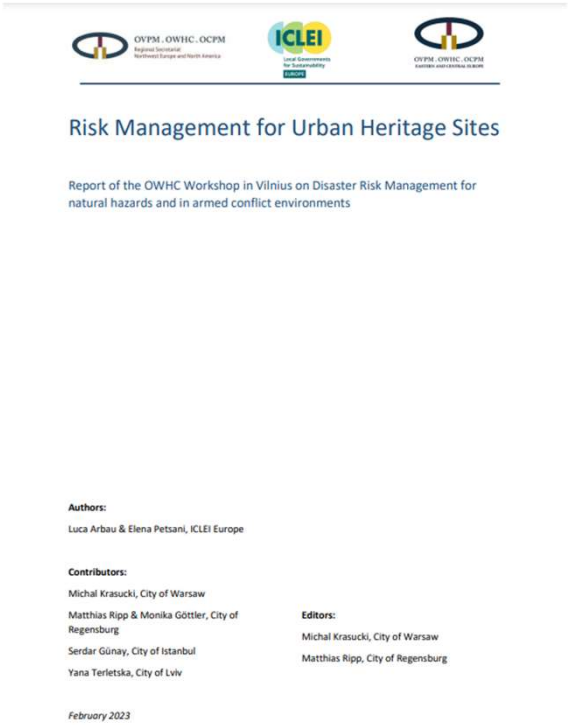

Risk Management for Urban Heritage Sites

Report of the OWHC Workshop in Vilnius on Disaster Risk Management for natural hazards and in armed conflict environments

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RISK MANAGEMENT FOR URBAN HERITAGE SITES

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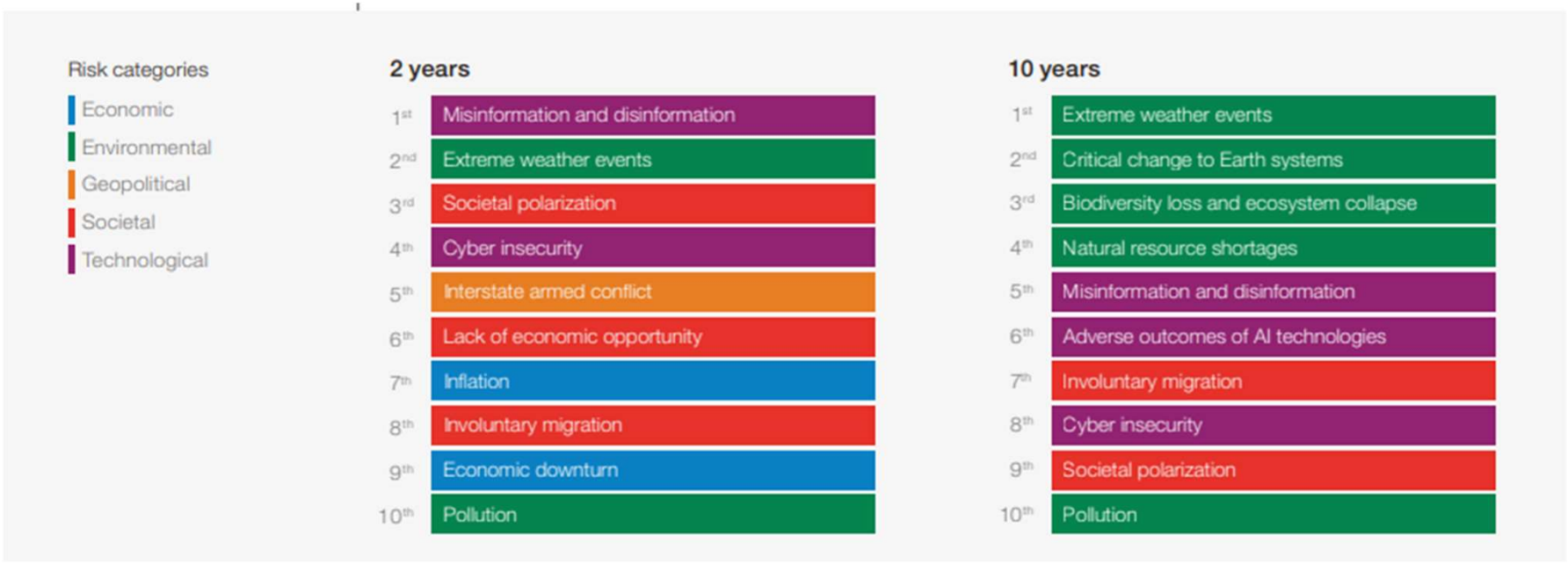
Full Report:
https://www.ovpm.org/wp-content/uploads/2023/03/20230210owhc-workshopreport.pdf

