

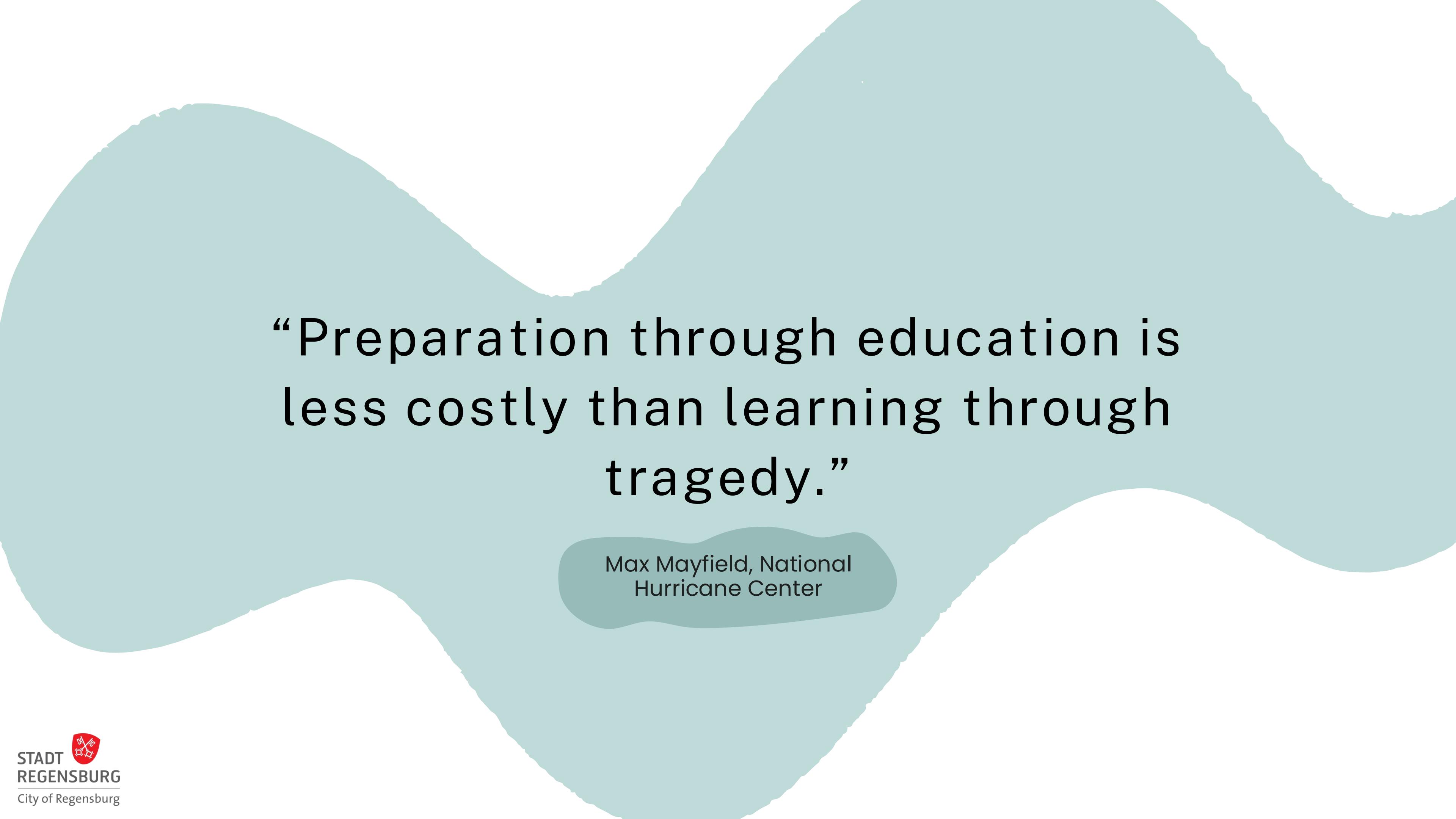
# DISASTER RISK MANAGEMENT

PRESENTED BY DR. MATTHIAS RIPP

STADT  
REGENSBURG



