

Human geographies of climate change adaptation

Note that this document does not include information about the opening or the closing of the conference.

Track #1

Title	Structural issues
Date	May 15th
Time	11.00 – 12.30
Room	University of Bergen Aula
Type	Plenary session
Speakers	<p>Karen O'Brien (University of Oslo) <i>This paradigm is killing us: the role of consciousness in confronting the limits to adaptation</i></p> <p>Emily Boyd (Lund University) <i>Building fair, cross-scale and borderless adaptation</i></p> <p>Andrew Gibson (University of York) <i>Information horizons as limits to climate change adaptation</i></p>
Chair person	Jon Barnett

Karen O'Brien (University of Oslo)

This paradigm is killing us: the role of consciousness in confronting the limits to adaptation

Adapting to the risks of severe, widespread, and irreversible global impacts is challenging--and arguably pointless—if we are at the same time perpetuating the social drivers of climate change and inequality. Fifty years ago, educator and philosopher Paulo Freire warned us that “the more completely the majority adapt to the purposes which the dominant minority prescribe for them ..., the more easily the minority can continue to prescribe.” In arguing for developing critical consciousness, Freire pointed to dangers of mechanistic approaches to transformations based on the assumption of a dichotomy between human beings and the world. A mechanistic view of reality, he argued, leads to the assumption that reality can be transformed mechanistically. This mechanistic approach is failing us, both in relation to climate change adaptation and mitigation. In this talk, I will consider the role of consciousness in climate change adaptation, and discuss alternative paradigms that can help society confront the limits to adaptation in a rapid and responsible manner.

Emily Boyd (Lund University)

Building fair, cross-scale and borderless adaptation

In an increasingly interconnected world, climate change impacts happening locally can also cause indirect impacts in distant places. Yet, climate change adaptation has mostly focused on addressing the local impacts, without enough consideration of broader consequences. Some scholars and institutions are nonetheless recognising the need to focus on cross-cutting adaptation challenges. Adaptation is fundamentally about processes of social change and reducing exposure and vulnerabilities that emanate from structural and individual drivers intersecting with physical climate risks. In our work we explore how power and politics intersects with cross-cutting adaptation at multiple scales to contribute towards producing more resilient and just futures. Still contentions exist around the politics of adaptation, where social change is often privileged, calling for deeper understanding of who, where, when and at what scale adaptation should and could occur; how are vulnerable groups in affluent contexts affected by adaptation; what structures and legal governance frameworks are required across scales to consider parallel governance regimes that are not connected; how are new mindsets of change framed and formed? Successful cross-scale adaptation rests therefore on changes to three major interconnected pillars: 1) power and political economy; 2) governance processes in the context of scalar mismatches (individual to collective) and increasing complexity; and 3) just and inclusive future pathways.

Emerging challenges include competing political imaginaries and resistance of societies to the distributional effects of transformative social change. Adaptation can also assist in creating new possibilities for understanding, collaboration, and change. Adaptation relates to more resilient and just futures in the ways that transformations are considered in relation to building fair, cross-scale/borderless adaptation.

Andrew Gibson (University of York)

Information horizons as limits to climate change adaptation

What determines the limits of adaptation to climate change? Combining insights from biosemiotics, philosophy of cognition, and complexity theory, this conceptual talk introduces the 'information horizon' as a type of adaptation limit. Information horizons are the spatial or systemic limits of information sources detectable to a cognitive process or entity. Within its information horizon, an organism or group of organisms, such as an organisation, community, or society (and perhaps soon AI) possesses agency. Where the information horizon of an individual or group excludes relevant information, agency is limited and the likelihood of decisions leading to maladaptive consequences increases. Applied to climate change, this leads to the hypothesis that adaptation efforts which fall short in terms of their scope or efficacy may have been limited by the inadequate information horizon of decision makers. Ensuring that adaptation interventions are socially just as well as environmentally coherent therefore requires decision makers to have information horizons that encompass the relevant forms of social and ecological knowledge. In many situations it may be useful to incorporate Indigenous and other non-Western ontologies, which are often custodians of fine-grained socioecological knowledge, but doing so presents challenges. Foremost among these is that of assessing whether different ontologies are likely to contribute to or limit context-specific adaptation. Information horizons analysis is proposed as a means of overcoming this challenge; where gaps are found in a decision maker's information horizon, additional input is necessary. More broadly, a scan of the literature suggests that this theoretical framework, along with the analytical lens that it produces, strengthens our conceptualisation and identification of social limits to adaptation. In this way, the information horizons lens helps to identify new questions about principles and methods that could strengthen research into the governance of climate change adaptation.

