



RISK ASSESSMENT AND SUSTAINABLE PROTECTION OF
CULTURAL HERITAGE IN CHANGING ENVIRONMENT

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Disasters and catastrophes pose risks not only to the conservation of the cultural heritage assets with its cultural, historic and artistic values, but also to the safety of visitors, staff and local communities. Additionally, they cause undoubtedly negative consequences for the local economies due to the loss of tourism revenues, and

for the livelihoods of local people who are dependent on it. ProteCH2save contributes to the improvement of capacities of the public and private sectors to mitigate the impacts of climate change and natural hazards on cultural heritage sites, structures and artefacts. The project focuses primarily on the development of feasible and tailored solutions for building resilience of cultural heritage to floods and events of heavy rain.

WHAT HAPPENED IN THE LAST FEW MONTHS?

SEMINAR AND WORKSHOP IN BISTRA - SLOVENIA



Representatives of the project partner Občina Kočevje attended the seminar and workshop *"Fire Safety in Buildings of Cultural Heritage"* held on 4 October in the Technical Museum of Slovenia, in Bistra castle. The event was organized by the Slovenian Association for Fire Protection. Representatives of the Ministry of Culture, The Fire-fighting Association of Slovenia, Administration of the Republic of Slovenia for

Civil Protection and Disaster Relief, representatives of museums, fire-fighters, fire safety engineers, architects, curators and other experts exchanged valuable knowledge and joined the discussion on how to cooperate in the future. The **fire-fighting exercise** included rescuing objects of cultural heritage from the museum.



EXERCISE KOLOMANI18 - MELK, AUSTRIA



From August 27 to September 1 2018 Danube University Krems' annual Summer University in Cultural Property Protection took place at the famous Benedictine Monastery of Melk in Austria. 19 Participants from 9 different countries participated and contributed their individual knowledge to the one week programme, which aimed at developing prototypes for Cultural

Heritage Rescue Teams (CHRT) and culminated in a live evacuation exercise at the end of the week.

Following a series of lectures on crisis staff work on day 1, the participants conducted their own table-top-exercise called KOLOMANI18 on day 2. In this exercise the participants were called in as experts for Cultural Property Protection and they had to support the staff officers of the Territorial Military Command of Lower Austria with their expertise in the protection of Cultural Heritage in the Wachau region. In the exercise the Wachau region, which is listed as UNESCO World Heritage Site, was threatened by a flood even higher than the one in 2013 and the flood protection was likely to not withstand the huge amount of water. The population and also the movable cultural heritage had to be evacuated.

On day 3 the development of the prototypes for CHRTs started, as did the preparation of the local museum for the evacuation exercise on the last day. On day 5 the evacuation inside the monastery was undertaken by the participants of the Summer University, acting as personnel of the Melk Monastery. The movable cultural property was then handed over to the liaison officers for Military Cultural Property Protection of the Austrian Armed Forces who were called in for assistance and transported the goods to a refuge. Friday afternoon featured a public presentation and discussion of the results of the Summer University during ProteCHt2save's first Local Focus Group Meeting in Austria.





RESILIENCE FESTIVAL - BOLOGNA, ITALY

The Resilience Festival was held in Bologna from 7 to 9 September 2018, including as topic for the first time the safeguarding of Cultural Heritage. CNR-ISAC will arrange its 1st Local Focus Group in the session “Città e

territori dinamici - La resilienza dal passato al futuro/ Cities and dynamic territories - Resilience from the past to the future”, the 7th September 2018, 18:00. This event is also included in the teaser event of the “European Night of Researcher 2018” funded by Project SOCIETY H2020-MSCA-NIGHT-2018/2019 Nr.819090 (<http://nottedeiricercatori-society.eu/>). [Video_Promo](#) (IT language)

INTERNATIONAL CONFERENCE - PÉCS, HUNGARY

The main objective of this event (12th September 2018) was to present an update of ProteCHt2save project and relevant Interreg European initiatives on Cultural Heritage protection, especially highlighting experiences and good practices in Hungary. Moreover the event aimed to increase the awareness of local authorities and stakeholders, who are involved in disaster risk reduction processes to become more integrated in their overall approach and ameliorating intentions. During the conference, also the aspects of geographical, cultural and economic features were evaluated.