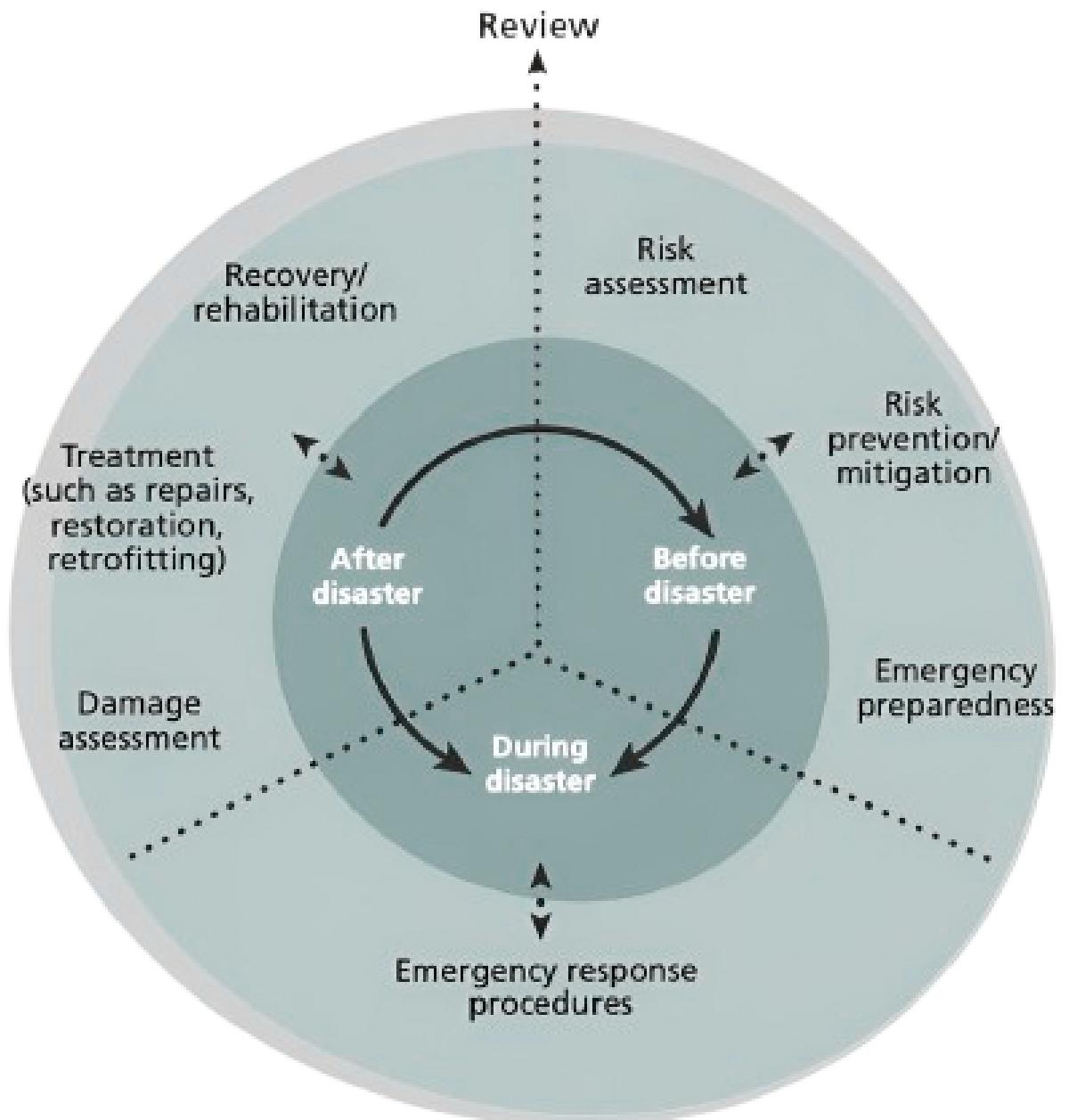
City of Regensburg



“Preparation through education is less costly than learning through tragedy.”