Session #2.1

Title	Adaptation in the Arctic
Date	May 15th
Time	14.00 – 15.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Jóhanna Gísladóttir (Agricultural University of Iceland) <i>Challenges for climate change adaptation in small remote communities in Iceland</i></p> <p>Leikny Bakke Lie (The Arctic University of Norway) <i>Strengthening resilience to climate-induced natural disasters through anticipatory capacities in Arctic municipalities</i></p> <p>Halvor Dannevig (Western Norway Research Institute) <i>The affective power of melting ice</i></p> <p>Laurien de Korte (The Arctic University of Norway) <i>From policy to practice: catalyzing climate change adaptation in northern Norwegian municipalities</i></p> <p>Rico Kongsager (University College Copenhagen) <i>Place attachment, storms, and climate change in the Faroe Islands</i></p>
Chair person	Carlo All

Jóhanna Gísladóttir (Agricultural University of Iceland)

Challenges for climate change adaptation in small remote communities in Iceland

Even though risk awareness of natural hazards and climate change has increased in Iceland, surprisingly little research has been conducted so far into adaptation strategies. In 2011 the Icelandic Civil Protection Department stated that there is a need to increase preparedness for climate change-related effects, in particular with regards to aquaculture, marine status, ecosystems, and national health monitoring. However, a comprehensive approach to adaptation is still lacking and some Icelandic researchers

have pointed at the lack of local (and national) adaptation plans. Climate change-related hazards are a rather young phenomenon, especially with regards to social impacts and local adaptation. Through a case study approach looking at avalanche risk in the towns of Flateyri and Patreksfjordur in the Westfjords, we conducted semi-structured interviews and focus groups to shed light on how small and remote communities in Iceland handle adverse effects and build capacity for response and preparedness. Extensive place attachment, which provides a solid basis for capacity building and community resilience, was found to exist in the communities. However, limitations and challenges were identified. Increased tourism and the influx of foreign nationals into the communities are two examples of demographic trends that may have an impact on local capacity and readiness. Furthermore, because of the remoteness of the villages, first response must originate from within the community. State institutions, their preparedness, and their response system primarily depend on residents and their willingness to volunteer.

Leikny Bakke Lie (The Arctic University of Norway)

Strengthening resilience to climate-induced natural disasters through anticipatory capacities in Arctic municipalities

The Arctic is warming nearly four times faster than the global average, with consequences to be felt on a local scale within the region. Previous studies find that while climate change adaptation efforts in Norway are improving, municipalities in Northern Norway are among the most exposed but have the least adaptation efforts in place. Building resilience within Arctic municipalities to enhance their ability to withstand and recover from the negative impacts of climate change will require adaptive strategies and actions. Thus, it is of interest to investigate how Norwegian municipalities are building anticipatory capacities through climate change adaptation efforts and whether this contributes to increased resilience to climate risk. Anticipatory capacities here rely on the ability to observe, identify, and prepare for impacts from current and future climate. Preliminary findings from a systematic mixed methods review show that municipalities in Northern Norway rely heavily on climate-related competency and knowledge developed by external actors and often spatially oriented towards national or regional scales. While climate risk in the form of natural hazards is increasingly incorporated in local risk- and vulnerability analyses, these primarily focus on known hazards in the short-term perspective of current climate, rather than anticipating and preparing for future impacts and the creeping effects of a changing climate. Experience with natural disasters still appears to be among the most important drivers for adaptation. We argue that the lack of locally appropriate knowledge and competency, and a strong emphasis on current, known climate risk, is insufficient in

terms of anticipating the consequences of a changing climate and how this is altering the conditions for when, where, and how natural disasters may occur. In turn, limited anticipatory capabilities impact how Norwegian municipalities cope with and adapt to climate impacts.