AGENDA

1. Introduction and Key Terms
2. A step-by-step guidance to integrate disaster risk management into heritage management
3. Managing disasters in World Heritage Cities: case studies
    1. Lviv, Ukraine
    2. Istanbul, Turkey
    3. Hamburg, Germany
4. Conclusions: reflections and way forward



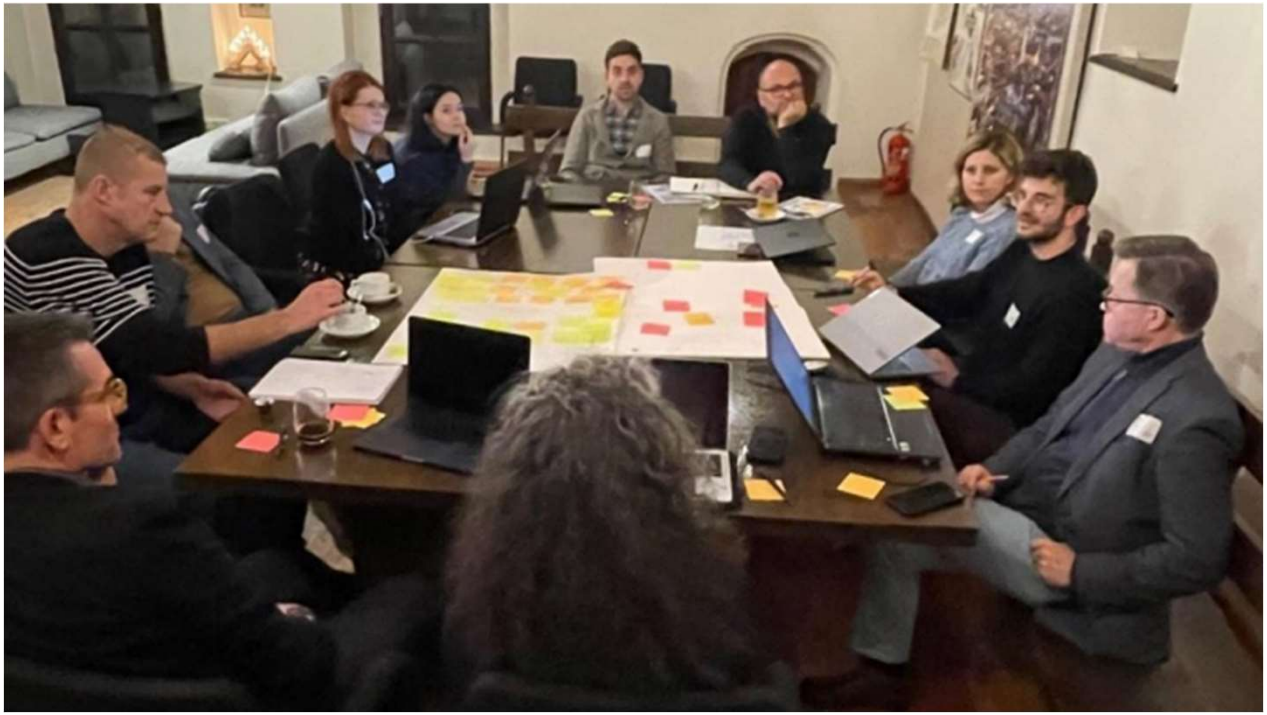
Global risks ranked by severity over the short and long term
(Source: https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2024.pdf)

INTRODUCTION

- UNESCO World Heritage Cities face unique challenges due to their high density and the value of their cultural heritage.
- The recent impacts of the COVID-19 pandemic, the war in Ukraine, and climate change have highlighted the need to better integrate cultural heritage with Disaster Risk Management (DRM).
- Recognizing this, the OWHC Regional Secretariats for Northwest Europe, North America, and Central and Eastern Europe organized a joint training workshop for Heritage Site Managers and urban decision-makers. The workshop aimed to shift the focus from merely protecting heritage to recognizing its role in urban resilience and recovery.

