

Final Report  
to  
**Deutsche Bundesstiftung Umwelt**  
Regarding the  
„CCHIP-Project: Connecting Culture, Heritage  
and the IPCC (Intergovernmental Panel on Climate Change)“

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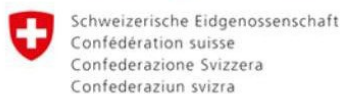
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List of Abbreviations Used

AR7: Assessment Report 7 (the seventh global assessment report cycle of the IPCC).

Co-Sponsored Meeting: International Co-Sponsored Meeting on Culture, Heritage and Climate Change

GRAA: Global Research and Action Agenda on Culture, Heritage and Climate Change

ICOMOS: International Council on Monuments and Sites

ICOMOS Germany: Deutsches Nationalkomitee e.V., the German national committee of ICOMOS.

IPCC: Intergovernmental Panel on Climate Change

## Summary Abridged version of the report

*“The message that emerged from the Co-Sponsored Meeting panels and plenaries is clear: culture and heritage play an indispensable role as enablers of transformative climate action and climate resilient sustainable development, but knowledge gaps are significant across sectors and regions.”*

Culture and heritage play a key role in helping us to understand the causes and impacts of climate change and in designing responses, including low-carbon, climate-resilient pathways consistent with the aims of the 2015 Paris Agreement. Despite this importance (and noting growing policy attention), culture and heritage are not yet explicitly well connected to climate change at the international policy level. Similar gaps have been evident in climate science, such as in the reports of the Intergovernmental Panel on Climate Change (IPCC).

The CCHIP-Project proposed to prepare for, host, and disseminate results of an international meeting on culture, heritage, and climate change organized under the co-sponsorship of the IPCC. This meeting would, for the first time ever, assess the state of knowledge regarding connections between culture, heritage, and climate change. A Model Project Germany paralleling the IPCC process had the aim of engaging German climate and cultural heritage experts and German speaking audiences more generally on the themes and outcomes of the larger CCHIP-Project.

### **Co-Sponsored Meeting**

A “co-sponsored” meeting is a formal modality of the IPCC and a recognised means of opening a dialogue with the it on a matter of mutual concern. In June 2020, the IPCC Executive Committee endorsed a proposal submitted by the International Council on Monuments and Sites (ICOMOS) for an International Co-Sponsored Meeting on Culture, Heritage and Climate Change (hereinafter referred to as the “Co-Sponsored Meeting”). The meeting was ultimately co-sponsored by IPCC, UNESCO, and ICOMOS, with the International Union for the Conservation of Nature (IUCN) and Local Governments for Sustainability (ICLEI) as additional partners.

The stated aim of the Co-Sponsored Meeting was to take stock of the state of knowledge and practice regarding connections of culture and heritage with human induced climate change and to identify key research and knowledge gaps regarding these connections. Additional objectives included:

- Catalysing research and collaborations that will lead to peer-reviewed scientific publications and other appropriate literature and documentation including on local and Indigenous ways of knowing; and
- Expanding global capacity in connecting culture, heritage and climate over the course of and beyond the AR7 cycle.

The Co-Sponsored Meeting was organised by two central committees, the Scientific Steering Committee and the Organising Committee.

The Co-Sponsored Meeting was organized around three overarching Scientific Questions, as follows: (1) Knowledge Systems: Systemic connections of culture, heritage and climate change, (2) Impacts: Loss, damage and adaptation for culture and heritage, (3) Solutions: Roles of culture and heritage in transformative change and alternative sustainable futures. The meeting also recognised two cross-cutting issues: a) Cultural governance; b) The capacity to learn from the past

Three White Papers were commissioned as conversation starters and resources in support of the Co-Sponsored Meeting. Each White Paper included a review of literature that addresses one of the Meeting's three Scientific Questions. A webinar regarding each White Paper was held online and a recording made available to participants to watch on demand.

The Co-Sponsored Meeting was held online over five days from 6-10 December 2021. From a pool of more than 300 suggested participants, approximately 103 individuals were selected to participate in the Co-Sponsored Meeting. Participants represented 40 countries across all six continents, with 40 per cent of participants coming from the Global South and 61 per cent of the participants being women.

The Co-Sponsored Meeting consisted of three public-facing panel discussions/plenaries, 15 workshop sessions and corresponding breakout room. Forty (40) posters were exhibited online, 29 of which were presented live during these poster sessions.

The primary outcome of the Co-Sponsored Meeting is the Global Research and Action Agenda on Culture, Heritage and Climate Change ("GRAA") (<https://openarchive.icomos.org/id/eprint/2716/>). The GRAA outlines knowledge gaps and action items identified through the Co-Sponsored Meeting as well as options for taking these actions forward.

In addition, the three commissioned White Papers were published, as follows:

- ICSM CHC White Paper I: Intangible cultural heritage, diverse knowledge systems and climate change. (<https://openarchive.icomos.org/id/eprint/2717/>)
- ICSM CHC White Paper II: Impacts, vulnerability, and understanding risks of climate change for culture and heritage. (<https://openarchive.icomos.org/id/eprint/2718/>)
- ICSM CHC White Paper III: The role of cultural and natural heritage for climate action. (<https://openarchive.icomos.org/id/eprint/2719/>)

A Progress Report regarding the Co-Sponsored Meeting was also prepared and submitted to the IPCC. The Progress Report includes recommendations to be taken note of by the IPCC, such as organising an IPCC Expert Meeting on Culture, Heritage and Climate Change, and inviting those scoping the reports in the upcoming 7<sup>th</sup> IPCC assessment report cycle ("AR7") to consider including culture and heritage as a crosscutting topic across all IPCC products.

Proceedings of the Co-Sponsored Meeting have also been compiled. (<https://www.cultureclimatemeeting.org/wp-content/uploads/2023/01/ICSM-CHC-Proceedings-31Jan23.pdf>)

The Co-Sponsored Meeting website (<https://www.cultureclimatemeeting.org>) was the main communications tool for the Co-Sponsored Meeting. Each of the three panel plenary sessions were livestreamed via a dedicated viewing platform in English, French and Spanish languages. The website remains active, and the panel sessions can still be viewed there, as well as the Co-Sponsored Meeting's YouTube channel (<https://www.youtube.com/@icsmcultureheritageandclim8204/videos>). A page on the IPCC's website is devoted to the Co-Sponsored Meeting (<https://www.ipcc.ch/event/ipcc-icomos-unesco-co-sponsored-meeting-on-culture-heritage-and-climate-science/>).

### **Model Project Germany**

This Model Project Germany aimed to involve those responsible in the Federal Republic of Germany more closely in the international climate–culture debate and also to test a model for the longer-term implementation of issues relating to monument protection and climate change at the national level.

The project ran in parallel with the Co-Sponsored Meeting. It was led by the Deutsches Nationalkomitee e.V., the German national committee of ICOMOS (“ICOMOS Germany”). ICOMOS Germany in turn worked directly with DBU, with support from ICOMOS.

At the heart of the Model Project Germany were two workshops, both held online because of the Corona pandemic:

An Expert Meeting of 9 July 2021 for the German-speaking region was intended to prepare the international expert meeting in December 2021 and to collect questions and expectations for the December meeting. It served as a model for the regional preparation and follow-up of the international conference of cultural, heritage, and climate scientists. Approximately 37 invited experts attended the meeting. A report of this meeting was published as follows: Monument Protection and Climate Change. International Co-Sponsored Meeting on Culture, Heritage and Climate Change, Model project Germany, Report on the Expert Workshop held on 9 July 2021. (German: <https://www.icomos.de/icomos/pdf/final-report-chcc-workshop-july-2021-ger.pdf>); (English: <https://www.icomos.de/icomos/pdf/final-report-chcc-workshop-july-2021-eng.pdf>).

A Public Workshop held on 15 September 2022 titled “German Challenges for Climate Science and Heritage - a response to the International Expert Meeting in December 2021 from UNESCO-ICOMOS-IPCC.” The workshop was attended by approximately 100 participants. A report has been published in German as follows: “Herausforderung für Klimawissenschaft und Denkmalpflege – Auswertung des internationalen Expert:innentreffens im Dezember 2021 von UNESCO-ICOMOS-IPCC für Deutschland.” A recording of the workshop is available on YouTube ([UNESCO-ICOMOS-IPCC: Herausforderungen für Klimawissenschaft und Denkmalpflege - YouTube](#)).

## **Conclusion**

The Co-Sponsored Meeting responded to growing calls for attention to culture, heritage, and climate change. These calls reflect a belief that there exist significant gaps in understanding the many connections between culture, the human past and climate change, as well as a need to advance the contributions of culture and heritage to climate change mitigation and adaptation.

The Co-Sponsored Meeting successfully addressed these topics. The Meeting Proceedings, the Progress Report recommendations, the GRAA, and the White Papers emphasise the connections between culture and the human past and how these intersect with the modern phenomena of climate change; they identify culture and heritage gaps in global climate science and climate change response and discuss how to address them as well as how to advance the contributions of culture and heritage to climate change mitigation and adaptation. The Model Project Germany was successful in initiating for the first time an interdisciplinary discussion on culture, heritage and climate change among German speaking persons.

Moving forward, the organisers are hopeful that the climate and culture research, practice and policy communities will build further fruitful collaborations together that will address some of the gaps in identified in the GRAA, producing new knowledge and generating additional peer reviewed literature and other relevant inputs for consideration during the IPCC’s forthcoming AR7 and AR8 assessment cycles, and particularly in the IPCC’s forthcoming Special Report on Cities and Climate Change. With respect to the Model Project Germany, next steps are the development of data collection as well as the need to involve politics.

Already several new initiatives catalysed the CCHIP Project are underway, both internationally and in Germany.

## Reason for and Objectives of the Project

The CCHIP-Project proposed to prepare for, host, and disseminate results of an international meeting on culture, heritage, and climate change organized under the co-sponsorship of the Intergovernmental Panel on Climate Change (IPCC). This project would, for the first time ever, assess the state of knowledge regarding connections between culture, heritage, and climate change. A Model Project Germany paralleling the IPCC process had the aim of engaging German climate and cultural heritage experts and German speaking audiences more generally on the themes and outcomes of the larger CCHIP-Project.

### Reasons for the Project

Culture and heritage play a key role in helping us to understand the causes and impacts of climate change and in designing responses, including low-carbon, climate-resilient pathways consistent with the aims of the 2015 Paris Agreement and other international agreements relevant to climate change. The design, conception, acceptability, feasibility and effectiveness of mitigation, adaptation and measures to promote resilience are dependent on how well culture and heritage are understood and change across communities, regions and nation-states.

The role of culture and heritage in addressing climate change is especially important within the context of human and ecosystem (including biodiversity) inter-connectedness; cities and urbanisation; land and water use and management practices; and governance, including climate justice, capacity building, equity and wellbeing. Acknowledging and enhancing work that recognises the contributions of culture and heritage to understanding and responding to climate change is of critical importance to climate action efforts at all levels.

Despite this importance (and noting growing policy attention), culture and heritage are not yet explicitly well connected to climate change at the international policy level and in some places are not recognized at all, such as in the initial release of the European Green New Deal. The European Green New Deal addresses many issues that affect culture and heritage, such as energy efficiency (which is relevant to existing and historic buildings), biodiversity (which is relevant to all protected areas, parks, and gardens), and innovation and societal transformation (which is relevant to cultural), but did not initially (and largely still does not) recognize culture and heritage as avenues for Green New Deal attention.

Similar gaps have been evident in climate science at the global level, such as in the reports of the IPCC. There is some attention to aspects of culture and heritage in more recent IPCC special reports. But many elements of culture and heritage, such as impacts of climate on all forms of tangible heritage and use of culture and heritage to support climate adaptation and mitigation, are not notably addressed. Such gaps in recognizing culture and heritage as categories for direct climate attention appear to be limiting their representation in both policy and funding. As a result, work that is needed to better protect culture and heritage under climate change and more fully engage their benefits in climate response continues to lag.

### Objectives of the Project

The primary object of the Project was to co-sponsor with the IPCC a meeting on culture, heritage, and climate change and to disseminate the results. A “co-sponsored” meeting is a formal modality of the IPCC and a recognised means of opening a dialogue with the IPCC on a matter of mutual concern. In June 2020, the IPCC Working Group Co-Chairs agreed, and the Executive Committee endorsed a

proposal submitted by ICOMOS to co-sponsor an international meeting on culture, heritage and climate change.

The proposal for the Co-Sponsored Meeting requested attention to the many connections between culture and the human past and how these intersect with the modern phenomena of climate change. It also highlighted the need to address culture and heritage gaps in global climate science and climate change response and seeks to advance the contributions of culture and heritage to climate change mitigation and adaptation.

The stated aim of the Co-Sponsored Meeting was to take stock of the state of knowledge and practice regarding connections of culture and heritage with human induced climate change and to identify key research and knowledge gaps regarding these connections. Additional objectives included:

- Catalysing research and collaborations that will lead to peer-reviewed scientific publications and other appropriate literature and documentation including on local and Indigenous ways of knowing; and
- Expanding global capacity in connecting culture, heritage and climate over the course of and beyond the AR7 cycle.

The Co-Sponsored Meeting was intended to advance the objectives of the CCHIP-Project through two major pathways. First, gathering and assessing the state of knowledge around culture, heritage, and climate would help identify both accomplishments to date and gaps in research regarding climate change impacts to culture and heritage, and their roles in climate adaptation and mitigation. Such compilation and gap analysis would increase the visibility of this research and make clearer needed next steps for research and analysis.

The second pathway was by working directly with the IPCC and other international partners. This will raise the profile of culture and heritage in the global climate science and response community and, in so doing, support new and creative approaches for using the knowledge from and about culture, heritage, and climate that have been developed to date and developing new research and practice.

In parallel with the international objectives of the Project, the project also aimed to bring together climate and cultural heritage experts from multiple German research institutions as part of a wider initiative to bridge the two fields of study, as well as to raise awareness on the intersections of culture, heritage and climate change for German-speaking peoples. This Model Project Germany aimed to involve those responsible in the Federal Republic of Germany more closely in the international climate–culture debate and also to test a model for the longer-term implementation of issues relating to monument protection and climate change at the national level.



## Presentation of the Work Steps and the Methods Used

The CCHIP-Project had two, related elements: (1) the International Co-Sponsored Meeting on Culture, Heritage and Climate Change and (2) the International Co-Sponsored Meeting on Culture, Heritage and Climate Change, Model Project Germany. The work steps and methods used for each of these elements is discussed below.

### Co-Sponsored Meeting - Work Steps and the Methods Used

The primary element of the CCHIP-Project was to prepare for, host, and disseminate results of an international meeting on culture, heritage, and climate change organized under the co-sponsorship of the Intergovernmental Panel on Climate Change (IPCC). Under its governing rules, IPCC co-sponsorship may be extended to a meeting if the IPCC Chair, as well as the Co-Chairs of the relevant Working Group/Task Force Bureau determine in advance that the activity will be useful to the work of the IPCC. IPCC co-sponsorship of such an activity does not convey any obligation by the IPCC to provide financial or other support.

In June 2020, the IPCC Working Group Co-Chairs agreed, and the Executive Committee endorsed a proposal submitted by ICOMOS to co-sponsor an international meeting on culture, heritage and climate change. This allowed the CCHIP-Project to proceed once DBU funding was secured. UNESCO confirmed its participation in July 2020.

The resulting International Co-Sponsored Meeting on Culture, Heritage and Climate Change (hereinafter referred to as the “Co-Sponsored Meeting”) was co-sponsored by IPCC, UNESCO and ICOMOS, in partnership with the International Union for the Conservation of Nature (IUCN) and Local Governments for Sustainability (ICLEI).

#### **High level committees**

The Co-Sponsored Meeting was organised by two central committees, the Scientific Steering Committee and the Organising Committee.

The Scientific Steering Committee (SSC) was composed of experts from culture, cultural heritage, biodiversity, natural heritage, climate science, and cities. The SSC was charged with supporting the organization of the Co-Sponsored Meeting and providing recommendations regarding its focus, programme, and outcomes; ensuring global representation through the identification and selection of participants of the Co-Sponsored Meeting; ensuring the peer review of papers commissioned in connection with the Co-Sponsored Meeting and other key documents prepared for the Co-Sponsored Meeting; reviewing the final research and action agenda produced after the Co-Sponsored Meeting; and ensuring follow-up for advocacy on culture and climate change in the SSC’s respective fields of competency.

The SSC had three Co-Chairs, one representative from each of the three co-sponsoring organisations. The SSC Co-Chairs were: from UNESCO, initially Dr Mechtild Rössler and then Dr Jyoti Hosagrahar; from ICOMOS, initially Dr Marcy Rockman and then Dr Will Megarry; from the IPCC, Dr Debra Roberts.

SSC members were nominated by individual SSC Co-Chairs and selected by the three SSC Co-Chairs jointly. SSC members served in their personal capacity and their contribution was considered voluntary, although their involvement in major international organisations was taken into account, as well as their capacity to represent the main constituencies of the conference partners. The initial SSC Meeting was held on 29 September 2020 and the SSC met periodically thereafter. Appendix A provides

further details on the SSC including the SSC Membership, SSC Terms of Reference, sample SSC selection letter, and the report of the organisational meeting of the SSC (in which can be found the biographies of the SSC members).

The work of the SSC was supported by the Co-Sponsored Meeting's Scientific Coordinator, Dr Hana Morel, and heritage specialist, Sarah Forgesson, as well as by Melinda M.B. Tignor, Head, IPCC Working Group II Technical Support Unit.

The Organizing Committee was composed of ICOMOS and UNESCO staff, as well as a representative of the DBU, and worked to ensure the coordination of the Co-Sponsored Meeting. In addition, ICOMOS was responsible for managing the finances, accounting, and other administrative matters of the Co-Sponsored Meeting and coordination with key partners. The work of the Organizing Committee was also supported by Ms Tignor. The membership of the Organizing Committee can also be found in Appendix A.

### **Conference structure**

To fulfil its aims, the Co-Sponsored Meeting was organized around three overarching Scientific Questions and two cross-cutting issues, as follows:

Scientific Questions:

Knowledge Systems: Systemic connections of culture, heritage and climate change

- Nature and scope of representation of diverse forms and scales of culture and heritage in climate literature and assessments
- Integration of diverse knowledge systems, including Indigenous knowledge systems, across areas of climate research and response
- The history of climate change and its alignment with the history of all communities; nature and scope of historical, social and cultural contexts of the Anthropocene

Impacts: Loss, damage and adaptation for culture and heritage

- Climate impacts on culture and heritage, including methods of describing vulnerability of culture and heritage to climate impacts
- Adaptive/preservation methods for culture and heritage, including understandings of significance and approaches to prioritisation of/for action
- Understanding of and approaches to loss and change

Solutions: Roles of culture and heritage in transformative change and alternative sustainable futures

- Capacity of historic buildings/landscapes/traditional land use to hold carbon
- Cultural and natural heritage as sources of resilience or refuge in response to disasters
- Heritage as inspiration for art, connection, understanding and action on climate adaptation and mitigation

Cross-cutting issues: a) Cultural governance; b) The capacity to learn from the past

- Who decides what heritage is?
- How is heritage knowledge managed?

- Intersections of heritage with conflict
- Use of data and knowledge from the past in climate models and policy
- Finding common ground between climate and heritage approaches to research question

The Conference Programme is further outlined below.

### **Participants Selection**

In order to develop a large and diverse pool of potential Co-Sponsored Meeting participants, the following steps were taken:

- Each SSC member was invited to suggest individuals for consideration as participants in the Co-Sponsored Meeting by means of an online Participant Suggestion Tool. For a copy of the Invitation to SSC members to suggest participants dated 8 April 2021, see Appendix B-1.
- An open invitation to suggest participants was also issued by the SSC Co-Chairs on 20 April 2021. For a copy of this open Invitation, see Appendix B-2. This invitation letter was then transmitted by the IPCC Secretariat to all IPCC member government Focal Points in April 2021 with an (extended) deadline of 28 May 2021. IPCC National Focal Points who suggested participants were: Albania, Algeria; Australia; Azerbaijan; Chile; China; Greece; Hungary; Indonesia; Italy; Japan; Kenya; Libya; Namibia; Perú; Romania; Russian Federation; Saudi Arabia; Solomon Islands; Sweden; United Kingdom of Great Britain and Northern Ireland; and United States of America.
- The call was also circulated by UNESCO to its Member States and by ICOMOS within its extensive, global network.

More than 300 unique participant suggestions were received. Each suggested participant was then sent an invitation to apply to participate. Participants were selected from among those who returned applications. Ultimately, approximately 200 completed applications were received. The full list of all applications received was compiled into a workbook. Each SSC member was provided with a unique version of this workbook in order to indicate their selections from among the applications received. The selection criteria included scientific, technical and socio-economic expertise, including a range of views, geographical representation and gender balance.

Within the workbook, all applicants were sorted into lists according to the 3 overarching questions/2 cross-cutting issues they had indicated were most relevant to their experience. With a goal of selecting approximately 80 participants, SSC members were asked to vote yes on 20-30 applicants per scientific question, and to vote yes on 10-20 applicants per cross-cutting issue. SSC members were asked to:

- consider disciplinary and geographic/topographic breadth in making votes
- consider academic and practitioner diversity in making votes
- aim for equivalent balances between global North-global South, gender, with consideration for regional and sub-regional geographic representation

To assist with balancing across global North-global South and gender, counters were set at the top of each workbook list. SSC votes were then tabulated. SSC selections were then compiled and reviewed, and small adjustments were made to, among other things, include additional representation from under-represented geographic regions. A final list of potential participants was then circulated to all

SSC Members for final review. Applicants were generally notified in August 2021 of their acceptance. For a sample of the acceptance notification, see Appendix B-3.

### **White Papers and Webinars**

Three White Papers were commissioned as conversation starters and resources in support of the Co-Sponsored Meeting. The White Papers were also used to develop the topics and considerations discussed during the Co-Sponsored Meeting. Each White Paper included a review of literature that addresses one of the Meeting's three Scientific Questions.

Each White Paper was prepared by a set of external "Collaborators." Collaborators included one or more lead authors, multiple contributing authors, and in some cases staff associate/chapter scientists. SSC members were invited to suggest Collaborators. Collaborators were selected by the SSC Co-Chairs with the advice of the Scientific Coordinator. A full list of White Paper Collaborators (i.e., author teams) can be found at Appendix C.

A substantial draft of each White Paper was received and reviewed by the SSC Co-Chairs. These drafts were also made available to SSC members for review. Revised substantial drafts were provided to all participants in advance of the Co-Sponsored Meeting.

Prior to completion of their substantial drafts, each White Paper team was asked to introduce their work to date to Co-Sponsored Meeting participants through a webinar. Webinars were held online and a recording of each was made available to participants to watch on demand. The three webinars were: Impacts White Paper, 23 September 2021; Knowledge Systems White Paper, 30 September 2021; Solutions Paper, 14 October 2021.

### **Posters**

Each participant was invited to submit abstracts for virtual posters via a call for abstracts which ran from 3 to 30 September 2021. It was requested that poster abstracts respond to one of the five Co-Sponsored Meeting Scientific Questions or cross-cutting topics. Photos or other visual outlines were encouraged, including links to short videos. All posters that met the requirements of this Poster Call were entitled to be shared virtually in connection with the Co-Sponsored Meeting. In addition, authors were invited to make short virtual poster presentations during the Co-Sponsored Meeting. Ultimately, 40 posters were received.

### **Outcomes**

As discussed *infra*, the primary scientific outcome of the Co-Sponsored Meeting is the Global Research and Action Agenda on Culture, Heritage and Climate Change (GRAA). The GRAA outlines knowledge gaps and action items identified through the Co-Sponsored Meeting as well as options for taking these actions forward. For details on the process by which the information in the GRAA was collected and information on the input from Co-Sponsored Meeting participants to the GRAA, see Appendix D.

### **Model Project Germany - Work Steps and the Methods Used**

The Model Project Germany ran in parallel with the Co-Sponsored Meeting. In order to execute the Model Project Germany within the CCHIP-Project, ICOMOS subcontracted with *Deutsches Nationalkomitee e.V.*, the German national committee of ICOMOS ("ICOMOS Germany"). ICOMOS Germany in turn worked directly with DBU. ICOMOS provided support to ICOMOS Germany and the DBU on the Model Project.

At the heart of the Model Project Germany were two workshops, both held online because of the Corona pandemic:

An Expert Meeting of 9 July 2021 for the German-speaking region was intended to prepare the international expert meeting in December 2021 and to collect questions and expectations for the December meeting. It served as a model for the regional preparation and follow-up of the international conference of cultural, heritage, and climate scientists.

After the ICSM CHC in December 2021, a presentation event of the results of the International Co-Sponsored Meeting on Culture, Heritage and Climate Change was held on 15 September 2022 as the second part of the Model German Project. Participants in the 9 July Expert Meeting as well as representatives of politics and society and other interested parties were invited to attend.

### **Planning Group**

The Model Project Germany was planned and executed by a planning group that included Constanze Fuhrmann (DBU), Prof. Dr Jörg Haspel (ICOMOS Germany), Dr Dorothee Boesler (ICOMOS Germany) and from May 2021 additionally by Marie Baudis (ICOMOS Germany). ICOMOS support was provided initially by Dr Marcy Rockman and later by Dr Hana Morel.