The conference was followed by a visit to a unique plotting board at the University of Pécs / Department of Physical and Environmental Geography.



1st LOCAL FOCUS GROUP - FERRARA, ITALY



The Castello Estense of Ferrara hosted on the 20th of November 2018 the Local Focus Group of ProteCHt2Save, organised by Land-use Planning Service and the International Relations Office of the Municipality of Ferrara. The interventions were held in a highly symbolic location, right at the heart of a city centre as rich in cultural sites, as exposed to devastating natural events. Panel discussions followed

the line of lessons learned through the years, from what taught by 2012 earthquake to practices of hydraulic protection and attention to sewage systems.

Forecasts for 2021-2050 period alarm on the effects of climate change in the region. Confronting 1961-1990 data to those of the following thirty years reveals that temperatures have risen by 2°C and about 20 summer days must be added to the previous count. Also, to the declining of rainy days responds heavy rainfall in very short times, violent and unexpected, and “tropical nights.

These reports envision the need of the integrated process of safeguard fostered by ProteCHt2Save project, in which the synergy between prevention and response to the emergency is consistent with the specific resources of the areas involved. *“Ferrara is historically strongly devoted to culture, to its generation, conservation and valorisation. The approach that our region always kept towards cultural heritage reached the goal of the preservation of apparently unsustainable assets, imposing itself in a widespread and shared way. We just begun to work on the issue of changing climate and on the government of connected risks: being aware of social, economic and cultural costs of natural disasters turns the light on the necessity of a long and vast communication campaign, thus effectively enhance practices of sustainability and risk management”*, stated Prof. Gianfranco Franz.



2ND LOCAL FOCUS GROUP MEETING - KREMS, AUSTRIA



On November 20th 2018 the 2nd local focus group meeting took place at Danube University Krems and in the UNESCO World Heritage Region Wachau. Representatives of the local and regional stakeholders, policy makers and emergency responders discussed on **possible cooperation in the protection of cultural heritage**. In the afternoon the participants went by train through the Wachau to Spitz on the Danube, where the local fire fighters gave a brief

on their plans for Danube floods and showed their emergency equipment as well as the storage for the mobile flood protection.

INTERACT CONFERENCE - VIENNA, AUSTRIA



On December 5th 2018 ProteCHt2save was prominently presented at the INTERact Conference in Vienna. The conference aimed at raising awareness of the potential of culture in Europe, presenting the variety of Interreg cultural heritage projects, creating a platform for Interreg programmes and projects to enable the **exchange of experience and knowledge**, promoting INTERact's capitalisation efforts and presenting the INTERact e-book. This **e-book**

promotes the best practice projects that have been labelled under the European Year of Cultural Heritage 2018. One of this **best practice projects** is ProteCHt2save. You find the [e-book](#) online.

With **panel discussions on the importance of cultural heritage**, the exhibition "*Connecting Cultures, Connected Citizens*" and 24 projects presenting themselves and their outcomes at exhibition stalls, the INTERact Conference was the prelude to the closing conference of the EYCH 2018, which took place in Vienna on December 6-7. **ProteCHt2save** was presented by the Lead Partner ISAC-CNR with Alessandra Bonazza participating in the panel discussion on "*Using cultural heritage to facilitate additional improvements in other sectors*" and together with DUK the project was presented at a stall featuring the project's leaflets, the safety vests and the video on the TRITOLIA18 exercise. The [video](#) is available on YouTube.



