

2019

# Combatting climate change culturally

How cultural and natural  
heritage can strengthen  
climate change adaptation



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# CLIMATE & CULTURE – A COMPLEX RELATIONSHIP

Climate change and its environmental consequences pose a challenge to us today and in the future. On 14th and 15th March 2019, Aarhus University hosted a workshop within the scope of the EU LIFE IP-funded project Coast 2 Coast Climate Challenge ([www.c2ccc.eu](http://www.c2ccc.eu)). The theme of the workshop was the complex relationships between the current changes in climate and how they relate to cultural and natural heritage. We asked: What is the potential of cultural heritage to support holistic, multi-sectorial and citizen-near climate adaptation and mitigation efforts at the regional and municipal scale?

Participants from the Central Danish Region – managers, administrators, engineers, heritage professionals – and international experts from the museum and university sectors as well as from international organisations shared their insights and joined the discussions.

This booklet is based on the presentations, experiences, discussions and conclusions from the workshop. It showcases the ways in which heritage – history, art, landscapes – can be used as a catalyst for social action and citizen engagement. We present relevant Actors – individuals and institutions – and Platforms for such engagement as well as a series of Cases that illustrate the many – sometimes surprising – ways in which cultural and natural heritage have been and still are affected by climate change and how they can contribute to contemporary solutions.

It also highlights the ways in which heritage can contribute to achieving the United Nations Sustainable Development Goals (SDGs) such as Goal 11 – Sustainable cities and communities – and Goal 13 – Climate action and bring about rapid and comprehensive societal change and to ensure safe and just futures for all people on Earth.

# WHY INCLUDE HERITAGE IN CLIMATE PROJECTS?

In more and more climate projects, ensuring public support and participation as well as involving the stakeholders in the process and the project are becoming more important. Climate change adaptation is more than technological innovation. At its core, there must be changes in values, attitudes and behaviour. But how do we bring about such changes, not least in inclusive and sensitive ways? Heritage – the sum of history, monuments, art, crafts, culture, landscapes – plays a pivotal role here, as it is key to defining identities, building social capital and offering sources of sustainable development.

This booklet is intended to serve as an inspiration for climate adaptation and heritage professionals alike, and aims to motivate you into considering the benefits of including heritage in climate change adaptation projects. Embracing the potential of cultural heritage can prove valuable in climate projects and have a number of added benefits in and for the community. This is not, however, a full guide to using heritage in such projects. This is an easily accessible starting point, which should encourage you to consider the benefits of utilising the heritage resources in your region and in on-going or future climate change adaptation project.

Understanding cultural heritage can be a considerable asset in understanding adaptation strategies. Culture and heritage can be adaptable or flexible and can therefore serve as inspiration for meeting future challenges. But heritage – for instance in the form of buildings – can also be vulnerable and this is why we stress the urgency of action. Extreme weather conditions and increased flood risks are on the rise, yet people still settle near rivers and coasts all over the world. Such communities have been living with and adapting to water hazards for centuries or even millennia. One part of understanding our heritage is also recognising that we might benefit from studying previous responses to

similar events. Another part rests in letting the lessons that come to us from the past give us hope and strength to meet future challenges. Climate change adaptation and cultural heritage are not in opposition; neither are technological and cultural solutions.

Including cultural and natural heritage in climate projects can lead to increased appreciation for the local area. Knowing the land will boost the readiness to protect the area and valuable sites. However, knowing that change is inevitable, knowledge of heritage can also assist in accepting the loss of valued landscapes, properties or monuments. The approach taken here connects climate change to places we love and care about personally and as a community. Collaborating and achieving the common goal of climate change adaptation also creates a sense of community and togetherness. Rallying around shared heritage under the banner of climate change can generate increased public support and hence increased **climate action**.



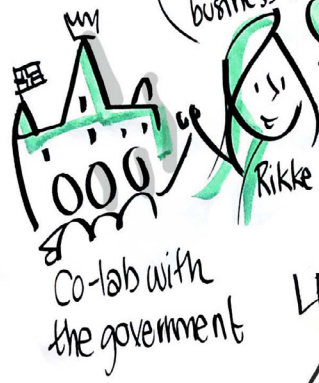


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# Climate Heritage: Climate Change & its relation to Cultural/Natural heritage



We create  
tools &  
business innovation



Co-lab with  
the government

Rikke C2C

We wish to  
create awareness of & debate  
about climate challenge  
in the Society



LET'S CREATE IDEAS & SOLUTIONS TOGETHER

Because of the climate challenge  
the temperature rising 1.5° - we must  
change our behaviour

ART MUSEUMS  
SITES  
MONUMENTS

museums are POWERFUL  
communicators to the  
PEOPLE... how can you use  
it?

ECONOMICS  
Society  
Personal

Education

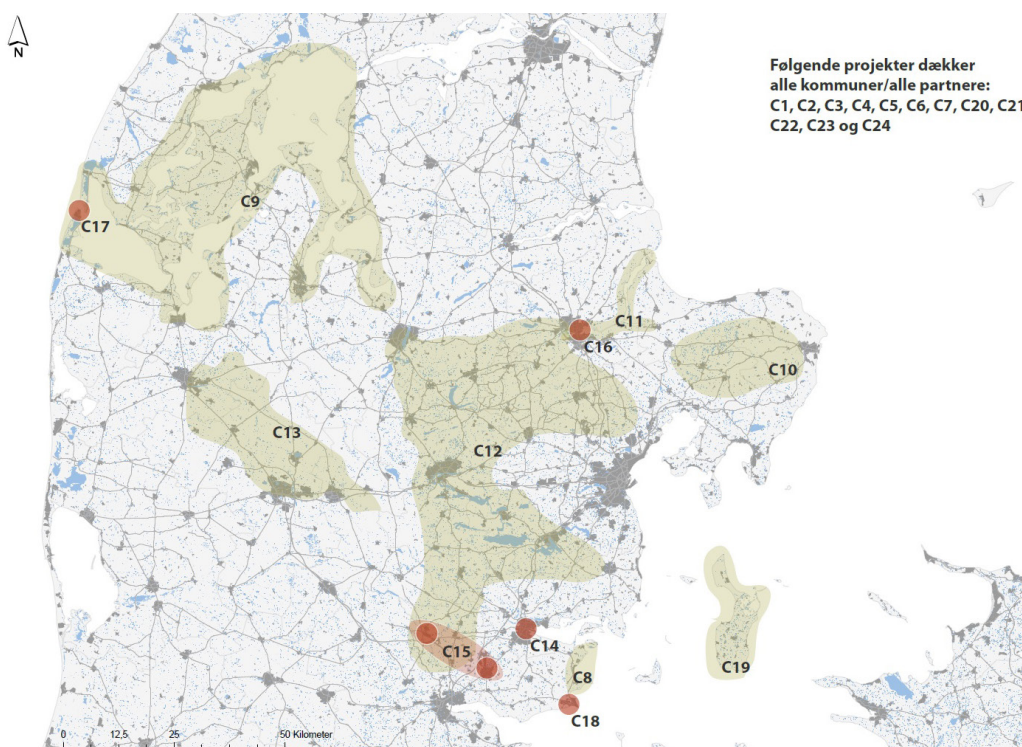


# COAST 2 COAST - CLIMATE CHALLENGE

Coast 2 Coast is a 6-year project on climate adaptation taking place from 2017 to 2022. The project is supported by funding from the EU LIFE Integrated Projects programme contributing approx. DKK 52m (€7m) and has a total budget of approx. DKK 90m (€12m).