### **Additional Information Regarding the Methods Used for the 2021 Workshop**

#### **Questionnaire**

The preparation of the 2021 Workshop was guided by a questionnaire. The questions were conceptually adapted and translated into German by Constanze Fuhrmann. The translation was intensively discussed by the preparation team and checked by the German Aerospace Center (DLR; Dr Thomas Reinecke and Dr Christiane Textor) with respect to the use of terminology. The questionnaire was made available to all experts four weeks before the event for preparation. The experts were asked to return the completed questionnaires before the workshop so that their answers could be used to structure the group discussions in the workshop.

#### **Selection of Participants**

When selecting the experts, an attempt was made to involve all relevant institutions dealing with climate change and cultural heritage in the Federal Republic of Germany as well as in Switzerland and Austria. They should also take on a multiplier role for the topic and/or have a professional interface between climate change and cultural and natural heritage. Invitations were extended to the Association of State Monument Preservators and the Association of State Archaeologists in the Federal Republic of Germany, the Federal Monuments Office in Austria, and research institutes specialising in climate (e.g., Climate Service Center Germany (Gerics) and archaeology as well as experts from ICOMOS who are already working on climate issues. Most of these invitations were accepted.

#### **Documentation of the discussion**

Two methods were used to document the results of the discussions. The respective moderator and other persons took notes during the discussion, and all discussions were also recorded as videos.

# Presentation of the Results Actually Achieved

## Co-Sponsored Meeting Results

The most immediate result of the Project is that the Co-Sponsored Meeting was held over five days from 6-10 December 2021. Approximately 103 individuals participated in the Co-Sponsored Meeting. Participants represented 40 countries across all six continents, with 40 per cent of participants coming from the Global South and 61 per cent of the participants being women. Researchers and practitioners were present, consisting of 13 Climate Scientists, 78 Culture/Heritage practitioners and seven Natural Science practitioners. Participants included members and representatives from Indigenous Peoples and local communities.

For more information on the participants, please see Appendix E. The regional distribution of Co-Sponsored Meeting participants and their breakdown by gender and areas of expertise is summarised in Table E-1 and the full list of Co-Sponsored Meeting participants follows in Table E-2. Figure E-1(1) depicts overall attendance by region and Figure E-1(2) depicts overall attendance by gender.

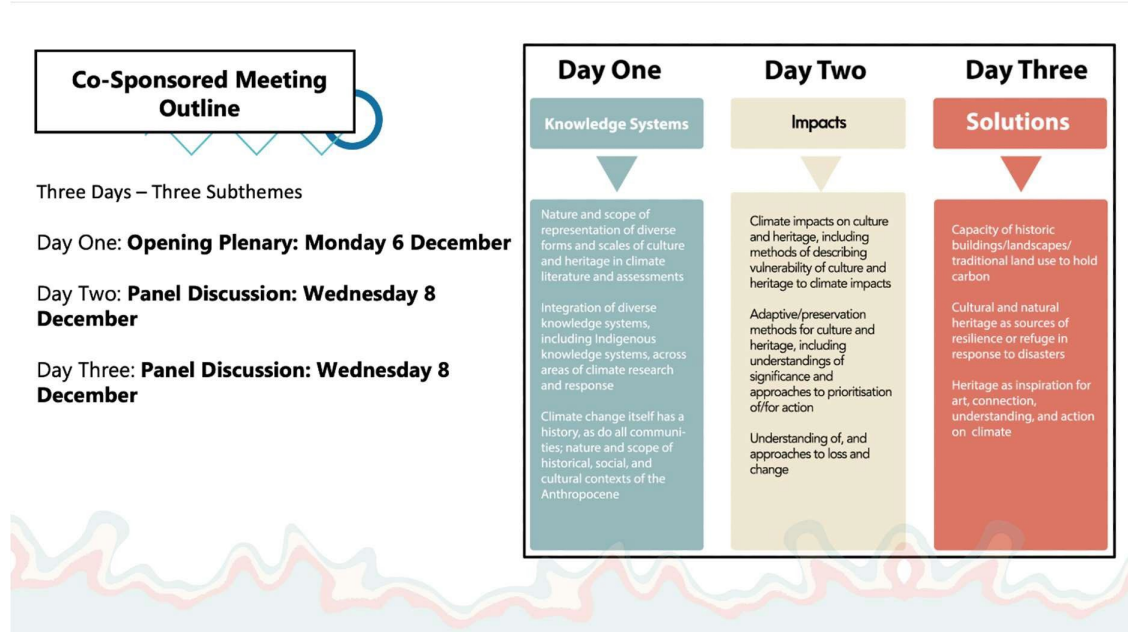
### Co-Sponsored Meeting Program

The Co-Sponsored Meeting consisted of three public-facing panel discussions/plenaries, 15 workshop sessions and corresponding breakout room. Forty (40) posters were exhibited online, 29 of which were presented live during these poster sessions. All sessions were held virtually. These sessions were complemented by online website discussions prior to, during and following the Meeting on a dedicated discussion board set up for participants.

6, 8 and 10 December were devoted to the Co-Sponsored Meeting's three Scientific Questions, with each Question as the focus of a different day as follows: 6 December, Knowledge Systems; 8 December, Impacts; 10 December, Solutions. On each of these three days, five workshop sessions and one panel discussion (i.e., plenary) were held regarding the applicable Scientific Question. The panels acted as plenary sessions for the Co-Sponsored Meeting and were also livestreamed to the public. A short summary of each panel can be found in the Conference Proceedings (see *infra*). Each workshop session included multiple corresponding breakout rooms. Poster presentations were held on 7 and 9 December. The detailed programme, including all workshop themes, can be found at Appendix F-1.

An opening ceremony was held on 6 December featuring remarks from Dr Hoesung Lee (IPCC Chair), Ernesto Ottone R. (UNESCO Assistant Director-General for Culture), Prof Dr Teresa Patricio (ICOMOS President), Dr Pasang Dolma Sherpa, (ED, Center for Indigenous Peoples' Research and Development), Dr Will Megarry (SSC Co-Chair), and Dr Hana Morel (Scientific Coordinator). The remarks of Dr Lee and Ms Patricio can be found at Appendix G. The overall organisation of the Co-Sponsored Meeting is depicted in this diagram:

**Figure I.** Outline of the International Co-Sponsored Meeting on Culture, Heritage and Climate Change



### Co-Sponsored Meeting Outcomes

The primary scientific outcome of the Co-Sponsored Meeting is the *Global Research and Action Agenda on Culture, Heritage and Climate Change* (GRAA). The document has been published as follows:

- Morel, Hana, Megarry, William, Potts, Andrew, Hosagrahar, Jyoti, Roberts, Debra, Arikan, Yunus, Brondizio, Eduardo, Cassar, May, Flato, Greg, Forgesson, Sarah, Masson-Delmotte, Valérie, Jigyasu, Rohit, Oumarou Ibrahim, Hindou, Pörtner, Hans-Otto, Sengupta, Sandeep, Sherpa, Pasang Dolma and Veillon, Richard (2022) Global research and action agenda on culture, heritage and climate change. Project Report. ICOMOS & ISCM CHC, Charenton-le-Pont, France & Paris, France, 69p. ISBN 978-2-918086-69-7 (PDF) - 978-2-918086-70-3.

The final White Papers have been published as follows:

- Orlove, Ben, Dawson, Neil, Sherpa, Pasang, Adelekan, Ibidun, Alangui, Wilfredo, Carmona, Rosario, Coen, Deborah, Nelson, Melissa, Reyes-García, Victoria, Rubis, Jennifer, Sanago, Gideon and Wilson, Andrew (2022) ICSM CHC White Paper I: Intangible cultural heritage, diverse knowledge systems and climate change. Contribution of Knowledge Systems Group I to the International Co-Sponsored Meeting on Culture, Heritage and Climate Change. Discussion Paper. ICOMOS & ISCM CHC, Charenton-le-Pont, France & Paris, France, 103p. ISBN 978-2-918086-71-0.
- Simpson, Nicholas P., Orr, Scott Allan, Sabour, Salma, Clarke, Joanne, Ishizawa, Maya, Feener, R. Michael, Ballard, Christopher, Mascarenhas, Poonam Verma, Pinho, Patricia, Bosson, Jean-Baptiste, Morrison, Tiffany and Zvobogo, Luckson (2022) ICSM CHC White Paper II: Impacts, vulnerability, and understanding risks of climate change for culture and heritage: Contribution of Impacts Group II to the International Co-Sponsored Meeting on Culture, Heritage and

Climate Change. Discussion Paper. ICOMOS & ISCM CHC, Charenton-le-Pont, France & Paris, France, 109p. ISBN 978-2-918086-72-7.

- Shepherd, Nick, Cohen, Joshua Benjamin, Carmen, William, Chundu, Moses, Ersten, Christian, Guevara, Oscar, Haas, Franziska, Hussain, Shumon T., Riede, Felix, Siders, A. R., Singh, Chandni, Sithole, Pindai and Troi, Alexandra (2022) ICSM CHC White Paper III: The role of cultural and natural heritage for climate action: Contribution of Impacts Group III to the International Co-Sponsored Meeting on Culture, Heritage and Climate Change. Discussion Paper. ICOMOS & ISCM CHC, Charenton-le-Pont, France & Paris, France, 91p. ISBN 978-2-918086-73-4.

In addition, in keeping with IPCC practice, the Co-Chairs of the Scientific Steering Committee submitted a Progress Report regarding the Co-Sponsored Meeting to the Secretary of the IPCC. It is expected that this report will be presented to the entire Intergovernmental Panel at its 59<sup>th</sup> session, which is expected to occur in June 2023. As is customary, the Progress Report includes recommendations to be taken note of by the IPCC, such as organising an IPCC Expert Meeting on Culture, Heritage and Climate Change, and inviting those scoping the reports in the upcoming 7th IPCC assessment report cycle (“AR7”) to consider including culture and heritage as a crosscutting topic across all IPCC products. A complete list of recommendations can be found in Appendix H.

In parallel to the preparation of this Progress Report, Proceedings of the Co-Sponsored Meeting have been compiled. These proceedings include important detailed information generated as a result of the Co-Sponsored Meeting, including summaries of the three thematic plenary sessions, lists of Co-Sponsored Meeting posters, and descriptions of each workshop and breakout rooms. This information was provided by Co-Sponsored Meeting participants with the knowledge that it would be published as part of the conference proceedings. Additionally, it includes a full list of Co-Sponsored Meeting participants as well as participation in the various sessions.

The GRAA and the White Papers each note that publication was funded by the DBU.

## Model Project Germany Results

### **2021 Expert Meeting**

The Expert Meeting was held on 9 July 2021. The meeting was attended by approximately 37 invited experts. A list of attendees can be found in Appendix E-3. After introductory greetings and information from the DBU, ICOMOS, UNESCO, and DLR, the workshop was essentially conducted online as a group discussion in two breakout rooms. One moderator each led the discussions on Question sets 1 and 2 and 3–5 of the questionnaire. All participants had the opportunity to comment on each question. However, because of the tight time frame, some questions were prioritised for the group discussion based on the completed questionnaires. The complete programme can be found in Appendix F-2.

In order to integrate German-language research projects more intensively into international research, a report on the expert meeting was developed and published. The publication was also intended to strengthen the German-language contribution of science in the work of the IPCC. The report of the Expert Meeting was published in English and in German as follows:

- (2021) Monument Protection and Climate Change. International Co-Sponsored Meeting on Culture, Heritage and Climate Change, Model project Germany, Report on the Expert Workshop held on 9 July 2021.



## 2022 Public Meeting

The Public meeting was held online on 15 September 2022 under the title *German Challenges for Climate Science and Heritage - a response to the International Expert Meeting in December 2021 from UNESCO-ICOMOS-IPCC*. The meeting was open to the public. The meeting was attended by approximately 100 experts. The Program for the meeting was as follows:

Time Schedule		
10:00 (10 min)	Welcome	
10:10 (30 min + 10 questions)	International Co-Sponsored Meeting on Culture, Heritage, and Climate Change (ICSM CHC) Findings / GRAA + questions	ICOMOS Co-Chair [Will Megarry] + Scientific Coordinator [Hana Morel]
10:50 (10 min)	Break	
11:00 (30 min + 15 questions)	White Paper 2: Impacts	Nick Simpson, tbc
11:45 (15 min)	Break	
12:00 (30 min + 15 questions)	White Paper 3: Solutions	Nick Shepherd
12:45 (60 min)	Lunch	
13:45 (30 min + 15 questions)	White Paper 1: Knowledge Systems	Ben Orlove
14:30 (15 min)	Presentation of the position paper / Vorstellung des Positionspapiers	Dorothee Boesler; Constanze Fuhrmann; Jörg Haspel
14:45 (45 min)	Exchange on the challenges for the German-speaking region / Austausch zu den Herausforderungen für den deutschsprachigen Raum	
15:30 (30 min)	Close	

A report of 2022 Public Meeting has been published in German as follows:

- “Herausforderung für Klimawissenschaft und Denkmalpflege – Auswertung des internationalen Expert:innentreffens im Dezember 2021 von UNESCO-ICOMOS-IPCC für Deutschland.” A copy of this report is available at Appendix I.

A recording of the workshop is available on YouTube ([UNESCO-ICOMOS-IPCC: Herausforderungen für Klimawissenschaft und Denkmalpflege - YouTube](#)).

## Discussion

*(To what extent have the objectives been achieved? What are the reasons for the deviations in the results obtained? How did the work with the different cooperation partners (institutes, partners, companies, municipalities, countries)?)*

### Co-Sponsored Meeting

The proposal for the Co-Sponsored Meeting was a response to growing calls for international attention to culture, heritage, and climate change, including by the Intergovernmental Committee established under the UNESCO 1972 Convention concerning the protection of the World Cultural and Natural Heritage. These calls were a recognition that there exist significant gaps in understanding the many connections between culture, the human past and climate change, as well as a need to advance the contributions of culture and heritage to climate change mitigation and adaptation.

The Co-Sponsored Meeting successfully addressed these topics. The Meeting Proceedings, the Progress Report recommendations, the GRAA, and the White Papers emphasise the connections between culture and the human past and how these intersect with the modern phenomena of climate change; they identify culture and heritage gaps in global climate science and climate change response and discuss how to address them as well as how to advance the contributions of culture and heritage to climate change mitigation and adaptation.

Perhaps the most deviation in the project working methods (if not the results obtained) was that the Co-Sponsored was held entirely online as a result of the Corona virus pandemic. It had initially been intended that the meeting would be held in person. It is hard to gauge how the results might have been different if the meeting could have been held in person. It is safe to say that the complexities presented by the pandemic made the execution of the project more challenging.

The achievement of cooperation among the different partners in the project was one of the most complex but also most important dimensions of the project. The gaps in attention to culture and heritage evident in climate science at the global level are, to some extent, also evident in patterns of collaboration and cooperation among relevant institutions. Indeed, the Co-Sponsored Meeting represented the first time in IPCC's history that scientists and experts from the culture and heritage community and those working on climate change science were brought together in one forum. The meeting similarly endeavoured to bring together experts in both natural and cultural heritage and in diverse types of culture. The forging of relationship necessary to accomplish these aims can serve as the basis for future collaboration.

Ultimately, the Co-Sponsored Meeting brought together not only researchers and scientists (e.g., archaeologists, anthropologists, geographers, geologists, architects, heritage conservationists, paleoclimatologists and other researchers from the social and natural sciences and the humanities) but also knowledge holders (such as members of Indigenous Peoples and local communities), practitioners, and youth. It encompassed members of the culture, heritage (natural and cultural), planning, creative and design communities in addition to professionals and academics (e.g., from private and public sector enterprises, international and/or national organisations, professional bodies, networks and site and historic house museum managers, civil society and policymakers in culture and heritage).

The enthusiasm around the Co-Sponsored Meeting and the level of engagement by participants underscores the significance of those calls. The message that emerged from the Co-Sponsored Meeting panels and plenaries is clear: culture and heritage play an indispensable role as enablers of

transformative climate action and climate resilient sustainable development, but knowledge gaps are significant across sectors and regions.

## Model Project Germany

From the perspective of ICOMOS Germany, the Model Project Germany was extremely successful. For the first time, the opportunity arose to discuss the topic in an interdisciplinary way. The experts were also able to get to know each other as well as their different perspectives on the topic from the various disciplines. The goal of initiating a joint discussion has been achieved and has already found its first opening to the wider specialist public in a monument salon organised by the DBU.

However, there is no question that the discussion would need to be deepened and clearly structured. The workshop has laid the basis for a structured discourse. One outcome of the project is the work on a position paper of important cultural heritage and climate sciences institutions. The position paper obligates the signatory institutions to increasingly address the consequences of climate change for cultural heritage in their work.

A major requirement for further work is to reach an understanding across the disciplines on the fundamental concepts without which the necessary interdisciplinary cooperation does not seem possible. The discussion showed that many individual aspects were compiled by the experts. However, there is still no overview or system in which these aspects can be discussed in depth. An overview of previous research is also lacking.

Some of the questions in the questionnaire produced only a small amount of information and could not be followed up in the discussion. The amount of information gained thus fell short of expectations. For some questions, the experts were unable to share any considerable practical experience.

## Public Relations

*(How are the results published? Who participates in the results? Will the project be continued beyond the project period? - Has the approach proved successful (possibly changed approaches, ideas etc.? Are changes to the objectives necessary?)*

Most of the key published results of the project are available online as follows:

- Global research and action agenda on culture, heritage and climate change. (<https://openarchive.icomos.org/id/eprint/2716/>)
- ICSM CHC White Paper I: Intangible cultural heritage, diverse knowledge systems and climate change. Contribution of Knowledge Systems Group I (<https://openarchive.icomos.org/id/eprint/2717/>)
- ICSM CHC White Paper II: Impacts, vulnerability, and understanding risks of climate change for culture and heritage: Contribution of Impacts Group II (<https://openarchive.icomos.org/id/eprint/2718/>)
- ICSM CHC White Paper III: The role of cultural and natural heritage for climate action: Contribution of Impacts Group III (<https://openarchive.icomos.org/id/eprint/2719/>)
- Monument Protection and Climate Change. International Co-Sponsored Meeting on Culture, Heritage and Climate Change, Model project Germany, Report on the Expert Workshop held on 9 July 2021.  
(German: <https://www.icomos.de/icomos/pdf/final-report-chcc-workshop-july-2021-ger.pdf>); (English: <https://www.icomos.de/icomos/pdf/final-report-chcc-workshop-july-2021-eng.pdf>).
- Proceedings of the International Co-Sponsored Meeting on Culture, Heritage and Climate Change (<https://www.cultureclimatemeeting.org/wp-content/uploads/2023/01/ICSM-CHC-Proceedings-31Jan23.pdf>).

The Global Research and Action Agenda and each of the White Papers expressly provide that the publication may be reproduced in whole or in part and in any form for educational or non-profit services without special permission from the copyright holder, provided acknowledgement of the source is made. No use of this publication may be made for resale or any other commercial purpose whatsoever.

The Co-Sponsored Meeting website (<https://www.cultureclimatemeeting.org>) was the main communications tool for the Co-Sponsored Meeting. Each of the three panel plenary sessions were livestreamed via a dedicated viewing platform in English, French and Spanish languages. The website remains active, and the panel sessions can still be viewed there, as well as the Co-Sponsored Meeting's YouTube channel (<https://www.youtube.com/@icsmcultureheritageandclim8204/videos>). A page on the IPCC's website was also devoted to the Co-Sponsored Meeting (<https://www.ipcc.ch/event/ipcc-icomos-unesco-co-sponsored-meeting-on-culture-heritage-and-climate-science/>).

The Co-Sponsored Meeting was widely discussed on social media, including via hashtag #ICSMCHC. The Co-Sponsored Meeting was extensively featured on Twitter and Facebook, including via the Climate Heritage Network, a civil society network (@ClimateHeritage).

Moving forward, the organisers are hopeful that both the climate and culture research, practice and policy communities will build further fruitful collaborations together that will address some of the gaps in knowledge and research identified in the Global Research and Action Agenda on Culture, Heritage and Climate Change, producing new knowledge and generating additional peer reviewed literature and other relevant inputs for consideration during the IPCC's forthcoming AR7 and AR8 assessment cycles, and particularly in the Special Report on Cities and Climate Change that the IPCC has agreed to produce.

In order to accomplish this, a new phase of the project would be required that included an ongoing coordination function aimed at monitoring and supporting implementation of the recommendations in the Global Research and Action Agenda on Culture, Heritage and Climate Change. ICOMOS Germany further notes that, with respect to the Model Project Germany, next steps to be derived from the workshop discussions are the development of data collection as well as the need to involve politics.

In the months since the Project, several initiatives informed and catalysed by the Co-Sponsored Meeting, the Model Project Germany and their outcomes were begun. These initiatives have been organised by SSC members, Organising Committee partner organisations, and by other organisations to further the discussions between the research, practice and policy communities on culture, heritage and climate change science. For a partial list of these initiatives, see Appendix J.

Final Report  
to  
Deutsche Bundesstiftung Umwelt  
Regarding the  
„CCHIP-Project: Connecting Culture, Heritage  
and the IPCC (Intergovernmental Panel on Climate Change)“  
DBU project Ref. No. 37226/01

Enclosures/Appendices

## Appendix A

### Scientific Steering Committee and Organising Committee Matters

The Co-Sponsored Meeting was organised and delivered by two committees, the Scientific Steering Committee and the Organizing Committee. The member list and staffing for each committee as of the Co-Sponsored Meeting date can be found below.

#### Scientific Steering Committee

##### *Co-Chairs*

Jyoti Hosagrahar (*Deputy Director for the World Heritage Centre at UNESCO*)

Debra Roberts (*Co-Chair IPCC Working Group II; Head of the Sustainable and Resilient City Initiatives Unit of eThekweni Municipality, Durban*)

William Megarry (*Senior Lecturer in Archaeology, School of Natural and Built Environment, Queen's University Belfast; ICOMOS Climate Change and Heritage Working Group, Focal Point*)

##### *Members*

Yunus Arikan (*Head of Global Policy and Advocacy, ICLEI World Secretariat*)

Eduardo Brondizio (*Professor of Anthropology, Department of Anthropology, Indiana University Bloomington, USA. Director of Centre for the Analysis of Social–Ecological Landscapes (CASEL)*)

May Cassar (*Director of the UCL Institute for Sustainable Heritage*)

Gregory Flato (*Vice Chair IPCC Working Group I, Senior Research Scientist at Environment and Climate Change Canada*)

Rohit Jigyasu (*Rohit Jigyasu, Project Manager, Urban Heritage, Climate Change & Disaster Risk Management, ICCROM*)

Valerie Masson-Delmotte (*Co-Chair IPCC Working Group I / Senior scientist at Laboratoire des Sciences du Climat et de l'Environnement / Institut Pierre Simon Laplace, Université Paris Saclay*)

Hindou Oumarou Ibrahim (*Mbororo pastoralist, Chad, President, Association for Indigenous Women and Peoples of Chad (AFPAT)*)

Hans-Otto Pörtner (*Co-Chair IPCC Working Group II, Physiologist and Marine Biologist at Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research*)

Sandeep Sengupta (*Global Coordinator for Climate Change at the International Union for Conservation of Nature (IUCN)*)

Pasang Dolma Sherpa (*Co-Chair, Local Communities and Indigenous Peoples' Platform (LCIPP) of the UNFCCC; Executive Director of the Center for Indigenous Peoples Research and Development; and Chair of the IUCN CEESP Specialist Group on Indigenous Peoples, Customary & Environmental Laws & Human Rights*)

Richard Veillon (*Programme Specialist at the UNESCO World Heritage Centre*)

##### *ICSM CHC Scientific Coordinator*

Hana Morel (*Sustainability Manager for MOLA's Coastal and Intertidal Zone Archaeological Network, CITIZAN*)

##### *ICSM CHC Climate Heritage Specialist*

Sarah Forgesson

##### *IPCC*

Melinda M.B. Tignor (*Head, IPCC Working Group II Technical Support Unit*)

## **Organising Committee Members**

### *ICOMOS*

Andrew Potts

Angelique Ploteau

### *UNESCO*

Dorine Dubois

Maria Gropa

Sara García de Ugarte

### *IPCC*

Melinda Tignor

*The German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt DBU)*

Constanze Fuhrmann





United Nations  
Educational, Scientific and  
Cultural Organization

**ICOMOS**  
international council on monuments and sites

*IPCC Co-Sponsored International Expert Meeting on  
Culture, Heritage and Climate Change*

Mr Ahmed Skounti  
Professor of anthropology  
Institut national des sciences de  
l'archéologie et du Patrimoine  
Rabat  
Morocco

16 September 2020

Dear Mr Skounti,

On behalf of UNESCO and ICOMOS, it is our great pleasure to invite you to serve as an Expert Member of the Scientific Steering Committee (SSC) for the IPCC co-sponsored **International Expert Meeting on Culture, Heritage and Climate Change**, which will be organized by UNESCO, ICOMOS, and the IPCC.