OUTPUT: MANUAL FOR CULTURAL HERITAGE MANAGERS

Mitigation and adaptation strategies to face up future climate change pressures

In relation to the Thematic work package planned in the T1 "*Identification of risk areas and priorities*", CNR-ISAC finalized at the end of 2018 the output O.T1.3 Compilation of a comprehensive set of Manual for mitigation and adaptation. The **main objective** of the Manual is **to improve the knowledge of hazards and risks integrated with measures to protect cultural heritage** in accordance with the Sendai Framework for Disaster Risk Reduction 2015-2030 - the agreement of the post-2015 development agenda endorsed by the UN General Assembly - which included the need to protect cultural heritage among its key priorities and the responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

The Manual has been developed for the protection of Cultural Heritage in a changing environment, with the main aim of assisting heritage stakeholders, owners and curators of historic buildings and collections, public policy-makers and national/local heritage organizations to deal with future climate change pressures. We believe a **“resilience friendly conservation policy”** or **“conservation friendly resilience policy”** needs to be established and promoted.

The resilience issue deserves greater attention in each of the Seven Global Targets and the Four Priorities for Action expected by the Sendai Framework. For this reason, in the **first section** the Manual introduces the **pillars of the Sendai Framework** (Understanding Disaster Risk, Strengthening Disaster Risk Governance to Manage Disaster Risk, Investing in Disaster Risk Reduction for Resilience, Enhancing Disaster Preparedness and “Build Back Better” in Recovery and Reconstruction) and the **results of recent publications** in a schematic and synthetic way.


The **second part** of the Manual collects **specific recommendations and guidelines divided by managerial critical elements** (Information on CH Assets, Founding, Knowledge and awareness, CH protection planning, Policy and regulations).

In order to easily consider and manage the effects due to the action of extreme events on Cultural Heritage assets, the **last section** lists, both **managerial and technical recommendations**, subdivided by the equivalent extreme event (Climate Change, Flood, Heavy rain, Fire due to drought and Wind).

The Manual ends with **examples of good practices** from recent projects, initiatives, strategies and tools carried out in the field of mitigation and adaptation to face up future climate change pressures.


The full document is available on the [webpage](#).



 **Flood**

It is recommended that Regional and local Authorities be reminded that:

- SECURING FLOOD PROTECTION MEASURES** requires all involved to also **UNDERSTAND** what constitutes **CULTURAL HERITAGE HISTORIC VALUE** and **SIGNIFICANCE**.
- More **ATTENTION** should be paid to **NON-STRUCTURAL MEASURES** and **INCENTIVES** that may generate and support structural interventions, along with a mobilization of greater and distributed public resources. Such measures include a wide variety of **INSTRUMENTS** from guidelines, mobile applications, training and awareness raising, to insurance programmes.
- STRUCTURAL MEASURES** require more **CONCENTRATED** and **SUBSTANTIAL FINANCIAL RESOURCES**. However, they have **IMPORTANT ECONOMIC** and **SOCIAL IMPACT**, but an assessment of these impacts, and the relevant cultural heritage data and its inherent value, are not systematically collected.
- CENTRALLY PROVIDED** pools of **POST-DISASTER PROTECTIVE EQUIPMENT** for preserving residual values and for preventing further collapsing should be accumulated.
- Providing building owners with **GUIDELINES** and **REMOTELY ACCESSIBLE TOOLS** supporting **REGULAR MAINTENANCE** and **EARLY REPAIR** of deficiencies will help to substantially reduce the extent of damage.
- After the disaster, partial as well as total **RESTORATION OR RECONSTRUCTION WORK** should preferably be carried out, with the **SAME MATERIALS** and **CONSTRUCTION TECHNOLOGIES** as the original as far as possible from the sustainability point of view.
- RISK ANALYSIS** of historic buildings and cultural assets should **ANALYSE, DESCRIBE** and **PROTECT** their special characteristics.