THE WORKSHOP (I) - ORGANIZERS

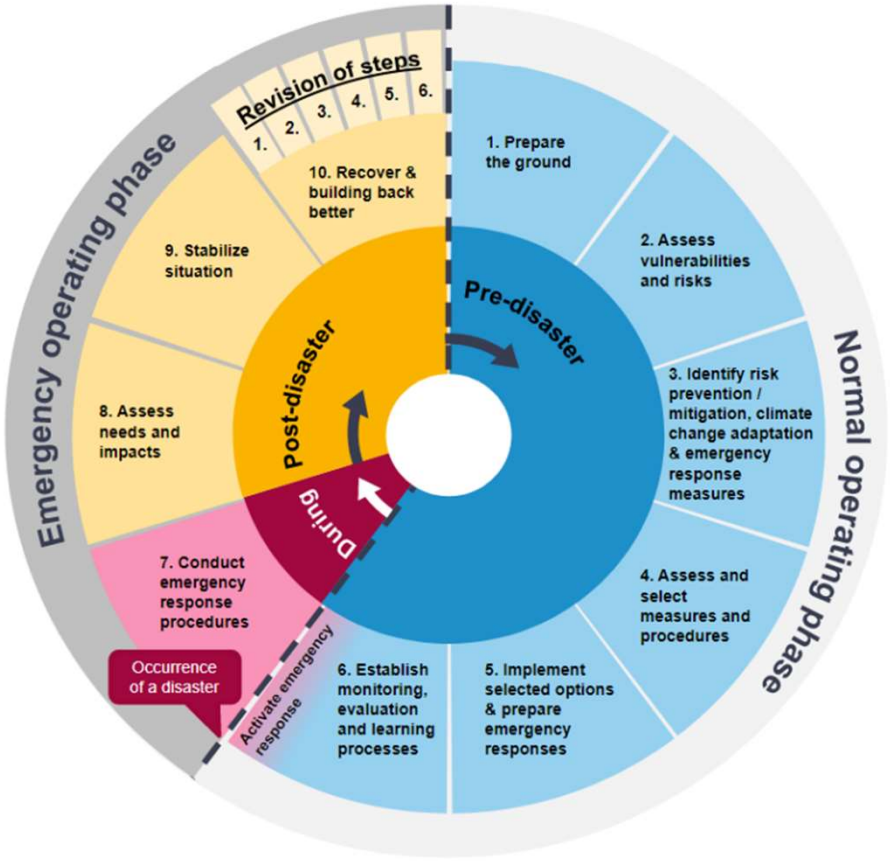
- Organisation of World Heritage Cities (OWHC)
- ICLEI - Local Governments for Sustainability
- Vilnius Old Town Renewal Agency



Co-creation activities during the “Heritage cities building resilience” workshop (Source: https://www.ovpm.org/wp-content/uploads/2023/03/20230210owhc-workshopreport.pdf)

THE WORKSHOP (II) - CONTEXT

- Cities worldwide are facing a critical period where climate change and other human-induced risks, including war, are threatening urban development and the preservation of historic areas.
- Historic cities are particularly vulnerable to these threats due to their older construction methods, which were not designed for modern environmental conditions or intensive usage. This makes managing and preserving these areas increasingly challenging.
- Site Managers play a crucial role in developing strategies for resilience, but often lack the necessary resources and knowledge to effectively address these threats. Raising awareness, improving knowledge, and providing tools for climate change adaptation and urban resilience are essential.