UNESCO and ICOMOS submitted a proposal to the IPCC to co-sponsor an International Expert Meeting on Culture, Heritage and Climate Change earlier this year. This proposal was approved by the IPCC in June of this year. The International Expert Meeting, which will be held in late 2020 or early 2021, will aim to assess the state of knowledge and practice connecting culture and climate change; identify key research and knowledge gaps in this field; and strengthen research and collaborations leading to peer-reviewed scientific publications and other key material to help promote the role of culture for climate change mitigation and adaptation.

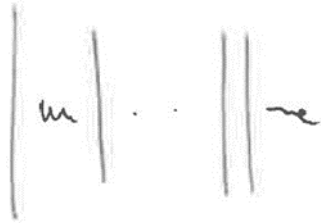
A Scientific Steering Committee (SSC) for the International Experts Meeting will determine how to prepare and present assessments of peer-reviewed scientific publications and other appropriate literature and documentation, select participants for the International Expert Meeting, and develop recommendations following the International Expert Meeting. The proposed Terms of Reference of the SSC are attached.

In addition to the SSC, an Organizing Committee composed of UNESCO and ICOMOS will ensure the coordination and operationalization of arrangements for the Expert Meeting.

We would be grateful if you could confirm you available to serve on the SSC by 24 September 2020 to the Expert Meeting Organizing Committee in care of Andrew Potts at [andrew.potts@icomos.org](mailto:andrew.potts@icomos.org). The first meeting of the Scientific Steering Committee is scheduled

to take place on 29 September 2020 from 2 pm to 4:30 pm CET. Given the global health situation, we currently expect that all meetings and work of the SSC will take place online. Detailed information will be sent in the coming days to all members.

The IPCC Co-Sponsored International Expert Meeting on Culture, Heritage and Climate Change is expected to result in recommendations for incorporating culture and heritage into the IPCC 7th Assessment cycle products, including the AR7 report and forthcoming special report on Climate Change and Cities, as well as, potentially, a special report on culture, heritage and climate change. We look forward to working with you on this important endeavour.



Mr Ernesto Ottone R.  
Assistant Director-General for Culture  
UNESCO



Professor Toshiyuki Kono  
President of ICOMOS

Encl.

**UNESCO-ICOMOS-IPCC Co-sponsored**  
**International Expert Meeting on Culture, Heritage and Climate Change**  
**Scientific Steering Committee (SSC)**  
**Terms of Reference**

**Background**

**Climate change is among the key challenges of our time.** 2019 represented the second warmest year on record and recorded the highest sea levels to date. Earth had its hottest May this year, with 2020 set to be among the hottest 10 years of all time. From recent tidal flooding in Venice to the wildfires in Australia, cultural and natural heritage, including UNESCO World Heritage sites, are feeling the full impact of climate change. Small Island Developing States (SIDS) are already experiencing the uprooting of communities due to climate change, threatening entire ways of life, including the practice and transmission of intangible cultural heritage. Climate change also threatens the diversity of cultural expressions and the cultural and creative industries, with a loss of economic opportunities damaging the livelihoods of artists and cultural professionals, as well as communities as a whole

Yet culture is also an essential resource for climate change mitigation and adaptation. Intangible cultural heritage practices, including traditional land and water management practices, traditional food security strategies, and the use of traditional architecture and building materials, can help communities adapt to a changing climate. Cultural and natural heritage sites can serve as a refuge, both physical and psychological, for communities during and after climate-related emergencies. These sites can also act as assets for recovery and reconciliation in the wake of intercommunal conflicts linked to climate change. Creativity is essential for finding new solutions to environmental challenges, and cultural and heritage institutions and artists have a substantial role to play in inspiring climate action.

Natural heritage sites are also powerful resources for addressing rising greenhouse gas emissions. Ecosystems on land and sea serve as our planet's only "sinks" for greenhouse gas emissions, sequestering 5.6 gigatons of carbon dioxide each year – the equivalent of around 60% of global greenhouse emissions. Many of the natural heritage sites found on UNESCO's World Heritage list, such as the Central Amazon Conservation Complex, the largest protected area in the Amazon Basin, serve this critical function.

**The COVID-19 pandemic and resulting economic downturn are increasing the complexity of responding to the climate change challenge and its impacts on culture and heritage.** The current crisis has hit the entire creative value chain hard and considerably weakened the professional, social and economic status of artists and culture and heritage professionals. With 90% of the world's museums having closed their doors at the height of the crisis, of which more than 10% may never reopen, and two-thirds of countries continuing to close or partially close their World Heritage sites, communities and their cultural practices are deeply suffering the social and economic impact of COVID-19. Travel restrictions in all of the world's destinations have threatened up to 120 million jobs in the tourism sector, particularly affecting SIDS, whose economies' are largely dependent on this industry. The pandemic has also accentuated the risk of poaching at natural sites and looting at archaeological sites, as a result of reduced surveillance. Likewise, the crisis has made emergency responses to conflict and natural disasters, including climate-related disasters, increasingly difficult, with culture continuing to be caught in the crossfire.

At the same time, confinement measures taken in response to the COVID-19 pandemic have made clear the profound importance of human connections and the critical roles and values of culture in creating and sharing experiences. As well, growing global awareness of systemic inequalities is recognizing their deep histories, that they are shaped in the present by tangible and intangible culture and heritage, and ongoing engagement with these pasts is needed for a just and sustainable future. This Expert Meeting will take place in and work through this full context.

## **UNESCO-ICOMOS-IPCC co-sponsored International Expert Meeting on Culture, Heritage and Climate Change**

**In light of these challenges, UNESCO, ICOMOS and the IPCC's efforts have taken on a new urgency**, with the three organizations joining forces to combat climate change and safeguard our shared culture and heritage and engage them fully in the global climate response. An **IPCC co-sponsored International Expert Meeting on Culture, Heritage and Climate Change** will be held in late 2020 or first half of 2021 with the aim of assessing the state of knowledge and practice connecting culture and climate change; identifying key research and knowledge gaps in this field; and strengthening research and collaborations leading to peer-reviewed scientific publications and other key material to help promote the role of culture for climate change mitigation and adaptation.

In view of this important meeting, a **Scientific Steering Committee (SSC)** will be established to:

- Support the organization of the International Expert Meeting on Culture, Heritage and Climate Change, ensure global representation through the identification and selection of participants of the International Meeting (invitations to be issued by the Organizing Committee), ensure the peer review of the White Papers and other key documents prepared in view of the International Meeting, review the Final Report (Position Paper) of the International Meeting.
- Provide recommendations regarding the focus, programme and outcomes of the Experts Meeting;
- Ensure follow-up for advocacy on culture and climate change in the SSC's respective fields of competency.

The first preparatory meeting of the SSC is foreseen to take place on 29 September 2020.

### **Composition of the SSC**

The SSC consists of approximately 15 members, as follows:

#### Co-Chairs

- 3 Co-Chairs, including one representative each from UNESCO, ICOMOS and the IPCC;

#### Co-Chairing Organisations

- One representative of IPCC WGI;
- One representative of IPCC WGII;
- One representative of UNESCO;
- One representative of ICOMOS;

## Key Partners

- One representative of IUCN;
- One representative of ICLEI Governments for Sustainability;
- One representative of the Facilitative Working Group (FWG) for the Local Communities and Indigenous Peoples Platform of the UNFCCC

## Invited Experts

- **One representative of ICCROM;**
- 3-5 additional expert members jointly selected by UNESCO, ICOMOS and the IPCC. At least one of these additional expert members will represent an indigenous organization or community.

## Criteria for selection of members

All members will be carefully selected with attention to geographic/disciplinary/gender diversity. If major gaps in geographic/disciplinary representation remain after all partner recommendations are considered, UNESCO and ICOMOS may reach out directly for either recommendations or to invite members from the underrepresented areas/disciplines. Furthermore, members of the SSCCC should be selected with a view to ensuring gender balance.

## Working modalities

Working modalities will be as follows:

- The SSC is co-chaired by a representative of UNESCO, ICOMOS and the IPCC;
- The SSC will meet regularly through online meetings. Further online meetings via teleconferencing and email consultations will be held as necessary;
- The working language of the meetings will be English. When necessary and feasible, the Secretariat will attempt to provide interpretation in French as required.

## Overall Timeline

- **29 September 2020**  
First online preparatory meeting of the Scientific Steering Committee; other meetings to be planned
- **Late 2020/First half 2021**  
Co-sponsored International Expert Meeting on Culture, Heritage and Climate Change held via an online format
- **2021**  
Follow-up for advocacy on culture and climate change in the SSC's respective fields of competency



# Culture, Heritage & Climate Change

SCIENTIFIC STEERING COMMITTEE MEETING REPORT | 29.09.20





## Scientific Steering Committee (SSC) Meeting Report

On 29 September 2020, the *United Nations Educational, Scientific and Cultural Organization* (UNESCO), the International Council on Monuments and Sites (ICOMOS), and the Intergovernmental Panel on Climate Change (IPCC) convened an initial meeting of the Scientific Steering Committee (SSC) of the Culture, Heritage and Climate Change Initiative. The Meeting sought to present the SSC members and discuss the expected results of the Initiative, notably

- The organization, in 2021, of an International Expert Meeting on Culture, Heritage and Climate Change, which will examine the state of knowledge of connections between culture, heritage, and climate change and provide strategic recommendations to the international community;
- The elaboration of White Papers to assess peer-reviewed scientific publications and knowledge gaps in the field of cultural heritage and climate change that will provide a foundation for the Meeting;
- The development of Strategic Recommendations, drawn from the Meeting and White Papers, for expanding the state of knowledge of culture, heritage, and climate change and its integration in global climate science, policy, and response.

The agenda items of the SSC meeting were as follows:

- Opening remarks by Mr Ernesto Ottone R., Assistant Director-General for Culture, UNESCO;
- Introduction by Ms Mechtild Rössler, Director of the UNESCO World Heritage Centre and SSC Co-Chair for UNESCO, and Ms Marcy Rockman, Scientific Coordinator with the ICOMOS Climate Change and Heritage Working Group, and SSC Co-Chair for ICOMOS, (IPCC Co-Chair not yet named), and brief self-introductions of the SSC Members;
- Presentation of the International Expert Meeting on Culture, Heritage and Climate Change (UNESCO);
- Introduction to the Scientific Questions and White Paper approach (ICOMOS); followed by SSC discussion;
- Next steps and closing remarks.

### 1. Cultural Heritage & Climate Change Initiative

Ernesto Ottone R., Assistant Director-General for Culture of UNESCO, opened the initial meeting of the Scientific Steering Committee on Culture, Heritage and Climate Change and presented the UNESCO, ICOMOS and IPCC Co-Sponsored Initiative on Cultural Heritage and Climate Change. UNESCO informed the SSC of the UNESCO Reflection Group on Culture and Climate Change, which was launched in February 2020 at UNESCO Headquarters, on the eve of the 52nd session of the IPCC, and that the goal of this UNESCO, ICOMOS and IPCC Co-Sponsored Initiative is to ensure that culture and heritage are fully assessed and integrated in the international climate agenda.

UNESCO recalled that culture is engrained in communities, reflecting their beliefs, customs and history, projecting their ideas, skills and potential. At the same time, culture offers support, protection and resilience in times of crisis, as well as a means for expression and unity. Yet, despite the growing impact of climate change on culture, as well as the fundamental relationship between culture and climate change **mitigation** and **adaptation**, culture is largely absent from the international climate agenda. UNESCO stressed that for these reasons, integrating the role of culture into climate action has become critical - both as **a shared global asset** that needs to be safeguarded from the effects of climate change, and as **a transversal resource** for climate change mitigation and adaptation.

2021 will be a defining year for our environmental future. The SSC Members were reminded that in May 2021, the world will come together to agree upon a post-2020 biodiversity framework at the UN Biodiversity Conference. Past experience has shown that climate change can no longer be addressed in silos and that an integrated, multidimensional approach is necessary.

In this context, UNESCO presented the objectives of the Culture, Heritage and Climate Change Initiative:

- 1) To prepare, coordinate, and host the International (UNESCO-ICOMOS-IPCC Co-Sponsored) Expert Meeting on Culture, Heritage, and Climate Change. This International Meeting will bring together culture, heritage, and climate experts (including scholars and practitioners) from around the world to assess the state of knowledge from and about connections between culture, heritage, and climate change science, policy, and response.

- 2) To produce a set of **White Papers** for examination by the International Experts Meeting, in order to assess the state of knowledge and practice connecting culture and climate change, and strengthen scientific knowledge and collaborations. The White Papers will be commissioned to several teams of experts, under the coordination of ICOMOS. The Scientific Steering Committee (SSC) will establish a process for commissioning, review, and circulation of these papers in view of their submission in preparation for the International Experts Meeting.
- 3) To develop **Strategic Recommendations** in order to contribute to the integration of culture into the international climate agenda, including the IPCC Seventh Assessment Report (AR7) and the Special Report on Climate Change and Cities. This process will be led in the framework of the SSC, based on the material received from the teams that will draft the White Papers, and further developed and finalized by the International Expert Meeting participants.

With this purpose in mind, the SSC has been established with a view to prepare and oversee the process leading to the International Experts Meeting; discuss the scoping and review of the White Papers and Strategic Recommendations; and agree on next steps.

## **2. International Expert Meeting on Cultural Heritage & Climate Change (Moderated by UNESCO)**

Mechtild Rössler, Director of the World Heritage Centre of UNESCO, and SSC Co-Chair for UNESCO, presented the second item on the agenda of the SSC meeting, dedicated to the International Expert Meeting on Culture, Heritage, and Climate Change in 2021, and provided an overview of the International Expert Meeting on Culture, Heritage, and Climate Change to be held in early 2021 under the sponsorship of UNESCO, ICOMOS and the IPCC. As highlighted by UNESCO, the Expert Meeting will bring together experts from scientific, cultural and heritage bodies and agencies, Indigenous Peoples and local communities, international organizations, key experts at national/local levels, NGOs and academics from across the globe to help advance the integration of culture in the international climate agenda, including in the work of the United Nations Framework Convention on Climate Change (UNFCCC), the implementation of the 2015 Paris Agreement as well as the follow-up to the IPCC Assessment Reports and Special Reports.

The SSC Co-Chair for UNESCO informed participants that the International Expert Meeting is expected to be held online in the first half of 2021 and emphasized the key objective of the Meeting, which is to serve as a catalyst for new partnerships and connections, research, and publications that will support the global community at large in creating a larger role for culture in climate science and climate change responses. Such larger role should ultimately lead to the inclusion of culture inputs to IPCC products in the AR7 cycle.

The SSC Co-Chair for UNESCO recalled that the SSC will thus contribute to the finalization of the list of experts participating in the International Experts Meeting (following established priorities for geographic representation and gender balance) and the framing of its sessions in view of discussing the White Papers and enriching contributions to the Strategic Recommendations that will be developed for policy outcomes.

## **3. The White Paper Approach: Strengthening Scientific Knowledge (Moderated by ICOMOS)**

Marcy Rockman, Scientific Coordinator with the ICOMOS Climate Change and Heritage Working Group, and SSC Co-Chair for ICOMOS, introduced the third item on the agenda, devoted to the Scientific Questions and White Paper Approach. Through this item, ICOMOS launched a discussion on the elaboration of the White Papers that will serve to begin to assess the state of knowledge in the fields of culture, heritage, and climate change, including its representation in IPCC reports, provide a common body of material to be used as a reference for the participants of the Expert Meeting and as a source of knowledge for the preparation of the Strategic Recommendations.

The SSC Co-Chair for ICOMOS, presented the five scientific questions, which featured in the proposal for co-sponsorship approved by the IPCC, to the Members of the SSC with the aim of identifying a subset of focus topics for the White Papers. These questions include: i) the systemic understanding of culture, heritage and climate change; ii) cultural governance; iii) loss, damage and adaptation for culture and heritage; iv) capacity to learn from the past; v) roles of culture and heritage in transformative change and alternative sustainable futures.



Following the presentation, Members of the SSC stressed that **culture and heritage should not be addressed in silos**, and that due to the underlying common thread running through all the questions, the topics could be regrouped. It was also highlighted that the White Papers should encompass a **comparative, regional approach** that takes into account the diversity of roles of cultural heritage in climate action, focusing on a cause and effect interlink. To support this process, a **systems dynamics mapping** was recommended. In the same line, SSC Members suggested to develop an **initial conceptual framework** encompassing the different levels of threats to climate change, types of cultural heritage, social conditions, stakeholders, and possible responses.

During the SSC Meeting, attention was brought to the need to **include scientists and knowledge holders from Indigenous communities** in the IPCC Assessment Report cycles, and integrate intergenerational, dynamic, collective and practical-based knowledge systems and ways of knowing into scientific frameworks. The Facilitative Working Group (FWG) of the UNFCCC Local Communities and Indigenous Peoples Platform (LCIPP) is invited to be a key partner of the SSC, in order to ensure that a link is made between the initiative and the discussions currently being undertaken at the LCIPP of the UNFCCC on this subject.

It was agreed that the dichotomy between “western” sciences and “Indigenous” knowledge should be deconstructed and the potential for cooperation, dialogue and complementarity of autonomous and historically distinct systems of knowledge be further explored. It was also recognized that **living heritage, in line with the UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage (2003 Convention), and science are mutually beneficial** and living heritage and knowledge systems of Indigenous Peoples and local communities are key resources for adaptation to changing climates. Due consideration should be given to accountability, human rights and social policies, and land recognition.

The SSC agreed that cultural governance is crucial to unlock the potential of cultural heritage for climate action, particularly in the need to **strengthen interdisciplinary cooperation** among different institutions and organizations. In this regard, SSC members pointed to reinforcing the link between the culture and environmental sectors and fostering a common understanding and terminology. Moreover, it was stressed that **climate change is fundamentally an ethical issue and therefore necessitates a values-based approach, rooted in equity, justice and solidarity**. In this context, the SSC recalled that the 12 Ethical Principles for Safeguarding Cultural Heritage, endorsed by the Intergovernmental Committee of the UNESCO 2003 Convention in 2005, provide very useful guidance.

At the operational level, SSC Members highlighted the need to raise awareness of the growing urgency to **adapt cultural heritage management systems and conservation techniques to the changing environmental conditions** and rethink cultural heritage interventions, in light of the current challenges faced by cultural heritage.

As a result of the discussions, the following **three topics** are proposed: **i) Impacts, vulnerability and understanding risks, ii) Heritage-based solutions:** integrated approaches that leverage cultural and natural heritage for climate change adaptation and mitigation, building on the UNESCO 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage and the ongoing discussions for the update the UNESCO Policy Document on Impacts of Climate Change and World Heritage; and **iii) Intangible cultural heritage, Indigenous Peoples knowledge systems and climate**. It was noted that topic iii is proposed and should be undertaken in recognition of the UNESCO 2003 Convention for the Safeguarding of Intangible Cultural Heritage, and the United Nations Declaration on the Rights of Indigenous Peoples and in alignment with the UNESCO Policy on Engaging with Indigenous Peoples, and the UNFCCC Paris Agreement.

**These three topics will be discussed with the IPCC Co-Chair (once appointed) and the two SSC Co-Chairs (UNESCO and ICOMOS) in order to finalize the number and detailed scope of the White Papers.**

In view of fulfilling the ultimate goal of integrating cultural heritage into the IPCC assessment cycles, it was agreed that the **most effective format and scope for the White Papers and SSC contributions must be sought**. The IPCC expressed a shift from the impact and risk assessment approach taken by the Fifth Assessment Report (AR5) to a **solution-oriented approach** currently being applied by the Sixth Assessment Report (AR6). In addition, three important dimensions for the IPCC related to cultural heritage were highlighted:

1. **Resilience:** Climate adaptation through cultural heritage, crisis response, coping with change, loss and transformation.

2. **Carbon neutrality:** The contribution of cultural and natural heritage, and World Heritage properties in particular, to climate change mitigation by reducing the environmental footprint.
3. **Commitment:** The current impact, as well as projected future risks, capacity to cope with change, limiting losses and identifying methods to protect and transmit what communities care for.

The IPCC confirmed that its assessment process follows rigorous standards for the literature that it assesses, and that contributions must be provided in published form in order to be considered in an assessment. Discussion by the SSC affirmed that further attention to Indigenous knowledge in relation to documentation standards is needed.

In addition, the IPCC Working Group II invited SSC engagement in the **review of the 2nd draft of the AR6**, foreseen in early December 2020, and other assessment cycle documents to ensure that cultural heritage is effectively mainstreamed throughout the document.

### **Conclusions and Next Steps**

The discussions of the SSC Members contributed to define the scope of the Initiative, noting that culture and heritage should be regarded as a whole, from built to living cultural heritage, and ensuring that the practices of the communities surrounding culture and heritage are fully considered.

It was made clear that intangible cultural heritage should also be integrated as a whole, integrating various knowledge systems, including Indigenous Peoples knowledge to avoid silos. It was noted that this should be in accordance with the UNESCO 2003 Convention and other UNESCO programmatic activities, such as LINKS and Education for Sustainable Development.

The SSC agreed that an integrated, regional approach should be applied to the elaboration of both the White Papers and the Strategic Recommendations, with a focus on key areas such as resilience, carbon neutrality, commitment and equity, and that intersectoral cooperation across stakeholders must be reinforced.

Going forward, the 2nd meeting of the Scientific Steering Committee is foreseen to take place before the end of 2020 (early December) with the aim of discussing more in-depth the three proposed White Papers, their commissioning and overall timeline/process; to exchange on the scope and recommended format of the Strategic Recommendations, that will contribute to the integration of culture into the international climate agenda, including the IPCC AR7 and the Special Report on Climate Change and Cities; and to coordinate the review the 2nd draft of the IPCC AR6. The next meeting of the Scientific Steering Committee will also provide an opportunity to propose a date for the International Expert Meeting (in the first half of 2021).

## Annex 1. Members of the Scientific Steering Committee for Cultural Heritage and Climate Change



### **Mechtild Rössler (Co-Chair)**

*Director of the UNESCO World Heritage Centre*

An expert in both cultural and natural heritage and the history of planning, Dr. Rössler was appointed in 2015 as the Director of the World Heritage Centre. Ms Rössler has a degree in cultural geography and in literature from Freiburg University (Germany) and a Ph.D. from the Faculty for Earth Sciences, University of Hamburg (Germany) in 1988.

She joined the Centre national de la recherche scientifique (CNRS) at the Research Centre of the “Cité des Sciences et de l’Industrie” (Paris, France) in 1989 and worked in 1990/91 as a visiting scholar on geography, area research and spatial planning at the University of California at Berkeley, USA, in the Department of Geography. In 1991, she started working at UNESCO Headquarters in Paris in the Division for Ecological Sciences and transferred in 1992 to the newly created UNESCO World Heritage Centre. She held different positions including as Programme Specialist for Natural Heritage and cultural landscapes (1993-2001), Chief of Europe and North America (2001-2010), Chief of the Policy and Statutory Meeting Section (2010-2013), Deputy Director (2013-2015) and Director of the Division for Heritage (2015-2018).



### **Marcy Rockman (Co-Chair)**

*Scientific Coordinator at ICOMOS*

Marcy Rockman is an archaeologist with experience in national and international climate change policy. Her research focus is how humans gather, remember, and share environmental information, and she’s used this to address situations as diverse as cultural resource management in the American West and homeland security risk communication in Washington, DC. From 2011-2018 she served as the inaugural US National Park Service (NPS) Climate Change Adaptation Coordinator for Cultural Resources. She is now working with the International Council on Monuments and Sites (ICOMOS) as Scientific Coordinator of a project to improve incorporation of heritage in reports of the Intergovernmental Panel on Climate Change (IPCC). She also works with the non-profit Co-Equal in Washington, DC to provide climate change research for the U.S. Congress. Dr. Rockman holds a Ph.D. in Anthropology from the University of Arizona, and a B.Sc. in Geology from the College of William and Mary.



### **Valérie Masson-Delmotte (Co-Sponsor)**

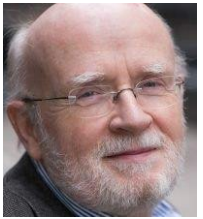
*Senior climate scientist, Laboratoire des Sciences du Climat et de l’Environnement, Institut Pierre Simon Laplace, and Co-chair of IPCC Working Group I*

Dr. Valérie Masson-Delmotte is a senior climate scientist from Laboratoire des Sciences du Climat et de l’Environnement, Institut Pierre Simon Laplace. She is the Co-chair of IPCC Working Group I for the AR6 cycle (2015-2022), and has co-supervised three recent IPCC special reports (Global Warming of 1.5°C, 2018; Climate Change and Land, 2019; the Ocean and Cryosphere in a Changing Climate, 2019). Her research interests are focused on quantifying and understanding past changes in climate and atmospheric water cycle, using analyses from ice cores in Greenland, Antarctica and Tibet, analyses from tree-rings as well as present-day monitoring, and climate modelling for the past and the future. She has worked on issues such as the North Atlantic Oscillation, drought, climate response to volcanic eruptions, polar amplification, climate feedbacks, abrupt climate change, and ice sheet changes across different timescales.



