

- 3rd Local Focus Group Meeting ProteCHt2save & Summer University Cultural Property Protection Final Presentation, Krems (Austria) 12/07/2019
- Emergency Planning State Gallery Lower Austria
- Donau University Krems 2019 Summer Univ.
  Anna Kaiser, Emir Isovic, Florian Dietrich, Milos Jurisic, Renate Deschauer, Rosalinde Kleemaier-Wetl, Stefano Bergonzini

# 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.

www.interreg-central.eu/culture



Niederösterreich

Jadranska Hrvatska

AUSTRIA CROATIA CZECH REPUBLIC

HUNGARY

POLAND

SLOVENIA

Śląskie

Dél-Dunántúl

Praha

Vzhodna Slovenija

Emilia-Romagna

8

PROJECT BUDGET

2.15 MILLION €

ERDF FUNDING

1.79 MILLION €



# Objectives

- Defining risk 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.

Extreme Events
Flood
Heavy Rain
Drought periods (Fire)

Cultural Heritage
Categories
Monumental complexes with
related collections located in
urban areas



#### PROJECT STRUCTURE





Risk prone areas & Priorities

# WP T2

Emergency & CH Vulnerability

Protection plans in emergency



Implementation at pilot sites

Communication

Project Management





photos: Miloš Drdácký, Danube University Krems, Mein Bezirk





# 7 pilot sites

7 pilot actions will be conducted linked to climate change and variability associated with hydrometeorological and climate extremes Monumental Complexes/Museums

Preparedness strategies Evacuation in emergency









Extreme events of heavy rain



#### Florence Flood 1966



Getty Images 1966, https://www.historytoday.com/history-matters/florence%E2%80%99s-mud-angels (05.07.2019).





#### Florence Flood 1966



https://blog.contexttravel.com/florence-flood/



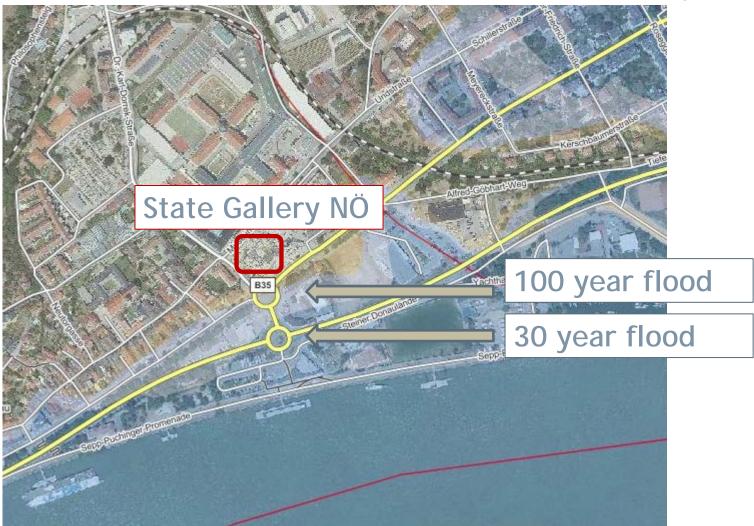


### Art Collections Dresden 2002











Summer University Cultural Property Protection 2019

- Prepare for the worst (un)imaginable situation
- Develop plans & contingency plans
- Talk to possible support
  - Civilian first responders
  - Military
  - Volunteers
- Prepare, exercise and train
- Provide ideas, get feedback
- Provide suggestions









# Why plan and prepare?

- Save as much as possible
- Efficiency
- Avoid forgetting important measures
- Maximise use of time in emergency and before
- Reduce stress





# Why plan and prepare?





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# WHY PLAN AND PREPARE?