ARCH Disaster Risk Management Framework (Source: https://www.ovpm.org/wp-content/uploads/2023/03/20230210owhc-workshopreport.pdf)

THE WORKSHOP (II) - CONTEXT

SDHAB

KEY TERMS

Adaptation to climate change	Climate change	Disasters / Risk	DRM (= Disaster Risk Management)	DRR (= Disaster Risk Reduction)
Exposure	Hazard	Historic area	Preparedness	Resilience / Resilience of a historic area)
	Resilience planning	Resilient development	Vulnerability	

A STEP-BY-STEP GUIDANCE TO INTEGRATE DISASTER RISK MANAGEMENT INTO HERITAGE MANAGEMENT

1. Prepare the ground
2. Assess vulnerabilities and risks
3. Identify measures
4. Assess and select measures
5. Implement measures
6. Establish monitoring, evaluation and learning processes

STEP 1: PREPARE THE GROUND

- In the case of a heritage manager, preparing the ground to disaster risk management means to understand why and how is resilience important to the specific historic context and kick-start coordination within a multi-disciplinary team in the municipality.

CHECKLIST

Step 1 will be completed if...

- A cross-sectoral resilience team is created
- Key information and data are gathered
- Stakeholders mapping and analysis is performed
- Main aim and goals are defined
- A baseline review is undertaken

STEP 2: ASSESS VULNERABILITIES AND RISKS

- The objectives of this step are to better understand the vulnerabilities and exposure of the community and historic area to different hazards and identify impacts from those hazards in order to:
  - steer resilience building activities towards those parts of the community and historic areas that are most in need
  - ensure the right resilience actions are taken and receive appropriate funding.

CHECKLIST

Step 2 will be completed if...

- the hazards to be analysed are selected
- a vulnerability and risk analysis is performed

STEP 3: IDENTIFY MEASURES

- With this step, portfolio of risk prevention and mitigation, climate change adaptation and mitigation, emergency response, and rebuilding/recovery measures as well as strategies to lower the risk and increase the resilience of the community and historic area is built.

CHECKLIST

Step 3 will be completed if...

- The risk and vulnerability analysis is analysed
- Potential resilience measures are identified
- Funding and financing opportunities are investigated
- A criteria catalogue is defined

STEP 4: ASSESS AND SELECT MEASURES

- The aim of this step is to prioritise resilience measures that could be later implemented.

CHECKLIST

Step 4 will be completed if...

- Measures from step 3 are assessed, classified and prioritised
- Funding sources are analysed in detail

STEP 5: IMPLEMENT MEASURES

- In this step, a resilience action plan is drafted and set in motion.

CHECKLIST

Step 5 will be completed if...

- A resilience action plan is defined and funded
- The scope and actions within the plan are communicated to stakeholders
- Stakeholders are involved in implementation

STEP 6: ESTABLISH MONITORING, EVALUATION AND LEARNING PROCESSES

- As a last important step, the resilience team needs to establish a process for monitoring and evaluating the implementation progress for the measures from the resilience action plan ("are we doing the right things?" or output-oriented monitoring) and at the same time establish a process to monitor and evaluate if the resilience building process is working as intended ("are we doing the things right?" or process-oriented monitoring).

CHECKLIST

Step 6 will be completed if...

- Step 1 objectives are reviewed and updated
- Indicators for the monitoring are defined
- The monitoring framework is included in the resilience action plan
- A detailed resilience assessment is performed

MANAGING DISASTERS IN WORLD HERITAGE CITIES: CASE STUDIES

LVIV, UKRAINE: PROTECTING CULTURAL HERITAGE FROM THE WAR

- **L'viv – the Ensemble of the Historic Centre**
  - The city of L''viv, founded in the late Middle Ages, was a flourishing administrative, religious and commercial centre for several centuries.
  - The medieval urban topography has been preserved virtually intact (in particular, there is evidence of the different ethnic communities who lived there), along with many fine Baroque and later buildings.