**Greg Flato (Co-Sponsor)**  
*Vice-Chair of IPCC Working Group I*

Dr Flato has been a research scientist at CCCma since 1993, and its manager from 2004-2014. His expertise is in the area of sea-ice and global Earth System modelling. Since joining CCCma he has worked on the development of a series of global climate models used to simulate historical climate variations and project future climate change. Dr Flato was a lead author of the cryosphere chapter of the IPCC Fourth Assessment Report, and Coordinating Lead Author of the chapter on climate model evaluation in the IPCC Fifth Assessment. He is an adjunct professor at the University of Victoria's School of Earth and Ocean Science and has served on a number of national and international scientific committees including the World Climate Research Program's (WCRP) Joint Scientific Committee, and co-chaired the WCRP Climate and Cryosphere (CliC) core project. He currently serves as co-chair of the WCRP Working Group on Coupled Modelling (WGCM), and in 2015 was elected Vice Chair of the IPCC's Working Group I.



**Hans Poertner (Co-Sponsor)**  
*Co-Chair of IPCC Working Group II*

Dr Hans-Otto Pörtner studied at Münster and Düsseldorf Universities where he received his PhD and habilitated in Animal Physiology. As a Research and then Heisenberg Fellow of the German Research Council he worked at Dalhousie and Acadia Universities, Nova Scotia, Canada and at the Lovelace Medical Foundation, Albuquerque, New Mexico, USA. Currently he is Professor and Head of the Department of Integrative Ecophysiology at the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research in Bremerhaven, Germany. He acts as an associate editor 'Physiology' for Marine Biology and as a co-editor of the Journal of Thermal Biology. During the IPCC Fourth Assessment cycle Dr Pörtner served as Lead Author on the Working Group III Special Report on Carbon Capture and Storage, and during the Fifth Assessment Cycle as Coordinating Lead Author of Chapter 6 (Ocean Systems) of the Working Group II Report, as a member of the author teams for the Working Group II Summary for Policymakers and Technical Summary, and as a member of the Core Writing Team for the Synthesis Report.



**Debra Roberts (Co-Sponsor)**  
*Co-Chair of Working Group II of the IPCC*

Dr Debra Roberts is currently head of the Sustainable and Resilient City Initiatives Unit in eThekweni Municipality in Durban, South Africa. Prior to taking up this post in 2016, she established and managed the Environmental Planning and Climate Protection Department of the same municipality for 22 years (1994–2016) and was selected as the city's first Chief Resilience Officer in 2013. Dr Roberts was a Lead Author of Chapter 8 (Urban Areas) and a Contributing Author to Chapter 12 (Africa) of the Working Group II contribution to the IPCC Fifth Assessment Report. She was elected as Co-Chair of Working Group II for the IPCC's Sixth Assessment cycle in 2015. She was a member of the South African United Nations Framework Convention on Climate Change (UNFCCC) negotiating team until December 2015, and has sat on various international advisory bodies focused on climate change issues in cities (e.g., the Rockefeller Foundation's Asian Cities Climate Change Resilience Network and UN-Habitat's 2011 'Cities and Climate Change' Global Report).



**Yunus Arian (Key Partner)**  
*Head of Global Policy and Advocacy, ICLEI World Secretariat*

Yunus leads the global policy and advocacy team at ICLEI. Since 2013, he has led global advocacy towards international bodies and multilateral agreements. Yunus helped establish the Bonn Center for Local Climate Action and Reporting - carbonn - and served as the Director of the Secretariat for the World Mayors Council on Climate Change. He has a background in environmental engineering.



**Sandeep Sengupta (Key Partner)**

*Global Coordinator, IUCN Climate Change Portfolio*

Sandeep Sengupta is the global coordinator for climate change at the International Union for Conservation of Nature (IUCN) in Switzerland, where he leads the organization's engagement on the topic. He has previously worked on a wide range of environment and development issues, both within and outside the government in India, and in international organizations abroad. He is also a visiting faculty at the Graduate Institute of International and Development Studies (IHEID) in Geneva, where he teaches a course on climate change politics and governance. He holds a doctorate in International Relations from the University of Oxford and a master's degree from the London School of Economics (LSE).



**Eduardo Brondizio**

*Co-Chair of the IPBES Global Assessment of Biodiversity and Ecosystem Services*

Eduardo S. Brondizio is a Distinguished Professor of Anthropology at Indiana University Bloomington and directs the Center for the Analysis of Social-Ecological Landscapes (CASEL). Committed for three decades to field-based research studying the transformation of the Brazilian Amazon, Brondizio has contributed to several regional and global level environmental assessments and serves on numerous international scientific and editorial boards. He is the Co-Chair of the Global Assessment of Biodiversity and Ecosystem Services of the Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).



**May Cassar**

*Director of the UCL Institute for Sustainable Heritage*

Professor May Cassar is the Founder and Director of the UCL Institute for Sustainable Heritage (ULISH) and the Bartlett Vice Dean (Public Policy) at University College London. May is the National Co-ordinator/UK Chair of the European Research Infrastructure for Heritage Science (E-RIHS.UK) and Trustee of the National Heritage Science Forum (NHSF). May is a member of the UK Government's Department for Culture, Media and Sport (DCMS) Science Advisory Council and has recently served on the DCMS Challenge Panels reviewing Historic England and the National Heritage Memorial Fund/Heritage Lottery Fund. May directs the Engineering and Physical Sciences Research Council-funded Centre for Doctoral Training in Science and Engineering in Arts, Heritage and Archaeology (SEAHA), a multi-million-pound UK Government investment in doctoral training for the next generation of heritage scientists.



**Rohit Jigyasu**

*Programme Officer, ICCROM-Sharjah, and Vice-President of ICOMOS International*

Rohit Jigyasu is the Programme Officer, ICCROM-Sharjah, UAE, VicePresident of ICOMOS International, and former UNESCO Chair professor at the Institute of Disaster Mitigation for Urban Cultural Heritage at Ritsumeikan University, Tokyo, Japan where he also serves as scientific coordinator International Programme on Disaster Risk Management of Cultural Heritage. He is also the President of ICOMOS International Scientific Committee on Risk Preparedness (ICORP) and ICOMOS-India. He is also senior advisor at the Indian Institute for Human Settlements (IIHS) based in Bangalore, India, and visiting faculty at several institutions in India and abroad. He has served as a consultant to Archaeological Survey of India, National Institute of Disaster Management, Indian Institute of Human Settlements (IIHS), UNESCO, UNISDR, UNDP, ICCROM, Aga Khan Planning and Building Services and the Getty Conservation Institute for conducting research and training on Cultural Heritage Risk Management.





**Hindou Oumarou Ibrahim**

*President of the Association of Women and Indigenous Peoples of Chad (AFPAT)*

Hindou is a founding member of the Marrakech Platform for Climate Action, she is a member of the technical and scientific committee of BIOPALT - UNESCO and also a member of the Executive Committee of the Indigenous Peoples of Africa Coordinating Committee (IPACC), where she is the climate change focal point. She has worked on indigenous peoples' rights and environmental protection through the 3 Rio Conventions (Biodiversity, Climate Change and Desertification) with multiple responsibilities. Hindu was recently appointed Emerging Explorer 2017 by National Geographic. She received the Special Prize of the Danielle Mitterrand Foundation in 2017. She was co-chair of the International Indigenous Peoples Forum on Climate Change and Director of the Indigenous Peoples Pavilion from 2015 to 2017.



**Ahmed Skounti**

*Professor of Anthropology at the Institut national des sciences de l'archéologie et du patrimoine (INSAP)*

Mr Skounti is a Professor at the Institut national des sciences de l'archéologie et du patrimoine (INSAP, Department of Anthropology, Rabat). He holds a Ph.D. in social anthropology from the Ecole des Hautes Etudes en Sciences Sociales (EHESS), Paris, France, and is an associate professor at the University of Marrakech. As a UNESCO consultant on issues related to the World Heritage Convention (1972) and to the Intangible Cultural Heritage Convention (2003), he participated in the drafting of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage. He represents Morocco in the meetings of the Intergovernmental Committees of these two conventions respectively since 1998 and 2007. Mr Skounti is also a member of the Advisory Body of the Arab Regional Centre for the World Heritage (Bahrain), and was a member of the Evaluation Body of the Intergovernmental Committee for the safeguarding of the Intangible Cultural Heritage from 2015 to 2017 and I was Chair of this body in 2015 and 2017. He is also member of the Advisory Body of the International Research Centre on ICH in the Asia-Pacific Region (IRCI), Japan.



**Richard Veillon**

*Programme Specialist at the Policy and Statutory meetings Unit of the UNESCO World Heritage Centre*

As a professional with over 20 years of experience in the field of natural and cultural heritage conservation, Mr. Richard Veillon has been working at the Policy and statutory meetings Unit of the UNESCO World Heritage Centre (WHC), in Paris (France) since 2004. Mr. Veillon holds a Master's degree in Biology and Ecology from the University of Rennes I (France) and a Post-graduate degree in Museology of Natural Sciences and Humanities from National Natural History Museum of Paris (France). In 1998, he joined the French Ministry of Foreign Affairs and worked for the Embassy of France in Zimbabwe, where he designed and headed a bilateral cooperation programme in the field of Museums and Heritage. He currently coordinates the World Heritage Reactive Monitoring process and the yearly reporting on the state of conservation of World Heritage properties to the World Heritage Committee, and manages the WHC's online Information System on the state of conservation of World Heritage properties. In addition, he has been serving as the WHC focal point for climate change matters and has participated in the revision of the UNESCO Strategy for Action on Climate Change. He currently coordinates the updating of the 2007 Policy Document on the impacts of climate change on World Heritage properties.

## Observing Members



### **Andrea Carmen**

*Co-chair of the Facilitative Working Group for the UNFCCC Local Communities and Indigenous Peoples' Traditional Knowledge Exchange Platform, and Executive Director of the International Indian Treaty Council (IITC)*

Ms Andrea Carmen, Yaqui Nation, became Executive Director of the International Indian Treaty Council (IITC) in 1992. Andrea was IITC's team leader for work on the UN Declaration on the Rights of Indigenous Peoples and has many years' experience as a human rights trainer and observer around the world. Andrea has been an expert presenter at various UN bodies and seminars on human rights, treaties, and treaty rights, cultural indicators, biological diversity, food sovereignty, and UN Sustainable Development Goals. She has served on a number of boards and advisory councils. In 2010 she one of two members from North America on the Global Steering Committee for the International Indigenous Peoples Forum on Climate Change (IIPFCC) which coordinates indigenous peoples' work with the UN Framework Convention on Climate Change. In February 2019 Andrea was selected by indigenous peoples, tribes and organizations in North America to serve as their representative on the new Facilitative Working Group for the development of the UNFCCC Local Communities and Indigenous Peoples' Traditional Knowledge Exchange Platform for its first three years of operation.



### **Tiffany Hodgson**

*Programme Officer at the United Nations Framework Convention on Climate Change (UNFCCC)*

**Appendix B**  
**Participant Selection Matters**

**Appendix B-1**  
**Invitation to SSC Members to Suggest Participants dated 8 April 2021**





*International Co-Sponsored Meeting  
on Culture, Heritage and Climate Change*

8 April 2021

Dear Scientific Steering Committee Members,

On behalf of the SSC Co-Chairs, I have the honour of inviting you to suggest experts for consideration as participants in the International Co-Sponsored Meeting on Culture, Heritage and Climate Change sponsored by the IPCC, UNESCO and ICOMOS. The proposal for this Co-Sponsored Meeting was agreed by the IPCC Working Group Co-Chairs and endorsed by the IPCC Executive Committee in June 2020.

Co-Sponsored Meeting Participants will be asked to help develop and review the state of knowledge and practice regarding connections of culture, heritage and climate change. This review is intended to inform future actions and research plans. The review will be organized around three overarching scientific questions as well as two cross-cutting issues. A short summary of these questions and issues is included in Annex I to this letter. Suggested participants should have expertise that can contribute to one or more of these areas.

Participants will take part in several activities that will lead to the International Co-Sponsored Meeting, including a series of short webinars spaced over several months in advance of the Co-Sponsored Meeting. The Co-Sponsored meeting itself is tentatively scheduled to take place between **December 6 and December 10, 2021**. Due to the ongoing global health situation and to limit the carbon footprint of this Co-Sponsored Meeting, all Meeting activities will be conducted via web conferencing. Please note that the Co-Sponsored Meeting will be conducted in English.

You are invited to submit suggestions through the [online nominations tool](#). The deadline for uploading suggestions is **Monday, May 3 (midnight GMT + 1)**. Kindly be informed that due to a very tight schedule it may not be possible to accept suggestions after the deadline. Suggested individuals will be contacted by the Co-Sponsored Meeting Organising Committee and invited to submit a short application form.

Participants will be selected from among those that return applications. The selection criteria will include scientific, technical and socio-economic expertise, including a range of views; geographical representation; gender balance; and experts with a background from relevant stakeholders. If gaps are identified in the list of suggestions, the Co-Chairs of the Co-Sponsored Meeting Scientific Steering Committee may suggest additional individuals.

I thank you in advance for your consideration of this invitation.

Yours sincerely,

Andrew Potts, ICOMOS  
Co-Sponsored Meeting Organising Committee

## Annex I

### Summary of Overarching Scientific Questions:

1. Systemic connections of culture, heritage, and climate change
  - Nature and scope of representation of diverse forms and scales of culture and heritage in climate literature and assessments
  - Indigenous ways of knowing, western approaches to science in relation to climate change
  - Climate change itself has a history, as do all communities; nature and scope of historical, social, and cultural contexts of the Anthropocene
2. Loss, damage, and adaptation for culture and heritage
  - Vulnerability, significance, prioritization, adaptive/preservation methods
  - Understanding of and approaches to loss and change
3. Roles of culture and heritage in transformative change and alternative sustainable futures
  - Capacity of historic buildings/landscapes to hold carbon
  - Heritage as inspiration for art, connection, understanding, and action on climate

### Cross-Cutting Issues

1. Cultural governance
  - Who decides what heritage is? How is heritage knowledge managed?
  - Intersections of heritage with conflict
2. Capacity to learn from the past
  - Use of data and knowledge from the past in climate models and policy
  - Finding common ground between climate and heritage approaches to research questions

**Appendix B-2**  
**Open Invitation to Suggest Participants dated 20 April 2021**

International Co-Sponsored Meeting on  
Culture, Heritage and Climate Change

20 April 2021

Dear Sir or Madam,

We have the honour of inviting you to suggest experts for consideration as participants in the International Co-Sponsored Meeting on Culture, Heritage and Climate Change, sponsored by the IPCC, UNESCO and ICOMOS. The proposal for this Co-Sponsored Meeting was agreed by the IPCC Working Group Co-Chairs and endorsed by the IPCC Executive Committee in June 2020.

Co-Sponsored Meeting participants will be asked to help develop and review the state of knowledge and practice regarding connections of culture, heritage and climate change. This review is intended to inform future actions and research plans. The review will be organized around three overarching scientific questions as well as two cross-cutting issues, a summary of which is included in Annex I hereto. Suggested participants should have expertise that can contribute to one or more of these areas.

Participants will take part in several activities that will lead to the International Co-Sponsored Meeting, including a series of short webinars spaced over several months in advance of the Co-Sponsored Meeting. The Co-Sponsored Meeting itself is tentatively scheduled to take place the week of 6 December 2021. Due to the ongoing global health situation and to limit the carbon footprint of this Co-Sponsored Meeting, all Meeting-related activities will be conducted via web conferencing. Please note that the Co-Sponsored Meeting is likely to be conducted in English.

You are invited to submit your suggestions for participants through the [online tool](#). The deadline for uploading suggestions is **Wednesday, 12 May 2021 (midnight GMT + 1)**. Kindly be informed that due to a very tight schedule it may not be possible to accept suggestions after the deadline. Suggested individuals will be contacted by the Co-Sponsored Meeting Organising Committee for further information.

The selection criteria will include cultural, scientific, technical and socio-economic expertise, as well as geographical representation and gender balance. If gaps are identified in the list of suggestions, the Co-Chairs may suggest additional individuals.

We thank you in advance for your consideration of this invitation.

Yours sincerely,



Debra Roberts  
Co-Chair, Co-Sponsored Meeting  
Scientific Steering Committee  
Co-Chair, IPCC Working  
Group II



Marcy Rockman  
Co-Chair, Co-Sponsored  
Meeting Scientific Steering  
Committee  
Scientific Coordinator,  
ICOMOS Climate Change and  
Heritage Working Group



Mechtild Rössler  
Co-Chair Co-Sponsored Meeting  
Scientific Steering Committee  
Director, UNESCO World Heritage  
Centre

## Annex I

### Summary of Overarching Scientific Questions:

1. Systemic connections of culture, heritage, and climate change
  - Nature and scope of representation of diverse forms and scales of culture and heritage in climate literature and assessments
  - Integration of diverse knowledge systems, including Indigenous knowledge systems, across areas of climate research and response
  - Climate change itself has a history, as do all communities; nature and scope of historical, social, and cultural contexts of the Anthropocene
2. Loss, damage, and adaptation for culture and heritage
  - Vulnerability, significance, prioritization, adaptive/preservation methods
  - Understanding of and approaches to loss and change
3. Roles of culture and heritage in transformative change and alternative sustainable futures
  - Capacity of historic buildings/landscapes to hold carbon
  - Heritage as inspiration for art, connection, understanding, and action on climate

### Summary of Cross-Cutting Issues

1. Cultural governance
  - Who decides what heritage is? How is heritage knowledge managed?
  - Intersections of heritage with conflict
2. Capacity to learn from the past
  - Use of data and knowledge from the past in climate models and policy
  - Finding common ground between climate and heritage approaches to research questions

*For a more detailed description of the foregoing Questions and Issues, please see the attached original Co-Sponsored Meeting Proposal endorsed by the IPCC Executive Committee in 2020. Please note that the original Proposal described five overarching questions while the final plan is to have three overarching questions and treat the other two topics as cross-cutting issues. The scope of each of these five topics remains the same as described in the Proposal.*

## **Proposal for a Co-Sponsored International Expert Meeting on Cultural Heritage and Climate Change**

### **1. Background**

This proposal for an International Expert Meeting co-sponsored by the IPCC builds on growing calls for international attention to culture, heritage and climate change. It requests attention to the many connections between culture and the human past and how these intersect with the modern phenomena of climate change. It also highlights the need to address culture and heritage gaps in global climate science and climate change response and seeks to advance the contributions of culture and heritage to climate change mitigation and adaptation.

UNESCO, the UN organization with a mandate that spans both culture and science, works to safeguard culture from the effects of climate change, as well as promote it as a tool for climate change mitigation and adaptation. This work builds on its Strategy for Action on Climate Change (2018-2021), Declaration of Ethical Principles in relation to Climate Change (2017), and standard-setting conventions in the fields of World Heritage, intangible cultural heritage, underwater cultural heritage and the diversity of cultural expressions. International Council on Monuments and Sites (ICOMOS), an international non-governmental organization that works for the preservation of cultural heritage places, has launched several climate change and heritage initiatives and projects. In 2019, ICOMOS released its report Future of Our Pasts: Engaging Cultural Heritage in Climate Action which sets out the relevance of all scales of cultural heritage for the major objectives of the Paris Agreement and engaged several IPCC authors as peer reviewers, including a preface written by Dr. Valérie Masson-Delmotte, Co-Chair of IPCC Working Group I.

This proposal responds to these calls and suggests an Expert Meeting to be organized by UNESCO and ICOMOS in collaboration with three key partners and co-sponsored by the IPCC. The three proposed key partners are the Facilitative Working Group (FWG) of the UN Framework Convention on Climate Change (UNFCCC) Local Communities and Indigenous Peoples Platform, International Union for Conservation of Nature (IUCN), and ICLEI-Local Governments for Sustainability (ICLEI).

The proposed Expert Meeting will be held in late 2020 and bring together representatives from scientific, cultural, and heritage bodies and agencies, Indigenous Peoples and local communities, and climate change, culture, and heritage researchers and practitioners. The goal of this Expert Meeting is to serve as a catalyst for new partnerships and connections, research, and publications (including peer-reviewed literature and other ways of representing Indigenous and traditional ways of knowing) that will support the IPCC, UNESCO and global community at large in creating a larger role for culture and heritage in climate science and climate change responses. It is anticipated that this larger role will include culture and heritage inputs to IPCC products in the seventh assessment cycle, including the forthcoming special report on Cities and Climate Change, a chapter and/or other sections in the 7th Assessment Report (AR7), and/or a special report on culture, heritage and climate change.

### **2. Objectives**

The overall objectives of the proposed Expert Meeting on Culture, Heritage and Climate Change are to:

- Assess the state of knowledge and practice in connecting culture, heritage and climate change;
- Identify key research and knowledge gaps with regard to connections between culture, heritage and climate change;

- Catalyze research and collaborations that will lead to peer-reviewed scientific publications and other appropriate literature and documentation including on local and Indigenous ways of knowing; and
- Expand global capacity in connecting culture, heritage and climate over the course of and beyond the AR7 cycle.

This proposal engages both culture and heritage. For the purposes of this proposal, heritage is understood to include tangible, intangible and natural heritage, which stand alongside the creative economy and its cultural and creative industries. Tangible cultural heritage includes archaeological sites, buildings, structures, and monuments, landscapes, museum collections and archives. Intangible cultural heritage includes the practices, representations, expressions, knowledge and skills and ways of knowing – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. Natural heritage, which encompasses geological and other natural features and in turn supports biodiversity, and human systems are closely linked and mutually reinforcing. Together, cultural sites, traditional knowledge, Indigenous ways of knowing, and value systems and spirituality, play important roles alongside scientific knowledge in sustaining, conserving, and managing the environment.

Climate change represents one of the greatest threats facing culture and heritage today. Increasing fires, floods, droughts, desertification and ocean acidification are threatening both cultural and natural heritage, while rising sea levels, particularly in the world's Small Island Developing States (SIDS) put entire ways of life at risk. Climate change threatens the diversity of cultural expressions and the cultural and creative industries, with a loss of economic opportunities challenging the livelihood of artists and cultural professionals.

Yet culture is also a resource for climate change mitigation and adaptation. Intangible cultural heritage practices, including traditional land and water management practices, traditional food security strategies, and the use of traditional architecture and building materials, can help communities mitigate and adapt to a changing climate. Cultural and natural heritage sites can serve as a refuge, both physical and psychological, for communities during and after climate-related emergencies. These sites can also act as assets for recovery and reconciliation in the wake of intercommunal conflicts linked to climate change. Creativity is essential for finding new solutions to environmental challenges, and cultural and heritage institutions and artists have an enormous role to play in inspiring climate action.

This proposal recognizes that, to date, despite recent efforts, neither culture nor heritage have been substantially integrated into global climate science and response. Therefore, the goal of this Expert Meeting is to provide a basis on which the IPCC and global community can create a more prominent role for culture and heritage in climate science and climate change responses, and through which culture and heritage may further support global climate action. Assessing the links between culture, heritage and climate change responses will serve as a catalyst for new research, projects, and publications on culture, heritage, and climate for and beyond the 7th Assessment cycle.

The specific aims of the Expert Meeting are to:

1. Assess the diverse range of connections between culture, heritage, and climate change, with attention to developments in the field of culture, heritage and climate change since the 5<sup>th</sup> Assessment Report (AR5). This will include an assessment of the range of issues related to culture and heritage that have been presented in IPCC products to date, how they have been presented, and issues known to the fields of culture and heritage that have not yet been fully incorporated into IPCC products to date;
2. Take stock of the scientific literature regarding culture, heritage and climate change, including literature related to climate impacts on cultural heritage and the creative economy; approaches to

adapting culture and heritage to climate impacts; integrating culture and heritage into climate change responses; and the role of culture, heritage and creativity as a resource to support climate adaptation, mitigation, and climate action;

3. Engage and continue to develop new ways to bring culture, including Indigenous and traditional knowledge and ways of knowing, into dialogue with other areas of climate science and response, with particular attention to building respectful, effective, and sustainable means of “two-eyed seeing” that engage equally traditional and Indigenous ways of knowing and scientific ways of knowing, while maintaining the free, prior, and informed consent of traditional and Indigenous knowledge holders;
4. Identify gaps related to culture and heritage in climate knowledge, practices, and publications, with the goal of fostering new research, methods and relevant literature that will support the AR7, the forthcoming special report Cities and Climate Change, and potentially a special report on culture, heritage and climate change;
5. Take stock of methods and gaps in translating knowledge from and about culture and heritage for climate science and policy, with the goal of stimulating new approaches and literature that will support the AR7, the forthcoming special report Cities and Climate Change, and potentially a special report on culture, heritage and climate change;
6. Create a platform for UNESCO to build new initiatives with its Member States in the areas of culture, heritage and climate change, which will raise both the visibility and engagement of culture in the global climate response;
7. Foster new partnerships between the fields of culture, heritage, and climate change to generate new research and applications to climate issues that will support the AR7, the forthcoming special report Cities and Climate Change, and potentially a special report on culture, heritage and climate change; and
8. Expand institutional capacity to coordinate and further develop standards, knowledge, and practice at the intersections of culture, heritage, and climate change. Such capacity will support the AR7, the forthcoming special report Cities and Climate Change, and potentially a special report on culture, heritage and climate change.