Max Mayfield, National Hurricane Center

# Key elements of DRM



## RISK IDENTIFICATION

- Hazard analysis & monitoring
- Vulnerability analysis
- Determination of risk



## PREVENTION AND MITIGATION

- Land use planning
- Land management
- (Non-) structural measures



## PREPAREDNESS

- Early warning
- Evacuation
- Emergency planning



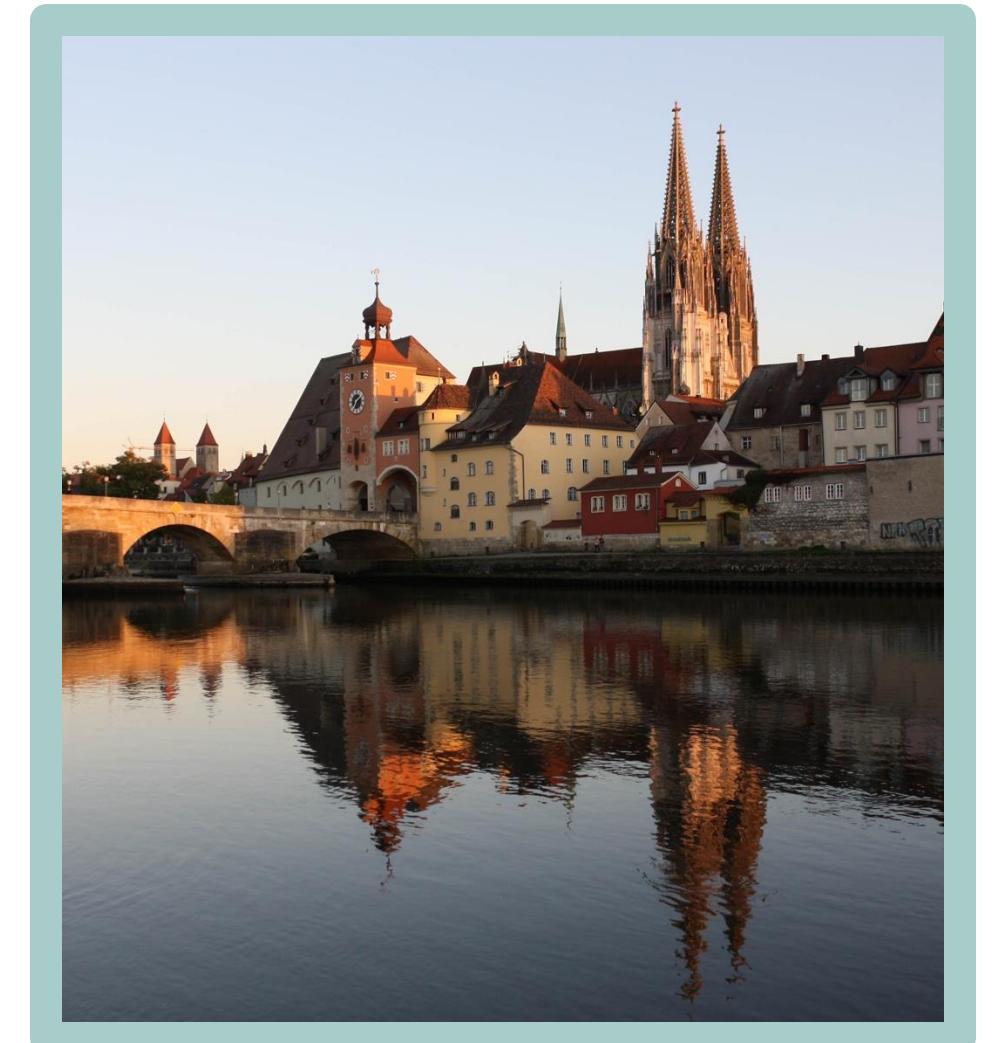
## RECOVERY

- Rehabilitation
- Reconstruction
- Rescue services

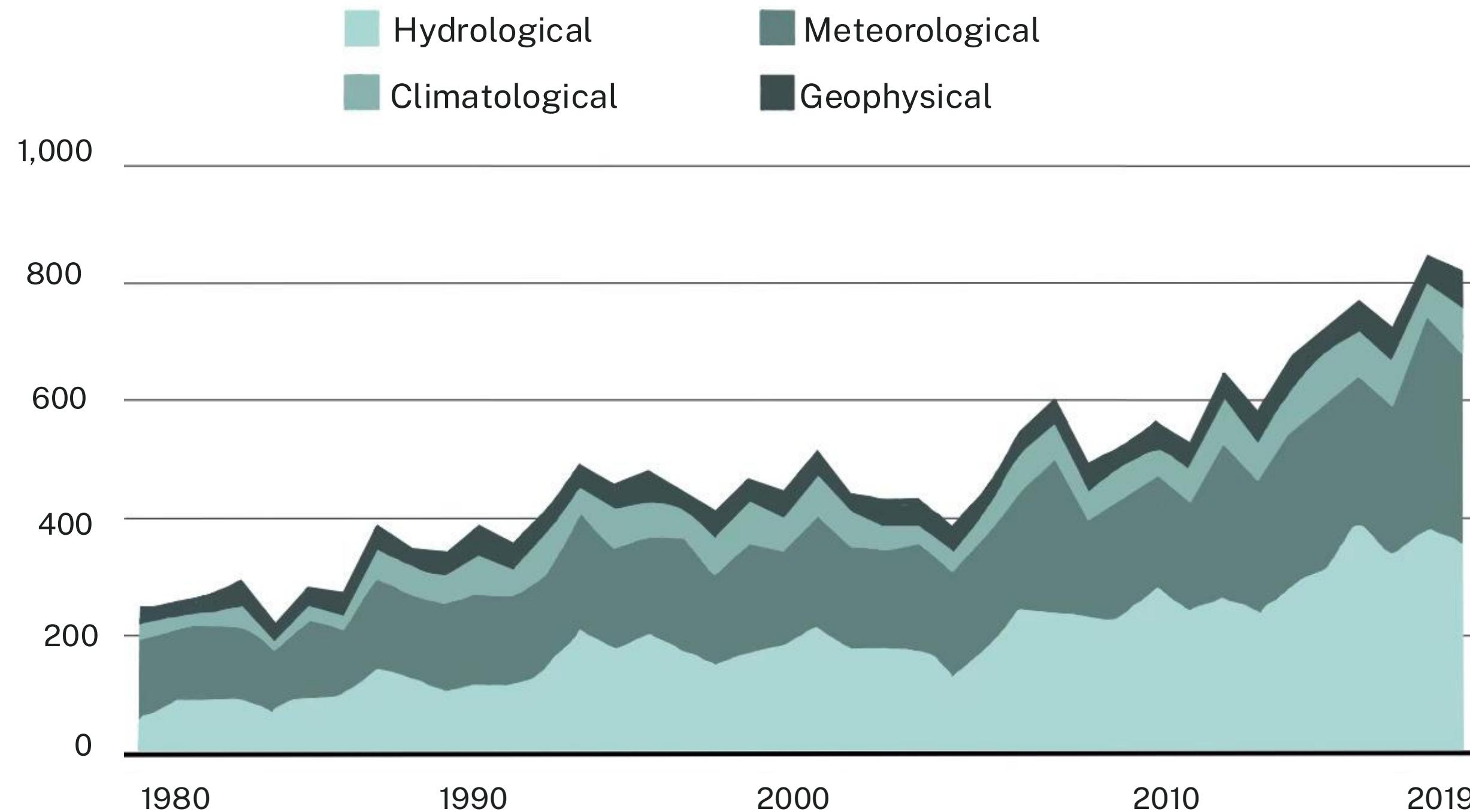


# Why do we need DRM?

- The world is facing **large scales of disasters**
- Nearly **25%** of the world's landmass and most of its population is **at risk**
- Disasters' impacts are **exacerbated** by a series of **dynamic processes**, including:
  - population growth
  - poor planning
  - increasing levels of vulnerability
  - climate change



# Natural Disasters on the Rise Around the Globe



# Importance of DRM

## R

### Responsibility

Global responsibility to  
preserve the World Heritage  
for future generations

## I

### Impact

Disasters don't just damage  
buildings → erase history,  
identity and local livelihoods