Halvor Dannevig (Western Norway Research Institute)

The affective power of melting ice

The high Arctic is a hotspot of rapid and cascading climate and environmental changes, which are already placing natural and social systems under stress. Tourism is also booming and has already surpassed pre-pandemic levels. While the carbon footprint associated with tourism in the Arctic is excessive, tourism also provide a critical share of livelihoods in many Arctic communities. The Arctic wilderness is the main attraction for tourists, and it contains one of the most visible symbols of climate change – melting ice. Melting glaciers and shrinking sea ice can be seen as boundary objects that at the same time are charismatic tourism attractions, symbols of climate change and subjects for scientific inquiries. Boundary objects convey meaning and exchange of knowledge across different social realms- in this case that of tourism, climate science and the greater public. Using interviews with guides and participant observation on guided trips in Svalbard, and Jostedalsbreen ice cap in mainland Norway, employing an analytical framework rooted in relational ontology, we investigate how the non-human agency of glaciers and melting ice is manifesting through tourism experiences, and the extent to which guides are motivated to promoting learning and pro-environmental behavior. We find that guides have a strong emotional bond to the places they work and display care and affect for the mountains they work in, and that they utilize the access they have to tourists when they are emotionally exposed during trips to glaciers to inspire behavioral change, contributing to a shift from a climate change discourse of fear to a discourse of care.

Laurien de Korte (The Arctic University of Norway)

From policy to practice: catalyzing climate change adaptation in northern Norwegian municipalities

Advancing climate change adaptation (CCA) in northern Norway is crucial as the Arctic warms up four times faster than the global average, necessitating Arctic municipalities to effectively manage climate change impacts. However, CCA progress is unevenly distributed, with smaller and remote municipalities facing challenges due to limited resources and expertise. This study comprehensively assesses current adaptive measures, identifies barriers, and explores opportunities within Arctic municipalities.

Additionally, we examine the potential catalytic role of the recent white paper "Climate Change – Together for a Climate Robust Society" (Meld. St. 26) in advancing CCA efforts. Results will be presented in a policy brief format to directly inform the day-to-day operations of Northern Norwegian municipalities. Our qualitative method includes semi-structured group interviews with key informants from Tromsø, Karlsøy, and Kåfjord municipalities, along with document analysis of relevant literature and white papers. The findings reveal challenges in prioritizing CCA measures due to limited resources and political incentives, compounded by a lack of locating suitable information platforms which are tailored to Arctic climates. The policy brief addresses these barriers by summarizing key issues from Meld St. 26 and translating the white paper into actionable measures, such as integrating climate change considerations into risk and vulnerability analysis; and finding synergies with sustainable development goals. It also directs municipalities to relevant information platforms, highlighting best practices and lessons learned, while identifying bottlenecks hindering CCA action. This research builds upon the Nordforsk-funded CliCNord project, emphasizing the necessity for co-creation efforts between researchers and municipalities. The policy brief serves as a valuable resource, benefiting not only the municipalities involved but also other northern Norwegian communities grappling with CCA challenges.

Rico Kongsager (University College Copenhagen)

Place attachment, storms, and climate change in the Faroe Islands

Globally, people have always had to deal with climate-related hazards, and in the majority of places they have adapted gradually. However, these gradual adaptations may not be enough to withstand the expected intensity of climate-related hazards in the future. In this paper, we focus on the effect of storms in the Faroe Islands. The islands are highly exposed to storms, which are projected to increase in intensity and potentially also in frequency in this region. The islands are characterized by being small, remote, and with a rough terrain, which makes it difficult for external actors to provide assistance. As a result, the civilian population—especially in the outer regions—often have to deal with storms and their consequences themselves. The geographical focus in this paper is the Northern Islands, and in particular the communities of Viðareiði and Hvannasund. The approach applied is qualitative (mainly semi-structured interviews), and the central question this paper tries to answer is how aspects of place attachment (social, physical, functional) affect the way in which the local population handle storms. The findings show communities that are impacted by storms, but also that their previous experiences with storms have led to an improved adaptation level, which today enables them to cope with more severe storms. The attachment they have to where they live will assist them in coping with future storms, although it can also be a

hindrance to the implementation of the necessary adaptation and preparedness measures since they presume that they are already safe.

