (11:00 – 12:00)***

- Evaluate EDERA interpretations using checklist.*
- Agree the configuration of the EDERA products.*

***Stakeholder participation during EDERA demonstration phase (12:00 – 13:00)***

***Closing session (13:00 – 13:15) & Lunch (13:15 - 14:00)***

# EDERA: Early warning Demonstration of pan-European rainfall-induced impact forecasts

# Project summary

## Early warning Demonstration of pan-European rainfall-induced impact forecasts

- **Duration:** 01 Feb 2023 - 31 Jan 2025 (24 months)
- **Budget:** 1,173,954.78€ (grant: 997,861.55€)
- **Website:** [www.edera-project.eu](http://www.edera-project.eu)
- **Partners:**
  - Universitat Politècnica de Catalunya (ES)
  - European Centre for Medium-range Weather Forecasts (INT)
  - Finnish Meteorological Institute (FI)
  - Environment and Water Agency of Andalusia (ES)
  - Directorate-General for Civil Protection and Emergencies (ES)
  - National Authority of Emergency and Civil Protection (PT)

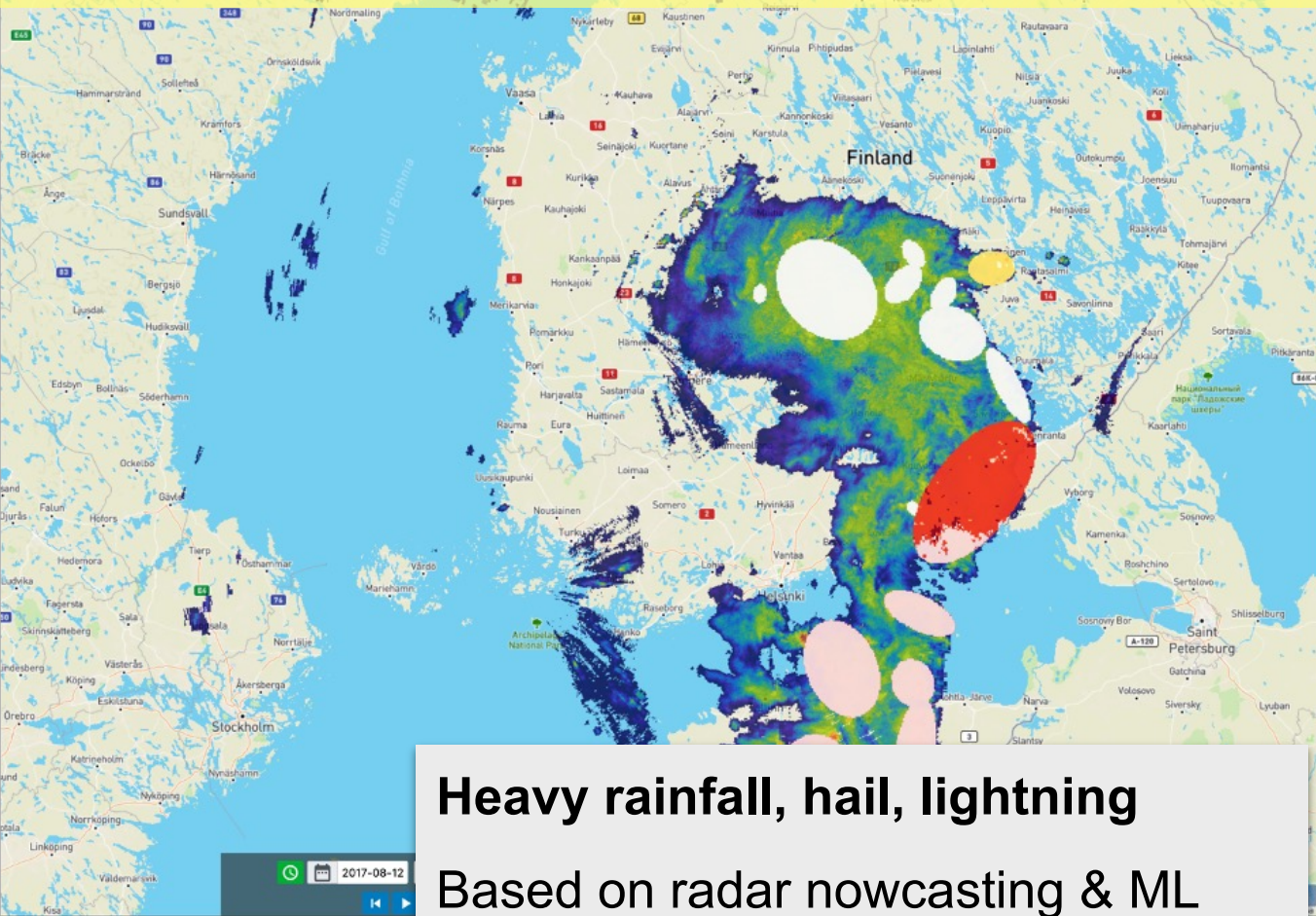


# Main objective

Integrating forecasts of the impacts due to storms and heavy rainfall into the operational EWSs of national, regional and local CPAs, fostering sharing information and cooperation of CPAs during cross-border events and coordination between CPAs.