## CLIMATE ADAPTATION ON THE AGENDA

The aim of the project is to boost the resilience and the adaptive capacity of the region to make sure we are prepared for the climatic changes and challenges that we know are coming. Climate change adaptation in the region generally deals with challenges related to managing more water, touching upon all aspects of the hydrological cycle: sea and fjords, rivers and lakes, groundwater and rainwater. Concrete actions cover capacity building across all water-related sectors and improving multi-level management structures, which are all implemented through a total of 24 specific implementation actions.



Central Denmark Region, which in close collaboration with the other 31 partners, leads the project and 19 supportive partners will work to create a climate resilient region by:

- formulating a joint long-term strategy among the local stakeholders
- implementing municipal climate adaptation plans, while coordinating analyses and activities
- identifying and improving resources and capacities among citizens and municipalities, utilities and companies in the water trade.



# THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS AND HERITAGE

Changing climates are affecting – most often negatively – our coupled natural and cultural heritage. Most acutely, entire archaeological sites are eroding into rising seas, historic buildings increasingly decay due to increased precipitation and precious organic materials, once kept safe by frozen grounds, vanish as temperatures rise. All these sites contain unique materials and knowledge – not least about past human-environment interactions. Our current situation has been likened to a burning library and saving these precious ‘books’ is a high priority.

By the same token, however, natural and cultural heritage are themselves changing and constitute a resource for societal change along the way. Natural and cultural history as well as archaeology are key components of identity-building and of the mobilisation of social action and behavioural change in the long run. Here, conservation practitioners, policy-makers and museum professionals play important roles. This underlines the dual relationship between changing climates and natural/cultural heritage: Heritage as victim and heritage as resource for sustainability and catalyst for social action.



SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Sub-goal 11.4 Strengthen efforts to protect and safeguard the world’s cultural and natural heritage.  
SDG: 13 Take urgent action to combat climate change and its impacts

## HERITAGE IS NOT JUST MONUMENTS – IDENTITY, MEMORY AND ‘SENSE OF PLACE’

Heritage has a crucial role within urban and rural lives, livelihoods and development processes:

- creating social cohesion,
- stimulating growth,
- reducing poverty,
- fostering socio-economic regeneration,
- increasing the density of urban cores and containing the anarchic spread of new buildings,
- enhancing long-term tourism benefits by preserving cultural resources,
- strengthening social fabric and enhancing social well-being,
- enhancing the appeal and creativity of regions.

Heritage can thus be used to advance a number of the Sustainable Development Goals (SDGs), e.g. Goal 13 and 11.  
We must take up the challenge of conserving this fragile, non-renewable resource for current and future generations.





# CLIMATE CHANGE - A MAJOR SOCIETAL CHALLENGE OF OUR TIME



Climate history and cultural heritage can help highlight the shared responsibility to combat climate change. Many forms of adaptation and mitigation can be achieved through technological innovations but our behaviour and our values also need to be adjusted.

Effective climate change adaptation requires that we re-think our consumption habits, what we eat, how and where we live and what we aspire to. Climate change adaptation requires many small interventions - from the highest political level down to everyday decisions. It is a responsibility we all share and an issue we all need to contribute to. Indeed, many would like to contribute but the coordination of effective climate change adaptation across sectors remains a challenge. In the following sections, we present a series of expert accounts as well as local cases in the hope of inspiring further dialogue as well as action.

Cultural heritage can be utilised to stress urgency about the immediate and future impacts of climate change, and to emphasise the importance of action at local, national and international levels. Memory and heritage can provide tools for resilience and adaptation in a rapidly changing climate.





# TALANOA DIALOGUE

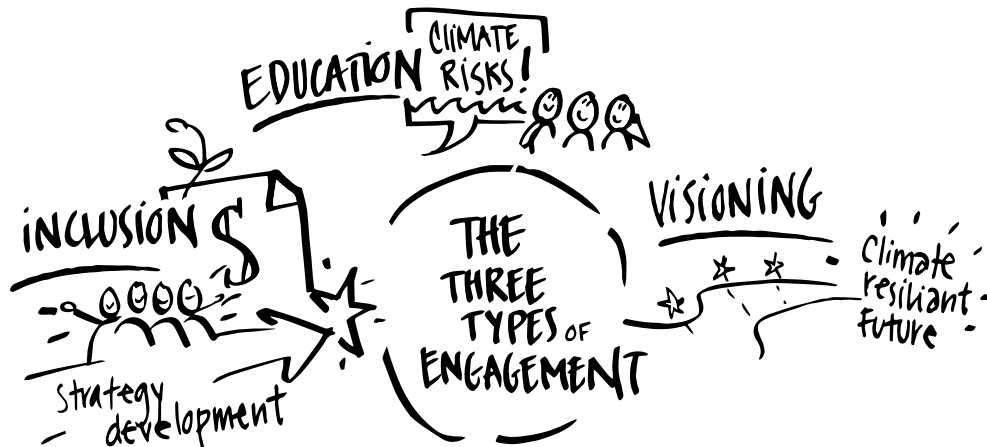
At the COP24 climate summit, the Talanoa Dialogue played a key role in bringing stakeholders together. Talanoa is a traditional word used in Fiji and across the Pacific to reflect a process of inclusive, participatory and transparent dialogue. The purpose of Talanoa is to share stories, build empathy and to make wise decisions for the collective good. The process of Talanoa involves the sharing of ideas, skills and experience through storytelling – and it can be adapted to conversations between all kinds of stakeholders: citizens, municipal managers, politicians, museum professionals and people working within the water utility sector, to name a few.

During the process, participants build trust and advance knowledge through empathy and understanding. Blaming others and making critical observations are inconsistent with building mutual trust and respect, and therefore inconsistent with the Talanoa concept. Talanoa fosters stability and inclusiveness in dialogue, by creating a safe space that embraces mutual respect; eventually, decisions are made for the greater good. Traditionally, Talanoa starts with the question: Where are we? In our work within the Coast 2 Coast Climate Challenge project we have modified this initial question to reflect our shared histories and the shared histories of culture and climate. We ask instead: How did we get here?