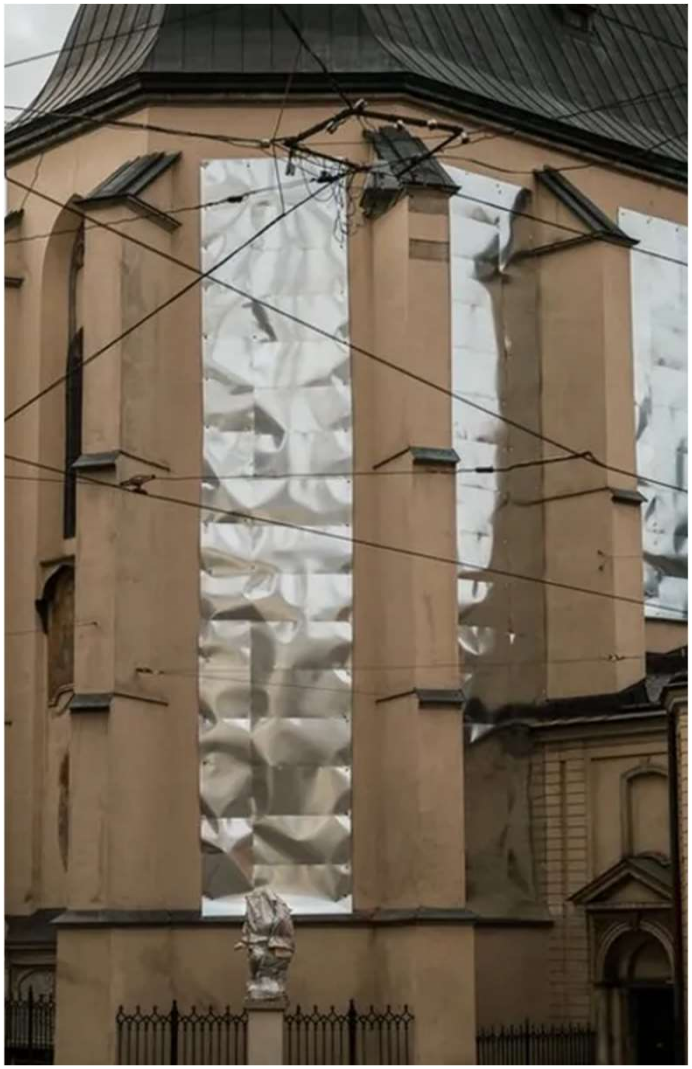
Source: UNESCO, https://whc.unesco.org/en/list/865/

ACTION TAKEN

- **Pre-Disaster Planning:** Developing a strategic plan for cultural heritage preservation before any disaster is crucial. Lviv lacked such a plan, which created obstacles in decision-making and identifying responsible departments.
- **Rapid Decision-Making:** Mechanisms for quick decision-making and coordination among stakeholders are essential during a war. In Lviv, stakeholders had to take personal responsibility to ensure timely actions to protect cultural heritage.
- **Role of Social Media:** Social media was vital for coordinating actions among stakeholders and volunteers, allowing the cultural heritage department to mobilize support quickly.
- **Stakeholder Involvement:** Effective cultural heritage preservation requires the involvement of experts, local authorities, relevant departments, and volunteers. In Lviv, this diverse coordination led to immediate and effective protective measures.
- **Expanding Networks:** It is important to expand networks beyond the city for support and knowledge-sharing. Lviv joined an international platform of historical cities, gaining wider support for preserving its cultural heritage.

PROTECTIVE MEASURES IN LVIV

SOURCE:
HTTPS://WWW.BBC.COM/NEWS/WORLD-EUROPE-60707531



PREVENTIVE MEASURES TO PROTECT THE CULTURAL HERITAGE

- The stained-glass windows of Latin Cathedral and Ioan Zolotoustyi church were covered by OSB panels and metal sheets from the outside.
- The facades of the renaissance Kampian and Boim chapel, Black stone house as well as Golgotha altar and classicism fountains on Rynok Square are hidden now under the special structure made of scaffolding and metal sheets with stiffeners.
- In order to be protected from potential fires and excessive temperatures caused by the explosion, the white stone sculptures near the Cathedral are covered with special fireresistant fabric materials with a layer of basalt fibers. Additionally, metal mesh structures were installed to protect them from the impact of a possible blast wave and debris.
- Metal mesh structures also protect the Mickiewicz monument that is one of most valuable monuments in Lviv.
- The most valuable elements of interiors are also protected by special constructions. For example, the iconostasis of Paraskeva-Piatnytsia church is hidden now under the metal curtin in order to prevent possible fires.