## Impact forecasting during storms and heavy rainfall events

Storm impact nowcasting (0-3 h).



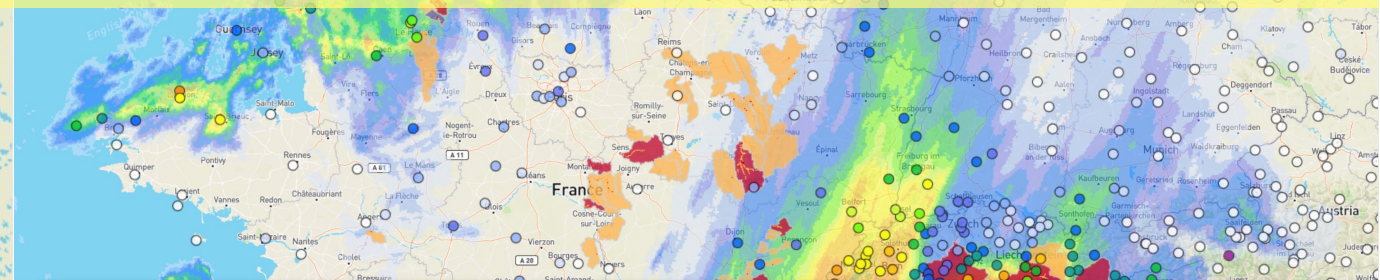
**Heavy rainfall, hail, lightning**

Based on radar nowcasting & ML

Extended to European scale

European-wide exposure.

Flood impacts (0-120 h).



**Flash floods (basins 10 - 2000 km<sup>2</sup>)**

Resolution: 1 h, 1 km - Update: 1 h

Blended  
precipitation  
forecasts

Flash flood  
hazard

Flash flood  
impacts

- Using probabilistic nowcasting & NWP.
- Seamless blending in the first 6 hours

- Basin-aggregated precipitation on the drainage network (1 km).
- Hazard assessment by comparison with climatological thresholds.

- By combination of hazard with exposure.

# Specific objectives and expected outputs

- **Extend the convective hazard and pluvial flood forecasts over Europe.**
- **Increase the adaptability of the flood impact forecasts to the needs of the end users**, applying a strategy to provide compound impact forecasts, and implement configurable user-defined notifications.
  - *Improved products for flood impact forecasting at European scale*
- **Integrate the flood impact forecasts to the EWS platforms of the end users** for improved preparedness and response management during flood events.
- **Demonstrate the added value of seamless flood impact forecasts through a robust evaluation**, at European scale and in **two pilot sites**, with end-users analysing the added value for CPAs cooperation in cross-border operations and coordination.
  - *Demonstration for a period of 15 months*
  - *Recommendations for coordination and cross-border cooperation between CPAs*
- **Develop comprehensive guidance material** delivered through dedicated training workshops and e-learning materials.
- **Integrate the developments within the CEMS-Floods EFAS system.**
  - *Sustainability of the products*