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Risk assessment and analysis

Assign tasks and responsibilities

Identify storages

Internal emergency plan and binder

Prioritisation

Fire department emergency binder

Helpers

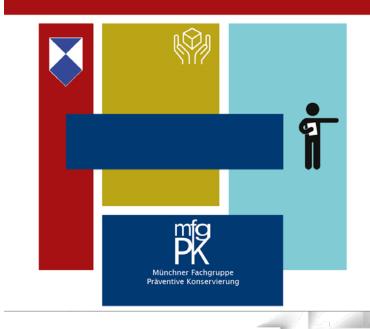
Prepare equipment and material

Administrative steps

Disseminate official information

Education and training







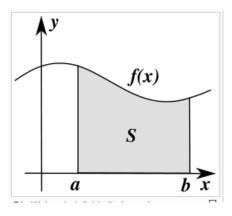


# Risk assessment and analysis

#### Likelihood



**Impact** 



#### 2016 [edit]

- · 2016 São Paulo flood and mudslide
- April 18 2016 Houston floods
- 2016 European floods
- 2016 Oklahoma floods<sup>[26][27]</sup>
- 2016 Maryland flood<sup>[28][29]</sup>
- 2016 Louisiana floods[30][31]





Fire Biblioteca Sanita' Pubblica 2014



Earthquake Emilia Romagna Public Library 2012



Flood October 2000 Archive University of Torino Centro Piero della Francesca

Intonella Pieri presentation 30 May 2017 - Foto: Astut (Archivio Scientifico Tecnologico Università di Torino) e Soprintendenza Archivistica e Bibliografica Piemorite e Valle di





# Risk assessment and analysis

### Likelihood x Impact = Risk



1UG				damage		
		very low	low 2	medium 3	severe 4	critical 5
	very unlikely 1	1	2	3	4	5
rence	unlikely 2	2	4	6	8	10
likelihood of occurrence	likely 3	3	6	9	12	15
likeliho	often 4	4	8	12	16	20
	continuously 5	5	10	15	20	25





# Risk assessment and analysis

1UG - Untergeschoss

			Risk analysis 2019				
Danger	historical experience with the specific danger	likelihood of occurrence	considerations to occurrence	impact (extent of damage)	considerations to impact	Risk	suggestions
FLOOD 300 yr. Not restricted/broken mobile barrier	flood unrestricted 1991 (highest level at mt.xxx,xx over Adriatic), flood restricted mobile barriers 2002, no effects, (highest level at mt.xxx,xx over Adriatic), flood restricted mobile barriers 2013, no effects, (highest level at mt.xxx,xx over Adriatic - mobile barriers enhanced by	3	exposition rooms, technical rooms, deposits, all underground, main walls not watertight, presence of fire-smoke vents on S-side (ca 4 sq. mt.), no pumps available, backflow valves on all piping (maintenance?)	5	critical to structural stability (194m over A. not flooded) severe damage to objects, possibly critical (mechanical action, duration,contamination by + chemical action through silth)	15	continuous Monitoring; acquisition and installation of integrated fixed+mobile barrier system with upgrade (concrete + steel/aluminum), installation of water tight system at fire-smoke ventilation access, maintenance of back-flow in piping, re-arrangement of electrical wiring and utilities (incl.elevators) to ensure functioning during flood, acquisition of mobile generator and pumps, emergency plan, emergency





# Risk assessment and analysis

	1UG - U	Jnterge	schoss						
						EVALUIERUNG			
impact (extent of damage)	considerations to impact	Risk	suggestions	action taken	likelihood of occurrence (after action)	impact (after action)	Risk	iority 1 .	Notes
5	critical to structural stability (194m over A. not flooded) severe damage to objects, possibly critical (mechanical action, duration,contamination by + chemical action through silth)	15	continuous Monitoring; acquisition and installation of integrated fixed+mobile barrier system with upgrade (concrete + steel/aluminum), installation of water tight system at fire-smoke ventilation access, maintenance of back-flow in piping, re-arrangement of electrical wiring and utilities (incl.elevators) to ensure functioning during flood, acquisition of mobile generator and pumps, emergency plan, emergency	acquisition and installation of integrated fixed+mobile barrier system with upgrade (concrete + steel/aluminum),	1	1	1	1	crowdsourcing and funding (save your cultural heritage, buy a barrier with your name)