ISTANBUL, TURKEY: BUILDING RESILIENCE FOR THE CULTURAL HERITAGE IN THE CITY IN THE EVENT OF AN EARTHQUAKE

- **Historic Areas of Istanbul**
  - With its strategic location on the Bosphorus peninsula between the Balkans and Anatolia, the Black Sea and the Mediterranean, Istanbul has been associated with major political, religious and artistic events for more than 2,000 years.
  - Its masterpieces include the ancient Hippodrome of Constantine, the 6th-century Hagia Sophia and the 16th-century Süleymaniye Mosque, all now under threat from population pressure, industrial pollution and uncontrolled urbanization.

Türkiye

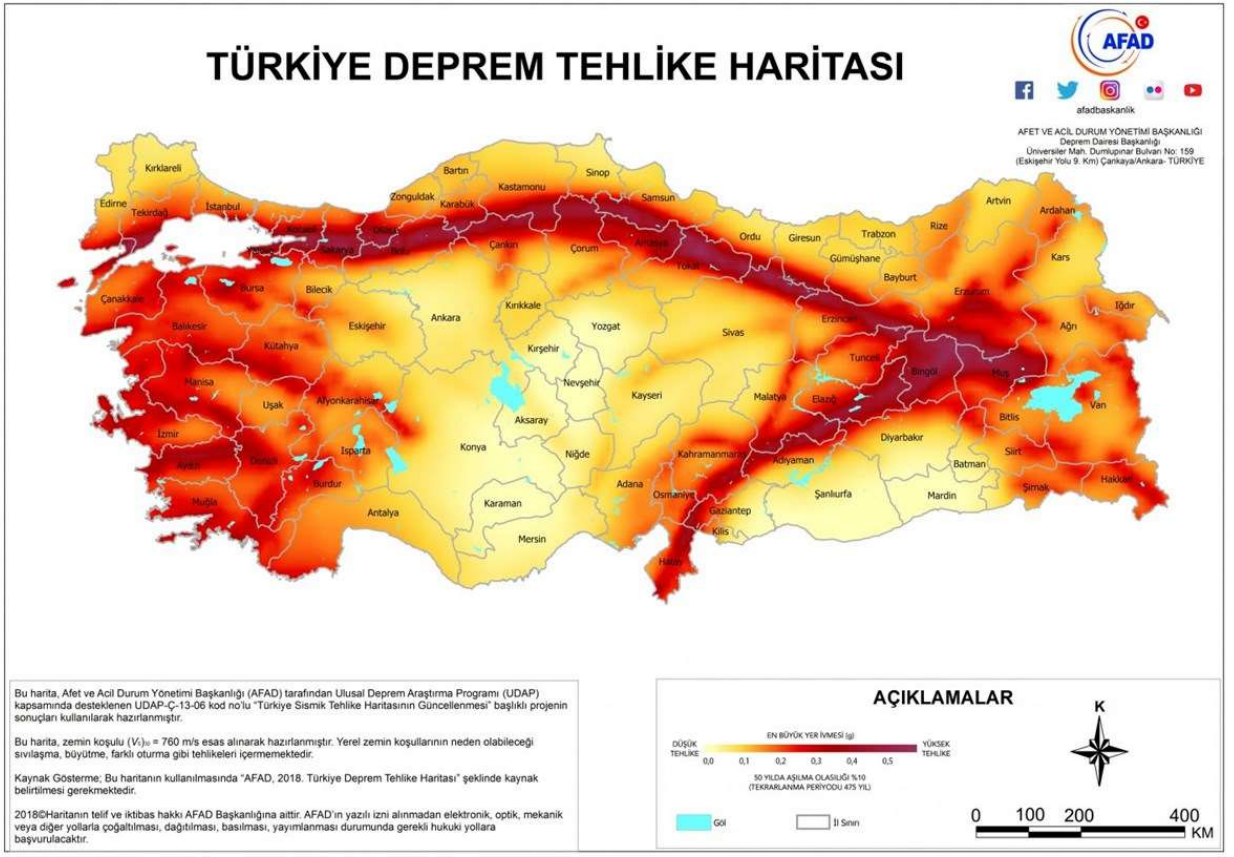
Date of Inscription: 1985
Minor boundary modification inscribed year: 2017
Criteria: (i)(ii)(iii)(iv)
Property : 765.5 ha
Dossier: 356bis