# EDERA demonstration



## ES-PT pilot site

**National Authority of Emergency and Civil Protection**

*CIM Região Coimbra*

*Instituto Português do Mar e da Atmosfera*

*Agencia Portuguesa do Ambiente*



ARISTOTLE-eENHSP  
EUMETNET OPERA

**Directorate-General for Civil Protection and Emergencies**

**Environment and Water Agency of Andalusia**

*Protección Civil de Andalucía*

*Protección Civil de Puente Genil*

*Asociación de Operadores de Protección Civil de Andalucía*

*Agencia Valenciana de Seguridad y Respuesta a las Emergencias*

*Protección Civil de Cataluña*

*CH Guadiana*

*Agencia Estatal de Meteorología*

## FI+ pilot site

**Finnish Meteorological Institute**

*Helsinki Rescue Department*

*Kymenlaakso Rescue Services*

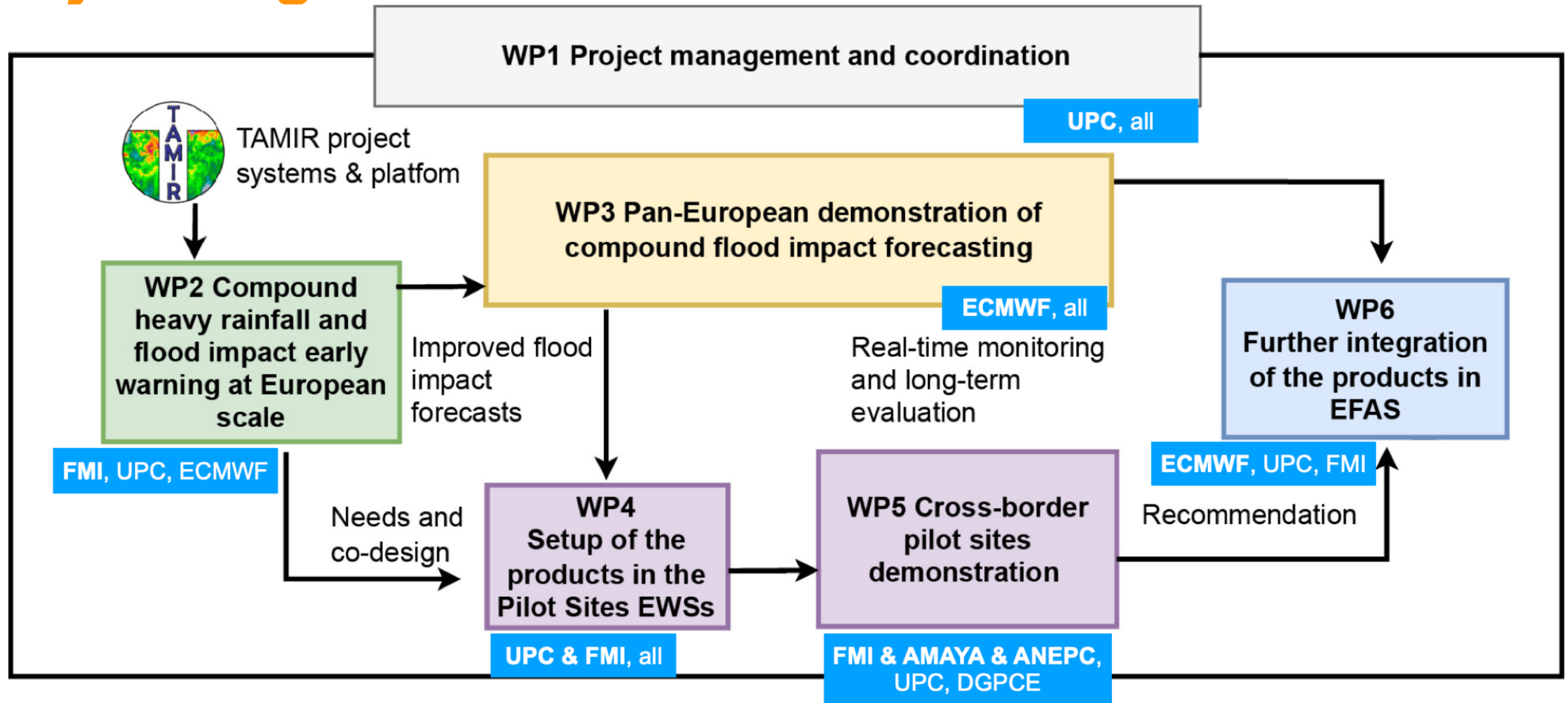
*North Karelia Rescue Department*

*Finnish Environment Institute*



Co-funded by  
the European Union

# Project organisation



## Main events

Mar 2023: 1st EDERA meeting (Sevilla, ES)

Nov 2023: Training activities in the Pilot Sites (Helsinki, FI & Loulé, PT)

Apr 2024: International training (Madrid, ES)