### **3. Outcomes**

The expected outcomes of the Expert Meeting include:

1. A meeting report that will be prepared under the guidance of a Scientific Steering Committee with inputs from meeting participants. This report will provide a summary of the meeting discussions and also will:
  - Include recommendations for incorporating culture and heritage into the IPCC 7th Assessment cycle products, including the AR7 report and forthcoming special report on Climate Change and Cities, as well as, potentially, a special report on culture, heritage and climate change;
  - Include a full list of participants;
  - Indicate when and by whom the proceedings were prepared;
  - Indicate whether and by whom they were reviewed prior to publication;
  - Specify all sources of funding and other support; and
  - Prominently display the following disclaimer at the beginning of the document:



“IPCC co-sponsorship does not imply IPCC endorsement or approval of these proceedings or any recommendations or conclusions contained herein. Neither the papers presented at the Workshop nor the report of its proceedings have been subject to IPCC review.”

With the development of additional funding support, additional outcomes will include:

2. Scientific proceedings and a research agenda, published in peer-reviewed literature;
3. A series of follow-up workshops, demonstration projects, and other activities to catalyze new research and publications and other relevant forms of literature, documentation, and action on culture, heritage and climate change;
4. Building of capacity between existing cultural and heritage institutions to foster, share and make widely available new work in the area of culture, heritage and climate change, with particular attention to the linkages between science, culture, heritage and climate change; and
5. A possible campaign on culture, heritage and climate action, which could further support global advocacy efforts.

#### **4. Scientific Background**

Thus far, the literature on the links between culture and heritage, in all its forms, and climate change has focused primarily on the impacts of climate change on heritage, although there has been increased focus on the role of cities as creative hubs for more sustainable ways of life, as embodied by many of the members of UNESCO’s Creative Cities Network. There is also growing recognition of the importance of creativity for finding new solutions to environmental challenges, as well as the role of cultural institutions and artists in leading behavioral change linked to climate action.

Cultural heritage includes the knowledge derived from human experience and the human past. This knowledge is dynamic and is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history. The notion of intergenerational transmission of intangible cultural heritage is also important. Intangible cultural heritage is sometimes referred to as “living heritage,” in that it is transmitted yet constantly recreated. Cultural heritage holds evidence of paleoclimatic change; social evolution and past human responses to environmental change and environmental stress; contemporary knowledge of environments, land use, and resource stewardship developed over generations of Indigenous Peoples and local communities; patterns and events in the development of the modern world, including histories of colonialism, capitalism, and industrialization that have contributed to the modern phenomena of climate change and its patterns of impacts; and embodied carbon held in the historical structures and buildings of cities and other settlements, patterns of which shape use and expectations of fossil fuels, among others.

Cultural heritage is also integral to human well-being (Heritage et al. 2018). It provides a sense of continuity, connection to place and collective memory, which underpin individual, community, and national identities. The recent IPCC *Special Report on Oceans and Cryosphere* (SROCC) notes that consideration of social values offers an opportunity for a wider perspective on impacts on human systems. Cultural heritage therefore may be seen both as part of social values and, through the choices that are made in conserving, adapting, or letting go of different forms of cultural heritage, as a conduit for expressing social values, aspirations, beliefs and worldviews. Interdisciplinary understanding of social values is an emerging field and was first incorporated into IPCC reports with the SROCC; it was not substantially incorporated into the AR5.

Recent IPCC reports have engaged some other components of heritage. For example, the AR5 Working Group II report included Box 16-4, Historical Perspectives on Limits to Adaptation, which gathered examples of current understandings of how past civilizations responded to environmental stress. That this topic is set out in a box illustrates IPCC's recognition of the importance of this topic. However, as this box ends with the statement "It would be *useful to consider* how lessons learned from historical experience *may* relate to the perceived multiple environmental changes characterized by the 'Anthropocene' era" (emphasis added), it is also evidence that more work is needed to build relationships between historical experience and modern environmental changes and that the IPCC should return for further assessment of work in this area.

The IPCC *Special Report on Global Warming of 1.5C* (SR1.5) included cultural heritage as part of tourism, which includes tourism to heritage places and forms a key part of the creative economy. The IPCC *Special Report on Climate Change and Land* (SRCL) includes attention to land governance, which includes rights of Indigenous Peoples and local communities abilities to continue traditional lifeways, genetic heritage of traditionally managed species, and heritage losses that can result from conflicts over forest management and as an outcome of land degradation. The SROCC, along with its attention to social values, also recognizes that non-economic losses of climate change include impacts on intrinsic and spiritual attributes of high mountain landscapes, the interconnections of land, water, and ice for culture, livelihoods, and well-being in the Arctic, and that loss of local and Indigenous knowledge and associated cultural heritage limits the ability of all to recognize and respond to changes in the oceans and cryosphere. SROCC also raises issues of loss of heritage in managed retreat and resettlement.

This Expert Meeting will take stock of this post-AR5 work on and consideration of culture and heritage in relation to climate change (inclusive of research, practice, and policy) and define a series of research themes and questions that can be addressed as part of the IPCC's 7th assessment cycle. To do this, it will mobilise and bring together a diverse set of stakeholders, inclusive of scientific, cultural and heritage bodies and agencies; Indigenous Peoples and local communities; United Nations member states; and climate change, culture and heritage practitioners. This mobilisation will support and inform IPCC AR7 products, including the AR7 report and forthcoming special report on Climate Change and Cities, as well as, potentially, a special report on culture, heritage and climate change.

For maximum progress on these goals, it is proposed that this Expert Meeting be co-organized by UNESCO (culture, natural sciences, education, communication and social and human sciences), ICOMOS (conservation of heritage places), IUCN (natural heritage), FWG (local and Indigenous ways of knowing), and ICLEI (governments, cities, and settlements) and co-sponsored by the IPCC. This will create synergies with intergovernmental processes including the UN Sustainable Development Goals, the UN Sendai Framework on Disaster Risk Reduction, and the UNFCCC Warsaw International Mechanism for Non-Economic Loss and Damage.

## **5. Scientific Grounding and Open Research Questions**

A review of the AR5 and AR6 special reports, UNESCO's programmes, publications and standard-setting tools, and the preparation of the ICOMOS *Future of Our Pasts* report, which was prepared by a global team of researchers and peer reviewers, and consultations with other international heritage experts and practitioners, has identified the following areas of literature and knowledge of, from, and for culture, heritage, and climate change that should serve as the basis for developing an Expert Meeting:

### **1) Systemic understanding of culture, heritage, and climate change**

Culture is held and manifested in many forms. Heritage includes oral traditions, and expressions, performing arts, social practices, rituals, and knowledge and ways of knowing and practices concerning place, self, and

the environment, and the interconnections that integrate these forms that have come into culture from the human past. Heritage also includes tangible forms such as archaeological sites, landscapes, historic buildings, structures, monuments, museum collections and archives and the knowledge contained within them and derived from their study. Culture in turn encompasses cultural expressions manifested through diverse modes of artistic creation, production, distribution, through a wide range of means and technologies. Collectively, culture and heritage are multi-scalar, with a broad reach across both time and space. Culture and its history is manifested at the community level, as well as at regional, national and international scales. An essential issue for climate change is how to capture the diverse qualities and characteristics of culture across these scales in climate assessments.

A critical focus in this area and all of the following areas is attention to connections between Indigenous Peoples and local communities, local and Indigenous knowledge systems, climate change, and scientific climate knowledge, as highlighted in Article 7.5 of the Paris Agreement. In this frame, Indigenous Peoples and local communities, their knowledge systems, and cultural heritage are not co-defined; Indigenous Peoples and local communities are also vital contemporary communities (Nakashima et al. 2012). However, given the generations of experience held by Indigenous Peoples and local communities and their knowledge and knowledge systems, and the close connections of Indigenous Peoples and their knowledge systems to their surrounding environments, the vulnerabilities and responsiveness of these close connections to climate change may be difficult to describe, engage, and address without attention to the heritage they hold. In turn, an area for exploration is how attention to Indigenous Peoples and local communities and their knowledge systems through cultural heritage may provide new or effective means for action.

Attention to Indigenous knowledge and experience by the IPCC has grown over recent assessment cycles. Analysis by Ford et al. (2016) of representation of Indigenous knowledge and experience in the AR5 identified a 60% increase in Indigenous-relevant keywords from the AR4. Despite this increase, gaps were noted in conveying the complexity and diversity of Indigenous experiences, the highly dynamic and evolving nature of traditional knowledge systems in light of climate impacts, and the diversity of both Indigenous experiences and knowledge in their understanding and responses to climate change. Cross-chapter Box 4 in the more recent SROCC describes in more detail the concept of “two-eyed seeing”, which brings together Indigenous ways of knowing and what is described as “Western [scientific] knowledge” for the benefit of all while preserving the distinctiveness of each. While the SROCC recognizes the importance of local and Indigenous knowledge systems for understanding global change with high confidence, it also acknowledges the complexities of building such “two-eyed seeing” and the tendency for scientific knowledge to continue to be prioritized.

Another gap noted by the Ford et al. (2016) analysis of the AR5 is a tendency toward generalizations of Indigenous knowledge, cultures, and ways of knowing. They note this is problematic as human dimensions of climate change include components that are place- and culture-specific, and such approaches may fail to address historical and contextual complexities that underpin Indigenous experiences with and responses to climate change. Further, they note these approaches have the effect of separating climate change from its social, political, historical, and cultural contexts.

These gaps may be addressed by expanding IPCC attention to include the history and culture of all communities and to encompass the full temporal and spatial scope of the human experience. All communities, regardless of age, have heritage, inclusive of histories of landscape learning and development (Rockman 2010), understandings and expectations of place, and values and connections to other communities and places both regionally and around the world. Such an approach should not diminish attention to Indigenous Peoples and local communities; rather it would address another concern expressed by Ford et al. (2016) that separate sections addressing Indigenous Peoples and local communities and their ways of knowing may isolate them from the main body of assessment reports. Cultural heritage, in this view, is a collection of diverse ways of knowing and may serve as a common frame of reference and a basis for collaborative discussion. Further assessment of this approach by and in collaboration with Indigenous Peoples and local communities is needed.

A culture and heritage-based approach brings into a common frame the roles that values, senses of place, identity, as well connection to place and environment hold in experiences of and vulnerabilities to climate impacts, as well as capacities and directions of climate response and adaptation (Thomas et al. 2019). Histories of components of culture shape connections with the natural world across communities, regions, and nations, including perception and acceptability and unacceptability of risk (McNeeley; Lazrus 2014). History and heritage can be a source of creativity and inspiration for climate response (Dawson et al. 2017; Rice et al. 2015). Capacity to practice culture, which is supported by cultural heritage, contributes to overall well-being (Heritage et al. 2018). However, given its complexities, culture and connections to heritage also presents challenges to climate action and response, such as in decisions or plans to relocate or migrate (Adger et al. 2013; Nakashima et al. 2012). Work is needed to assess the status of research and work that navigates these diverse benefits and complexities of culture and heritage in relation to climate change.

An approach to culture and heritage that addresses all communities also recognizes that climate change itself, and the contemporary response to it, have history and heritage (the social, political, historical, and cultural contexts noted as missing by Ford et al. 2016). While definition of the Anthropocene includes a relatively recent starting date (Crutzen 2002; Steffen et al. 2015), contributing forces to anthropogenic climate change include economic, technological, cultural, intellectual, and philosophical trends that have realized phenomena such as colonialism, capitalism, and industrialization over the past several centuries. Work in the fields of historical archaeology and industrial archaeology, among others, recognize that these phenomena are dynamic, have evolved, and have potential to continue to evolve (Wurst 2015; Wurst; Mrozowski 2016). Assessment is needed to link this form of understanding of climate change with the tools and approaches of culture and heritage.

Moreover, by adopting a wider approach to culture and heritage in all its forms, including cultural expressions, specific attention could be paid to contemporary art forms, artistic expressions communicated through words (literature), sound (music, radio), images (photos, TV, films), movement (performing arts such as dance, theatre) or objects (sculpture, painting, design) and cultural goods, services and activities produced and distributed by the cultural and creative industries. Cultural heritage is the record of human creativity through time and all forms of heritage are bases for creativity in the present. As argued by (Tyszczyk; Smith 2018), a greater integration of contributions inspired by culture and creativity into climate change scenarios would help to reshape climate model outputs and imagine alternative futures. However, knowledge gaps on the interconnections of climate with diverse cultural expressions, cultural and creative sectors, including in the digital environment, remain. Addressing these gaps would help assess how culture and creativity can be further mobilized as powerful resources for addressing climate change impacts.

## 2) Cultural governance

Climate change is challenging public policies across all policy areas. As a systemic issue, climate change must be addressed in cultural policies. Beyond local innovative experiences – especially at the city level – the ecological transition and the fight against climate change are rarely formulated as specific objectives of cultural policies. Wider efforts are thus needed, notably through enhanced data collection, to inform both cultural and environmental policies.

A critical frame for assessing culture, heritage, and climate change is recognition of who decides what heritage counts as heritage and how. Such decisions, whether made explicitly or implicitly, shape the allocation and direction of heritage safeguarding and attention to histories and the diversity of cultural expressions.

Multiple UNESCO conventions include standards for the engagement of communities in the identification and safeguarding of their heritage. For example, UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage states that the communities concerned should decide what constitutes their

cultural heritage and what does not. As noted above, intangible cultural heritage is defined as what the 'communities, groups and, in some cases, individuals recognize as part of their cultural heritage' (see Art 2.1). Each community, group or individual should assess the value of its own intangible cultural heritage and this intangible cultural heritage should not be subject to external judgments of value or worth. No safeguarding of elements of their intangible cultural heritage should take place without their involvement and commitment, especially that of practitioners and other active tradition bearers. In turn, under UNESCO's 1972 Convention concerning the Protection of the World Cultural and Natural Heritage ("the World Heritage Convention"), the duty to identify, but also protect, conserve, present and transmit to future generations the natural and cultural heritage situated in its territory belongs primarily to the State Party itself (see Art. 4 of the Convention). Engagement of many and diverse stakeholders and rights-holders, including the site owner/manager, the State Party, national heritage agencies, local authorities, other government agencies, local communities, Indigenous Peoples, universities, researchers and academics, local businesses, tourism operators, NGOs and user groups (e.g. fishermen, forest users, recreational users) in the nomination process is essential, however, in developing shared responsibility for the site, as well as ensuring the full inclusion of local knowledge in its management.

Questions that must now be raised are how the practices and knowledge that come from the implementation of these Conventions and other heritage laws and practices held at local, state, and national levels, as well as by Indigenous Peoples' organisations, intersect with the current and future stresses of climate change and the needs of climate science and climate response. Collectively, decisions made under these Conventions and other regulations and practices will determine what heritage will be carried forward and available to future generations. Decision points for management and governance of culture and heritage therefore carry implications for justice and equity across a range of adaptation approaches, including but not limited to situations of migration and relocation. Assessment is needed to bring together the range of such decisions, their outcomes, as well as pathways for alternative approaches.

Currently links between climate change and areas of security, including but not limited to environmental, agricultural, and water security and conflict, are strengthening, but remain difficult to quantify (Mach et al. 2019). The roles of culture and heritage in these links are noted but also are not yet well defined (United Nations 2012). Therefore assessment is needed to identify instances in which maintenance, support, recognition, or engagement of cultural heritage has improved security or reduced stress, and also situations in which cultural heritage has been or may be used as a source or focus of stress.

Governance also speaks to management and framing of scientific and climate-relevant information and creation and maintenance of collaborative frameworks that include and engage cultural heritage. The IPCC SROCC moved forward practice in bringing together traditional and Indigenous knowledge holders with other scientists; additional work is needed to continue to build method and practice in connecting and relating traditional and Indigenous knowledge systems and the scientific process, inclusive of free, prior, and informed consent of the traditional and Indigenous knowledge holders. As well, the Convention on Biological Diversity, in collaboration with IUCN, UNESCO, and others, are advancing a new joint programme of work linking nature and culture within the post-2020 global biodiversity framework, which it is anticipated will include collaborative activities with ICOMOS. Work is needed to identify and then build on case studies that have productively and effectively linked nature and culture approaches and identify where new methods and work are needed.

### **3) Loss, damage, and adaptation for culture and heritage**

Essential questions exist in the science and understanding of the impacts of climate change on both tangible and intangible cultural heritage, natural heritage, and the creative economy. Areas of research include: 1) what are material consequences of climate change on historic materials, historic buildings and structures, archaeological sites, and landscapes, and museums and archives, and what are the implications of these material impacts for intangible cultural heritage; local and Indigenous ways of knowing, natural heritage; and the creative economy (Rockman et al. 2016; Sabbioni et al. 2012); 2) what are the geographic distributions of

these consequences, and how may these consequences develop across potential climate scenarios; 3) what are existing tools for identifying, monitoring, and documenting impacts and where are new tools needed; and 4) what is the state of tools for assessing and comparing vulnerability of elements of culture and heritage across communities, regions, and time?

Identifying and characterizing impacts of climate change on culture and heritage brings forward further essential questions regarding adaptation, prioritization, and loss. Insofar as tangible components of heritage do not have inherent capacity to adapt, what are existing technical and policy tools for adaptive management of heritage? These may include but not be limited to methods of documentation, excavation, maintenance, repair, curation, and legislative tools regarding conservation, funding, training, and education. In turn, while the practice and transmission of intangible cultural heritage may change in response to or as part of surrounding environmental change, assessment is needed of the processes and tools available to understand and document such change, and where additional methods, tools, and approaches are needed. Similarly, the creation, production, distribution and access with regard to diverse cultural activities and products are being challenged by climate change. Wider efforts are needed to assess policy responses for the cultural and creative sectors and to identify adaptation practices and responsive models of economic activity for artists and cultural professionals.

Further, as adaptive management, documentation, or other conservation action cannot be taken at once for all elements of cultural heritage that are experiencing climate damage or facing risk of climate damage, what are the current tools and approaches for prioritizing cultural heritage elements and places for heritage safeguarding and conservation and where are tools currently lacking? The cultural and creative sectors are facing similar issues in ensuring the protection and promotion of diverse cultural expressions in a changing environment. Assessment is needed of systems for combining vulnerability and concepts such as significance or valuation, as well as how well such systems of prioritization may support future needs for heritage, such as biological and cultural diversity and sustainability.

It is recognized that it never has been possible to safeguard all forms of culture and heritage and will continue to be so as climate change progresses. Therefore, additional assessment is needed of current and needed tools, methods, and practices that recognize, engage, and transform the process of loss (DeSilvey 2017). A critical focal point in this area is the intersection of migration and other forms of displacement and heritage (Kim 2011), inclusive of effects of both climate and migration on cultural and natural heritage left behind, which elements of culture and heritage can be carried forward as part of the process of migration and how, and management and maintenance of culture and heritage of those who have migrated in new locations alongside the culture and heritage of arrival locations.

#### 4) Capacity to learn from the past

How do we learn from the past? Assessment is needed of the status of how data and insight from the past are being used to address current climate challenges, and where gaps remain in data, practice, or both. Some cultural heritage can inform climate science relatively directly, such as through paleoenvironmental and paleoclimatic data and related information on past human uses and management of environments (Ingram 2008; Stahle et al. 1985; Zhuaung; Kidder 2014). Sources of such information include underwater cultural heritage, including paleolandscapes, submerged sites, and shipwrecks. For measurable portions of the Holocene, sea levels were lower than present and human occupation extended far into areas that are now underwater. These areas, such as the Paleolithic and Mesolithic landscape known as Doggerland now under the North Sea, hold unique traces of the human interactions with and responses to submergence and related wide-ranging environmental change (Gaffney et al. 2007). Many other examples of past environmental change and evidence of human communities living through and beyond that change can be found in other prehistoric submerged landscapes, sunken cities, and harbour and port structures.



However, many questions and much variability can remain with respect to data comparability and data gaps and the nature of temporal, causal, and other interconnections between past human activity and past environmental change (Kennett; Kennett 2000; McIntosh et al. 2000; Stahle et al. 1985). In other instances, traditional land, water, and fire management, agricultural and husbandry practices, and traditional architecture, which many communities recognize as part of their intangible cultural heritage, can inform adaptation and/or mitigation approaches, either directly or in adapted forms. In these areas, questions to be addressed include how to integrate traditional techniques with other ongoing socio-economic systems when use of traditional techniques has lapsed and the range of skills, training, and resources that are needed for effective and sustainable use into the future.

As noted in the AR5 Working Group II Box 16-4, Historical Perspectives on Limits to Adaptation, while there has been substantial research into past civilizations and their interactions with environmental change, substantial gaps remain in translating these findings for use in addressing modern anthropogenic climate change. Assessment is needed of the current status of understanding of long-term processes of social change, such as cultural evolution and patterns and trajectories of path dependence, characteristics of social rigidity and flexibility, and the capacity shown by past societies (or not) to switch from one to the other (Hegmon et al. 2008). Related assessment is needed of how understanding of these long-term social processes that can only be seen through study of the past are being used to inform contemporary climate approaches, and where gaps remain between such study of the past and application to present challenges and issues. In brief, what are current methods for translating insights from centuries or millennia of human-environment experience into meaningful approaches to contemporary climate science and climate response?

Learning from the past requires asking questions of it. Therefore, it is also essential to assess questions that climate science, adaptation, and mitigation communities have for and about the human past and related concepts of human behavior and society, how those who form and shape research into the past (archaeology, paleoanthropology, and related fields) develop their questions, and how the questions of these different communities may be better aligned, communicated, and addressed.

##### **5) Roles of culture and heritage in transformative change and alternative sustainable futures**

Culture offers both climate services and sources of resilience and ambition for action in response to climate change. For example, intangible cultural heritage practices, including traditional land and water management practices and the use of traditional architecture and building materials, can help communities adapt to a changing climate. At a broad scale, heritage is an essential component in the creation of place and a focus of place attachment. Cultural and natural heritage sites can serve as a refuge, both physical and psychological, for communities during and after climate-related emergencies (Christie 2017). Assessment is needed of where and how these sites have acted or may act as assets for recovery in the wake of intercommunal conflicts linked to climate change.

As well, heritage fields use multiple participatory governance models, such as stakeholder consultation, in determining appropriate responses to projected impacts to heritage. Sites, monuments, museums, archives, and cultural institutions are venues for inspiration, education, story-sharing, and other forms of collective memory and community enactment around climate change. Culture and heritage therefore play roles in inspiring individual and collective climate action, though to date the scope of these roles has not been well assessed. Citizen science and other forms of community engagement ranging from archaeology to oral histories not only gather information about climate impacts to heritage but also serve as platforms for individual and community mobilization (Bethel et al. 2014; Dawson et al. 2017; Miller; Murray 2018). In this regard, cultural expressions also have a role in responding to environmental challenges. Cultural expressions not only convey an artistic dimension but also symbolic meaning and social values. In this regard, artists, cultural institutions and professionals are able to imagine alternative narratives and futures. They can also promote more sustainable ways of living and shape new social norms through creativity. In doing so, they are critical

levers to reinforce dialogue and cooperation in the fight against climate change. On these bases, further assessment is needed of where culture and heritage has been used to create, support, or further community adaptation. Similar questions should be followed with respect to disaster preparedness and recovery.

Systematic assessment is also needed of the environmental impact of the cultural and creative sectors, including in the digital environment, and how they may be engaged to encourage eco-friendly practices. In turn, the creative and cultural sectors can be critical levers to raise awareness about ecological crisis and to promote responsive models of economic activity. In a context where cities have become active players in climate action, culture can be a strong driver for cities to undergo an ecological transition, by boosting innovative thinking around locally adapted solutions, which may be drawn from local heritage, that meet development targets, while at the same time encouraging low-carbon practices and strategies, and triggering behavioural change and promoting civic engagement. Attention is also needed to identify and enable the creative sectors that have an awareness-raising and transformative potential, including the audio-visual and music industries, food and gastronomy, and crafts

Culture also has multiple roles to play in decarbonization and mitigation. Creativity is essential for finding new solutions to environmental challenges, and cultural institutions and artists have an important role to play in leading behavioral change linked to climate action. Contemporary patterns of production, consumption, lifestyles, and social organization tend to be swifter, less place-adapted, and more carbon intensive than traditional patterns developed over longer periods of time. Culture and heritage intersect with approaches such as circular economy and life cycle assessment and contributes to more sustainable modes through demonstration of alternate templates for living, emphasis of non-material measures of well-being, and worldviews and systems of values and beliefs that highlight nature-culture connections, among others.

Natural heritage sites represent one of the most powerful resources at our disposal for addressing rising greenhouse gas emissions. Ecosystems on land and sea serve as our planet's only "sinks" for greenhouse gas emissions, sequestering 5.6 gigatons of carbon dioxide each year – the equivalent of around 60% of global greenhouse emissions (IPBES 2019). Many of the natural heritage sites found on UNESCO's World Heritage list, such as the Central Amazon Conservation Complex, the largest protected area in the Amazon Basin, serve this critical function. Further assessment is needed not only of these capacities of natural heritage sites, but also the roles of cultural values for natural heritage in engaging and expanding these capacities. In particular, **greater exploration of the role of traditional and Indigenous ways of knowing and cosmogonies in preserving natural heritage** is needed.

In the built environment and building sector, adaptive use and reuse of the historic built environment avoids the carbon costs of new construction, while the traditional performance characteristics of historic buildings and architectural styles can support energy efficiency and in some cases be incorporated into new buildings as well (Elefante 2012; Sesana et al. 2019). Continued assessment is needed of the carbon benefits of such reuse and efficiency improvements and how these may be expanded or extended. There are multiple areas of alignment between these aspects of cultural heritage and the forthcoming IPCC special report on Cities and Climate Change. In addition, building on the IPCC SRCCL, work is needed to continue assessment and attention to new areas in which the mitigation and sequestration components of traditional and Indigenous land use, resource stewardship, and husbandry may be supported and enhanced.

