



## Risk assessment and sustainable protection of Cultural Heritage in changing environment

### Cultural Heritage at Risk

### Resilience strengthening of Natural and Cultural Heritage (NCH) to climate change

Global Warming of 1.5°C

Sendai Framework for Action 2015 – 2030

The new international Disaster Risk Reduction policy includes several important references for the protection of culture and heritage from disaster risks.

Cultural heritage as an incentive for enhancing the reduction of the impact of catastrophic events

Protection and enhancement of natural and cultural heritage in support of socio-economic development and sustainable tourism

### ProteCHt2save

#### GUARDING HERITAGE FROM NATURAL HAZARDS

Climate change and other natural hazards pose a risk for cultural heritage assets and the people around them. ProteCHt2save is a project that works to protect the heritage and nearby populations - especially against the risk of floods. ProteCHt2save produces tools to help local officials manage risks and develop action plans for emergencies.

PROJECT BUDGET: 2.15 MILLION €  
OPER FUNDING: 1.79 MILLION €

WP T1 Risk prone areas & Priorities

WP T2 Emergency & CH Vulnerability

WP T3 Protection plans in emergency

WP T4 Implementation at pilot sites

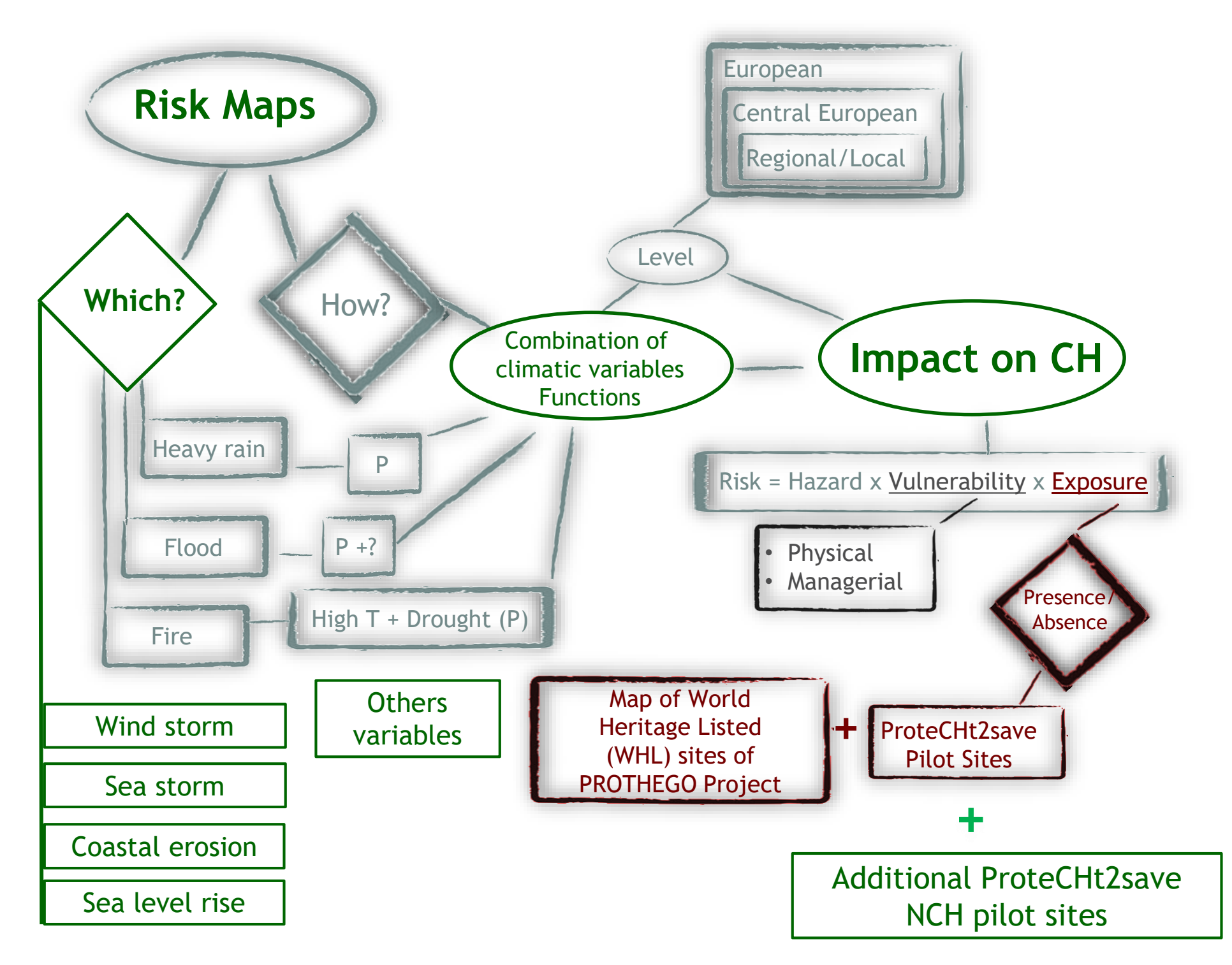
WPC Communication

WPM Project Management

### OBJECTIVES

- Defining risk prone areas for an improved protection and sustainable use of CH in Central Europe susceptible to disasters and climate change impacts.
- Determining critical elements for CH vulnerability in the resilience and risk management process.
- Setting up of transnational best practices and common strategies for sustainable use and protection of CH to be integrated in joint action plans in a changing environment.