#### Internal Emergency Plan State Gallery Lower Austria



Kunstmeile Krems Betriebs GmbH Museumsplatz 5 3500 Krems an der Donau Österreich

T +43 (0) 2732 908010

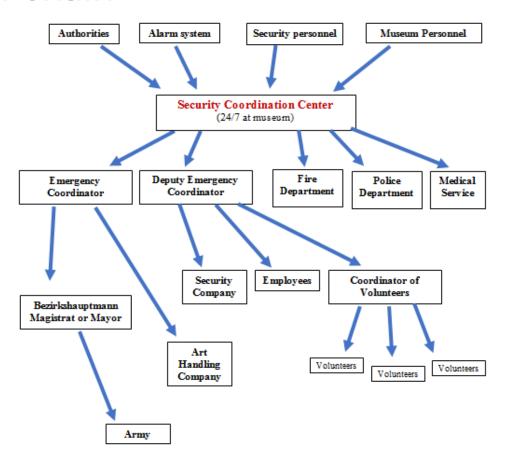
Updated till: 13 July, 2019

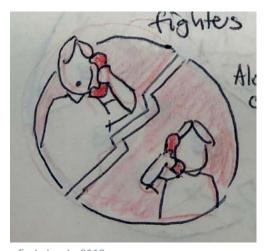




#### **ProteCHt2save**

#### Alarm Chain





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### **Telephone List**

#### Emergency team and employees:

Function	Name	Telephone no	Availability
Museum Director	XXXXX	XXXXXX	When available
Landessammlung	XXXXX	XXXXXX	When available
Emergency coordinator			always
Dept. Emergency Coordinator			always
Employee			When available
Employee			When available
Employee			When available

#### Security-company:



Function	Name	Telefon no	Availability
Responsible for	XXXXX	XXXXXX	always
museum			
Deputy	XXXXX	XXXXXX	always
Responsible			





#### **EMERGENCY LEVELS**

Prewarning

Level I Preparation

Level II Closing, Evacuation <u>Baseme</u>nt

Level III Flooding Basement

Level IV Long Term Storage





**EMERGENCY LEVELS** 

Prewarning

National Warning Center

Level I Preparation

**Emergency Coordinator** 

Level II Closing, Evacuation Basement

CEO + Government ?

Level III Flooding Basement Owner,
Government?

Level IV Long Term Storage

CEO





#### **EMERGENCY LEVELS**

Prewarning

National Warning Center

Floodmarker, Time Level I Preparation

Floodmarker, Time Level II Closing, Evacuation Basement

CEO + Government ?

**Definition 194m?** 

Level III
Flooding Basement

Owner, Government?

After all clear

Level IV Long Term Storage

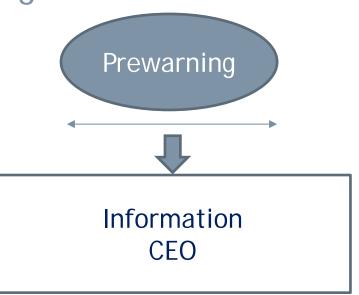
CEO





# Flood - Prewarning

National Warning Center



**Emergency Coordinator** 

**Emergency Coordinator** 

Red Alert CEO, Staff, Security, Volunteers

**Emergency Coordinator** 





#### Level I

Defined Marker Emergency Plan I Priority List Activate Emergency
Plan Level I

Instruct staff

Check and distribute equipment

Preparation of storage facilities

Evacuation of Basement (depot, except exhibition)

All clear or go on to level II

Emergency Coordinator?

**Instructor?** 

Inventory and packing coordinator

Storage responsible

**Emergency Coordinator** 

**Emergency Coordinator** 





#### Level II

Defined Marker Emergency Plan II Priority List Agreements for Storage facilities

# Activate Emergency Plan Level II

Organize and instruct staff

Close the museum to the public

Evacuation of exhibition objects basement, GF?

Build temporary barriers

All-clear or go on to level III

CEO, Government

Coordinator, Instructor?