 **Flood**

It is recommended that Operational Bodies and Owners be reminded that:

- Simple compliance with current legislation will not sufficiently protect buildings.
- More can be achieved in a **PRE-PLANNED RISK ANALYSIS** and **PREVENTATIVE APPROACH** to ameliorate the consequences of a flood incident from occurring, by involving the production of:
 - A **MAINTENANCE HANDBOOK**
 - A **RISK MANAGEMENT PLAN**
 - APPROPRIATE INSURANCE COVERAGE**
 - STAFF AND OCCUPANCY TRAINING**
 - ADDITIONAL ACHIEVABLE PRACTICAL MEASURES**

FUTURE EVENTS

1ST LOCAL FOCUS GROUP MEETING - POLAND

On 7th March 2019, the Regional Development Agency in Bielsko-Biała is going to organise a meeting of the local focus group. The title of the meeting is “**Risk Assessment And Sustainable Protection Of Cultural Heritage In Changing Environment**”, in line with the project.



1ST LOCAL FOCUS GROUP EVENT - PRAGUE/TROJA, CZECH REPUBLIC

On Tuesday, 7th May 2019, ITAM together with Municipality Prague - Troja will organise the 1st LFG event, taking place in the building of **Old School in Troja district**.

2ND INTERNATIONAL CONFERENCE OF PROTECHT2SAVE - PRAGUE

On 27th June 2019, ITAM CAS and Municipal District - Prague Troja hosts an international conference with the theme „***Managing the Protection of Cultural Heritage in Changing Environment***”. The conference will take place in a historic conference hall in the centre of old Prague. The venue is especially fitting for the ProteCHt2save conference, as the **historic centre of Prague** is a Cultural Heritage (UNESCO) site at risk posed by climate change impacts (in this case floods from the Vltava river enveloping the city). As part of the conference, there will be a **technical visit** focused on this issue.

The **main objective** of the event is to **present the latest developments** in the Interreg Central Europe project ProteCHt2save to European and local authorities and stakeholders, with **special accent on experiences in historic Prague**, and to present a perspective and experiences from the point of view of management of cultural heritage protection in the changing environment.



*Floods in Troja District in 2002,
on the front left early Baroque Chateau Troja*



SUMMER UNIVERSITY CULTURAL PROPERTY PROTECTION JOINS ENVIMAT IN 2019 - AUSTRIA

The annual Summer University Cultural Property Protection 2019 is held together with the International Summer School ENVIMAT 2019 at Danube University Krems from **8 - 13 July 2019**.

Climate Change and Cultural Landscapes

The one-week programme is based on **state-of-the-art research and EU funded projects on climate change and risk assessment** for natural and cultural heritage. It aims at scientists, architects, engineers, archaeologists, site curators, cultural heritage managers, conservators, restorers, policy and decision makers, military personnel, graduate students, and post-doctoral fellows alike. The faculty includes **international experts** on climate change, UNESCO World Heritage matters, terrace landscapes, flood modelling, and emergency planning for cultural heritage.

- The participation fee of 250€ includes course materials, a welcome and closing dinner, and a study trip through the UNESCO World Heritage region Wachau.
- The **deadline** for applications is **June 10, 2019**.
- **News and registration:**
www.donau-uni.ac.at/dbu/summeruniversity
- [Flyer](#)



ProteCHt2save key facts

Project duration: 01.07.2017 - 30.06.2020

Project budget: 2,150,549 €

ERDF funding: 1,787,110 €

Website: <http://www.interreg-central.eu/Content.Node/ProteCHt2save.html>

LEAD PARTNER

National Research Council of
Italy - Institute of Atmospheric
Sciences and Climate



PROJECT PARTNERS

Institute of Theoretical and Applied
Mechanics of the
Czech Academy of Sciences



University for Continuing Education
Krems Danube University Krems



Bielsko-Biala District



Regional Development Agency
Bielsko-Biala



Municipal of Ferrara



Municipal District Praha – Troja



Government of Baranya County



City of Kaštela



Municipal of Kočevje