The need exists to further elaborate the role of culture and heritage in delivering climate-resilient development pathways, i.e. systems in which the decarbonization imperative reflected in the Paris Agreement is accomplished in tandem with the achievement of the goals embodied in the 2030 Agenda for Sustainable Development. For example, culture can be a driver for human settlements, notably cities, to undergo an ecological transition, within the larger framework of an ecosystem-based adaptation approach to climate change. While culture is embedded in the dominant modes of production, consumption, lifestyles and social



organization that give rise to emissions of greenhouse gases, it can also provide a blueprint for low-carbon technologies and lifestyles. The latter is achieved by emphasizing aspects of cultural practice that align with circular economy approaches, including a focus on multi-generational time scales and horizons and promoting an ethic of stewardship, reuse and conservation. The creative sector can boost innovative and imaginative thinking to foster local-adapted solutions to climate change related issues, trigger the transition to more responsible production and consumption patterns and encourage the sustainable use of natural resources in urban settlements, promoting social transformations that promote collective responsibility. For instance, design opens up new pathways for more compact, low-carbon urban practices and strategies, addressing through a creative lens various issues such as use of energy, mobility, urban development or public spaces design. These experiences should be more thoroughly documented, analyzed and evaluated to better understand, characterize and measure their contribution to ecological transition and identify possible obstacles, with a view to optimize their impact and scale them up at the policy level. This work should also bring to the fore methodologies and systems that address the ethical and equitable aspects of the deep societal transformation needed to drastically reduce emissions to limit global warming (e.g. to 1.5°C) and achieve desirable and liveable futures and well-being for all.

Work is needed to integrate all dimensions of sustainable development - including environmental sustainability – into cultural policies in order to reduce the contribution of the cultural and creative industries to greenhouse gas emissions. In some cases, mitigation actions can threaten traditional practices and cultural resources and undermine heritage protection as it has been conventionally understood. Examples of such tensions include banning the traditional harvesting of peat; retrofitting of historic buildings for energy efficiency in ways that impact heritage values; and implementing carbon sequestration models without regard to local or Indigenous forest management practices and land tenure (ICOMOS 2019). In other areas, some of the cultural and creative industries – notably audiovisual or music industries – bear a significant environmental impact across the value chain, including in the digital environment. Although a number of innovative initiatives have emerged towards greener production practices, overall awareness of the environmental impact of the cultural and creative industries remain widely insufficient. As cultural tourism, whilst providing opportunities for economic and social development, can also drive unsustainable practices and including greenhouse gas emissions.

This wide range of cultural interactions taking place in a variety of settings creates both complexities and difficulties in determining the adaptation limits of heritage practices and systems and the threshold for recognizing losses and damages to cultural significance. Perhaps as a result, climate action is not systematically addressed in cultural policies in most countries around the world. Building knowledge and data – particularly at the global level - to assess the environmental impact of cultural and creative industries is therefore essential to inform policy-making and support transformative action within the cultural and creative sectors. These data would better inform frameworks that allow for the identification, negotiation and where possible reaching of consensus on co-benefits and trade-offs, in order to achieve 'win-win' outcomes, whilst at the same time managing and minimizing conflicts between goals.

## **6. Partner Organisations**

The Expert Meeting will include contributions from a set of partners. Current partners are:

1. IPCC, through its scientific guidance and co-sponsorship, including the intent indicated by Working Groups I and II to serve on the Scientific Steering Committee for the Expert Meeting;
2. UNESCO, sponsoring organizer, the United Nations organization with a mandate that spans both culture and the sciences;

3. ICOMOS, sponsoring organizer, an international NGO that works for the conservation and protection of cultural heritage places;
4. IUCN, key partner, an international membership union whose members include nations and government agencies, NGOs, Indigenous Peoples' organisations, scientific and academic institutions and business associations and which is a global authority on the status of the natural world, including natural heritage;
5. ICLEI Local Governments for Sustainability, key partner, an international organization of local governments and national and regional local government organizations committed to sustainable development;
6. The Facilitative Working Group (FWG) for the Local Communities and Indigenous Peoples Platform of the UNFCCC has been invited to serve as a key partner and, based on conversations with its Co-Chair and members, it is expected that this invitation will be formally acted upon at the next FWG meeting; and
7. A national/city government to serve as host (to be confirmed; interest indicated by Germany).

Additional partners may be incorporated at a later stage.

## **7. Timing and Duration**

The Expert Meeting is expected to be held in late 2020. To the extent possible, it will be synchronised with other ongoing international conferences, IPCC events, and the UNFCCC COP26. The Expert Meeting itself is expected to last three days, with an opening plenary on the morning of the first day; and a closing plenary on the evening of the third day. It is expected that the Scientific Steering Committee meet the day prior to the conference and that a welcome reception will take place in the evening.

## **8. Proposed Content and Agenda**

The format of the Expert Meeting will be finalised by the Scientific Steering Committee. An indicative agenda is presented below:

### Day 0

- Arrivals
- Voluntary city tours
- Scientific Steering Committee meeting
- Welcome reception

### Day 1

- Opening plenary
- Initial thematic presentations
- Initiation of working group discussions
- Conference dinner

### Day 2

- Working group discussions (morning)
- Keynote presentation (lunch)
- Working group discussions (afternoon)

- Cultural event (music/art/dance)

#### Day 3

- Working group discussions (morning)
- Working plenary
- Closing plenary and ceremony

### **9. Conference Participants**

The conference is expected to draw between 45-50 participants from across the world, of which over a third will be from developing countries. The selection process for participants will be designed by the Scientific Steering Committee and will follow IPCC priorities for geographic representation, gender balance, as well as diversity in areas of culture and heritage expertise. Developing country and Indigenous Peoples and local community participants who do not have institutional support for travel would be provided travel funding from funds being requested by ICOMOS. If additional funding is raised, the number of participants will be raised, including participants from developing countries, Indigenous Peoples and local communities.

### **10. Scientific Steering Committee, Organizing Committee and Management arrangements**

A Scientific Steering Committee (SSC) will manage the conference and its proceedings. The SSC will be co-chaired by UNESCO, ICOMOS and the IPCC. The bureau of WGI and WGII will be involved in providing scientific input into the preparations for the conference. SSC members will be drawn from the organizers and co-organizers, key partner organisations and key stakeholder groups and will strive to maintain a balance across regions, gender and scientific themes.

The conference will be administered by an Organizing Committee, including representatives from the IPCC Secretariat and organizers from the host city (Germany, host city to be determined).

### **11. Timeline**

#### **Phase I**

#### Preparation

#### 2019

- July: presentation of Expert Meeting proposal idea at World Heritage Committee meeting in Baku, Azerbaijan; initial meetings with States Parties regarding support for project
- October: expert meeting proposal scoping workshop (side event of the Climate Heritage Network Launch), Stirling, Scotland
- November-December: initiate Scientific Steering Committee; prepare proposal for international Expert Meeting

#### 2020

- March: submit proposal to the IPCC requesting IPCC co-sponsorship of Expert Meeting

#### Expert Meeting

- March/April: first SSC meeting, by web conference

- May/June: Commissioning of prepared papers (plenaries, thematic, keynote); commissioning of white papers to serve as basis for working group discussions
- June/July: IPCC-Heritage Dialogue event, as a side event of 44th session of the World Heritage Committee (44COM), Fuzhou, China
- June/July: second SSC meeting, held in margins of Dialogue event (with web conference component if needed)
- Early September: third SSC meeting, to be held via web conference
- Late 2020: IPCC international Expert Meeting on culture, heritage and climate change, Germany (city TBD)

2021

- Early 2021: release of report on Expert Meeting report and recommendations

#### **Phase II (funding being developed)**

- Mid-late 2021: publication of peer-reviewed article(s) on and about Expert Meeting and recommendations
- 2021 onward: additional workshops, seminars, and other work to move forward collaborations and publications to address issues and knowledge gaps identified in the Expert Meeting process

## **12. IPCC Financial Implications**

No financial support is being sought from the IPCC.

Direct costs for the Expert Meeting, using a base rate of Euro 2,000 per participant, is expected to be roughly Euro 90,000 plus in-kind host support. In-kind contribution, of the conference venue, local Secretariat and conference dinner of approximately Euro 50,000 is expected to be made by the host city in coordination with its State Party.

[Not for circulation]

## **13. Contacts**

[Not for circulation]

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**Appendix B-3**  
**Sample Acceptance Notification**

10 August 2021

Dear,

Thank you for applying to participate in the International Co-Sponsored Meeting on Culture, Heritage and Climate Change (ICSM CHC, Meeting). As the co-chairs of the ICSM CHC Scientific Steering Committee (SSC), we are pleased to inform you that you have been selected as a participant.

The SSC selected approximately 100 participants out of the 400 experts who were suggested. Those selected represent an incredibly diverse range of cultural, scientific, technical and socio-economic expertise, as well as broad geographical representation and gender balance. This diversity will be an enormous asset as Meeting participants undertake to consider the state of knowledge and practice regarding connections of culture, heritage, and climate change.

The ICSM CHC will be held online during the week of 6 December 2021. Virtual plenaries and discussion sessions will be held on December 6, 8, 10. Online posters will be available Dec. 6-10, with dedicated viewing time on Dec 7, 9. Please reserve these dates now in your calendars.

As a participant, you are requested to take part in several activities that will help prepare for the Meeting. These include engagement with three white papers currently being prepared that will provide a common research background and point of reference for the overarching scientific questions and cross-cutting issues of the ICSM CHC (for your reference, a summary of these questions and issues is included in Annex 1 and full version is attached). A short series of three white-paper focused webinars will be held for participants in late September and early October (dates are anticipated to be Thursday, September 23, September 30, and October 7). Participants will receive full drafts of the white papers at the end of October.

Participants will also be invited to submit and share posters as part of the ICSM CHC. A detailed call for poster abstracts will be circulated soon and posted on the participant platform of the ICSM CHC (more on the website below). As will be detailed in the call, posters will be asked to address one or more of the overarching questions or cross-cutting themes of the Meeting from the perspective of the participant's work and knowledge. Posters will be displayed virtually throughout the Meeting with dedicated sharing times on December 7 and 9. Content of shared posters will be incorporated into the Meeting report.

A special participant section of the ICSM CHC's soon-to-be-launched website ([cultureclimatemeeting.org](http://cultureclimatemeeting.org)) is being set up and in order to allow participants to connect with each other, share information and receive updates about the Meeting. In the coming days, you will receive a separate email inviting you to join the Platform and set up your participant profile. After receiving this email invitation, if you have any questions on how to log into the Platform or set up your participant user profile, please do not hesitate to reach out to us. It is important that you join this Platform as it is through this site that you will receive further instructions about the Meeting.

If for some reason you are unable to accept this offer to participate, please let us know by no later than 27 August 2021. Otherwise, there is no need to formally accept this offer. Your action to set up your profile in the Participant Platform will be your indication that you accept. Thereafter, if circumstance change and you become unable to participate, please let us know as soon as possible. This may allow us to identify a replacement with comparable expertise from the Meeting waiting list.



The intersections of human cultures and heritage with climate change are many and diverse, ranging from impacts and loss to critical data, knowledge, and support for adaptation and mitigation. The International Co-Sponsored Meeting on Culture, Heritage and Climate Change presents an important opportunity to more fully integrate these connections of culture and heritage with global climate science and response. We are grateful for your interest and expertise and look forward building this Meeting with you.

Yours sincerely,



Debra Roberts  
Co-Chair, Co-Sponsored Meeting  
Scientific Steering Committee  
Co-Chair, IPCC Working  
Group II



Marie-Laure Lavenir  
Acting Co-Chair Co-Sponsored  
Meeting Scientific steering  
Committee, Director General,  
ICOMOS



Mechtild Rössler  
Co-Chair, Co-Sponsored Meeting  
Scientific Steering Committee  
Director, UNESCO World Heritage  
Centre

## Annex I

### Summary of Overarching Scientific Question and Cross-Cutting Issues:

#### *Overarching Questions*

1. Systemic connections of culture, heritage, and climate change
  - Nature and scope of representation of diverse forms and scales of culture and heritage in climate literature and assessments
  - Integration of diverse knowledge systems, including Indigenous knowledge systems, across areas of climate research and response
  - Climate change itself has a history, as do all communities; nature and scope of historical, social, and cultural contexts of the Anthropocene
2. Loss, damage, and adaptation for culture and heritage
  - Climate impacts on culture and heritage, including methods of describing vulnerability of culture and heritage to climate impacts
  - Adaptive/preservation methods for culture and heritage, including understandings of significance and approaches to prioritization of/for action
  - Understanding of and approaches to loss and change
3. Roles of culture and heritage in transformative change and alternative sustainable futures
  - Capacity of historic buildings/landscapes/traditional land use to hold carbon
  - Cultural and natural heritage as sources of resilience or refuge in response to disasters
  - Heritage as inspiration for art, connection, understanding, and action on climate

#### *Cross-Cutting Issues*

1. Cultural governance
  - Who decides (or has decided) what heritage is? How is heritage knowledge managed?
  - Intersections of heritage with conflict
2. Capacity to learn from the past
  - Use of data and knowledge from the past in climate models and policy
  - Finding common ground between climate and heritage approaches to research questions

*For a more detailed description of the foregoing Questions and Issues, please see the [excerpt](#) from the original Co-Sponsored Meeting Proposal endorsed by the IPCC Executive Committee in 2020. Please note that the original Proposal described five overarching questions while the final ICSM CHC plan is to organize these as three overarching questions and two cross-cutting issues. The scope of each of these five topics remains the same as described in the Proposal.*

## Appendix C

### White Paper Author Teams

#### **White Paper I: Intangible cultural heritage, diverse knowledge systems and climate change (Knowledge Systems)**

##### **Lead Authors**

Ben Orlove (*Colombia University*)

Neil Dawson (*University of St. Andrews/SCAPE Trust*)

Pasang Sherpa (*Co-Chair of the Local communities and Indigenous Peoples' Platform (LCIPP) of the UNFCCC; Executive Director of the Center for Indigenous Peoples Research and Development; and Co-Chair of the IUCN CEESP Specialist Group on Indigenous Peoples, Customary & Environmental Laws & Human Rights*)

##### **Contributing Authors**

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Rosario Carmona (*Department of Anthropology of the Americas, Uni-Bonn, Germany*)

Deborah Coen (*Professor, Chair of the History of Science & Medicine Program, Yale University*)

Melissa Nelson (*Anishinaabe, Cree, Métis, Arizona State University*)

Victoria Reyes-García (*CREA Research Professor at the Institut de Ciència i Tecnologia Ambientals (ICTA)*)

Jennifer Rubis (*Indigenous Peoples Specialist at Green Climate Fund*)

Gideon Sanago (*Tanzanian Maasai, Coordinator for Climate Change; Pastoralists Indigenous Non-Governmental Organizations (PINGO's Forum)*)

Andrew Wilson (*Colombia University*)

##### **Staff Associate**

Petua Mukimba (*Colombia University*)

#### **White Paper II: Impacts, vulnerability, and understanding risks of climate change for culture and heritage (Impacts)**

##### **Lead Authors**

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Scott Orr (*UCL Institute of Sustainable Heritage*)

##### **Contributing Authors**

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R. Michael Feener (*University of Kyoto*)

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Poonam Verma Mascarenhas (*Archinova\_ Environs, University of York*)

Patricia Pinho (*UC Santa Cruz*)

Jean-Baptiste Bosson (*International Union for Conservation of Nature (IUCN)*)

Tiffany Morrison (*ARC Centre of Excellence for Coral Studies, James Cook University, Australia*)

##### **Chapter Scientist**

Luckson Zvobgo (*University of Cape Town*)

#### **White Paper III: The role of cultural and natural heritage for climate action (Solutions)**

**Lead Author**

Nick Shepherd (*Aarhus University/ University of Pretoria*)

**Contributing Authors**

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## Appendix D

### Methods Used for Preparing *Global Research and Action Agenda on Culture, Heritage and Climate Change*

Information for the *Global Research and Action Agenda for Culture, Heritage and Climate Change* (GRAA) was compiled from all sources of official Co-Sponsored Meeting inputs, which include plenary and parallel sessions, posters, and the White Papers (commissioned by the SSC in advance of the Co-Sponsored Meeting).

The preparation of the GRAA was a 9-month project that followed the occurrence of the Co-Sponsored Meeting (6-10 December 2021). The methodology for preparing the GRAA can be described as falling into four phases: (1) Rapportage; (2) Table of Content and Review; (3) Compilation of Key Messaging; (4) Participant and SSC Engagement and Consultation. Each of the phases is outlined below.

#### (1) Rapportage

All Co-Sponsored Meeting sessions (i.e., all breakout rooms and all poster presentations) were recorded by the online platform (zoom) function, and had had two Rapporteurs per break—out room who took minutes of the discussions, and completed a Rapporteur sheet with relevant queries regarding the discussion. All case studies or examples mentioned during The Co-Sponsored Meeting were also captured.

#### (2) Table of Content and Review

The Table of Content was developed through discussions with the SSC, Co-Chairs (and associated members of the co-sponsor teams), using a draft the Scientific Coordinator observed as pertinent takeaways from the analysis of the Co-Sponsored Meeting.

#### (3) Compilation of Key Messages

Once the final Table of Content was established, key messages derived from analysis of the Co-Sponsored Meeting discussions were added into Table of Contents headers and discussion points.

Examples and case studies used were selected based on their (a) geographical coverage; (b) relevance to the Meeting's Scientific Questions (i.e., Knowledge Systems, Impacts, Solutions); (c) type, or form, of culture or heritage addressed; (d) participant involved (i.e., researcher, traditional knowledge holder, practitioner).

#### (4) Participant and SSC Engagement and Consultation

All outlines and documents were sent to all Meeting participants and the SSC for comments and feedback. On 7 February 2022, participants were emailed requesting that they feed back on (a) the GRAA headers, and (b) the discussion points to help identify any major gaps or omissions. They were given 18 days to provide feedback, and some exceptions for detailed feedback were extended. On 7 February, the SSC members were also sent an email requesting their feedback regarding the Table of Contents, and Key Messages. Similar to participants, SSC members were given 18 days to provide feedback, and some exceptions for detailed feedback were extended.

All responses were added into a document shared with the Co-Chairs (and associated members of the co-sponsoring organisations' teams), with all feedback/comments included in the document (with the associated participant named). All effort was made to be as inclusive as possible, and to acknowledge all participants who provided input into the document through citation.

By May, the Co-Chairs (and associated members of the co-sponsor teams) and SSC were once again given a

month's opportunity to feed into the Agenda document as it came to its final stages. Members of the SSC that had previously not provided feedback had another opportunity, and several did so.

All finalised Case Study boxes were also sent back to participants (who authored the boxes; although edits may have changed meanings/interpretations) to confirm they were happy with its content and presentation.

### **Summary of participant inputs to the *Global Research and Action Agenda on Culture, Heritage and Climate Change***

Inputs from all Co-Sponsored Meeting sessions, posters, commissioned White Papers and discussions were recorded and informed and shaped the Global Research and Action Agenda. These inputs were used to define the priority areas to form the outline. Once the outline of the Research and Action Agenda was identified, all inputs were summarised and binned under the appropriate section. Individual research gaps and approaches for action which were identified. Through the process of writing the document, the outline of the draft changed slightly, however, the breakdown of the key messages found in this table was developed through consultation that took place throughout the writing process.

A list of participants who contributed to the first stage of review is below:

List of participants who contributed to the first stage of review (February 2022), which included overall messages extracted from the Co-Sponsored Meeting
Chiara Bertolin ( <i>Norwegian University of Science and Technology</i> )
Robin Coningham ( <i>UNESCO Chair, Durham University</i> )
Cathy Daly ( <i>Carrig Conservation and University of Lincoln</i> )
Lori Ferriss ( <i>Director of Sustainability and Climate Action at Goody Clancy</i> )
Max Friesen ( <i>University of Toronto</i> )
Carola Hein ( <i>TU Delft</i> )
Maya Ishizawa ( <i>University of Tsukuba</i> )
Dulma Karunarathna ( <i>Centre for Asia Pacific Initiative, University of Victoria, Canada</i> )
Jon Kohl ( <i>PUP Global Heritage Consortium</i> )
Timothy Kohler ( <i>Washington State University</i> )
Helen McCracken ( <i>JSC-ANZCORP</i> )
Gabriela Mora Navarro ( <i>Instituto Nacional de Antropología e Historia</i> )
Scott Orr ( <i>UCL Institute of Sustainable Heritage</i> )
A.R. Siders ( <i>University of Delaware</i> )
Cecile Smith-Christensen ( <i>World Heritage Catalysis, University of Cumbria</i> )
Michael Smith ( <i>Arizona State University</i> )
José Lobo ( <i>Arizona State University</i> )
Scott Ortman ( <i>University of Colorado Boulder</i> )
Sarah Sutton ( <i>CEO of Environment &amp; Culture Partners (ECP)</i> )
Chris Underwood ( <i>President of the International Committee on the Underwater Cultural Heritage (ICUCH)</i> )
Ibidun Adelekan ( <i>University of Ibadan, Ibadan, Nigeria</i> )
Wilfredo Alangui ( <i>Kankana-ey Igorot and Ilocano, University of the Philippines in Baguio</i> )

<i>City (UP Baguio)</i>
<i>Rosario Carmona (Department of Anthropology of the Americas, Uni-Bonn, Germany)</i>
<i>Ben Orlove (Columbia University)</i>
<i>Neil Dawson (University of St. Andrews/SCAPE Trust)</i>
<i>Deborah Coen (Professor, Chair of the History of Science &amp; Medicine Program, Yale University)</i>
<i>Melissa Nelson (Anishinaabe, Cree, Métis, Arizona State University)</i>
<i>Victoria Reyes-García (CREA Research Professor at the Institut de Ciència i Tecnologia Ambientals (ICTA))</i>
<i>Jennifer Rubis (Indigenous Peoples Specialist at Green Climate Fund)</i>
<i>Gideon Sanago (Tanzanian Maasai, Coordinator for Climate Change Pastoralists Indigenous Non)</i>
<i>Governmental Organizations (PINGO's Forum)</i>
<i>Andrew Wilson (Columbia University)</i>

## Appendix E

### Information on Participants

#### Appendix E-1

#### Co-Sponsored Meeting Participants

The Co-Sponsored Meeting welcomed a total of 103 invited participants. The regional distribution of conference participants and their breakdown by gender and areas of expertise is summarised in table C-4(1), and the full list of conference participants follows in table C-4(2). The nationalities indicated below are those provided by conference participants at the time of registration.