This approach is based on finding shared understandings of the challenges we are facing and moving forward together.



# ADDRESSING CLIMATE CHANGE THROUGH HERITAGE



Understanding how best to engage the public in climate change adaptation is a key challenge for many municipalities. True engagement goes beyond raising awareness. It requires consulting citizens through participatory processes while also promoting and cooperating with citizen groups and resident initiatives. Here we propose a creative method to engage the public and create ownership of a climate project, in a way that not only addresses the issues but also creates many added benefits such as increased sense of local identity and pride. Furthermore, it activates citizens and creates improved social cohesion.

Below we have created a step-by-step guide – an inspiration booklet – for climate professionals on how to include heritage in climate adaptation projects.

Before you begin, it is important to consider what you wish to achieve by utilising natural/cultural heritage resources. There are three primary types of engagement related to adaptation:

1. Inclusion in broad adaptation strategy development,
2. Education on climate risks and emergency preparedness, and
3. Vision for a climate-resilient future that addresses short-term and long-term tradeoffs.

Two sets of outcomes are embedded in this approach: Utilising heritage resources to inform, educate and engage the public in climate adaptation projects and protecting or managing local cultural heritage along with other assets under conditions of climate change.

For illustration purposes, this guide portrays a process that appears to proceed sequentially. However, it is not unusual that ideas developed while assessing risks should need revising or that implementing the plan may result in new goals.

## STEP 1. ASSESS RISKS AND POTENTIAL SOLUTIONS

Based on scenarios developed at national or local scale or the IPCC scenarios, the project owner should establish the adaptation priorities of the project and develop a number of adaptation scenarios that would be acceptable outcomes of the process. These will also serve as inspiration in the stakeholder community engagement process. This way the project owner manages the process and ensures a satisfactory solution is developed. These potential solutions should have a wide range, meaning that stakeholders have the possibility to affect the result and that they are placed at the heart of the decision-making process.



## STEP 2: MAP THE RESOURCES AND ACTORS FOR YOUR PROJECT

From the beginning, stakeholder communities should focus on the resources needed for a successful planning process. It is essential to identify partners, actors and stakeholders in the project and people with knowledge of local cultural heritage. Every place has a climate story! We often need expertise to uncover it but it is there and can be used in providing narratives about past, present and future climate change adaptation. Research has shown that people react more strongly to narratives than to information presented in other forms – so let's make use of the rich tapestry of narratives that our coupled climate and cultural history hand us. Below you can find a list of potential stakeholders for your project.

## STEP 3: DEVELOP A SIGNATURE CLIMATE HERITAGE APPROACH

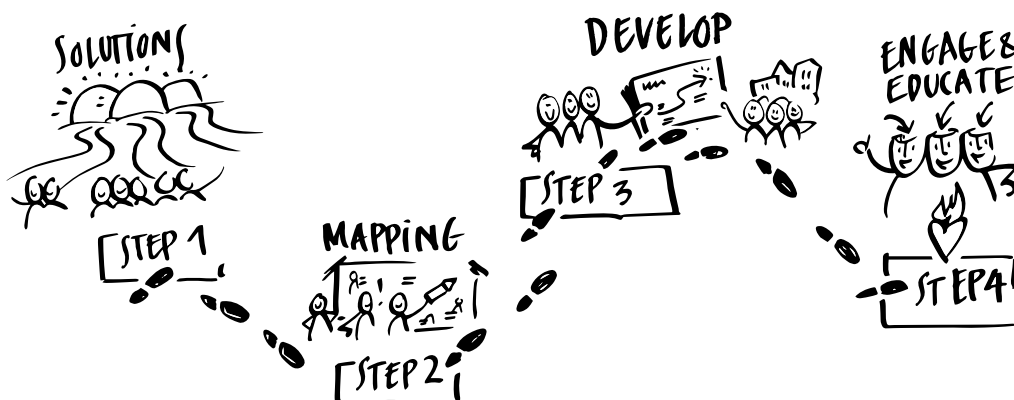
Knowing the climate risks facing the area, the local heritage resources and the stakeholders, the project leader(s) can begin to establish a group that can develop a climate heritage plan. This means establishing a strategy on how to utilise local and regional heritage resources to engage citizens in the climate project, and how you want citizens and other stakeholders to contribute. Remember the Talanoa dialogue questions to manage the engagement process:

1. How did we get here?
2. Where do we want to go?
3. How do we want to get there?

## STEP 4: ENGAGE AND EDUCATE – AND CULTIVATE A CLIMATE STRATEGY

In this phase the approach developed in the previous stages is brought to life and the community engagement process begins. Whether the approach relies on cultural history walks, archaeological talks, community meetings, field trips showing landscape changes through the centuries, museum visits, other activities or a mixture of all of them, this phase is about engaging the public, creating added value and understanding their needs and dreams for the final result of the project.

This phase also often brings about 'teachable moments', salient chances to educate citizens and stakeholders on the challenges ahead and the possible solutions. Cultural heritage can provide examples of previous episodes of climate change and adaptation and therefore offer allegorical insights into what has worked and what hasn't in the past. These narratives offer the opportunity to combine the natural science of climate change with narratives that offer affective value and intimacy. This can ensure that the citizens make informed decisions and consider the short-term as well as long-term effects of the actions they are suggesting.



# ACTORS IN CLIMATE & HERITAGE PROJECTS



## MUNICIPALITIES:

They are typically but not always the project owner. Many projects originate from an increased flooding and storm surge risk and they are developed in the Department of Technology and the Environment.

If cultural resources and heritage are to be included in the project, it is obvious to include different municipal departments such as the Department of Culture.

- Department of Technology and the Environment
- Department of Culture
- Consider whether other municipal departments can contribute with knowledge or developing ideas



## THE LOCAL WATER UTILITY COMPANY:

This is one of the main actors to collaborate with the municipality in almost all climate projects. Their primary objective is usually to manage waste and surface water to ensure that the sewerage in the area can handle extreme weather events and flooding. Utility companies are open to working on climate adaptation projects that create added value and improve livability and they would benefit from including cultural heritage in such projects



## GOVERNMENT AGENCIES:

The different government agencies represent the executive power. They are the main agencies in charge of legislation and supervision of climate adaptation and cultural heritage matters.

- Ministry of Climate, Energy and Utilities
- Ministry of the Environment
- The Agency for Culture and Palaces (Slots- og kulturstyrelsen)
- The Environmental Protection Agency (Miljøstyrelsen)
- The Coastal Authority (Kystdirektoratet)
- The Danish Meteorological institute



## LOCAL & REGIONAL CULTURAL INSTITUTIONS:

Local or regional institutions have knowledge of local cultural heritage and are used to communicating heritage issues to the public. Their knowledge and experience are invaluable. Museums and other cultural institutions not only act as a knowledge sharing institution but also as an arena to discuss different solutions, find a common ground and create support for climate initiatives aimed at protecting the local area.

