

DISASTER RISK MANAGEMENT

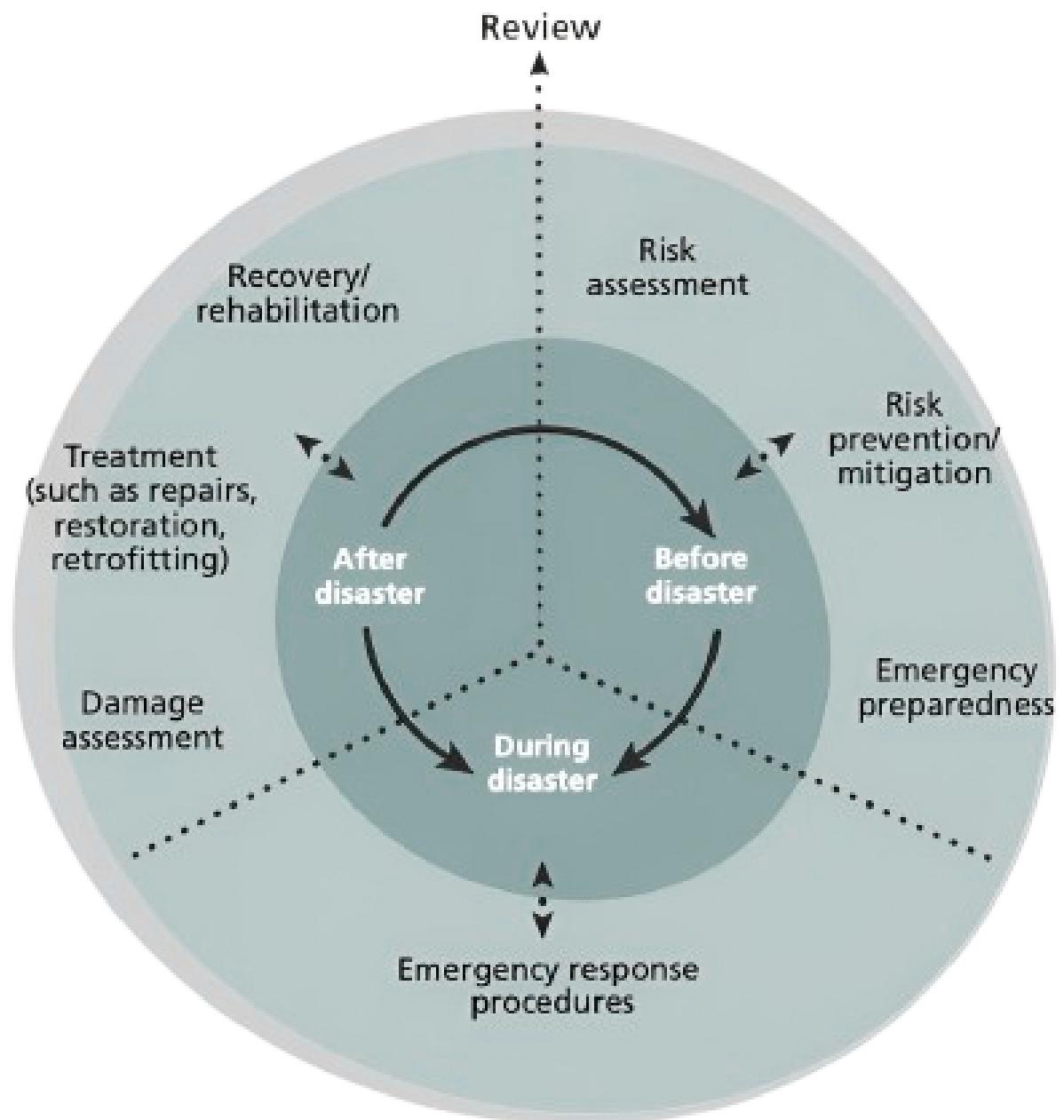
PRESENTED BY DR. MATTHIAS RIPP



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

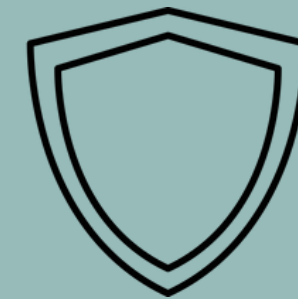