CEO, Government

**Emergency Coordinator** 

**Emergency Coordinator** 

**Emergency Coordinator** 





#### Level III

Defined Marker for 194m, HK 300?

**Emergency Plan III** 

**Priority List** 

Agreements for Storage facilities

Checklist Flooding Basement

Activate Emergency
Plan Level III

Ev. Evacuation of special objects in upper floors

flooding basement

Complete barriers outside

go on to level IV

Owner,
Government?

Exhibition manager?

Emergency Coordinator, Fire Brigade

**Emergency Coordinator** 

CEO, Exhibition Manager





#### Level IV

**Priority List** 

Agreements for Storage facilities

Logistics Plan

Longterm Storage

Create Access to the building

Evacuation of objects in upper floors

Organize transport and storage

Reset

CEO, Exhibition Manager

Emergency Coordinator, Security Manager

Exhibition manager?

Exhibition
Manager,
Logistics Manager

CEO, Government





# Documents required

**Defined Flood Markers** 

Exhibiton adapted emergency plan for floods (levels I-IV)

Actual priority list for objects (exhibition related)

Agreements for external storage facilities

Checklist for flooding Basement

Logistic Plan for external storage

List of Personal equipment, package and transport





# Inventory packing team

- It must be supervised by professional museum staff curators
- Minimum 3 person per item two person for handle and one for supervise and check list

#### Proposal for museum:

- prepare check list in advance
- Prepare grid line in planned room for evacuation

2 main location for museum items - exhibition showroom and depot

First going to depot for equipment and prepare transportation Then go to the art pieces in the showroom and depot and pack them





# Inventory checks in case of evacuation

- make label stickers in advance for each item
- put label sticker on packed item
- checking items in all phases of moving
- moving items to upper floor of museum building
- exit from museum building
- enter to new location of Kunsthalle
- exit from Kunsthalle
- enter to Vienna/Sankt Pölten depot

subject checking can only be performed by authorized personnel.





# **Emergency Box**



#### Vorschläge für Erweiterungen / Ergänzungen

- Keile (Türen)
- Gepolsterte Unterlegeklötze
- Löschkarton / Japanpapier / Silikonpapier
- Schraubendreher (+Bits)
- Spezialwerkzeug für Öffnung von Vitrinen (Glasheber),
   Abbau von Objekten
- Tragegurte
- Etiketten
- Baustellenleuchte
- Westen für Notfallkräfte (farblich einheitlich)
- Transportkisten
- Klemmbrett
- Vorgefertigte Etiketten zum Beschriften

#### Content Emergency box

#### **Inhalt Notfallkiste (Stand 2019)**

- Inventarisierungsblätter
- Flies Rolle
- Luftpolsterfolie Rolle
- Plastikfolie Rolle
- Malerflies / Decken
- Müllsäcke groß
- Müllsäcke klein
- Küchenrolle
- Papierhandtücher
- Stoff
- Lappen (Wettex)
- Plastikhandschuhe (Latex, Vinyl)
- Baumwollhandschuhe
- Einweg Atemschutzmasken
- Schutzkleidung (Einweg-Overall)
- Bleistifte

- Permanentmarker / Folienstifte
- Zange
- Pinsel
- Hammer
- Kabeltrommel
- Verlängerungskabel
- Schnur
- Seil
- Paketklebeband
- Gewebe-Klebeband
- Teppichmesser
- Schere
- Meterstab oder Maßband
- Taschenlampe





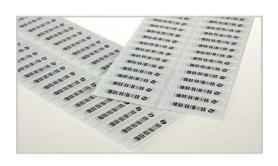
# Packing Items



cotton gloves



air bubble film rolls



label stickers for Item





#### Given Infrastructure



Muc-Rit 097

Depot for packing equipment



Depot for paintings





# Preparations for relocation













Transport trolley







# Personal Equipment

Personal waterproof and security equipment













headlights batteries

Vests

walkie talkies

gloves

clothing for rain weather condition





# Packing and handling Instructions

#### **Painting packing and handling instructions**

For Volunteers

# Always listen to the instructions from the supervisor.

Don't lose your time acting on your own to avoid chaotic situations.