Local institutions can anchor the projects to the project area in a distinctive way.

- Cultural history museums
- Natural history museums
- Local historical archives
- Art groups or galleries
- Nature guides (Naturvejledere)



## CONSULTANTS:

Consultants are a part of most climate adaptation projects, and are therefore an important actor. Many consultancies specialise in creating added value and sustainable cities, with some even focusing on management of cultural heritage. They are usually engaged by the municipality.

- Cowi, Rambøll, NCG, etc.
- Landscape architects





### **CITIZEN GROUPS & CITIZENS:**

Most adaptation projects aim to increase resilience and reduce risks to the citizens and assets in a given area. It is essential for citizens to get 'on board' an adaptation project, and cultural heritage can be a way to start a dialogue with citizens to show them the kinds of challenges an area may face.

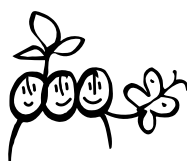
- Civic associations
- Homeowners' or landowners' associations
- Regular citizens living in the project area
- Users of the area – people not living in the area but using it for recreational or other purposes



### **LOCAL BUSINESSES:**

Some businesses have a special interest or connection to a particular area. Therefore, it can be beneficial to identify local businesses that could contribute to, benefit from or oppose the project.

- Local/regional/national tourism boards (turistforeninger)
- Local tourism businesses, especially those offering green tourism



### **NATURE AND ENVIRONMENTAL GROUPS & NGOS:**

Nature preservation groups (e.g. Dansk Naturfredningsforening or birdwatchers' association)

- Green councils
- Outdoor Councils



### **KNOWLEDGE INSTITUTIONS:**

Universities, museums and other institutions can be relevant to include. They can provide different perspectives on topics such as cultural heritage, adaptation and water management through history that may be less area specific but nonetheless valuable to the project.

- Universities, colleges or other institutions
- Museum professionals working with climate or heritage
- Technical Research institutions, e.g. Danish Technological Institute

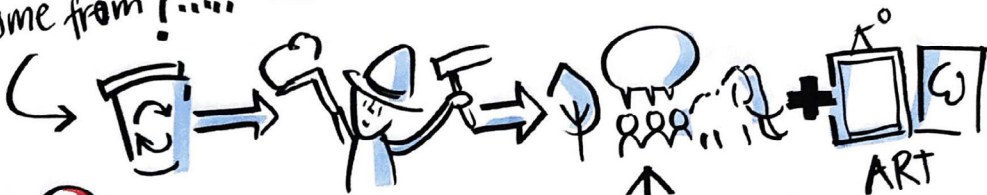
Furthermore, it can be relevant to consider other particular entities with a special relation to the area, e.g. major land owners and companies with a special interest in the area.

This is a way to utilise cultural heritage to activate and engage citizens in the climate challenges in the local area. The way we understand and imagine climate and nature influences the way we think, feel and act. Therefore, citizens need a more diverse understanding of what nature and culture are and how the two are inherently connected in today's world.

# Cultural Heritage as a Source of Creativity for Climate Change

Answering the questions is where the CREATIVITY comes from

"Where do our ideas about natural resources come from?....."



The Landscape Model

Every place has a climate story!

AND... BUT... THEREFORE...

(forces you to find a relevant statement)

Talanoa Dialogues (Fiji)

- Where are we?
- Where do we want to go?
- How do we get there?

... This matters for the community



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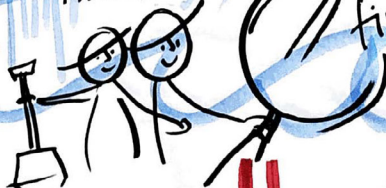
STORY BUILDING & CONNECTIONS

ENGAGE the COMMUNITY

The method  
"IT IS THE HOW"  
we do it that is important

it is not what we find, but...

ARCHAEOLOGISTS





# CULTURAL HERITAGE AS A SOURCE OF CREATIVITY FOR CLIMATE CHANGE

Cultural heritage includes places, objects, structures, and ways of knowing that have come to us through our past. Climate change is now putting many types of cultural heritage at greater risk of damage and loss. But the strongest connection of cultural heritage to climate change may lie in the creativity it allows in finding meaningful responses to climate challenges.

Creativity in this sense does not mean making things up. Rather, it lies in using heritage to help us better understand ourselves. Three approaches to doing this include:

- Question matching
- Climate stories
- Heritage-based Talanoa Dialogues

Question matching uses heritage research processes as templates for exploring modern environmental questions. The past is not the present, but how heritage research brings together lines of evidence and assesses change over time can provide new perspectives on modern issues. Climate stories describe key connections between a place and climate change in a clear narrative format.

By using themes of

- 1.) How change is happening in material things around us,
- 2.) How change is affecting lifeways and experiences,
- 3.) How past peoples responded to environmental challenges, and
- 4.) How the modern climate situation came to be, it is possible to find connections to climate change in any place that is or ever has been a home to people.

Talanoa Dialogues are a discussion format developed in Fiji and adopted by the UN to help create common visions for responding to climate change. These Dialogues ask: How did we get here? Where do we want to go? How do we want to get there?"

By grounding discussion of these in heritage, such as by asking "What places and traditions are important here? Which are essential to carry forward into the future?", it is possible to generate ideas that may be more sustainable, as they incorporate core aspects of community identity and care.



MARCY  
ROCKMAN

Dr. Marcy Rockman holds a Ph.D. in Anthropology from the University of Arizona, and B.Sc. in Geology from the College of William and Mary. From 2011-2018 she served as the US National Park Service (NPS) Climate Change Adaptation Coordinator for Cultural Resources in Washington, DC. She was responsible for identifying and responding to the impacts of climate change on the cultural heritage of the US. She is now working with the International Council on Monuments and Sites (ICOMOS) to build a programme to improve incorporation of heritage into the global response to climate change, including reports of the Intergovernmental Panel on Climate Change (IPCC).



# CONFLICT

Bees are nice...

Wolves are dangerous...

TECHNICAL  
EMOTIONS

## Naming Extinction:

### Cultural Heritage Institutions as Agents of Environmental Citizenship

HOW do WE NAME The problem?