**Table E(1)-1. Co-Sponsored Meeting Participants by Region, Gender and Expertise**

TOTAL PARTICIPANTS IN ATTENDANCE	
Region	
Africa (WMO Region I)	7
Asia (WMO Region II)	23
South America (WMO Region III)	7
North America (WMO Region IV)	14
South-West Pacific (WMO Region V)	10
Europe (WMO Region VI)	42
<b>TOTAL</b>	<b>103</b>
Expertise	
Climate Change (without previous major focus on culture or heritage)	17
Culture or Heritage	79
Natural Heritage	7
<b>Indigenous/Knowledge Holders</b>	<b>4</b>
Gender	
Female	65
Male	38



Figure E-1(1). Overall Attendance by Region

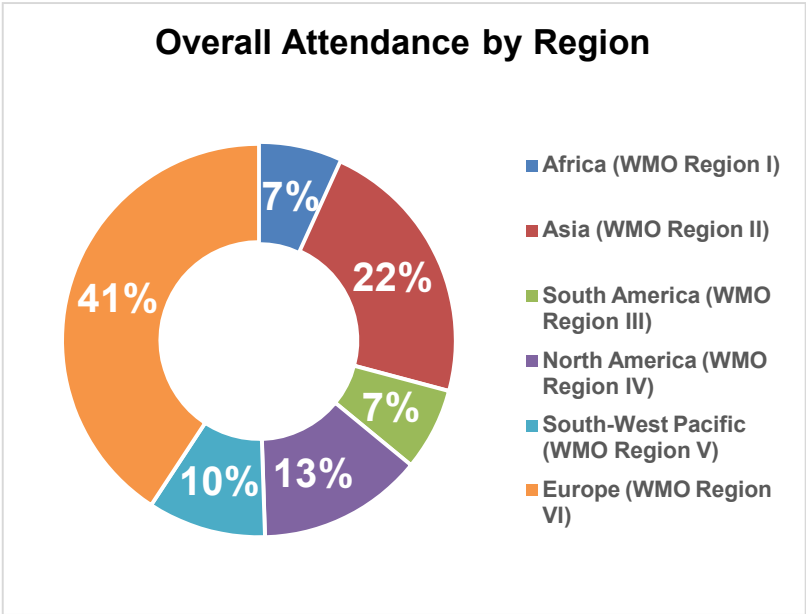
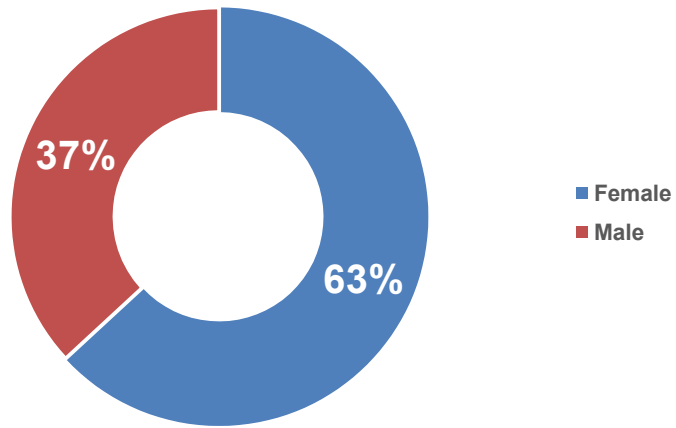


Figure E-1(2). Overall Attendance by Gender

### Overall Attendance by Gender



**Table E-1(2). List of Co-Sponsored Meeting Participants**

<b>Participants</b>	<b>Expertise</b>	<b>Region</b>	<b>Country</b>
Salma Sabour	Natural Heritage	Africa (WMO Region I)	Morocco
Nick Simpson	Climate Change (without previous major focus on culture or heritage)	Africa (WMO Region I)	South Africa
Moses Chundu	Culture or Heritage	Africa (WMO Region I)	Zimbabwe
Debra Roberts	Climate Change (without previous major focus on culture or heritage)	Africa (WMO Region I)	South Africa
Ibidun Adelekan	Culture or Heritage	Africa (WMO Region I)	Nigeria
Siona O'Connell	Culture or Heritage	Africa (WMO Region I)	South Africa
Mohamed Abdrabo	Culture or Heritage	Africa (WMO Region I)	Egypt
Jeong-eun Kim	Culture or Heritage	Asia (WMO Region II)	Korea
Jiyoung Kim	Culture or Heritage	Asia (WMO Region II)	Korea
Kin Ip	Culture or Heritage	Asia (WMO Region II)	China
R. Michael Feener	Culture or Heritage	Asia (WMO Region II)	Japan
Tomo Ishimura	Culture or Heritage	Asia (WMO Region II)	Japan
Akifumi Iwabuchi	Culture or Heritage	Asia (WMO Region II)	Japan
Zhang Rouran	Culture or Heritage	Asia (WMO Region II)	China
Aseel Alharthi	Climate Change (without previous major focus on culture or heritage)	Asia (WMO Region II)	Saudi Arabia
Fatima Al Sulaiti	Culture or Heritage	Asia (WMO Region II)	Qatar
Malak Al-Nory	Climate Change (without previous major focus on culture or heritage)	Asia (WMO Region II)	Saudi Arabia

Nourah AlSudairy	Climate Change (without previous major focus on culture or heritage)	Asia (WMO Region II)	Saudi Arabia
Chandni Singh	Culture or Heritage	Asia (WMO Region II)	India
Dulma Karunarathna	Culture or Heritage	Asia (WMO Region II)	Sri Lanka
Poonam Mascarenhas V.	Culture or Heritage	Asia (WMO Region II)	India
Prajina Karmacharya	Culture or Heritage	Asia (WMO Region II)	Nepal
Alexey Butorin	Natural Heritage	Europe (WMO Region VI)	Russian Federation
Sandeep Sengupta	Climate Change (without previous major focus on culture or heritage)	Asia (WMO Region II)	India
Aziz Ballouche	Culture or Heritage	Africa (WMO Region I)	Morocco
Gabriel Caballero	Culture or Heritage	South-West Pacific (WMO Region V)	Philippines
Yunus Arikan	Culture or Heritage	Europe (WMO Region VI)	Turkey
Kh Mahfuz ud Darain	Culture or Heritage	Asia (WMO Region II)	Bangladesh
Samir Abdulac	Culture or Heritage	Europe (WMO Region VI)	France
Salah El-Ekhfifi	Natural Heritage	Asia (WMO Region II)	Libya
Gabriela Mora Navarro	Culture or Heritage	North America, Central America and the Caribbean (WMO Region IV)	Mexico

Jon Kohl	Culture or Heritage	North America, Central America and the Caribbean (WMO Region IV)	Costa Rica
Milagros Flores-Roman	Culture or Heritage	North America, Central America and the Caribbean (WMO Region IV)	Puerto Rico
Chiara Bertolin	Climate Change (without previous major focus on culture or heritage)	Europe (WMO Region VI)	Norway
Mirela Kamberi	Climate Change (without previous major focus on culture or heritage)	Europe (WMO Region VI)	Albania
Alexandra Troi	Culture or Heritage	Europe (WMO Region VI)	Italy
Antonia Gravagnuolo	Culture or Heritage	Europe (WMO Region VI)	Italy
Birgitta Ringbeck	Culture or Heritage	Europe (WMO Region VI)	Germany
Carola Hein	Culture or Heritage	Europe (WMO Region VI)	Netherlands
Cathy daly	Culture or Heritage	Europe (WMO Region VI)	Ireland
Cristina Sabbioni	Culture or Heritage	Europe (WMO Region VI)	Italy
Dorothee Boesler	Culture or Heritage	Europe (WMO Region VI)	Germany
Mechtild Rössler	Culture or Heritage	Europe (WMO Region VI)	Germany
Franziska Haas	Culture or Heritage	Europe (WMO Region VI)	Germany
Hannah Fluck	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Heather Viles	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Joanne Clarke	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Johanna Leissner	Culture or Heritage	Europe (WMO Region VI)	Belgium
Jyoti Hosagrahar	Culture or Heritage	Europe (WMO Region VI)	France

Nathalie Vernimme	Culture or Heritage	Europe (WMO Region VI)	Belgium
Paloma Guzmán	Culture or Heritage	Europe (WMO Region VI)	Norway
Jane Downes	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Sandra Fatoric	Culture or Heritage	Europe (WMO Region VI)	Netherlands
Victoria Reyes García	Culture or Heritage	Europe (WMO Region VI)	Spain
Elena Osipova	Natural Heritage	Europe (WMO Region VI)	Denmark
Bill Bordass	Climate Change (without previous major focus on culture or heritage)	Europe (WMO Region VI)	United Kingdom
Christophe Rivet	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	Canada
Cornelius Holtorf	Culture or Heritage	Europe (WMO Region VI)	Sweden
Dario Camuffo	Culture or Heritage	Europe (WMO Region VI)	Italy
Dorian Fuller	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Jordi Pascual	Culture or Heritage	Europe (WMO Region VI)	Spain
Jørgen Hollesen	Culture or Heritage	Europe (WMO Region VI)	Denmark
Josh Cohen	Culture or Heritage	Europe (WMO Region VI)	Denmark
Neil Dawson	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Nick Shepherd	Culture or Heritage	Europe (WMO Region VI)	Denmark
Oliver Martin	Culture or Heritage	Europe (WMO Region VI)	Switzerland
Robin Coningham	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Scott Allan Orr	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Shumon Tobias Hussain	Culture or Heritage	Europe (WMO Region VI)	Denmark

Tom Dawson	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Richard Veillon	Natural Heritage	Europe (WMO Region VI)	France
Cecilie Smith-Christensen	Culture or Heritage	Europe (WMO Region VI)	Norway
Christos Zerefos	Climate Change (without previous major focus on culture or heritage)	Europe (WMO Region VI)	Greece
May Cassar	Culture or Heritage	Europe (WMO Region VI)	United Kingdom
Csaba Zsolt Torma	Climate Change (without previous major focus on culture or heritage)	Europe (WMO Region VI)	Hungary
Deborah Coen	Climate Change (without previous major focus on culture or heritage)	North America, Central America and the Caribbean (WMO Region IV)	United States of America
Melinda Tignor	Climate Change (without previous major focus on culture or heritage)	North America, Central American and the Caribbean (WMO Region IV)	United States of America
A.R. Siders	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Elizabeth Brabec	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Lori Ferriss	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Sarah Sutton	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Ben Orlove	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Chris Marrion	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Tim Kohler	Culture or Heritage	North America,	United States of America

		Central American and the Caribbean (WMO Region IV)	
Brenda Ekwurzel	Climate Change (without previous major focus on culture or heritage)	North America, Central American and the Caribbean (WMO Region IV)	United States of America
Max Friesen	Culture or Heritage	North America, Central American and the Caribbean (WMO Region IV)	Canada
Rosario Carmona	Culture or Heritage	South America (WMO Region III)	Chile
Javier Mejuto	Culture or Heritage	Europe (WMO Region VI)	Spain
Marcela Hurtado	Culture or Heritage	South America (WMO Region III)	Chile
Maya Ishizawa	Culture or Heritage	South America (WMO Region III)	Peru
Chris Underwood	Culture or Heritage	South America (WMO Region III)	Argentina
Eduardo Brondizio	Natural Heritage	South America (WMO Region III)	Brazil
Daniela Diaz Fuentes	Culture or Heritage	South America (WMO Region III)	Chile
Elia Nakoro	Culture or Heritage	South-West Pacific (WMO Region V)	Fiji
Jennifer Rubis	Culture or Heritage	South-West Pacific (WMO Region V)	Australia
Lauren Rickards	Climate Change (without previous major focus on culture or heritage)	South-West Pacific (WMO Region V)	Australia
Chrissy Grant	Culture or Heritage	South-West Pacific (WMO Region V)	Australia
Helen McCracken	Culture or Heritage	South-West Pacific (WMO Region V)	New Zealand
Ruth Morgan	Culture or Heritage	South-West Pacific (WMO Region V)	Australia
Sue Hodges	Culture or Heritage	South-West Pacific (WMO Region V)	Australia



Ariadne Goring	Culture or Heritage	South-West Pacific (WMO Region V)	Australia
Christopher Ballard	Culture or Heritage	South-West Pacific (WMO Region V)	Australia
Jon Day	Natural Heritage	South-West Pacific (WMO Region V)	Australia

**Appendix E-2**

**Full list of Attendees of 9 July 2021 Model Project Germany Expert Meeting**

## Annex 2: Liste of Participants

<i>Titel</i>	<i>Vorname</i>	<i>Nachname</i>	<i>Institution</i>
	Marie	Baudis	ICOMOS Deutschland
Prof.	Paul	Bellendorf	Otto-Friedrich-Universität Bamberg
Dr.	Dorothee	Boesler	ICOMOS Deutschland
	Constanze	Fuhrmann	Deutsche Bundesstiftung Umwelt (DBU)
Dr.	Inge	Gotzmann	Bund Heimat und Umwelt in Deutschland (BHU)
Prof.	Stefan	Greiving	Technische Universität Dortmund
	Franziska	Haas	ICOMOS Deutschland
Prof.	Albert	Hafner	ICOMOS Suisse
Prof.	Jörg	Haspel	ICOMOS Deutschland
Dr.	Dörthe	Hellmuth	ICOMOS Deutschland
	Frank Pieter	Hesse	ICOMOS Deutschland
Dr.	Kristina	Holl	Otto-Friedrich-Universität Bamberg
Dr.	Verena	Jakobi	Landesamt für Denkmalpflege Hessen
	Gaia	Jungeblodt	ICOMOS International
Dr.-Ing.	Roswitha	Kaiser	Generaldirektion Kulturelles Erbe Rheinland-Pfalz
Prof.	Ralf	Kilian	Fraunhofer-Institut für Bauphysik IBP
Dr.	Lola	Kotova	Climate Service Center Germany (GERICS), Helmholtz-Zentrum Geesthacht
Prof.	Norbert	Kühn	Technische Universität Berlin
Dr.	Gundula	Lang	ICOMOS Deutschland
Dr.	Johanna	Leissner	Fraunhofer Institute IAP, IBP, ICT, IGB, IMW und ISC
Dr.	Roman	Luckscheiter	Deutsche UNESCO-Kommission e. V.
	Anke	Michaelis-Winter	Bundesministerium des Innern, für Bau und Heimat (BMI)
Dr.	Uwe	Mikolajewicz	Max-Planck-Institut für Meteorologie
Jun.-Prof.	Carola	Neugebauer	RWTH Aachen
Dr.	Katja	Piesker	Deutsches Archäologisches Institut (DAI)
Dr.	Gregor	Radinger	ICOMOS Austria
Dr.	Thomas	Reineke	Deutsches Zentrum für Luft und Raumfahrt e. V. (DLR)
Dr.	Brigitta	Ringbeck	Auswärtiges Amt
Dr.	Matthias	Ripp	Stadt Regensburg
Dr.	Marcy	Rockman	ICOMOS International
Prof.	Michael	Rohde	Stiftung Preußische Schlösser und Gärten
Dr.	Mechtild	Rössler	UNESCO World Heritage Centre
	Jan	Schultheiß	Bundesministerium des Innern, für Bau und Heimat (BMI)
Prof.	Stefan	Simon	Staatliche Museen zu Berlin - Preußischer Kulturbesitz
Dr.	Regina	Smolnik	Landesamt für Archäologie Sachsen
Dr.	Bernd	Vollmar	ICOMOS Deutschland
Dr.	Ulrike	Wendland	Deutsches Nationalkomitee für Denkmalschutz

## **Appendix F**

### **Meeting Programmes**

#### **Appendix F-1**

##### **Co-Sponsored Meeting Detailed Programme**

The programme of the International Co-Sponsored Meeting on Culture, Heritage and Climate Change can be found below. All times are UTC.

##### **Monday, 6 December Day One: Knowledge Systems**

Session 1a and 1b – 1am and 4pm Monday

Theme: Knowledge Systems, Power, and Interpretation of Climate Change

Session 2a and 2b – 7am and 6pm Monday

Theme: New Conditions, New Knowledge?

Session 3 – 2:15pm

Theme: The Challenges and Opportunities of Integrating Knowledge Systems

Panel Discussion –1pm – Knowledge Systems

##### **Tuesday, 7 December, Day Two: Poster Sessions**

Session 1: 7-8am

Session 2: 8-9am

Session 3: 9-10am

Session 4: 1-2pm

Session 5: 2-3pm

##### **Wednesday, 8 December Day Three: Impacts**

Session 4a and 4b – 1am and 4pm Wednesday

Theme: Collective Understanding of Uncertainty

Session 5a and 5b – 7am and 6pm Wednesday

Theme: Identifying common factors for vulnerability and resilience

Session 6 – 2:15pm Wednesday

Theme: Impacts, Power, and Interpretations of Climate Change

Panel Discussion –1pm – Impacts

##### **Thursday, 9 December, Day Four: Poster Sessions**

Session 1: 9-10am

Session 2: 1-2pm

##### **Friday, 10 December, Day Five: Solutions**

Session 7a and 7b – 1am and 4pm

Theme: Climate Justice

Session 8a and 8b – 7am and 6pm Friday

Theme: Impacts and Capacity Building

Session 9 – 2:15pm Friday

Theme: The Power of Heritage in Climate Thinking

Panel Discussion –1pm – Solutions

**Appendix F-2**

**9 July 2021 Model Project Germany Expert Meeting Agenda**

# Annex 1: Workshop-Agenda



## Tagesordnung für den Experten-Workshop am 9. Juli 2021 zur Unterstützung des Internationalen Meetings von UNESCO-ICOMOS-IPCC über Kultur, Kulturerbe und Klimawandel im Dezember 2021

**Datum:** 9. Juli 2021  
**Uhrzeit:** 09:30-17:00 Uhr  
**Ort:** Zoom- Meeting

### Zoom Zugangsdaten

Link: <https://zoom.us/j/99092360106?pwd=MUpzd2FhM2MwL1J2YzZXNERIMFBxZz09>  
Meeting ID: 990 9236 0106  
Kennwort: 360430

### Eröffnung

Begrüßung	Frau Constanze Fuhrmann (DBU, Referat Umwelt und Kulturgüter) Herr Prof. Dr. Jörg Haspel (ICOMOS Deutschland)	09:30
Einführung	Frau Dr. Mechtild Rössler (Welterbezentrum UNESCO) Frau Dr. Birgitta Ringbeck (Koordinierungsstelle Welterbe - AA) Herr Dr. Thomas Reineke (DLR)	09:40

### Austausch über die Fragenkomplexe

Gruppe 1	Folgen des Klimawandels auf Kultur- und Naturerbe und dessen Vulnerabilität Schutz- und Anpassungsmaßnahmen gegen die Folgen des Klimawandels auf Kultur- und Naturerbe	10:00 - 12:00
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Gruppe 2	<p>3. Die Rolle von Kultur- und Naturerbe bei Klimaschutzmaßnahmen bzw. zur Minimierung der Auswirkungen des Klimawandels</p> <p>4. Die Berücksichtigung der Auswirkungen des Klimawandels auf Kultur- und Naturerbe in politischen Rahmenwerken</p> <p>5. Lernen aus der Vergangenheit für den zukünftigen Umgang mit Kultur- und Naturerbe</p>	10:00 – 12:00
<b>Pause</b>		12:00 – 13:30
Zusammenfassung		13:30 - 13:45
<b>Austausch über die Fragenkomplexe</b>		
Gruppe 1	<p>3. Die Rolle von Kultur- und Naturerbe bei Klimaschutzmaßnahmen bzw. zur Minimierung der Auswirkungen des Klimawandels</p> <p>4. Die Berücksichtigung der Auswirkungen des Klimawandels auf Kultur- und Naturerbe in politischen Rahmenwerken</p> <p>5. Lernen aus der Vergangenheit für den zukünftigen Umgang mit Kultur- und Naturerbe</p>	13:45-15:45
Gruppe 2	<p>Folgen des Klimawandels auf Kultur- und Naturerbe und dessen Vulnerabilität</p> <p>Schutz- und Anpassungsmaßnahmen gegen die Folgen des Klimawandels auf Kultur- und Naturerbe</p>	13:45-15:45
Zusammenfassung Abschlussdiskussion		15:55-16:30
<b>Abschluss</b>		
Schlussbemerkung	Frau Dr. Johanna Leissner (Fraunhofer Büro Brüssel)	16:30
Ausblick	<p>Frau Constanze Fuhrmann (DBU, Referat Umwelt und Kulturgüter)</p> <p>Herr Prof. Dr. Jörg Haspel (ICOMOS Deutschland)</p>	16:45

## Appendix G

### Opening Ceremony Statements from Leaders of Co-Sponsoring Organisations 6 December 2021

#### Appendix G-1

##### Remarks by IPCC Chair Dr Hoesung Lee

Your Excellencies, distinguished friends and colleagues,

We are very happy to be working together on this with UNESCO and ICOMOS.

As Chair of the Intergovernmental Panel on Climate Change – IPCC – I'm honoured and pleased to welcome you to this unique gathering. For the first time in IPCC's history, we are bringing together, in one forum, the scientists and experts from the culture and heritage community and those working on climate change science.

Not only is this a historical meeting but it is a historical opportunity to explore and deepen our collective knowledge and understanding of how climate change impacts culture and heritage, and how these can enlighten our pathways to possible solutions in tackling climate change.

Our culture and heritage are windows into millennia of human experience from which we can draw and use them to shape our strategies to adapt and to make our communities more resilient to climate change risks and challenges. Are we capable of projecting from our collective past into our shared future? I believe yes, we are. I believe this is not only possible, but it is imperative that we do so.

For decades now, we have known that the world is warming. Our most recent report is the contribution of the Working Group I to the Sixth Assessment Report, published this summer. It laid out the most up-to-date physical science knowledge about climate change. The report clearly shows that recent changes in the climate are widespread, rapid, and intensifying, affecting every part of the world. Some of these changes are unprecedented in thousands of years.

It is indisputable that human activities are causing climate change. There are indelible human fingerprints on the changes to our climate. Compared to the pre-industrial era, our planet is already 1.1°C warmer. Human influence is making extreme climate events, including heatwaves, heavy rainfall, and droughts, more frequent and severe.

Climate change is already affecting every region on Earth, in multiple ways. The changes we're experiencing today will increase with further warming.

It is critical to recognise that there is no going back from some changes in the climate system. However, some of these changes could be slowed and others could be stopped by limiting warming.

And the science is very clear on that. Unless there are immediate, rapid, and large-scale reductions in greenhouse gas emissions, limiting warming to 1.5°C or even 2°C will be pushed beyond our reach.

But it is not just about temperature. Climate change is bringing multiple different changes in different regions, such as more intense rainfall and associated flooding, as well as more intense drought in many regions.

Some of these changes in our climate system are particularly relevant to the theme of this gathering and they present a clear and imminent threat to our culture and heritage.

For example, the continued sea-level rise will have irreversible and dire impacts on people living in the small Island States, such as Kiribati and Tuvalu or in the Arctic. This means loss of human habitat, loss of territory



and livelihoods, posing complex and difficult existential questions not only for these societies but equally so for the entire international community.

Consequently, this also means the loss of cultural identity, material and non-material traditions and the sense of belonging for these communities. Beyond these themes, there are additional layers of interlinked and complex social, economic, legal, human mobility and other questions that warrant the full and undivided attention of policymakers.

We also must recognize the threats posed by storm-driven coastal erosion, temperature changes, rising sea levels and floods to the world's cultural heritage sites. Most of these sites are bedrocks and sources of vitally important indigenous knowledge. Their physical loss is not only an irreparable loss to our collective history and our science. As these heritage sites perish, they can leave an unbridgeable chasm in our ability to pass on indigenous and local knowledge from one generation to the next one.

One should not forget the intangible, yet so profoundly valued experiences of our cultural and natural heritage – the aesthetic and spiritual enrichment they offer to us, the role they play in societies and cultural identities, in our recreation and knowledge, and how these subtle memories and experiences shape our physical and mental health.

Distinguished friends and colleagues,

I would like to stress here that IPCC assessment reports increasingly acknowledge the need for climate science to explore and tap into all areas and forms of knowledge. This is a critical component if we as IPCC are to present comprehensive and balanced assessments of the causes, impacts and responses to climate change.

I urge you to approach this gathering with ambition and vision. This co-sponsored meeting will allow us to explore the importance of cultural knowledge and heritage in understanding and responding to the climate change challenge. And we are only at the start. I hope this meeting will help generate more research across diverse disciplines and raise awareness among policymakers about cultural and natural heritage and climate change and possible models of adaptation and mitigation.

Culture and heritage are vitally important aspects of our lives and resources influencing how our communities and societies adapt to climate change. This meeting is convened just before the approval session of the IPCC's Working Group II contribution to the Sixth Assessment Report. This report will provide important information that will help inform the growing global debate on impacts and adaptation to climate change – especially given the strong focus on this issue that emerged at the COP26 in Glasgow.

I wish you a successful and productive meeting.

Thank you for your attention.

ENDS

## Appendix G-2

### Remarks by ICOMOS President Prof Dr Teresa Patriciao

Excellences, Mesdames et Messieurs, chers collègues,

Je tiens à vous dire combien j'apprécie cette occasion de pouvoir vous rencontrer, et c'est avec grand plaisir que je m'adresse à vous, au nom de l'ICOMOS, à l'occasion du lancement de cet événement si important : la toute 1<sup>re</sup> réunion UNESCO-GIEC-ICOMOS visant à renforcer les synergies entre la culture, le patrimoine et la science du changement climatique.

Tout d'abord, permettez-moi de présenter l'organisation que je représente 'ICOMOS, est l'organisation consultative du Comité du Patrimoine mondial pour la mise en œuvre de la Convention du Patrimoine mondial de l'UNESCO , et , entant qu'organisation internationale non gouvernementale, ICOMOS se consacre à promouvoir la théorie, la méthodologie et la technologie appliquées à la conservation, la protection et la mise en valeur des monuments et des sites ; et cela évidemment dans plusieurs domaines, en favorisent l'échange international d'informations scientifiques et en réalisent des projets variés dans des thèmes d'actualité.

En tant qu'organisation internationale du patrimoine, l'ICOMOS considère comme une évidence que l'utilisation durable du patrimoine est la pierre angulaire des activités visant à atténuer les effets du changement climatique. Il est essentiel que nous trouvions des moyens de garantir que la culture et le patrimoine soient pris en compte dans la lutte contre le changement climatique et qu'ils occupent une place centrale dans toutes les agendas internationaux.

C'est pourquoi l'Assemblée générale triennale de l'ICOMOS a voté l'année dernière pour déclarer une urgence climatique et écologique, appelant à une action collective urgente de tous les acteurs concernés pour sauvegarder le patrimoine culturel et naturel du changement climatique, y compris, non seulement par des réponses d'adaptation, mais aussi par la mise en œuvre d'une approche collective de précaution qui poursuit des voies pour limiter le réchauffement climatique à 1,5°C par rapport aux niveaux préindustriels.

Cette réunion internationale coparrainée sur la culture, le patrimoine et le changement climatique représente dès lors, une étape importante dans les efforts déployés depuis longtemps par l'ICOMOS pour améliorer l'intégration de la culture et du patrimoine dans la science du climat en général et dans le travail du GIEC en particulier.

Cela fait presque 6 ans, jour pour jour, que l'ICOMOS a coparrainé un événement en marge de la COP21 à Paris, auquel participait le Dr Youba Sokona, vice-président du GIEC, et qui portait sur la manière d'améliorer le traitement du patrimoine culturel dans le 6<sup>e</sup> rapport d'évaluation (RE6) du GIEC. Maintenant, avec la réunion coparrainée lancée aujourd'hui, nous nous concentrons principalement sur le potentiel d'impacter le prochain cycle d'Evaluation (le 7<sup>e</sup> rapport d'évaluation) (RE7/AR7).