## S

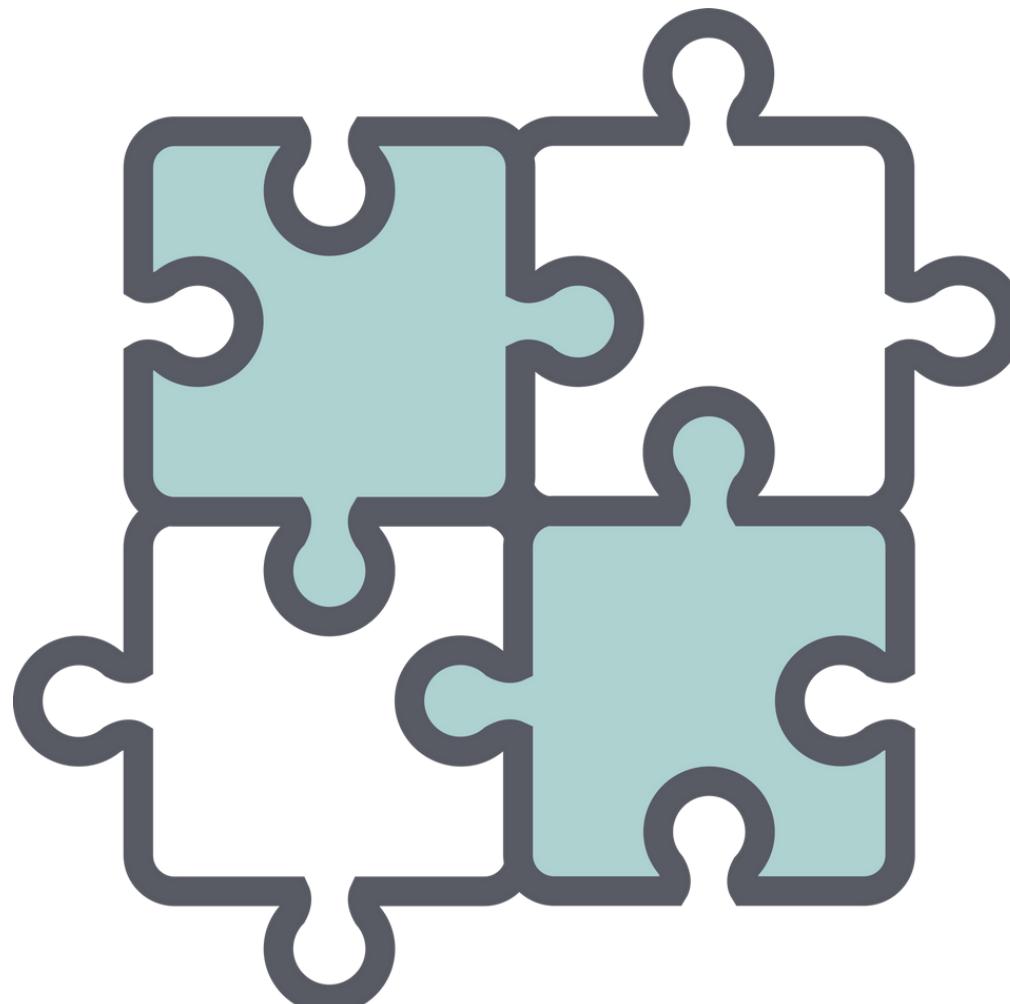
### Susceptibility

Heritage sites are often  
especially vulnerable → minor  
disruptions can have major  
consequences

## K

### Knowledge

Lack of awareness = greater  
damage, slower response, less  
protection



# Disasters in World Heritage Sites



Prambanan Temple  
Compounds  
Earthquake 2006



City of Bam  
Earthquake 2003



## Prambanan Temple - Earthquake 2006

- Earthquake (5.9 Richter scale) in Yogyakarta, Indonesia, May 2006
- Key Actions:
  - Immediate damage assessment by experts
  - Short-term safety measures
  - Long-term seismic analysis and potential structural changes required
- Lesson Learned:
  - Need for quick response and assessment mechanisms for heritage sites



# Disasters in World Heritage Sites



Prambanan Temple  
Compounds  
Earthquake 2006



City of Bam  
Earthquake 2003



## Bam Earthquake 2003

- Earthquake (6.6 Richter scale) in Bam, Iran, December 2003
- Crisis Management Challenges:
  - Insufficient planning and logistics
  - Poor international coordination and aid response
- Lesson Learned:
  - Improvement of crisis planning and preparation for future disasters
  - Effective resource use and coordination are crucial



# Key DRM Ressources



## Managing Disaster Risks for World Heritage Properties (2010)

- First manual focused on **DRM for cultural and natural World Heritage sites**
- Provides **methodology** for risk identification, assessment, mitigation, and DRM plan preparation
- Highlights the **positive role of heritage in disaster risk reduction**
- Aimed primarily at site managers, management authorities, and relevant agencies