# Endling

The last surviving individual of a species of a plant or animal

POP CULTURE

classical sorrow

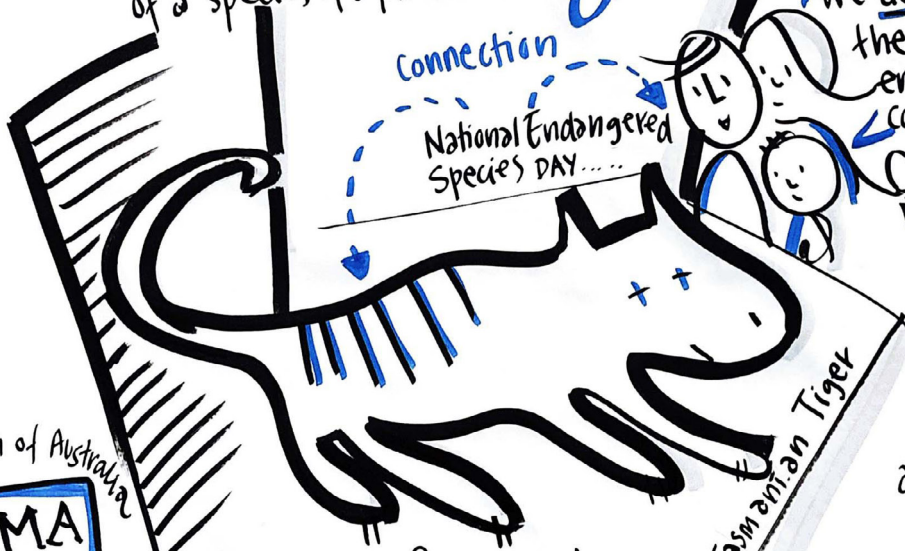
METAL

ADOPTION OF THE WORD

ART ARTICLES

We do re d the labels... emotional connection

We Remember... We are activated...



connection

National Endangered Species DAY...



NATURAL & CULTURAL

The Tasmanian Tiger

EXTINCTIONS → MEMORY → REMEMBRANCE → EMOTIONS



Cultural artefacts are not where they were originally...

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Dolly Jørgensen  
University of Stavanger





# NAMING EXTINCTION: CULTURAL HERITAGE INSTITUTIONS AS AGENTS OF ENVIRONMENTAL CITIZENSHIP

Humans are reshaping planet Earth, and, as a result, a high number of species have either recently become extinct or are fast on their way to extinction. How we narrate the ongoing Sixth Mass Extinction in cultural heritage institutions matters to the way our society will understand this environmental change.

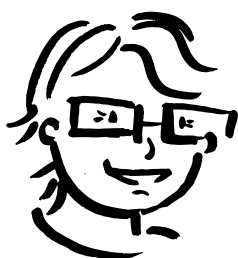
I use the example of an exhibit on the extinction of the thylacine (also known as the Tasmanian tiger) at the National Museum of Australia (NMA) which opened in 2001 to discuss how extinction discourses travel. The curator labelled the thylacine exhibit as “endling” to talk about extinction.

The word “endling” was not in any official English dictionary, yet in the exhibit it is shown on the wall as a defined word: Endling (n.) The last surviving individual of a species of animal or plant. The connection of the word “endling” with the emotional story of the thylacine deliberately hunted to extinction and the last animal dying of neglect in captivity resonated with visitors.

Artists quickly picked up on the term and named their works “endling,” including a contemporary dance work, an orchestral symphony, and a watercolor series.

There is a power in words like “endling” which name a phenomenon previously unnamed. Environmental citizenship – the conditions and consequences of the active participation of people in local and global environmental challenges – requires having a language to talk about environmental issues.

The “endling” narrative of extinction in an Australian cultural heritage institution created a new international narrative in art and a new discourse of extinction in public. Terms like “endling” make environmental issues personal.



DOLLY  
JØRGENSEN

Dolly Jørgensen is Professor of History at University of Stavanger, Norway specialising in histories of environment and technology. Her scholarship is unconstrained by typical periodisation boundaries: she is just as comfortable writing about 11th century forest management or 15th century urban sanitation as she is writing about 20th century offshore oil operations or contemporary efforts to resurrect extinct animal species. Her current research agenda focuses on cultural histories of animal extinction and recovery. She has previously co-edited two volumes at the envirotech intersection – *New Natures: Joining Environmental History with Science and Technology Studies* (2013) and *Northscapes: History, Technology & the Making of Northern Environments* (2013) – and one volume in premodern studies, *Visions of North in Premodern Europe* (2018).



Do artist have an impact TODAY?

# Can landscape painting influence Climate Change?

Hey artist, Thanks for MEDIATING!

THEN... PAST  
Creating beautiful landscape paintings makes me belong to & defend my COUNTRY

STORYTELLING!

THE "People"

ART + SCIENCE — ARCHEOLOGY — GEOLOGY

...landscape painting is a Danish tradition... use it...

IS IT NATURE?

pre-industrial landscape

...now I understand the landscape & the cultural Heritage

landscape changing...

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GRY HEDIN  
ARKEN-MUSEUM

Agriculture

historical site

untamed nature

nature

industrialism

AARHUS UNIVERSITY

CEH

mdt  
region midtjylland

Coast to coast  
climate challenge



Man connected to SOIL



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GRY HEDIN, CURATOR ARKEN MUSEUM

# CAN LANDSCAPE PAINTING INFLUENCE CLIMATE CHANGE? DANISH PAINTING 1780-1920 AND LANDSCAPES OF THE ANTHROPOCENE

Art and science were closely interlinked in 19th-century Denmark, and artists communicated the findings of geology, archaeology and biology to a broad public while these scientific disciplines took form. The sciences of the 19th century were closely interlinked with industrialisation, and the notions of 'nature' and 'human' were redefined.

Artists interpreted the relationship between human and nature, and at some point influenced the findings of the sciences. During these years landscape painting became an important genre and artworks presented past and present human-environment interactions – both real and imagined.

Art and science interacted then and still do, but though scientific views and findings are different today, the relationship between human and nature presented then still influences us. 19th-century landscape paintings have had an enormous influence on the way we preserve specific types of landscape such as the heath and open grass lands, and paintings depicting the beauty of golden, monochrome fields have also had a great impact on many people's preference for what Heather Anne Swanson has termed 'banal Anthropocene landscapes'.

Landscape paintings may thus be important catalysts for understanding the present though we today face a climate that is changing in other ways than envisioned in the 19th century. With their collections of landscape paintings – and with a history of being founded by the country's great industrialists – Danish museums such as Faaborg Museum, Nivaagaard, Den Hirschsprungske Samling and Ny Carlsberg Glyptotek may play an important part in communicating this part of the historical background for climate change.