L'attention de l'ICOMOS sur ces questions a été durable et ciblée. Pourquoi ? Parce que nous croyons fermement que pour que l'évaluation du changement climatique soit complète, pour que la présentation des options d'atténuation et d'adaptation soit solide, elles doivent prendre en compte les dimensions (matérielles et immatériels) de la culture et du patrimoine dans toute leur diversité.

Le moment choisi pour cette réunion coparrainée est crucial. Dans les années à venir, le GIEC évaluera le changement climatique et les villes - et les villes sont des structures fondamentalement culturelles.

Ma vision est de contribuer à l'élaboration de solutions et à la prise de mesures pour les villes et les communautés pour mettre en œuvre les objectifs de développement durable (ODD) des Nations unies d'ici

2030, en mettant particulièrement l'accent sur la régénération urbaine, notamment dans le contexte du changement climatique. Nous devons tous promouvoir des villes pour tous, socialement inclusives, des villes qui sont régénératrices et résilientes, qui ont des identités partagées et un sens du lieu.

Dans les mois et années à venir, le GIEC contribuera au Bilan Mondial de l'Accord de Paris, visant à faire le point sur la mise en œuvre de l'Accord de Paris dans le but d'évaluer les progrès collectifs du monde vers ses objectifs à long terme. Et ...je propose ici que nous devons savoir si l'inattention à la dimension culturelle du changement climatique a contribué à des lacunes (insuffisances) dans cette ambition collective mondiale !

Dans les mois et années à venir, le groupe de travail 2 du GIEC contribuera à l'élaboration d'un objectif mondial en matière d'adaptation - je pense que la culture et le patrimoine sont essentiels pour reconnaître et répondre au risque climatique et qu'ils seront donc essentiels à ce processus. La culture et le patrimoine sont à la fois menacés par les effets du changement climatique et font partie de la solution. La culture et le patrimoine, y compris la créativité et les systèmes de connaissance des peuples autochtones et des communautés locales, peuvent contribuer à une transition équitable et à la réalisation des objectifs de l'accord de Paris, en tenant compte des différentes situations nationales. Des stratégies fondées sur la culture peuvent aider à renforcer l'ambition et la capacité d'action des communautés, à soutenir l'adaptation et la résilience au climat, à contribuer aux interventions d'atténuation et à remédier aux pertes et dommages causés par les impacts climatiques. De telles prémisses seront certainement examinées dans les jours à venir, ce qui signifie que les résultats de cette réunion ont une chance inégalée d'améliorer et de renforcer tout le travail crucial qui suivra.

Vous avez, certainement déjà tous entendu que la DBU – la Fondation fédérale allemande pour l'environnement, (La Deutsche Bundesstiftung Umwelt DBU), l'une des plus grandes fondations d'Europe qui promeut des projets innovants et exemplaires dans le domaine de la protection de l'environnement, est l'un des principaux donateurs de la réunion coparrainée. Grâce à cette collaboration, la DBU a, de sa propre initiative, suscité des réflexions et échanges en langue allemande sur les thèmes de la culture, du patrimoine et du changement climatique. Je les applaudis pour cela et je remercie mes collègues d'ICOMOS Allemagne pour leur enthousiasme à aborder ces sujets. Demain même, ICOMOS Brésil et leur Commission 'changement climatique et patrimoine' organisent une réunion de travail en langue portugaise. ... J'espère que leur travail et le vôtre serviront d'exemple et que les dimensions culturelles et patrimoniales du changement climatique seront abordées dans chaque pays, dans chaque région du monde et dans chaque langue, reflétant ainsi toute la diversité culturelle de la race humaine, qui est la nôtre !

Je remercie les collègues du monde entier qui ont participé à ces efforts au fil des ans. La réunion coparrainée est un énorme pas en avant, mais nous avons encore beaucoup à faire. C'est notre responsabilité à tous, et nous devons veiller à un engagement partagé, où l'aide de chacun sera nécessaire pour faire en sorte que les recommandations de la réunion soient mises en œuvre, notamment dans le cadre du 7<sup>e</sup> cycle d'évaluation du GIEC (2022-2028), qui aborde des questions essentielles pour faire face à l'urgence climatique, comme les villes et le changement climatique, et le bilan mondial de l'accord de Paris.

Avant de terminer, permettez-moi de souligner l'énorme quantité de travail qui a été faite pour nous amener à ce point par l'équipe de la réunion coparrainée de l'ICOMOS, je les remercie, leurs efforts sont extraordinaires !

C'est mon plus grand plaisir de voir aujourd'hui dans cette réunion, les scientifiques les plus remarquables et les experts les plus expérimentés ... je vous souhaite de riches échanges et que votre travail ici nous rapproche de la réalisation de cet objectif crucial : quand il s'agit de faire face à l'urgence climatique, la culture et le patrimoine sont pris en compte ! L'ICOMOS est à vos côtés dans ce travail !

Je vous remercie d'avoir consacré votre temps à m'écouter ! Merci

## **Appendix H**

**List of recommendations made to the IPCC in the Co-Sponsored Meeting's IPCC Progress Report**

members, Organising Committee partner organisations, and by other organisations to further the discussions between the research, practice and policy communities on culture, heritage and climate change science. For a partial list of these initiatives, see Annex I.

### **3.6 Recommendations for the consideration of the IPCC Panel**

The proposal for the Co-Sponsored Meeting was a response to growing calls for international attention to culture, heritage, and climate change, including by the Intergovernmental Committee established under the UNESCO 1972 Convention concerning the protection of the World Cultural and Natural Heritage. These calls were a recognition that there exist significant gaps in understanding the many connections between culture, the human past and climate change, as well as a need to advance the contributions of culture and heritage to climate change mitigation and adaptation.

The enthusiasm around the Co-Sponsored Meeting and the level of engagement by participants underscores the significance of those calls. The message that emerged from the Co-Sponsored Meeting panels and plenaries is clear: culture and heritage play an indispensable role as enablers of transformative climate action and climate resilient sustainable development, but knowledge gaps are significant across sectors and regions.

Building on these discussions and inputs, the members of the SSC propose the following recommendations/reflection points be taken note of at the 58th Plenary session of the IPCC. That the Panel:

- Consider deciding that an IPCC Expert Meeting on Culture, Heritage and Climate Change should take place during the AR7 cycle. This Expert Meeting would serve to clarify the role of culture and heritage as enabling conditions to transformative climate action and climate resilient sustainable development, including how attention to culture and heritage can help avoid maladaptation and mal-mitigation. The Expert Meeting should include within its scope an examination of the roles of culture and heritage in mitigation ambitions and pathways.
- Invite those scoping the reports in the AR7 cycle to consider including culture and heritage as a crosscutting topic across products in the cycle, including chapters in WGI, WGII and WGIII products, as well as the Special Report on Cities. Co-Sponsored Meeting participants expressed overwhelming support for the IPCC's increased focus on culture and heritage during the AR7 cycle. In addition to advancing a crosscutting approach to culture and heritage across all Working Groups, invite those scoping the WGII contribution to AR7 products to include a specific chapter on culture and heritage, including a focus on Indigenous and traditional knowledge. This chapter would look at how these areas inform narratives of change and evolution and are enablers or barriers to change. The chapter would assess how culture and heritage inform understandings of risk, vulnerability, and loss as well as the acceptability of systems change. It could also assess impacts on culture and heritage and how these impacts in turn affect the resilience of affected communities.
- Consider targeted and enhanced efforts to invite nominations for participation in scoping meetings and for positions in the preparation of AR7 reports (e.g., Coordinating Lead Authors, Lead Authors, and Review Editors) of individuals with culture or heritage-related expertise, relevant social science disciplines and diverse knowledge systems, including Indigenous and traditional knowledge holders, and, in that regard, (1) encourage IPCC member states to nominate experts for scoping meetings and as authors with such expertise, (2) encourage existing networks (such as within IPBES, UN-CBD, among others); Indigenous Peoples organisations; and social science, culture, and heritage organisations to apply for IPCC observer status and to nominate experts. Traditional and Indigenous knowledge bearers should be included, preferably at all levels, as lead and contributing authors.

- Build upon and scale-up existing initiatives within the IPCC to develop a concerted plan on how the IPCC can best include Indigenous Knowledge and the knowledge of local communities in its assessments. Consider holding an expert meeting early in the AR7 cycle, with the goal of developing new guidelines for accessing and incorporating such knowledge throughout the AR7 cycles. This expert meeting could also consider the current emphasis of the IPCC on English language research and look at ways to expand efforts to assess non-English literature and practice, including “grey” and Indigenous and non-traditional knowledge.
- Consider increasing the frequency of dialogue between IPCC bodies, UNESCO and other intergovernmental bodies, as well as civil society networks such as ICOMOS and the Climate Heritage Network on the topic of Culture, Heritage and Climate Science in order to better tie these communities together in a meaningful way. This could include, for instance, a concerted effort to invite these and other organizations to play a role during the scoping and review process of AR7 as well as Special Reports. Encourage national IPCC Focal Points to circulate drafts of forthcoming and future IPCC draft reports to culture and heritage networks.

#### **4 Concluding remarks**

The Co-Sponsored Meeting was successful in bringing together to take stock of the knowledge and identify current research gaps in culture, heritage and climate change not only researchers and scientists (e.g. archaeologists, anthropologists, geographers, geologists, architects, heritage conservationists, paleoclimatologists and other researchers from the social and natural sciences and the humanities) but also knowledge holders (such as members of Indigenous Peoples and local communities), practitioners, and youth. It encompassed members of the culture, heritage (natural and cultural), planning, creative and design communities in addition to professionals and academics (e.g., from private and public sector enterprises, international and/or national organisations, professional bodies, networks and site and historic house museum managers, civil society and policymakers in culture and heritage).

The SSC and the Organising Committee would like to take this opportunity to thank the IPCC for their leadership in bringing these actors together to discuss culture, heritage and climate change science.

As discussed in Annex I, in the months following the Co-Sponsored Meeting, several initiatives informed or catalysed by the Co-Sponsored Meeting have begun, initiated by SSC members, Organising Committee members, and other organisations to further strengthen the work at the interface of science, practice and policy on cities and climate change. These developments highlight the importance of bringing a variety of actors together and fostering dialogue, collaboration and exchange of knowledge around a specific issue to accelerate knowledge co-generation.

Moving forward, we are hopeful that both the climate and culture research, practice and policy communities will build further fruitful collaborations together that will address some of the gaps in knowledge and research identified in the *Global Research and Action Agenda on Culture, Heritage and Climate Change*, producing new knowledge and generating additional peer reviewed literature and other relevant inputs for consideration during the AR7 and AR8 cycles, and particularly the Special Report on Cities and Climate Change.

**Appendix I**

**Report of the 15 September 2022 Model Project Germany**



**International Council on  
Monuments and Sites**

**Conseil International  
des Monuments et des Sites**

**Deutsches Nationalkomitee e.V.**

gefördert durch



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# Herausforderung für Klimawissenschaft und Denkmalpflege – Auswertung des internationalen Expert:innentreffens im Dezember 2021 von UNESCO-ICOMOS-IPCC für Deutschland

Bericht zum Online-Meeting am 15. September 2022

Stand: Dezember 2022



## 1. Einführung

Die diesjährige Folgeveranstaltung des deutschen Experten-Workshops zur Unterstützung des UNESCO-ICOMOS-IPCC-Treffens zu Kultur, Kulturerbe und Klimawandel hatte zum Ziel, Klima- und Kulturerbe-Expert:innen aus mehreren deutschen Forschungseinrichtungen zusammenzubringen. Das Treffen sollte einen Überblick über die drei in Auftrag gegebenen White-Papers des International Co-Sponsored Meeting on Culture, Heritage, and Climate Change (ICSM CHC) geben, das im Dezember 2021 stattgefunden hat. Diese Papiere sammeln den aktuellen Wissenstand über Kulturerbe und Klimawandel, in Bezug auf Wissenssysteme, Auswirkungen und Lösungen. Durch die Präsentation dieser Ergebnisse sollte aufgezeigt werden, wie diese Erkenntnisse für den deutschsprachigen Raum von Bedeutung sein könnten.

Die Tagesordnung sah wie folgt aus:

### **10:00 Begrüßung**

Teresa Patrício, President ICOMOS International

Alexander Bonde, Secretary General DBU

Jyoti Hosagrahar, Deputy Director UNESCO, World Heritage Centre

Tino Mager, President ICOMOS Deutschland

### **10:20 International Co-Sponsored Meeting on Culture, Heritage, and Climate Change (ICSM CHC) Findings**

Will Megarry, ICSM CHC Co-Chair for ICOMOS

Hana Morel, ICSM CHC Scientific Coordinator

### **10:50 Pause**

### **11:00 White Paper 2: Impacts**

Nicholas P. Simpson, African Climate and Development Initiative, University of Cape Town, South Africa/Zimbabwe

Scott Allan Orr, Lecturer, Faculty of the Built Environment, UCL, UK

### **11:45 Pause**

### **12:00 White Paper 3: Solutions**

Nick Shepherd, School of Culture and Society - Department of Archeology and Heritage Studies, Aarhus University, Denmark

Joshua Benjamin Cohen, Research Fellow, School of Politics and International Studies, University of Leeds, UK

**12:45 Pause**

**13:45 White Paper 1: Knowledge Systems**

Ben Orlove, Professor of International and Public Affairs, Columbia University, U.S.

**14:30 Exchange on the challenges for the German-speaking region / Austausch zu den Herausforderungen für den deutschsprachigen Raum**

Dorothee Boesler, ICOMOS Deutschland

Constanze Fuhrmann, DBU

Jörg Haspel, ICOMOS Deutschland

**15:30 Abschluss**

## **2. International Co-Sponsored Meeting on Culture, Heritage and Climate Change (ICSM CHC)**

Ausgangspunkt für die deutsche Veranstaltung im September 2022 war ein internationales Treffen im vorangegangenen Winter 2021, das ICSM CHC. Dieses wurde gefördert durch den Weltklimarat (IPCC), der UNESCO und ICOMOS. Vom 6.-10. Dezember 2021 trafen sich 100 Teilnehmende in einer Videokonferenz. Die Teilnehmenden kamen aus 40 verschiedenen Ländern und sind Expert\*innen auf dem Gebiet Klimawissenschaft, Kulturerbe oder Naturwissenschaft. Ziel war eine aktuelle Bestandsaufnahme über den Wissensstand zu den Zusammenhängen von Klimawandel und Kulturerbe. Die Ergebnisse des Treffens wurden in vier Berichten zusammengetragen und veröffentlicht. Es handelt sich hierbei um das „Global Research and Action Agenda on Culture, Heritage, and Climate Change“ sowie drei White-Paper zu den Themen „Intangible Cultural Heritage, Diverse Knowledge Systems, and Climate Change“, „Impacts, Vulnerability, and Understanding Risks from Climate Change to Culture and Heritage“ und „The Role of Cultural and Natural Heritage for Climate Action“.

Die vorangegangene Diskussion der internationalen Erkenntnisse stellte somit die Grundlage für die deutsche Veranstaltung dar. Hier sollten insbesondere erste Lösungsansätze für den Schutz des Kulturerbes vor den Klimawandel für den deutschsprachigen Raum gewonnen werden. Herausforderungen bei der Umsetzung von

Handlungsempfehlungen, die insbesondere in Deutschland auftreten, sind beispielsweise der Föderalismus, der eine einheitliche und gemeinschaftliche Lösung erschwert (s. Abbildung 1). Eine wichtige Hilfestellung stellen deshalb die Inhalte der unlängst genannten White-Paper dar. Auf diese soll im Folgenden genauer eingegangen werden.



Abb. 1: Windows of Opportunity: A German Context (Hana Morel)

## 2.1 White Paper I: Knowledge-Systems

Um ein solch komplexes Problem wie den Klimawandel anzugehen, bedarf es den Austausch verschiedener Wissenssysteme. Zu den Wissenssystemen gehören indigene, lokale und wissenschaftliche. Allesamt sind vielfältig und umfassen sowohl das immaterielle als auch das materielle Kulturerbe. Für die Zusammenarbeit der unterschiedlichen Wissenssysteme ist Anerkennung und Respekt wichtig. Ziel soll es sein, nicht einfach fremde Wissenssysteme zu übernehmen, sondern im Austausch mit diesen zu kollaborieren.

Weitere Informationen: <https://openarchive.icomos.org/id/eprint/2717/>

## 2.2 White Paper II: Impacts

Der Klimawandel hat bereits Auswirkungen auf verschiedene Arten des Kulturerbes in allen Regionen der Welt. Diese werden in den kommenden Generationen weiter zunehmen. Es gibt ein globales Ungleichgewicht in der Anzahl der Veröffentlichungen zu den Auswirkungen des Klimawandels. Viele Auswirkungen im globalen Süden sind bisher nur wenig wissenschaftlich untersucht worden. Eine Aufbereitung der Daten vergangener Klimaereignisse ist unumgänglich, um sich auf kommende ausreichend vorzubereiten.

Weitere Informationen: <https://openarchive.icomos.org/id/eprint/2718/>

## 2.3 White Paper III: Solutions

Da jetzt „the moment of the now“ ist, ist es wichtiger denn je, kreative und neue Lösungen für die Herausforderungen unserer Zeit zu finden. Das bedeutet auch, unsere „westliche“ Denkweise zu verlassen und uns beispielsweise von traditionellen Ansichten inspirieren zu lassen. Der Klimawandel selbst muss als ein historisch gewachsenes Phänomen verstanden werden. Er ist ein Test unsere Menschlichkeit und kann nur gemeinschaftlich gelöst werden. Das Kulturerbe besitzt eine enorme Kraft, die keinesfalls statisch oder rückwärtsgewandt, sondern mobil und zukunftsgerichtet ist und somit ein wichtiges Werkzeug für die Organisation von Klimaschutzmaßnahmen sein kann.

Weitere Informationen: <https://openarchive.icomos.org/id/eprint/2719/>

## 3. Austausch zu den Herausforderungen im deutschsprachigen Raum

Nachdem der aktuelle internationale Kenntnisstand anhand der drei Themen der White-Paper dargestellt wurde, stellt sich die Frage, was der deutschsprachige Raum daraus lernen und umsetzen kann. Hierfür gilt es zunächst die grundlegende Frage zu klären, was man in Deutschland unter dem in den White-Papern viel diskutierten Begriff *Traditional Knowledge* versteht. Aus der Diskussion der Veranstaltung ging hervor, dass es sich dabei vorrangig um das Handwerk und den damit in Verbindungen stehenden Wissenschaften, wie der Bauforschung oder der Archäologie handelt. Auch genannt wurde das immaterielle Kulturerbe, sowie die Bedeutung von sekundären Quellen als Speicher von *Traditionel*

*Knowledge* (z.B. Hochwassermarken an Gebäuden oder Heimatbücher). Ein vorherrschendes Problem zu diesem traditionellem Wissen ist jedoch, dass sich die unterschiedlichen Wissenssysteme in Deutschland stark spezialisiert haben und ein Austausch untereinander bisher nicht stattfindet. Ein möglicher Multiplikator der verschiedenen Wissenssysteme könnte zukünftig die Weiterbevermittlung sein. Hier treffen verschiedene Forschungsgebiete in einem Objekt zusammen.

Eine weitere viel besprochene Frage war, wie jede einzelne Person jetzt schon handeln kann. Genannte Vorschläge waren beispielsweise die Beratung in der praktischen Denkmalpflege zu den Zusammenhängen von Schäden an den Baudenkmalen und dem Klimawandel. Außerdem wurde das Einberufen von Arbeitskreisen oder AGs zu unterschiedlichen Themen vorgeschlagen sowie das Erstellen von interdisziplinären Papieren und Lebenszyklusanalysen.

Daran anknüpfend plant ICOMOS Deutschland zusammen mit der DBU ein abschließendes Positionspapier zu erstellen. Während der Veranstaltung konnte das Interesse von zahlreichen Personen und Institutionen dazu geweckt werden, sodass sicherlich ein gemeinschaftliches und produktives Papier erarbeitet werden kann. Weitere Informationen dazu folgen in Kürze.

## **Weitere Informationen**

Homepage International Co-Sponsored Meeting on Culture, Heritage, and Climate Change (ICSM CHC): <https://www.cultureclimatemeeting.org/>

Bericht ICOMOS-DBU-Workshop 2021: <https://www.icomos.de/icomos/pdf/final-report-chcc-workshop-july-2021-ger.pdf>

## Appendix J

### Initiatives informed and catalysed by the Co-Sponsored Meeting

In the months since the Project, several initiatives informed and catalysed by the Co-Sponsored Meeting, the Model Project Germany and their outcomes were begun. These initiatives have been organised by SSC members, Organising Committee partner organisations, and by other organisations to further the discussions between the research, practice and policy communities on culture, heritage and climate change science.

#### Co-Sponsored Meeting

##### 2022 UN Climate Conference (COP27)

Several decisions taken and initiatives launched at COP27 were informed or catalysed by the Co-Sponsored Meeting:

The COP27 cover decision, the [Sharm el-Sheikh Implementation Plan](#) (SHIP), contains the following discussion of cultural heritage in Section VI on Loss and Damage:

44. Notes with grave concern, according to information in the contributions of Working Groups II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, the growing gravity, scope and frequency in all regions of loss and damage associated with the adverse effects of climate change, resulting in devastating economic and non-economic losses, including forced displacement **and impacts on cultural heritage**, human mobility and the lives and livelihoods of local communities, and underlines the importance of an adequate and effective response to loss and damage (*emphasis added*)

This is thought to be the first reference to “cultural heritage” in a COP cover decision.

The [decision](#) taken on the new framework adopted for the Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation includes “tangible cultural heritage” as one of the framework’s themes. That same decision also establishes traditional knowledge, knowledge of indigenous peoples and local knowledge systems as a cross-cutting consideration.

The [Sustainable Urban Resilience for the Next Generation](#) (SURGe) Initiative is one of several led by the COP27 Presidency launched at COP27. The Initiative, which counts “locally-led and culture-positive” action as one of its guiding principles, aims to support customised approaches depending on local contexts of rapidly developing cities, while recognising that culture and heritage represent both an asset to be protected from climate impacts and a resource to strengthen communities’ transformative change. These provisions draw on GRAA Case Study Box 1, “Cities as Engines of Transformation for Global Sustainability in the Urban World of the 21st Century,” authored by Yunus Arikan, ICLEI and Andrew Potts, Climate Heritage Network.

A holistic treatment of the cultural dimensions of the climate crisis was at the heart of “The Sharm El-Sheikh Declaration on Culture-based Climate Action” proposed at COP27 by the Climate Heritage Network with the endorsement of Jordan. The Declaration stresses that culture, from arts to heritage, plays a fundamental role in helping people to imagine and realize low carbon, just, climate resilient futures and that culture-based climate action has a crucial role to play in meeting the objectives of the UNFCCC, including also those related to mitigation and promoting climate-resilient sustainable development. The Declaration expressly welcomed the International Co-Sponsored Meeting on Culture, Heritage and Climate Change. The Declaration was discussed during a landmark [High Level Ministerial Dialogue on Cultural Heritage-Based Climate Solutions](#) held on 17 November 2022 with the support of Egypt. Both SSC Co-Chair Dr Debra Roberts and Organising Committee member Andrew Potts spoke at the event.

### **G20 Ministers of Culture Meeting (2021)**

2021 saw an important policy development with the organisation of the first ever meeting of G20 ministers of culture by Italy, the G20's 2021 president. "Addressing the climate crisis through culture" was selected as one of the meeting's priority areas, marking the first time the topic has been featured by the G20. A series of preparatory "G20 Culture Webinars" were organised by the Italian Ministry of Culture. One of these, entitled "Addressing the Climate Crisis through Culture. Preserving Cultural Heritage and Supporting the Green Transition," was held on 12 April 2021. Co-Sponsored Meeting Co-Chair Dr Debra Reports presented the work of the Co-Sponsored Meeting at this webinar during a panel entitled "Culture-Based Solutions Driving Climate Action." The Ministerial meeting was held in July in Rome and led to the unanimous adoption of the 32-point Rome Declaration. The Declaration includes a notable statement on culture as a climate change solution, as well as a ground-breaking request that countries consider including culture and heritage in their national Adaptation Communications under Article 7 of the Paris Agreement. The G20 Ministerial in turn influenced the **Naples Conference of the Ministers of Culture of the Euro-Mediterranean Region** held in Naples from 16-17 June 2022. The final Declaration of the Naples Conference included an extensive treatment of culture and climate change under the heading "A cultural agenda for the European Green Deal. From Glasgow to Sharm El-Sheikh and beyond."

### **Model Project Germany**

ICOMOS Germany is preparing a new project of work to take the Model Project Germany further. This work step is the preparation of a position paper for the German speaking area. The title is: "Das kulturelle Erbe im Klimawandel - Beiträge der Kulturerbeakteur:innen und der Klimawissenschaft" (Cultural Heritage in Climate Change - contributions of cultural heritage stakeholders and climate science). It will be translated in English. The position paper is currently signed by ICOMOS Germany and DBU. A number of other institutions is planning to sign:

GERICS – Climate Service Center Germany

DUK – German Commission for UNESCO

VDL – Association of State Monument Preservators

DNK - German National Committee for Monument Protection