Max Mayfield, National
Hurricane Center

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

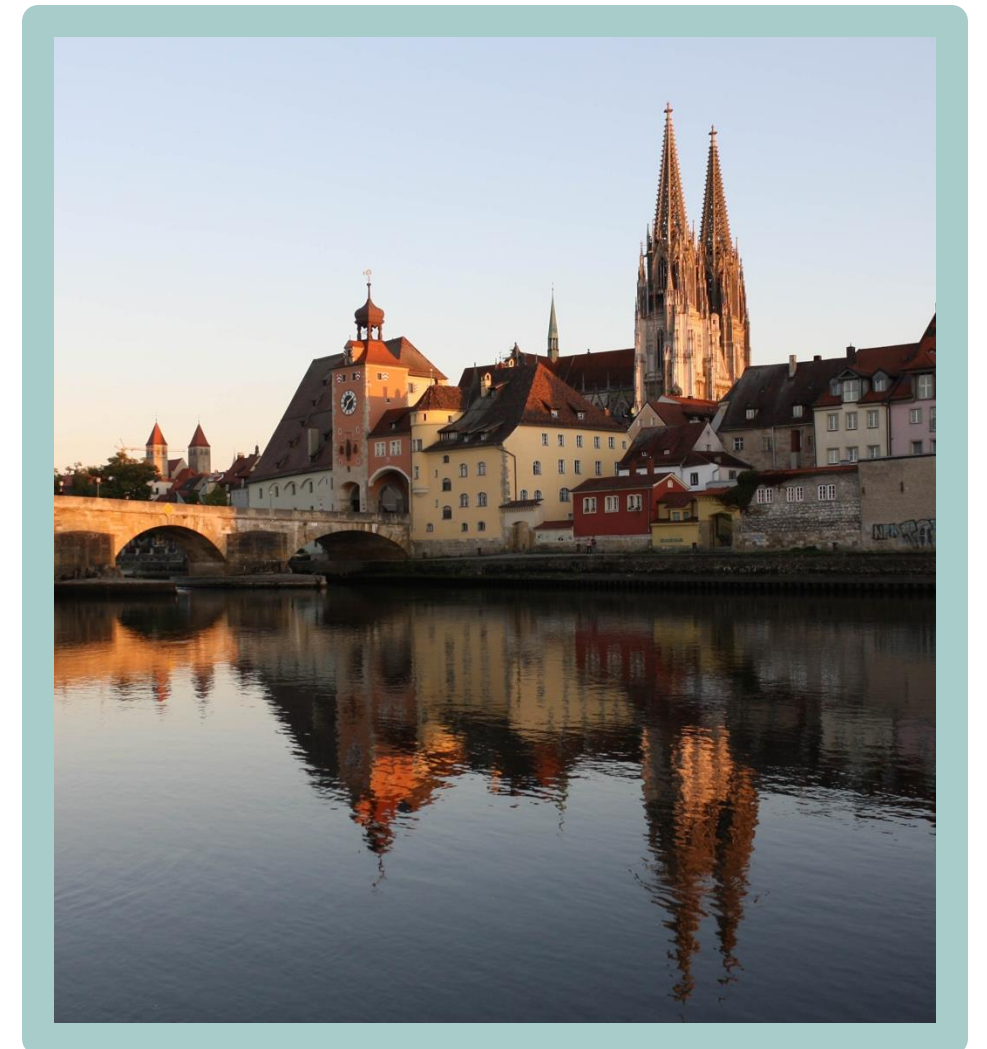


RECOVERY

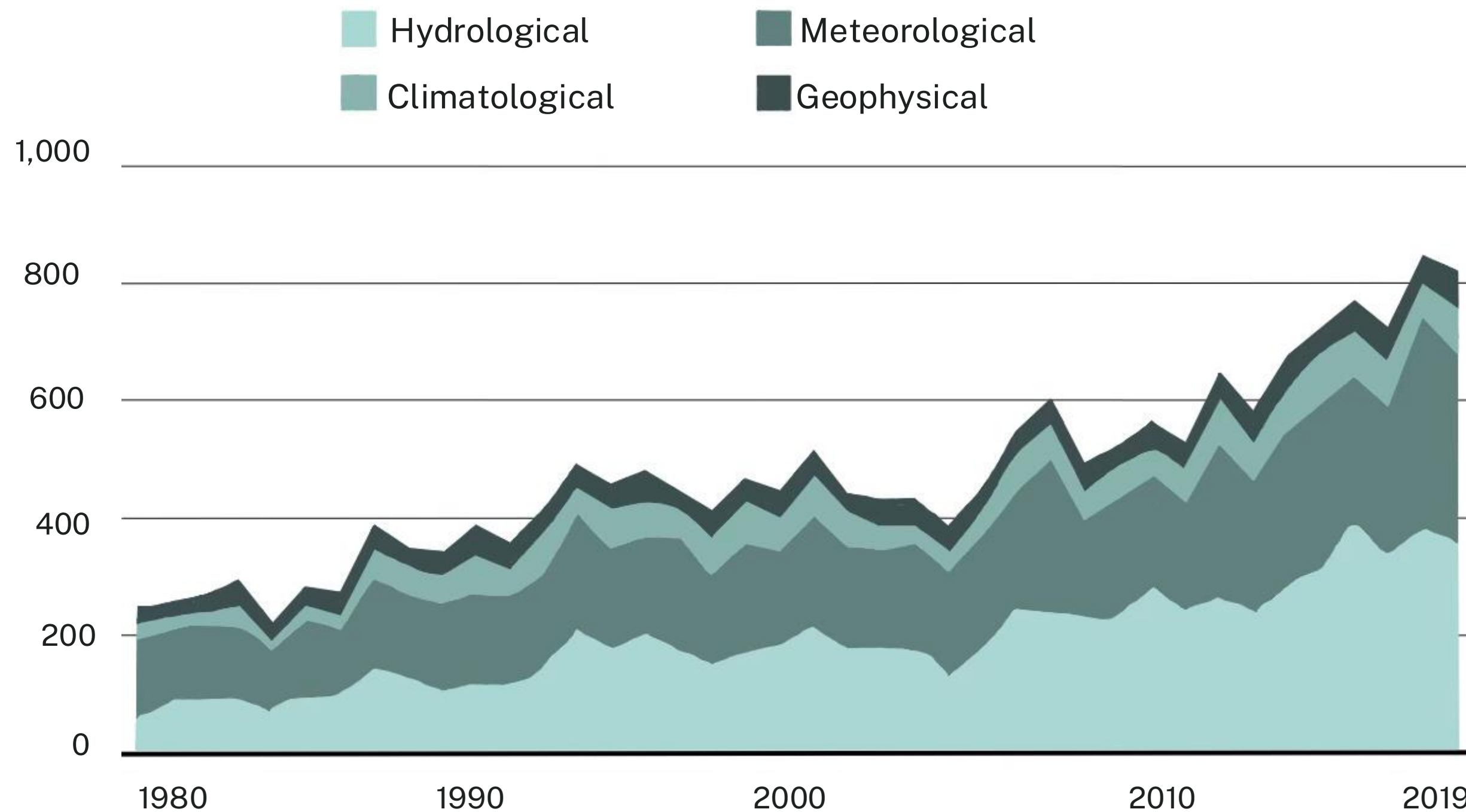
- Rehabilitation
- Reconstruction
- Rescue services

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
 - increasing levels of vulnerability
 - poor planning
 - 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