An example of such is the exhibition Down to earth – Danish painting 1780-1920 and landscapes of the Anthropocene

[www.faaborgmuseum.dk/en/exhibitions/down-to-earth-danish-painting-1780-1920-and-landscapes-of-the-anthropocene/](http://www.faaborgmuseum.dk/en/exhibitions/down-to-earth-danish-painting-1780-1920-and-landscapes-of-the-anthropocene/)

Short link: [www.tinyurl.com/faaborgpainting](http://www.tinyurl.com/faaborgpainting)



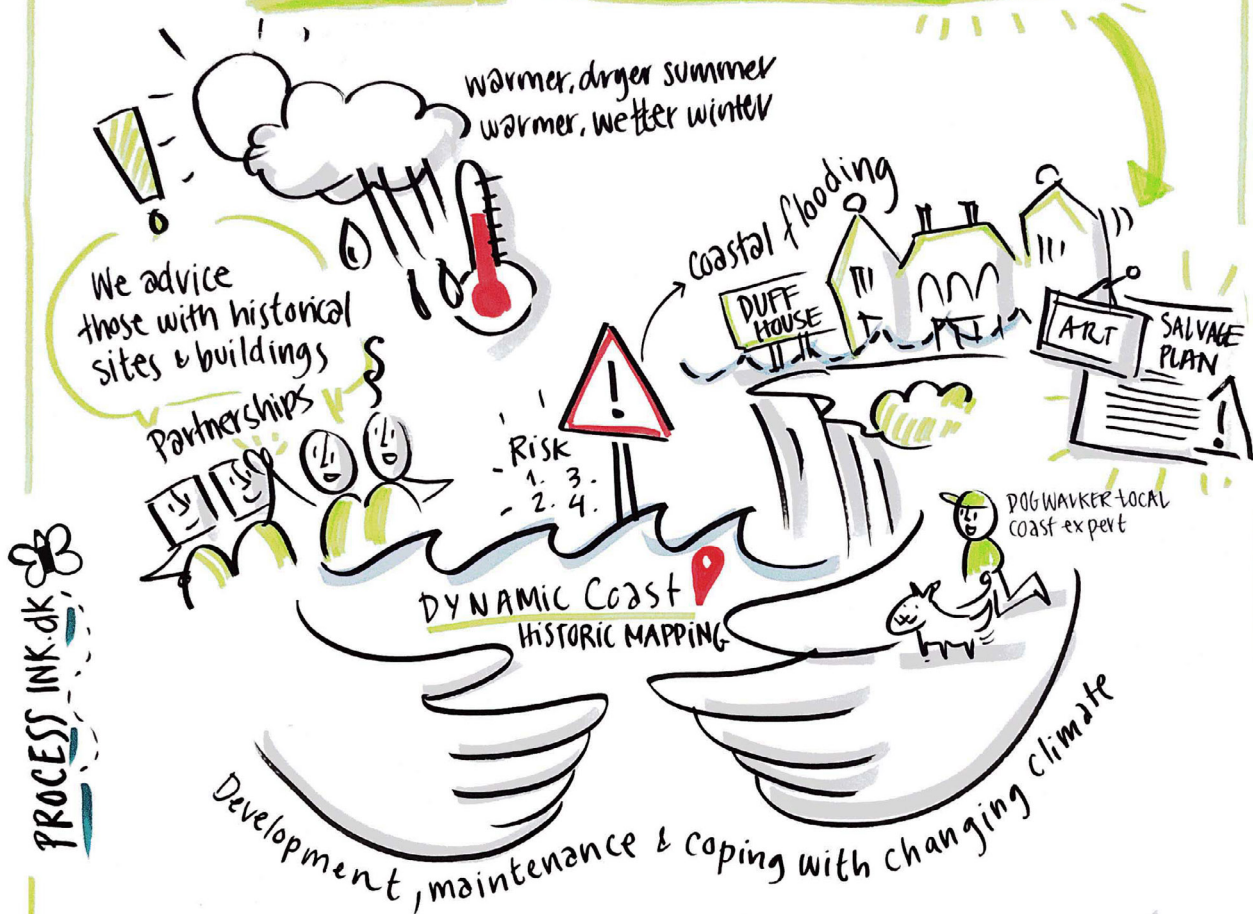
GRY  
HEDIN

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Gry Hedin is curator at ARKEN Museum of Modern Art in Ishøj, south of Copenhagen. She holds a PhD in Scandinavian studies and an MA in art history from the University of Copenhagen. She has specialised in the relationship between art and science focusing on Scandinavian art and literature in the 19th century. She worked with Danish and Nordic art in relation to the Anthropocene as editor and contributor of the Routledge-anthology *Artistic Visions of the Anthropocene North: Climate Change and Nature in Art* (2018). She has curated several exhibitions, and curated the travelling exhibition *Down to earth – Danish painting 1780-1920 and landscapes of the Anthropocene* (2018-2019) together with Thor J. Mednick and Gertrud Oelsner.

# HISTORIC ENVIRONMENT

## Scotland's collaborative approach to climate change impacts, risk & adaptations



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Mairi Davies  
HES Historic Environment Scotland

We combat  
Climate Changes!







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MAIRI DAVIES, HISTORIC ENVIRONMENT, SCOTLAND

# HISTORIC ENVIRONMENT SCOTLAND'S COLLABORATIVE APPROACH TO CLIMATE CHANGE IMPACTS, RISK AND ADAPTATION

As a large public body, Historic Environment Scotland has duties under the Climate Change (Scotland) Act 2009 that require it to contribute to climate change mitigation and adaptation, and to act sustainably.

The UK Climate Change Risk Assessment identifies a range of risks and opportunities that climate change may present. Many of these have the potential to impact on the historic environment. HES is key to the delivery of Climate Ready Scotland: Scottish Climate Change Adaptation Programme and Our Place in Time: the Historic Environment Strategy for Scotland, which identify climate change as a key challenge for the sector.

These obligations are reflected in our Corporate Plan (2016) and Asset Management Plan and Investment Plan (both 2018) as well as our Annual Operating Plan.

Our approach to climate change impacts, risk and adaptation of the historic environment has been shaped by working in partnership with other organisations. Our grants support external projects and programmes, including mobilising citizen scientists to record vulnerable archaeological and historic sites.

By working collaboratively, we have been able to ensure the historic environment is fully considered in pioneering projects such as Dynamic Coast: Scotland's National Coastal Change Assessment and Edinburgh Adapts.

On our own Estate, we have collaborated with the British Geological Survey and the Scottish Environment Protection Agency to collate datasets detailing current risk from natural hazards such as flooding and coastal erosion and have used these as indicators of susceptibility to climate change.

This informs development, conservation and maintenance, increasing the inherent resilience of our Estate to cope with the changing climate, and helping to safeguard it for future generations.



MAIRI  
DAVIES

Mairi Davies has an MA (Hons) in Archaeology from The University of Edinburgh and a PhD in Archaeology from Durham University, focusing on later prehistoric settlement and society in Eastern Scotland. Previously an Inspector of Ancient Monuments, Mairi now manages the Climate Change Team at Historic Environment Scotland, supporting the organisation in meeting its obligations under the Climate Change (Scotland) Act 2009, providing leadership and acting as an exemplar. Mairi is on the Steering Groups for Dynamic Coast: Scotland's National Coastal Change Assessment and Edinburgh Adapts, which has brought together multiple partners to develop a vision and action plan for an adapted capital city. She is one of the principal authors of a major report published last year on climate change risk assessment on the Historic Environment Scotland Estate.