City and Province of Istanbul
N41 0 30.492 E28 58 47.748

Source: UNESCO, https://whc.unesco.org/en/list/356

TURKIYE EARTHQUAKE HAZARD MAP

Source: Republic Of Turkey Ministry Of Interior Disaster And Emergency Management Presidency, https://en.afad.gov.tr/turkeys-new-earthquake-hazard-map-is-published



ACTION TAKEN - STRATEGIC PLAN FOR DISASTER MITIGATION IN ISTANBUL (SPDMI)

- Developed by the **Istanbul Metropolitan Municipality** (IMM) as part of urban planning.
- Serves as a roadmap for addressing earthquake-related challenges.
- **Key Goal:** Improving natural and urban environmental quality to reduce destructive effects of potential major earthquakes
- The SPDMI focuses on the following points:
  - Conceptualization of strategic planning
  - The problems and potentials of Istanbul Metropolitan Area
  - A road map including strategies, planning instruments, and priorities at various levels
  - Institutional and legal considerations

ACTION TAKEN - PUBLIC AWARENESS PROGRAMS

- Introducing and raising awareness as well as acceptance of the Istanbul Earthquake Master Plan (IEMP)
- IEMP topics range from the metropolitan level to the building level and include planning, disaster response coordination, and training programs for large population groups.
- Building a disaster-resilient community is a challenge due to the complexity of the problem and the difficulty in behavioral change of the citizens.
- Using all available mass communication methods in training will accelerate the process of preparing the community to face and overcome such disaster events.

PREVENTIVE MEASURES TO PROTECT THE CULTURAL HERITAGE

Pre-Earthquake

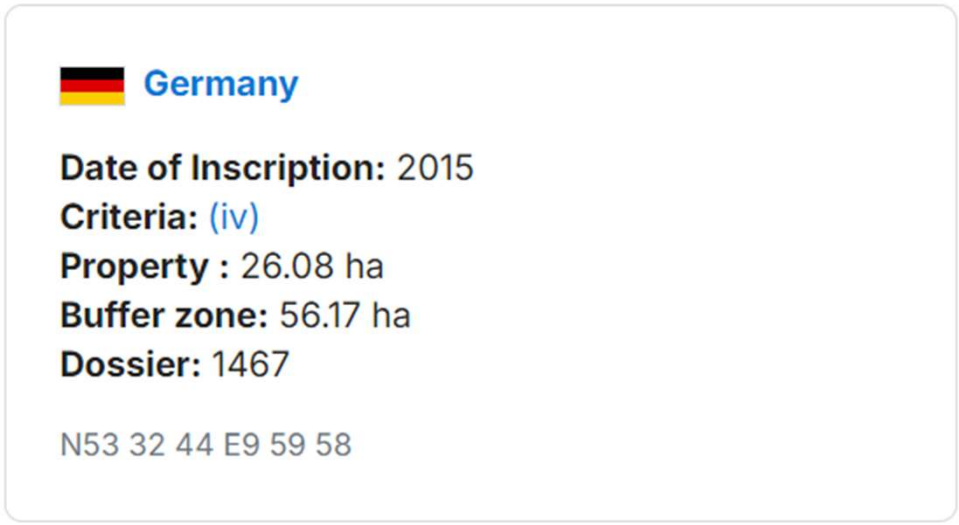
1. Studies on earthquake vulnerability and security
2. Technical investigation and strengthening (or re-location) of public structures (hospitals, schools, key government buildings, infrastructure, bridges, dams, etc.)
3. Technical investigation and strengthening (or re-location) of private buildings (residential, commercial and industrial buildings)
4. Other related works mentioned in the Master Plan.