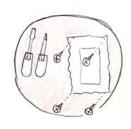
Use proper material to cover paintings before putting it in the box (bubble wrap etc.).

Each painting has its original box. Your supervisor will tell you which is it.



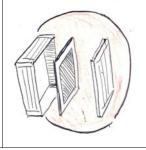
Use proper tools to remove paintings from the wall.

Obtain tools from your supervisor.



Put the painting vertically as shown in the picture.

Secure the box with screws after placement.



Painting packing and handling instructions
For Volunteers

#### Use charts for transporting heavier boxes.

Box should be transported by two persons always. Try to avoid damaging the box.



#### Always follow the way of evacuation.

To avoid chaotic situation. It will be marked or explained to you by your supervisor.



#### If necessary form a chain of handling.

Suitable for smaller boxes. Try to be quick and not to disrupt other people in the chain.



#### Check your equipment before going in.

Especially the headlamp, boots vest and gloves.







#### Check in and Check out Instructions

#### **Painting handling and receiving instructions**

For Check out from the Gallery

#### Mark every box with its Identification Number

Use waterproof markers if necessary.

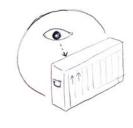
# Write down every item that you send away into the DATA SHEET EMERGENCY INVENTORING.

Write down its number, condition, date, time and person who took it.



# Visually check every item last time, before it leaves the gallery

Write down any damage, humidity or unusual condition.



# If transported to the truck, observe and assist the process.

Be sure that items are handled correctly. Fill in the lists and take the signature of the persons/drivers you give the boxes.

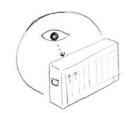


#### **Painting handling and receiving instructions**

For Check in to new location

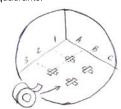
# Always visually check the box or item that is transported to you.

Check for humidity, cracks or any visible damage.



# Deposit the items in prearranged deposit. Write down the new location of every item into the Data Sheet (grid system).

Use some tape to mark the quadrants.



# Fill in the Datasheet Object Arrival Form provided to you.

Write every item your recieve: Inventory nr., date, time, etc. in order to avoid forgetting or losing some items.



#### If necessary consider a new deposit place.

But inform your superior first.





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# Emergency Inventorylist

DATA SHEET OBJECT ARRIVAL DEPOSIT TEMPORARY/FINAL

entry No:	Ident No.	Location normally origin (owner)	Notes	New location (grid system)	Delivered by	Received by	Date time
01							
02							
03							
04							
05							
06							
07							



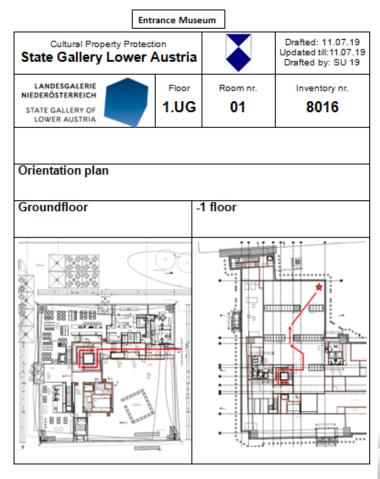


**ProteCHt2save** 

# PRIORITY LISTS, PLANS AND ROUTING CARDS

State Gallery Low			Drafted: 11.07.19 Updated till:11.07.19 Drafted by: SU 19
LANDESGALERIE NIEDERÖSTERREICH STATE GALLERY OF LOWER AUSTRIA	Floor 1.UG	Room nr.	Inventory nr. 8016
Priority:	*		1
Object: Painting "empt	y frame"		
measurements: 70 v 50	X 5 cm	Temporary et	ocking: Kunsthalle
measurements: 70 x 50 weight: ca. 1 kg Height over floor: 0 cm			ocking: Kunsthalle ocking: Deposit ess, xx

Standing freely



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#### **QUESTION AND ANSWERS**







#### WALKTHROUGH

Take a stroll through the museum and test...