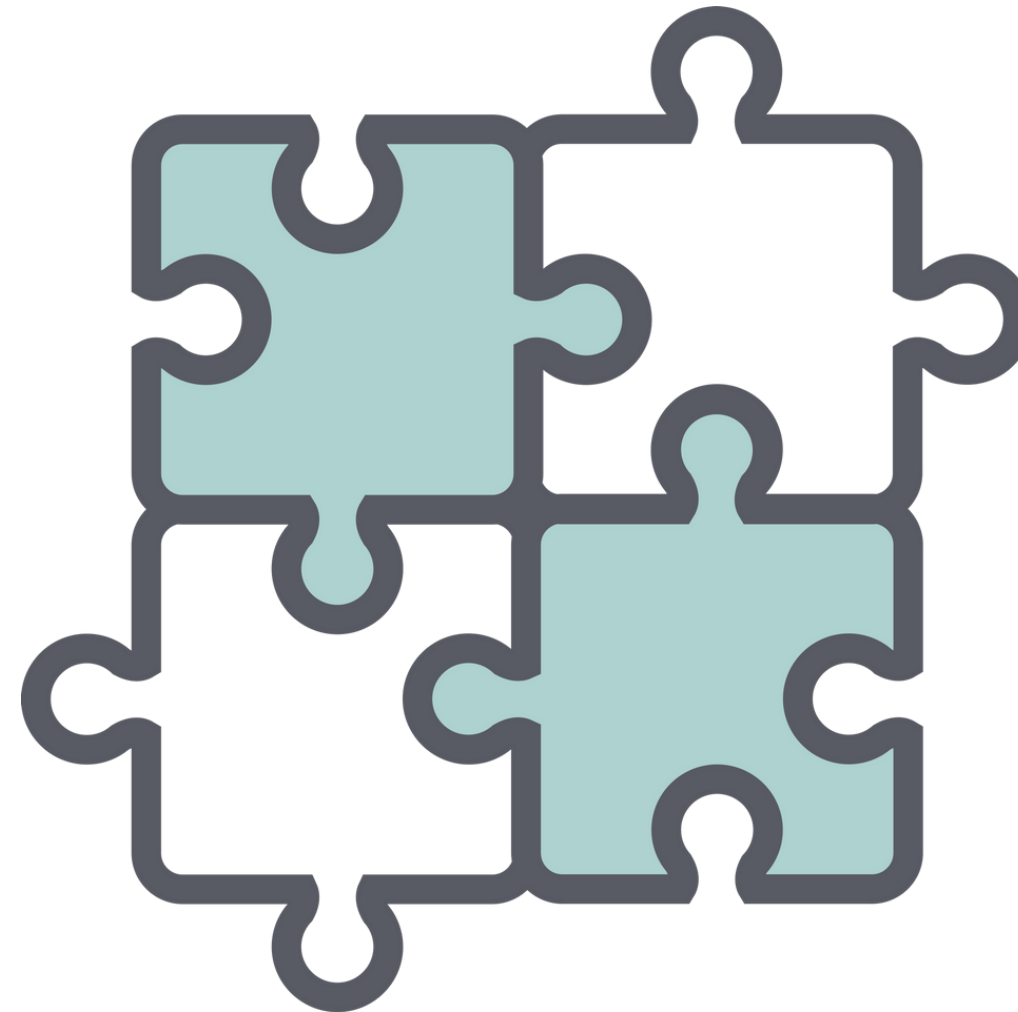
Susceptibility

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

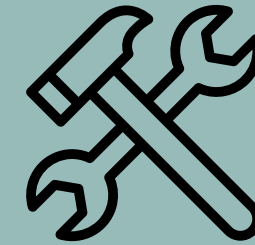
- Building **capacities to safeguard cultural heritage** from disasters, extreme weather events, and emergencies
- Training **workshops** on DRM
- “**First Aid to Cultural Heritage in Times of Crisis**” program
- **Support** for **emergency preparedness** and **recovery** planning
- **Integration of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

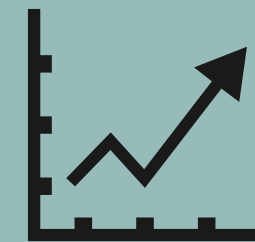
What Makes This Project Innovative?

- 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 Action: 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