Post-Earthquake

1. Provision of shelter, food, medical and social services to people
2. Technical investigation, repair and reconstruction of public and private buildings and structures.

HAMBURG: ADVANCING RESILIENCE OF HISTORIC AREAS AGAINST CLIMATE-RELATED AND OTHER HAZARDS

- **Speicherstadt and Kontorhaus District with Chilehaus**
  - Speicherstadt and the adjacent Kontorhaus district are two densely built urban areas in the centre of the port city of Hamburg. Speicherstadt, originally developed on a group of narrow islands in the Elbe River between 1885 and 1927, was partly rebuilt from 1949 to 1967. It is one of the largest coherent historic ensembles of port warehouses in the world (300,000 m^2). It includes 15 very large warehouse blocks as well as six ancillary buildings and a connecting network of short canals.
  - Adjacent to the modernist Chilehaus office building, the Kontorhaus district is an area of over five hectares featuring six very large office complexes built from the 1920s to the 1940s to house port-related businesses. The complex exemplifies the effects of the rapid growth in international trade in the late 19th and early 20th centuries.



Source: UNESCO, https://whc.unesco.org/en/list/1467

SPEICHERSTADT, BLOCK O

ACTION TAKEN – LOCAL WORK PLAN

Part 1 outlines the current situation, summarizing the content of the baseline review, introducing the historic areas in focus for ARCH, the relevant hazards expected to affect them, and the most relevant corresponding plans, strategies and actions already in existence.

Part 2 describes the stakeholder analysis undertaken to identify key departments, organizations and groups actively involved in managing, maintaining, using, or otherwise with an interest in the historic areas in focus, as well as identifying which of these are to be engaged as local partners.

Part 3 outlines the overall vision for the city's local partnership and defines specific objectives.

Part 4 outlines the strategies and corresponding actions proposed to achieve these objectives, including a time plan and allocation of responsibilities

ACTION TAKEN – SEVEN STRATEGIES

1. Perform Pilot-project: BIM (Building Information Modelling, an extended and interconnected 3D model of existing (heritage) construction)
2. Obtain Proof of Concept on data exchange between DAFIS, LGV and BIM
3. Revision of the WHS Management Plan in regard to climate change impacts
4. Integrate Management Plan structure with UNESCO-PERIODIC REPORTING structure and relevant themes (2018-24 - Europe 22-24)
5. Perform risk analysis and identify resilience options
6. Develop dissemination tools (including strategy, exhibition concept and supporting materials)
7. Participation in / Organisation of Cultural activities and events (physical/virtual)

PREVENTIVE MEASURES TO PROTECT THE CULTURAL HERITAGE

- Information System
- Mutual Learning Framework
- 3D Modelling
- Management Plan

CONCLUDING REMARKS: KEY POINTS OF THE SIX-STEP APPROACH

- Cross-Departmental Collaboration:
  - Importance of integrating cultural heritage into risk preparedness plans.
  - Emphasis on sharing data, knowledge, and experiences among departments and stakeholders.
  - Multidisciplinary working groups are encouraged to create holistic policies that connect cultural heritage resilience with other areas like climate change and social inclusion.
- Interlinking Sectoral Plans: Developing connections between cultural heritage and other sectoral plans (e.g., tourism) to avoid conflicts and ensure preservation.
- Decision-Support Tools:
  - Utilizing tools (e.g., ARCH RAD) for developing solid DRM plans.
  - Dissemination and training on these tools should be provided in the local language to ensure effective adoption.
- Reviewing and Adapting Existing Plans: The guidance helps to review and update existing DRM plans, promoting flexibility in addressing risks.

THANK YOU FOR YOUR ATTENTION!

Speaker

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