## ProteCHt2save outputs - proposal for further implementation/exploitation

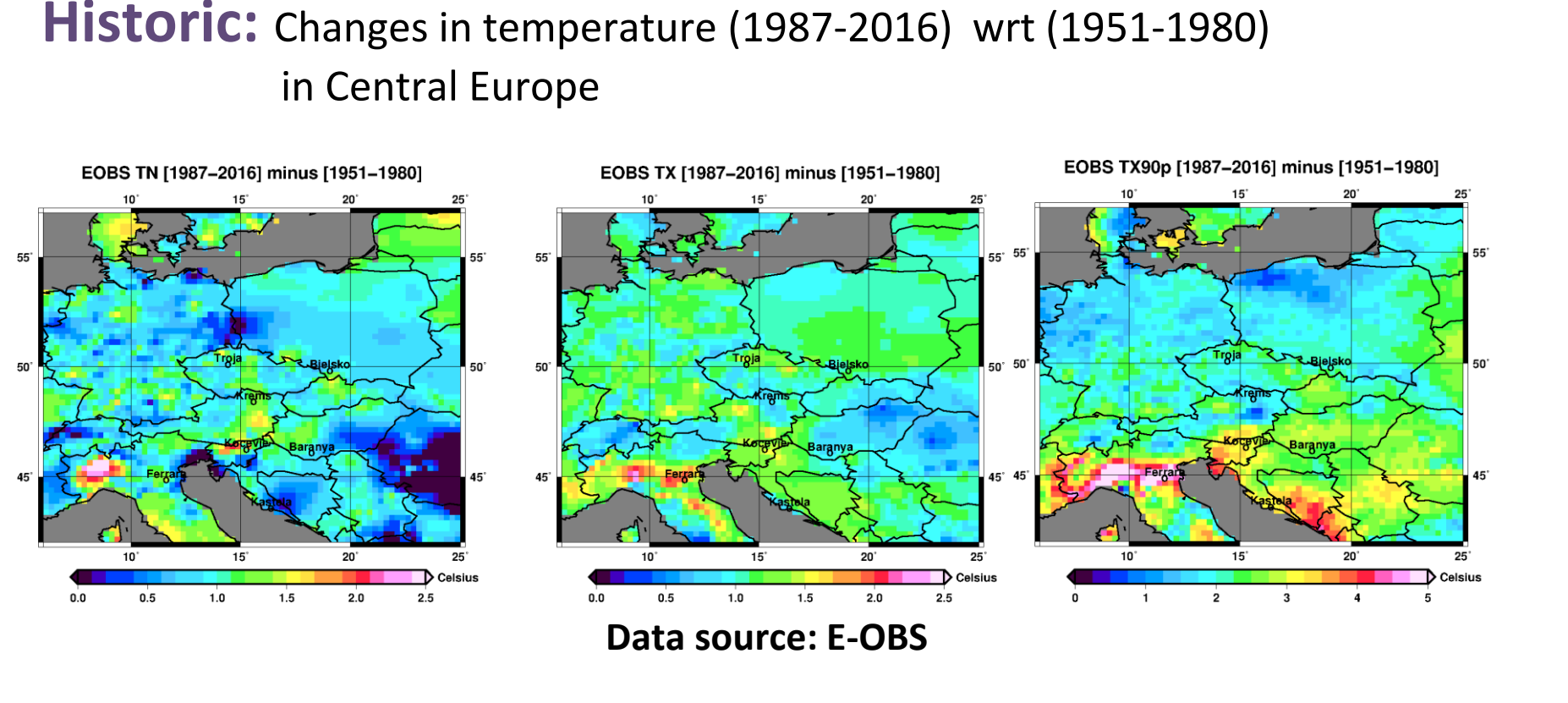


### Relevant climate/physical Extreme Index

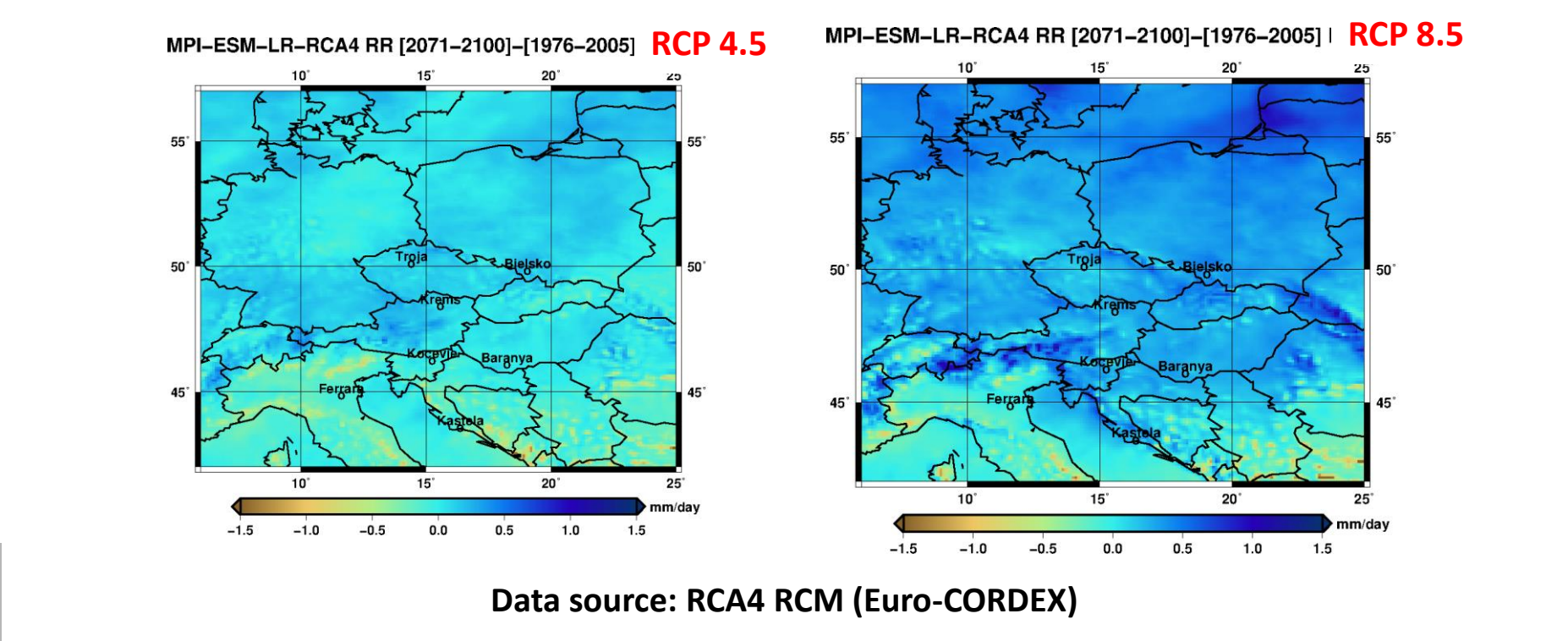
- Heavy rain: R20mm. Annual count of days when PRCP ≥ 20mm. R99 pTOT
- Flooding: Rx5da. Monthly maximum consecutive 5-day precipitation
- Drought: CDD. Maximum length of dry spell, maximum number of consecutive days with RR < 1mm.
- Extreme heating: Tx90p. Percentage of days when TX > 90th percentile
- Additional index: Climdex

Principal climate variables: Tmin (tn), Tmax (tx), Rain (rr)

### Hot spots of extreme potential impacts on CH



#### Future scenarios: Changes in precipitation in (2071-2100) wrt (1976-2005) in Central Europe



### Copernicus Services

Atmosphere, Marine, Land, Climate Change, Security, Emergency

### Additional NCH pilot site:

- Archaeological Areas
- Cultural landscapes (rural mountain and coastal areas)

- Flood events in large basin
- Fire due to drought
- Extreme events of heavy rain

Preparedness strategies in relation to additional risks and NCH categories including early warning (Copernicus programme) and measures in response to emergency in line with Action Plan for implementation of Sendai Priority 4