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



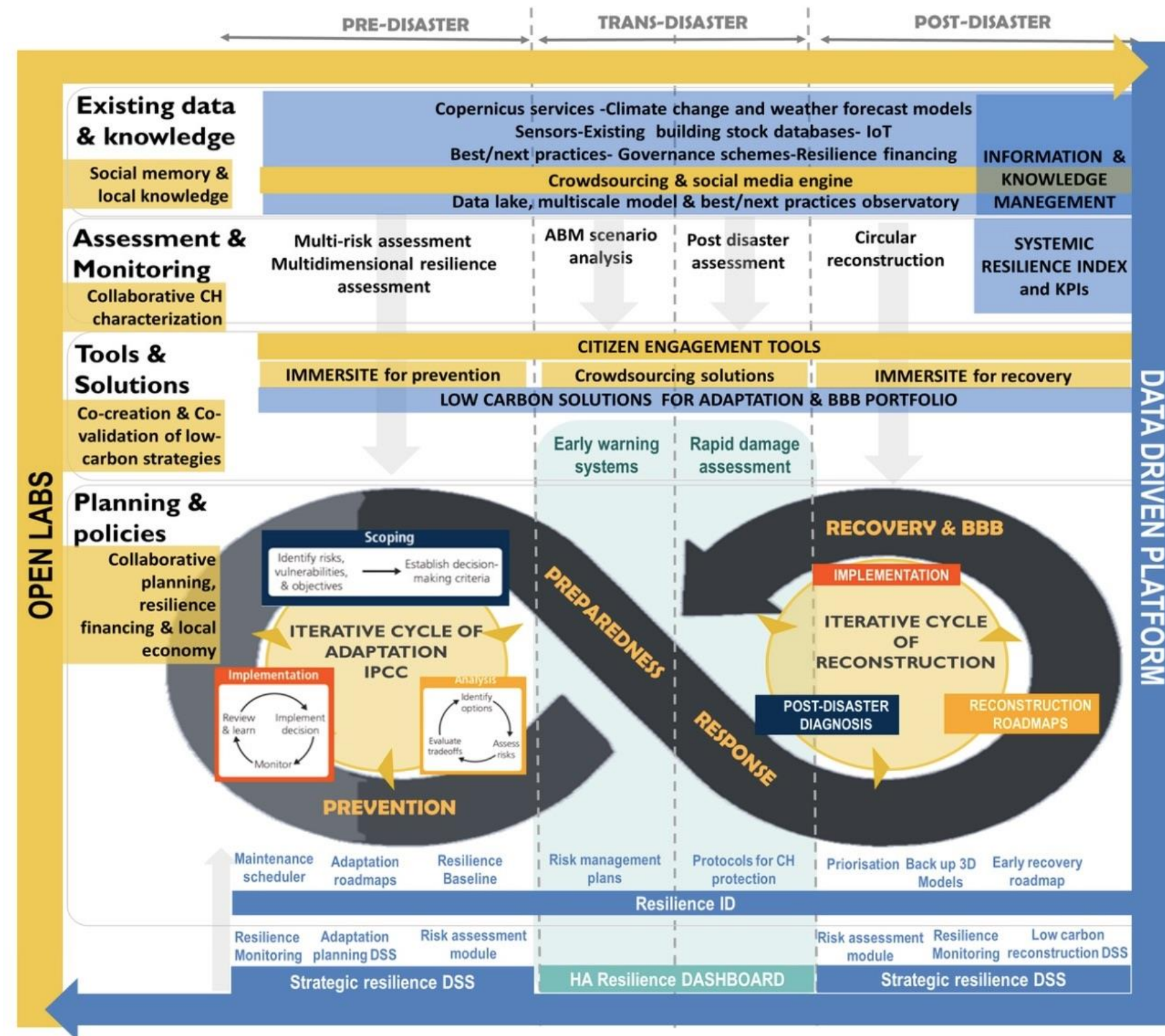
TIMELINE

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

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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.

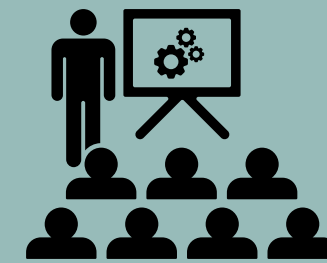
Key objectives include:



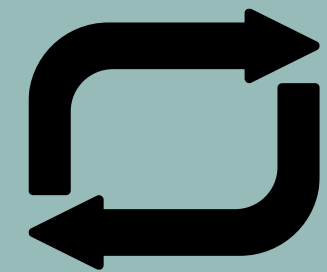
- **Mapping** all **risks and stakeholders** relevant to the World Heritage Site
- Establishing a **local network for DRM** across different departments and sectors
- **Integrating DRM strategies** into the update of the Regensburg World Heritage Plan

BBSR Project

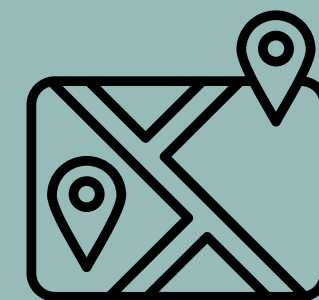
Key Activities in Regensburg's
DRM Pilot Project



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



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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References

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