# Key DRM Ressources

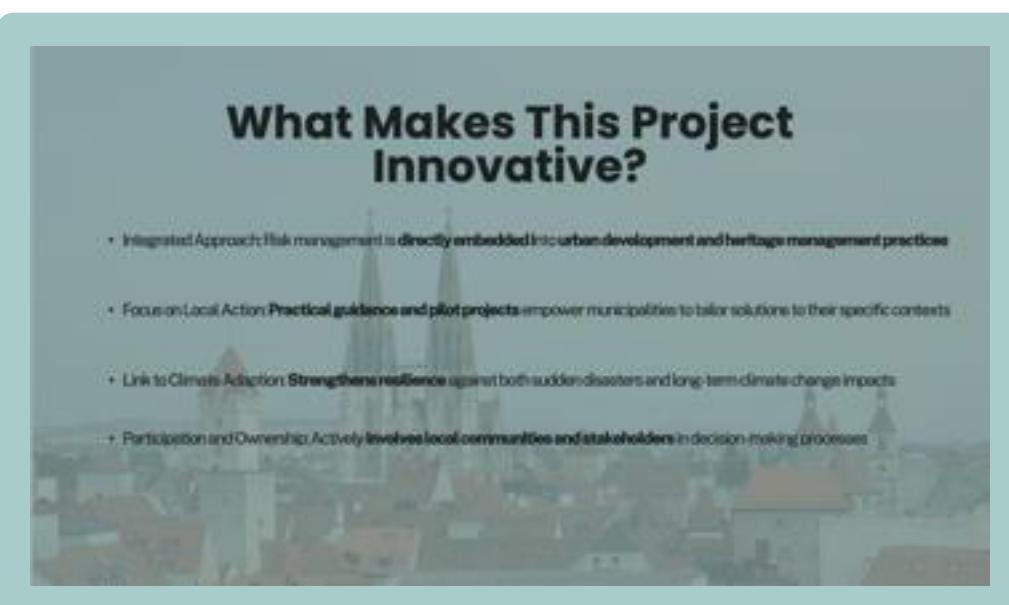


## ICCROM Capacity Building for Disaster Risk Management

- Building **capacities to safeguard cultural heritage** from disasters, extreme weather events, and emergencies
- Training **workshops** on DRM
- “**First Aid to Cultural Heritage in Times of Crisis**” program
- **Support for emergency preparedness and recovery planning**
- **Integration of DRM into heritage conservation practices**

# BBSR Project

The BBSR research project **develops** integrated **risk management** **strategies** for historic urban areas, focusing on **enhancing resilience** while **preserving cultural values**.



**What Makes This Project Innovative?**

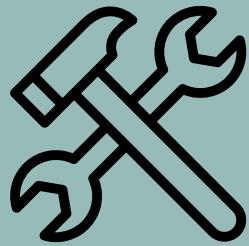
- Integrated Approach: Risk management is directly embedded into urban development and heritage management practices
- Focus on Local Action: Practical guidance and pilot projects empower municipalities to tailor solutions to their specific contexts
- Link to Climate Adaptation: Strengthens resilience against both sudden disasters and long-term climate change impacts
- Participation and Ownership: Actively involves local communities and stakeholders in decision-making processes



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City of Regensburg

## KEY COMPONENTS



- Risk analysis for cultural heritage sites
- Integration of DRM into urban planning
- Inclusive, stakeholder-based processes

## MAIN OUTCOMES



- Guidance Paper (2023)
- Municipal manual for DRM
- Pilot cities: Regensburg, Goslar, Velbert