Session #2.2

Title	Understanding adaptation limits
Date	May 15th
Time	14.00 – 15.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Ana Terra Amorim-Maia (Basque Centre for Climate Change) <i>Adaptation success and limits: insights from 50 leading experts and implications for research and practice</i></p> <p>Christopher Lyon (University of York) <i>What do climate projections beyond 2100 CE mean for adaptation?</i></p> <p>Daniel Puig (University of Bergen) <i>Ontologies of social limits to adaptation</i></p> <p>Gina Ziervogel (African Climate and Development Initiative, University of Cape Town) <i>Limits to adaptation through the lens of social innovation</i></p>
Chair person	Reinhard Mechler

Ana Terra Amorim-Maia (Basque Centre for Climate Change)

Adaptation success and limits: insights from 50 leading experts and implications for research and practice

In the face of the world's failure to mitigate and the increase in extreme climate events, the limits to adaptation are becoming increasingly clear. However, to date, there is little integration of the notion of limits to conceptual framings and formal definitions of adaptation. Yet, how can we pursue adaptation without understanding its limitations? And how can we secure valued objectives without a collective understanding of what these objectives are? We interview fifty of the most eminent adaptation experts worldwide to gain insights into the current state of the field, its evolution, limitations, and the pathways forward. Our sample includes researchers and practitioners who have dedicated an average of 19 years to diverse adaptation disciplines and practices,

from coining seminal definitions and driving political negotiations internationally to managing adaptation projects on the ground. We reveal a redefined conceptualisation of “adaptation” that reflects decades of evolution in understanding and learning, thereby unearthing significant insights and realisations around the concept and its limits in theory and practice. Our results reveal three discourses around limits to adaptation: (i) hard limits pertaining to the threshold beyond which risks and losses rise to intolerable levels and adaptation cannot help; (ii) soft limits concerning governance constraints, institutional capacity, and knowledge operationalisation; and (iii) abstract limits relating to the complexity of measuring “what has not happened” and the pointlessness of pursuing a process that is hoped to become obsolete. Our findings encourage a re-evaluation of current approaches to adaptation planning, action, and evaluation, and illustrate a need for a more down-to-earth understanding of what adaptation can and cannot do. Against this backdrop, we call for a new collective definition of “adaptation success”, which attempts to understand and encompass these limits.

Christopher Lyon (University of York)

What do climate projections beyond 2100 CE mean for adaptation?

A longer-term, rolling-time horizon approach serves a richer conceptualisation of adaptation by revealing hidden limits and opportunities. Recent climate projections to 2500 CE, drawing on new applications of the HaDCM3 model, point toward climate impacts continuing for centuries to come, even under higher mitigation scenarios with ongoing changes to sea levels, heat regimes, and biomes. These projections suggest adverse implications for infrastructure, agriculture, and ecosystem services, raising questions about the habitability of some Earth regions, least without adaptations beyond consideration today. Projecting much farther into the future also shows that the current norm of using sub-century fixed goals (e.g., Paris Agreement) and projection dates (e.g., 2100 in IPCC reports) may be adaptation limits if they conceal later climate impacts, presenting artificial windows for action and resulting in a more limited view of climate change impact and adaptation scenarios. To overcome this, a conceptual approach to adaptation is proposed centred on dynamic, rolling, nested, micro, meso, macro temporal and spatial horizons, extending as far into the future as projection computing power and imagination allow. Seeing those possible but presently over-the-horizon changes allows for a continuous re-examination and recalibration of adaptation, depending on the success or failure of current efforts and the constantly emerging scope of observed and projected social-environmental changes. Doing so conceptualises adaptation as an intergenerational and multi-centurial project and thus expands the range of plausible, desirable, and projectable climate change adaptation

options across a less limited range of scenarios considered by scientists and decision-makers.

Daniel Puig (University of Bergen)

Ontologies of social limits to adaptation

Social and private norms are central to the definition of adaptation limits. It is therefore surprising that no systematic review has been conducted of how social and private norms influence adaptation limits. Such a review would allow us to determine whether our current understanding of adaptation limits, as described in the periodic assessment reports by the Intergovernmental Panel on Climate Change, reflects all the insights we have on social and private norms, especially those coming from human geography, which the commonly used definition of adaptation limits arguably underplays. We compare four natural language processing models – both untrained and trained with adaptation-focused texts – and identify the best performing model, which we use to analyse the adaptation literature. First, we divide the literature in seven thematic clusters. Subsequently, we use the model to analyse two documents: the section on adaptation limits in the latest assessment report by the Intergovernmental Panel on Climate Change, and a long definition of social and private norms, in an adaptation context, and including examples. For each document, we produce model estimates of semantic proximity vis-à-vis one of the seven thematic clusters. In addition, for each of these two documents we identify the articles in the literature that are semantically closest to it. These two sets of model estimates show that the representation of adaptation limits in the latest assessment report by the Intergovernmental Panel on Climate Change overlooks some of the human geography literature on this topic. We conclude that a revision of such representation is needed.