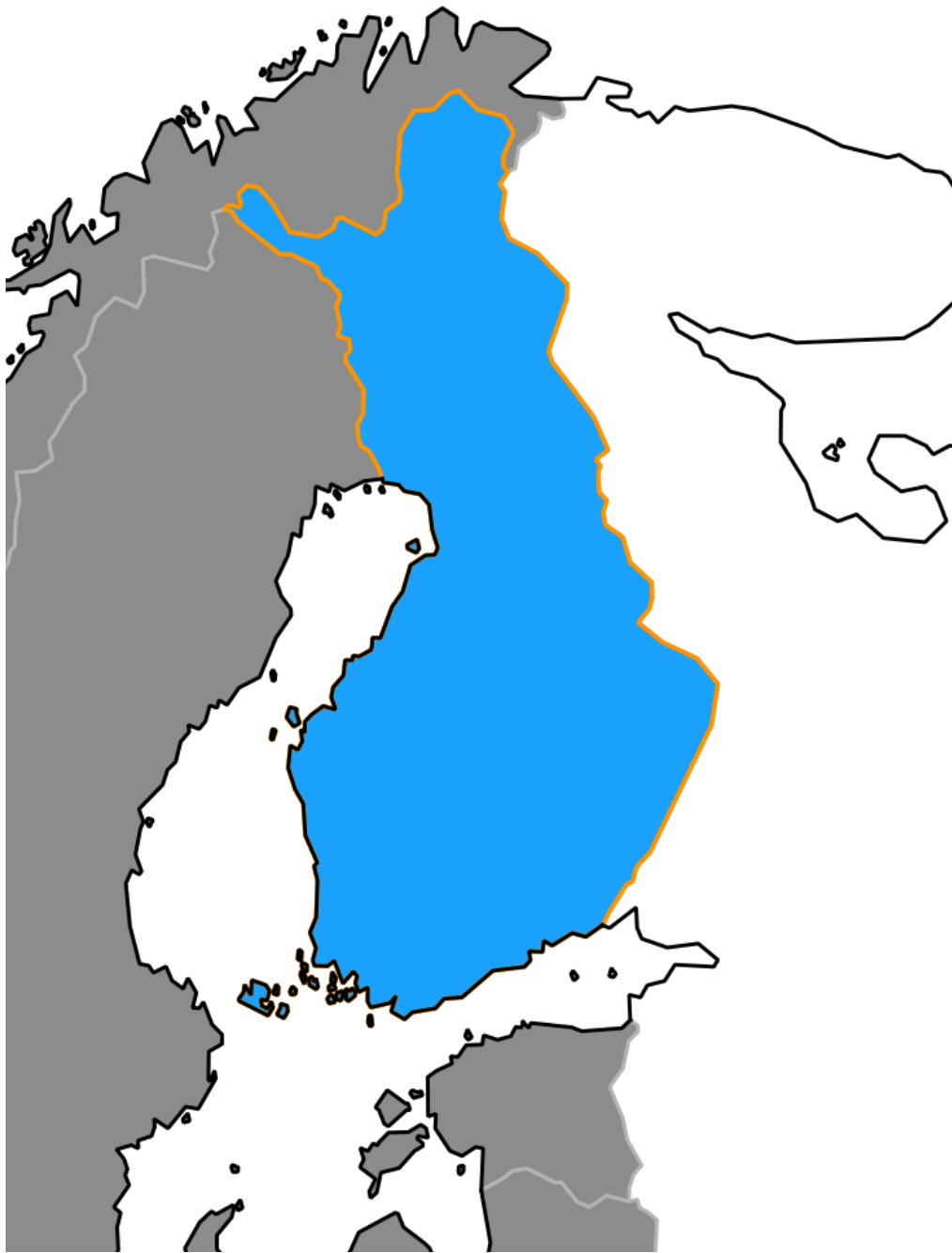
Dec 2024: International workshop (Brussels, BE)

# Case Studies

# Finland Pilot Site

Case study events for Finland		
Dates	Affected Area	Description
08/07/2023 08:00 UTC - 18:00 UTC	South and southeast Finland, Helsinki	Heavy rainfall across south and southeast Finland, floods in Helsinki
27/08/2023 03:00 UTC - 11:00 UTC	Helsinki	Heavy rainfall and flooding
31/08/2023 00:00 UTC - 15:00 UTC	Southern Finland, particularly in Helsinki	Heavy rainfall and flooding

FI pilot site



**Finnish Meteorological Institute**  
*Helsinki Rescue Department*  
*Kymenlaakso Rescue Services*  
*North Karelia Rescue Services*  
*SYKE (Finnish Environment Institute)*

# Expected Stakeholder Participation



# Participation during this workshop

## ***Group introductions***

*Present storyline of how you dealt with recent events*

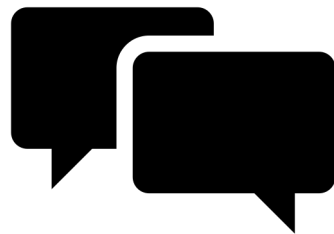


## ***Co-design EDERA checklist***

*Create a checklist of how/when to use EDERA products*

## ***Hands-on session***

*Analyse EDERA forecasts/products using checklist*



## ***Feedback session***

*Evaluate hands-on session & checklist  
Agree configuration of EDERA products*

# Participation during EDERA Demonstration Phase

## ***Demonstration Phase (15 months)***

***Now – October 2024***

*Stakeholders should routinely check EDERA real-time forecasts and provide feedback on EDERA Products.*

- ***Feedback session:*** *to discuss when to check EDERA forecasts and how to deliver feedback to UPC/ECMWF/FMI (Finland)*
- *Coordinate knowledge transfer to forecast analysts?*