## PROJECT PARTNERS



- BMWSB
- BBSR
- Fraunhofer IAIS

## TIMELINE

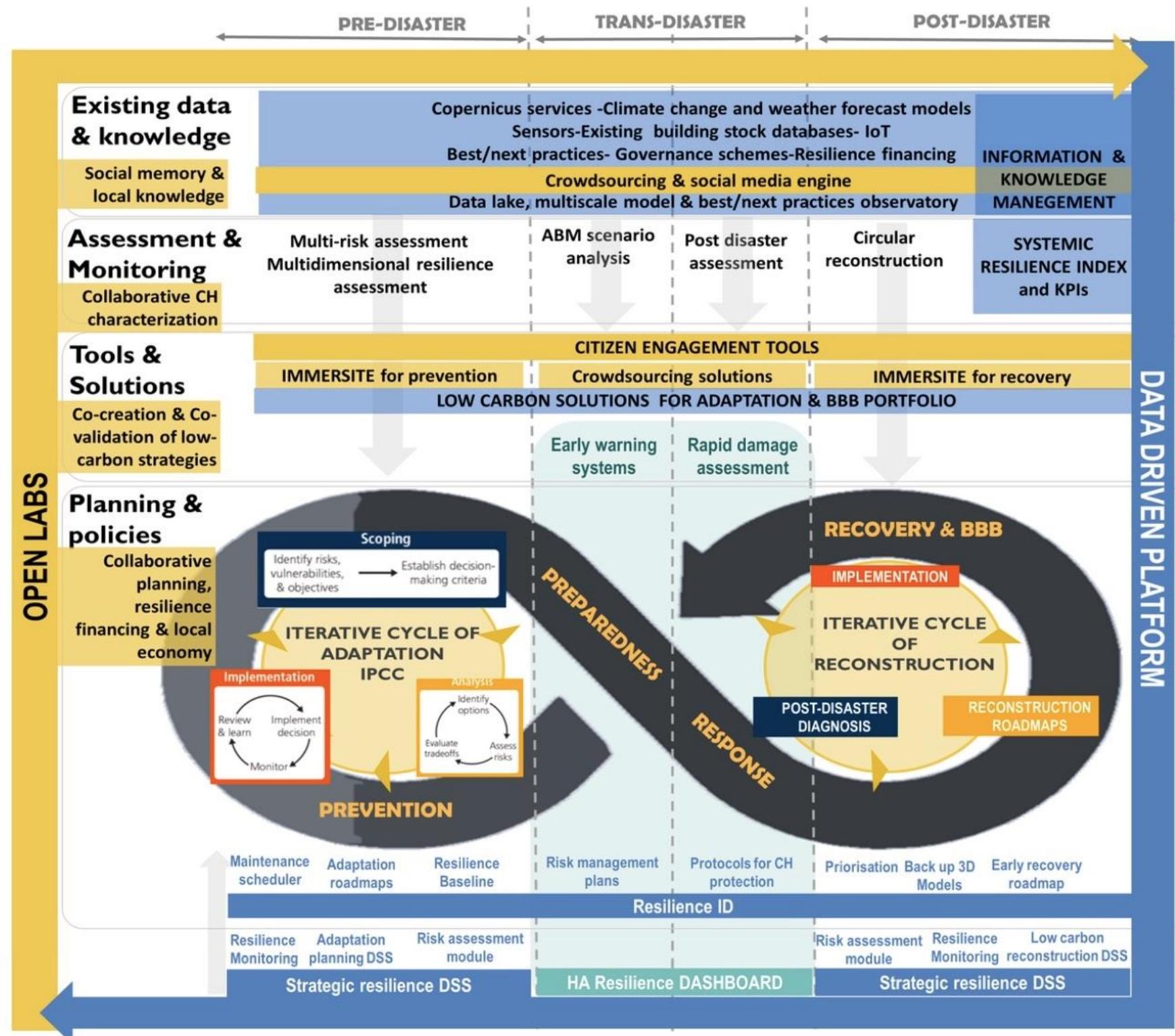


- Research phase: 2021 - 2023
- Practical testing phase: 2025 - 2026

# What Makes This Project Innovative?

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# The SHELTER Framework



- Combines DRM and climate change adaptation into a circular, integrated process
- Provides tools, methods, and solutions for strengthening resilience in historic environments
- Addresses both sudden-onset disasters and long-term climate-related risks
- Focuses on adaptive, mutually reinforcing strategies for heritage protection

Figure 2. SHELTER operational knowledge framework.