**ICOM**

int. council of  
55.000 museums

# Locating Cultural Heritage on Pathways to a Sustainable Future

**Varanger  
MUSEUM**  
V A R D Ø

We have  
**MASSIVE**  
Knowledge  
and can support  
the massive  
**CHALLENGES**



Museums are  
Great communicators  
USE the GLOBAL+LOCAL...  
Tangible & intangible  
Heritage

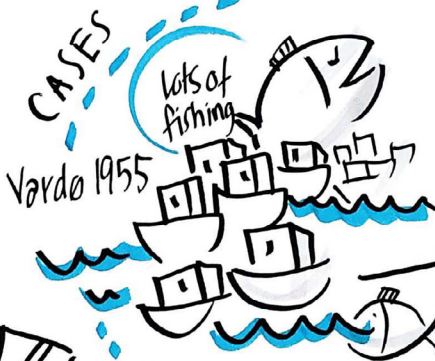
## Sustainability

- Satisfying human needs
- Ensuring social equality
- Respecting environmental limits

Local narratives  
The coast  
resources belong to  
the people



PROCESS INK.DK



## LOCAL COMMUNITIES



## COMA Festival

Making art on  
abandoned houses





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MORIEN REES, VARANGER MUSEUM

# LOCATING CULTURAL HERITAGE ON PATHWAYS TO A SUSTAINABLE FUTURE

In a recently published book, sustainability is defined by three moral imperatives: satisfying human needs, ensuring social equity, and respecting environmental limits. Further, each imperative has two sustainability themes, respectively: eradicating extreme poverty and enhancing individual human capabilities; ensuring rich participation in society and ensuring fair distribution of resources; mitigating climate change and safeguarding biosphere integrity.

The result is the definition of a sustainable development space. The authors argue that sustainable development constitutes a set of constraints on human behaviour, including constraints on economic activity. All must be achieved together to attain sustainability. Thus, Climate Breakdown, a term coined by George Monbiot, will not be resolved without addressing these three imperatives together.

I will consider how these imperatives can also be understood as pathways to the sustainable development space. And how cultural heritage - both tangible and intangible - might contribute to the development of these pathways through activating and empowering the global public. Thereby also contributing to achieving a sustainable future.

I will draw on the history of the Coastal Uprising (Kystopprøret). Originating in Vardø on Norway's North Eastern Arctic coast in 2017, Kystopprøret is a grass roots movement challenging the Norwegian State's policies on the conservation and management of fishery resources. It has focused on the dramatic changes that have characterised the fisheries and the coastal culture of Northern Norway over the last two decades.

I will examine the porous nature of cultural and political boundaries evidenced in Kystopprøret and consider if there are lessons to be learnt for the cultural heritage sector in terms of sustainability.



MORIEN  
REES

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Morien Rees studied architecture at the University of Wales and art history at the University of Oslo. He practiced architecture until 1994 but has since then worked in the museum sector. At present, he is employed in Varanger Museum on the Norway's arctic coast. He is chair of ICOM's Working Group on Sustainability



# Scheduled Danish Monuments at Risk of Coastal Erosion

Remember  
LACK of water is  
Also a problem

- Stronger Storms
- Sea level rises
- Heavier rainfalls



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Let's work together  
for sustainable  
Solutions .... founding KR



Pernille Denire Fredrikson - Danish Agency for Culture & Palaces





PERNILLE D. FREDERIKSEN  
(DANISH AGENCY FOR CULTURE AND PALACES)

# CLIMATE CHANGE AND ARCHAEOLOGICAL HERITAGE SCHEDULED DANISH MONUMENTS AT RISK OF COASTAL EROSION: MAPPING AND ACTIONS

Denmark is a lowland country with a coastline of more than 7000 km, and has about 32,000 scheduled ancient monuments. No monument in the country is located further than 52km away from the coast. Prognoses made by the Danish coastal authority show that rising sea levels and extreme weather conditions in the future will result in a greater risk of severe coastal erosion.

However, inland floods due to heavier rainfall can also affect both ancient monuments in cities and archaeological heritage underground. The prognoses urgently call for new strategies in terms of monitoring the effects of climate-inflicted damage on tangible cultural heritage.

In order to monitor the decay, the Danish Agency for Culture and Palaces has mapped all scheduled monuments in risk of coastal erosion. The national mapping shows that 711 scheduled monuments are in risk of coastal erosion, and that 92 of these monuments are already decaying due to erosion damage. Previous actions have taken place sporadically, and without an overall strategy.

These actions have ranged from:

- 1) 'Letting nature take its course',
- 2) Ongoing monitoring and field inspections,
- 3) Archaeological excavation or registration,
- 4) Moving or restoring monuments, and
- 5) Coastal protection.

Future actions need to be applied according to a national strategy in order to prevent a loss of valuable knowledge. More and more municipalities are these days building sufficient climate adaptations in cities and coastal areas, because of the ongoing climate changes.

It is therefore of great importance that government agencies and municipalities collaborate with experts in city planning to find the right sustainable solutions, that also minimise the effects of climate-inflicted damage on nearby tangible cultural heritage.



Pernille Denise Frederiksen is a prehistoric archaeologist working at the Danish Agency for Culture and Palaces in the Department for Ancient Monuments and Sites. She is mainly occupied with cases regarding preservation of scheduled monuments according to the national law. In particular, she is responsible for overseeing the national monitoring of scheduled monuments at risk of coastal erosion and other climate change related risks.

# CULTURAL HERITAGE AND CLIMATE ADAPTATION, A CASE-STUDY FROM HEDENSTED MUNICIPALITY

Most of us, to some extent, have experienced challenges with water, e.g. during heavy rain or when the water level at the coast rises during a heavy autumn storm. We even have an indication of where it happens and what can be done about it. But we also have a conviction that if something needs to be done, there must be others who can take responsibility.



The starting point for the *Håb til Håb* sub-project under C2C CC in Hedensted Municipality has been to start working on climate adaptation in a specific area together with local citizens. Our starting point was the awareness that to work together it is important to have a common understanding of what you are working with and the challenges you are facing in the area.

The *Håb til Håb* area is characterized by having many cottages, smaller villages and farms. The local residents are a mix of people who make very different use of the area and have a very different understanding of the region and its history.

This meant that, before we could work with climate solutions, it was important to establish a common understanding of the area. This was the reason the Municipality of Hedensted took the initiative to work with the area's cultural heritage together with Moesgaard Museum, Glud Museum and not least the local residents. We took people on walks in the area, local bus trips and trips to other similar areas. At the same time, Moesgaard Museum made a cultural-historical description of the area.

These measures provided a further understanding of the challenges, of the possible solutions, and a further appreciation of the area and it got people talking about the climate and flooding. Therefore, when we had two themed nights, we could start talking about climate solutions in a broader understanding with this common knowledge. This process is still in progress.

However, has it worked? Yes, for example, the locals gained a sense of ownership of the project and have started talking about the difficult issues, e.g., should all cottages be protected or what are the best ways to protect the area? Has it been easy? No, it takes a lot of time, but it is worth the effort.



A picture from one of the field walks, which was a part of the process designed to create a common understanding of the climate challenges facing the area.



## CASE 2:

# CLIMATE ADAPTATION OF SCHEDULED MONUMENTS – DIALOGUE ABOUT THE BEST SOLUTIONS

MARIE WALTER, SENIOR ADVISOR, DANISH AGENCY FOR CULTURE AND PALACES

In recent years, increased precipitation has led to direct and indirect threats to the scheduled monuments along rivers and streams. Flooding with different quantities of water is a contributing factor to degradation of archaeological traces and wears away the monuments and sites along the banks bit by bit.



In connection with climate proofing of Holstebro and preservation of Rugtved Voldsted close to Voer Å near Frederikshavn, the Danish Agency for Culture and Palaces cooperated with the municipalities and landowners on finding solutions that would prevent degradation and erosion of the monuments.

After a thorough inspection at Rugtved Voldsted in 2018, the agency considered the site to be under increased risk of degradation. During the spring of 2019, the stream's course was changed and an agreement was made to stop the trees from growing further in order to minimise the risk of further degradation.

The Municipality of Frederikshavn has financed a large part of the work, while the landowner contributed materials and the neighbour agreed to let the Municipality remove a part of the bank to change the course of the stream and minimise the threat.

In Holstebro, the city is threatened by flooding from the river Store Å. The Municipality is working on urban climate adaptation. This will mean periodical water level increases in the nearby lake Vandkraftssøen. This could result in flooding of the ruins of Tvis monastery and its cemetery.

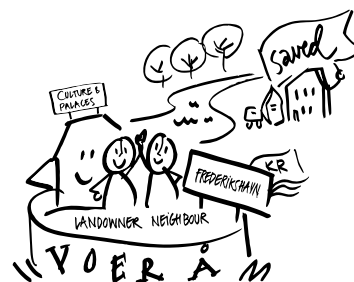
Estimates show that flooding of the area will happen at varying intervals and with varying levels of severity, which will contribute to degradation of the listed area.



The foundations of the demolished Tvis Monastery. The monastery and its cemetery risks flooding, which could contribute to degradation of the listed area.

Holstebro Municipality and the Danish Agency for Culture and Palaces are currently working on a solution that includes climate adaptation and the preservation of the monument. The decision on what kind of initiatives are needed to secure the site is based on findings financed by Holstebro Municipality. Moesgaard Museum's Department of Conservation and Environmental Science conducted an evaluation on the preservation of the graves and the effects of changing water levels in the area.

The elevation of the grave area will be measured before the final decision on preserving the graves is made. It has already been decided that the ruins will be kept completely clear of flooding.





# COAST TO COAST CLIMATE CHANGE SUGGESTIONS FOR BETTER DIALOGUE



## RECOMMENDATIONS FROM HERITAGE AND ADAPTATION PROFESSIONALS

### 1 NETWORK

- 1** Establish a regional or national framework or network for municipalities, museums, government bodies and other heritage and climate professionals, where the actors can cooperate, communicate and share knowledge and experience. The platform should help preserve local monuments, sites and heritage that are critical to national and local identities from the adverse effects of a changing climate.

### 2 INVOLVE

- 2** Involve relevant stakeholders and draw on all available expertise – remember that climate change adaptation is not only a technical issue! Framing climate change adaptation narratively – through stories, through histories – works to stimulate participation and action.

### 3 DIALOGUE

- 3** Take the time to talk to each other. There may be multiple viewpoints on climate change and on heritage. It takes time to get to know these and to align them. Some climate change adaptation measures also come at a cost – creating understanding for these costs is important. The Talanoa dialogue approach can be an inspiration here.

### 4 INTEGRATE

- 4** Integrate cultural heritage into wider policies and strategies on climate change on every political level. Current policy documents linking climate change and cultural heritage are almost exclusively drafted by heritage organisations and institutions. Natural and cultural heritage are part and parcel of our lives and livelihoods, now and in our future.



# FURTHER INSPIRATION AND RESOURCES

**1. The Future of our Pasts: Engaging cultural heritage in climate actions,**  
2019, published by the International Council of Monuments and Sites (ICOMOS). Available here:  
<https://indd.adobe.com/view/a9a551e3-3b23-4127-99fd-a7a80d91a29e>  
Short link: [www.tinyurl.com/ICOMOS2019](http://www.tinyurl.com/ICOMOS2019)

**2. Cultural Resources Climate Change Strategy,**  
2016, published by the United States National Park Services. Available here:  
[www.nps.gov/subjects/climatechange/upload/NPS-2016\\_Cultural-Resoures-Climate-Change-Strategy.pdf](http://www.nps.gov/subjects/climatechange/upload/NPS-2016_Cultural-Resoures-Climate-Change-Strategy.pdf)  
Short link: [www.tinyurl.com/USNPS2016](http://www.tinyurl.com/USNPS2016)

**3. Drejebog for borgerinddragelse i projekter om klimatilpasning,**  
2018, published by Gentofte Municipality. Available here (in Danish only):  
[www.klikovand.dk/wp-content/uploads/2018/11/Drejebog\\_1.0\\_pages.pdf](http://www.klikovand.dk/wp-content/uploads/2018/11/Drejebog_1.0_pages.pdf)  
Short link: [www.tinyurl.com/gentofte2018](http://www.tinyurl.com/gentofte2018)

**4. The International Council of Monuments and Sites (ICOMOS):**  
[www.icomos.org/en/focus/climate-change](http://www.icomos.org/en/focus/climate-change)  
Short link: [www.tinyurl.com/ICOMOSfocus](http://www.tinyurl.com/ICOMOSfocus)

**5. Henry McGhie, on Museums and climate change:**  
[www.curatingtomorrow236646048.wordpress.com/](http://www.curatingtomorrow236646048.wordpress.com/)  
Short link: [www.tinyurl.com/HenryMcGhie](http://www.tinyurl.com/HenryMcGhie)

**6. See video of full presentations from the workshop here:**  
[www.c2ccc.eu/aktiviteter/tidligere-aktiviteter/klima-arv-klimaforandringer-og-relationen-til-kulturnatur-arv/](http://www.c2ccc.eu/aktiviteter/tidligere-aktiviteter/klima-arv-klimaforandringer-og-relationen-til-kulturnatur-arv/)  
Short link: [www.tinyurl.com/C2Cworkshop2019](http://www.tinyurl.com/C2Cworkshop2019)