# Regensburg as a DRM Pilot City

**Regensburg** is one of the three pilot cities **testing the newly developed DRM handbook** in real-world conditions.

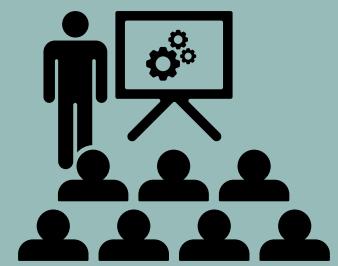
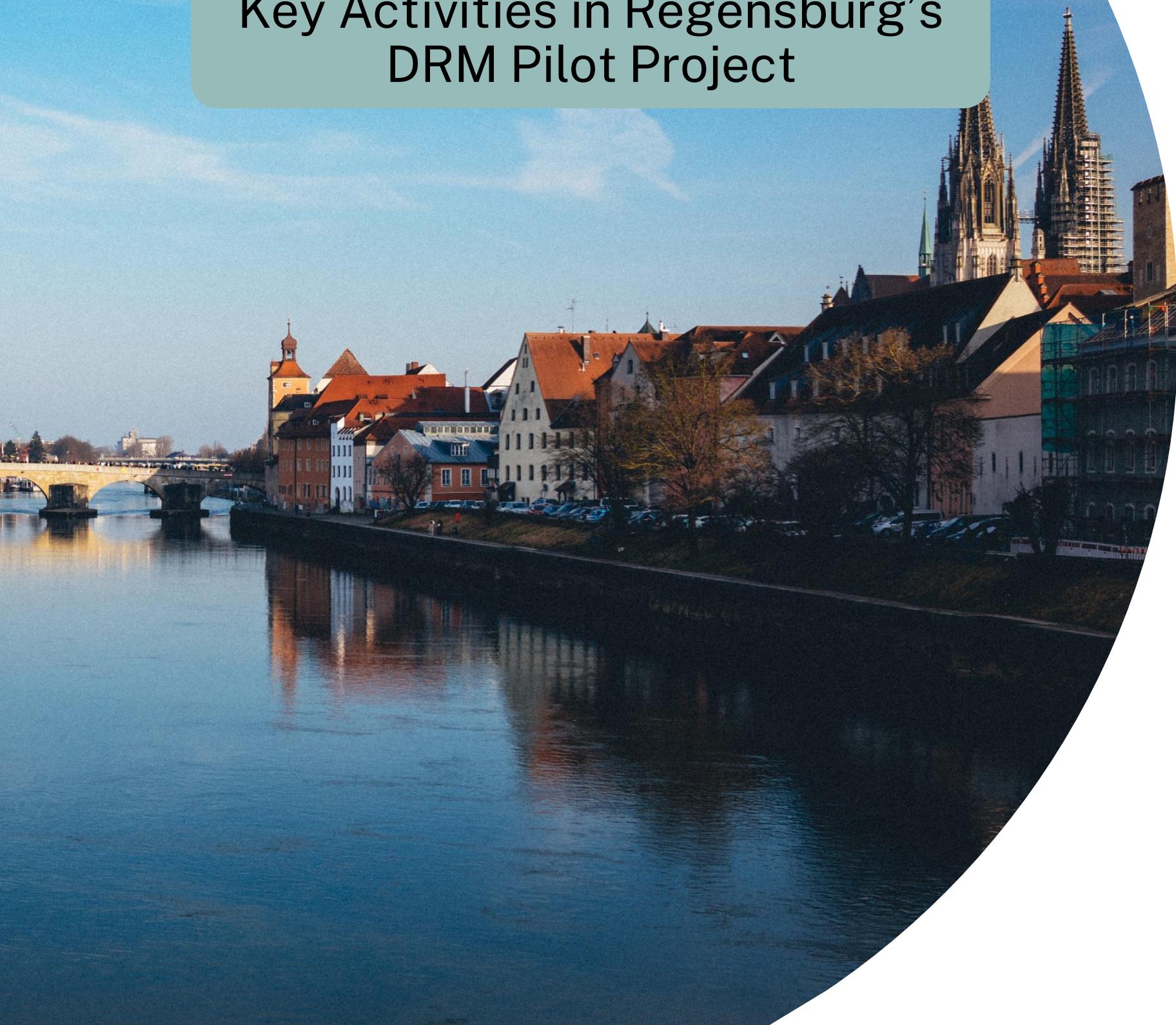
Key objectives include:



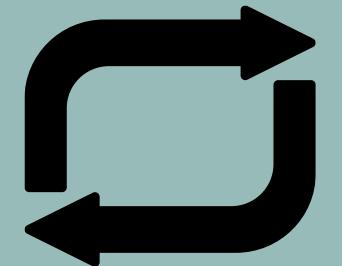
- **Mapping all risks and stakeholders** relevant to the World Heritage Site
- Establishing a **local network for DRM** across different departments and sectors
- **Integrating DRM strategies** into the update of the Regensburg World Heritage Plan

# BBSR Project

Key Activities in Regensburg's  
DRM Pilot Project



**Kick-off Workshop** in  
Berlin (March 2025)



**Regular Workshops** with  
local experts and  
Frauenhofer IAIS  
(starting April 2025)



Development of  
**Coordinated Action Plans**

# Challenges in Heritage-Based DRM



- Coordination among diverse stakeholders (local authorities, heritage experts, emergency services)



- Limited financial and human resources for long-term resilience planning



- Lack of public awareness about hidden vulnerabilities

# Opportunities in Heritage-Based DRM



- Embedding DRM into **everyday heritage management** processes



- Enhancing **climate change adaption** through heritage resilience



- Strengthening **international networks** and knowledge exchange for better practices

A scenic view of a historic city skyline, likely Regensburg, Germany. In the foreground, a large, ornate stone monument stands on a bridge, featuring a statue of a man standing on top. To the left, the Gothic-style Regensburg Cathedral is visible. The background is filled with a dense cluster of buildings with red-tiled roofs, typical of German architecture. The sky is clear and blue.

**Disaster Risk Management ensures that World Heritage Sites **remain resilient, vibrant and meaningful** for generations to come.**

**It is not a choice - it is a responsibility**

# Thank you!

## SPEAKER

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