Gina Ziervogel (African Climate and Development Initiative, University of Cape Town)

Limits to adaptation through the lens of social innovation

Climate change adaptation is, on the one hand, gaining increased attention both academically and practically and on the other hand, facing limits around what might be achieved through conventional techno-managerial adaptation responses. Social innovation, an established concept for entrepreneurs and used increasingly by business schools, refers to innovations or solutions that address global problems whilst also addressing social needs such as issues of inequality and access for historically excluded people. This term is increasingly being used in the climate adaptation context, with the potential for “social innovations” to address some of the limits to adaptation.

Drawing on a review of recent literature on social innovation and climate adaptation, this paper argues that, in the adaptation field, insufficient attention has been paid to defining what exactly the term means. In the context of climate resilient development pathways, innovations have the potential for driving step changes, and so can be used to overcome some limits and move towards more sustainable and equitable pathways. This will require learning from social innovation implementation by entrepreneurs, whilst including critical social sciences perspectives that engage with power, institutional challenges and collaborative partnerships for implementation. Importantly, differentiating social innovation from transformative adaptation might help to elucidate how limits might be pushed in the context of transformative goals.

Session #2.3

Title	Assessing adaptation success
Date	May 15th
Time	14.00 – 15.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Elissa Waters (Monash University) <i>Lessons from Australia’s first adaptation stocktake</i></p> <p>Susannah Fisher (University College London) <i>Does adaptation measurement matter? Opening up the human geographies of metrics</i></p> <p>Timo Leiter (London School of Economics and Political Science) <i>Assessing global progress on adaptation: insights from the IPCC AR6 and UNEP’s Adaptation Gap Report</i></p> <p>Sara Meerow (Arizona State University) <i>Complementary plan evaluation methods for assessing equitable adaptation planning for heat and flooding</i></p> <p>Johannes Dittmann (University of Bonn) <i>The relativity of project failure: visions, controversies and side-effects of adaptation to climate change</i></p>
Chair person	Lisa Schipper

Elissa Waters (Monash University)

Lessons from Australia’s first adaptation stocktake

Nations are increasingly being asked to understand and report progress in adaptation at national scales for various purposes (i.e. Global Stocktake on Climate Action), yet existing literature lacks agreement on what sort of projects should be considered in an adaptation stocktake, and at what timepoint and scale. Suitable data is often hard to collect due to limited public reporting and scattered information. Adaptation databases aggregated to national scales remain rare, are often built upon limited datasets and lack

detailed information on adaptation actions being implemented on the ground. In 2023 we began collecting data for Australia's first adaptation stocktake, which aims to understand how adaptation is progressing in Australia. Working with Australia's leading climate science research body our data will inform the country's National Climate Risk Assessment and National Adaptation Plan. This talk will reflect on how we confronted some of the key challenges presented by the national adaptation stocktake process, including; selecting suitable methods for data collection, designing inclusion and exclusion criteria, aligning with national adaptation planning processes and presenting a dynamic and accessible output that provides value to practitioners at multiple scales. As we go into the second stage of this process, we will reflect on opportunities to embed lessons into national adaptation planning and move forward adaptation stocktake processes.

Susannah Fisher (University College London)

Does adaptation measurement matter? Opening up the human geographies of metrics

There has been widespread interest in developing metrics for evaluating adaptation and a normative focus on supporting monitoring and evaluation systems within national adaptation plans. However, many of those national systems are not operational and questions remain about the governance and knowledge effects of adaptation metrics. Despite a normative and policy focus on developing frameworks and indicators, there has been limited geographical research on the role of knowledge practices and metrics in shaping action, though research in other fields shows the importance of epistemic cultures and infrastructures in shaping responses to complex problems. More broadly, research is limited into the role adaptation finance plays in shaping national and local adaptation priorities and the main steering mechanisms in the global governance of adaptation. This paper brings together an analysis of the emergence of adaptation metrics with the travelling ideas of adaptation measurement across key sites such as the UN negotiations on the global goal on adaptation, the international climate funds and national governments to argue that human geography can open up crucial new questions about the role of knowledge practices in adaptation. Adaptation measurement offers a lens into dynamics of power and inclusion playing out in adaptation action across scales and so should be of critical interest to human geographers as a social and political process that also creates and shapes the object it seeks to measure.

Timo Leiter (London School of Economics and Political Science)

Assessing global progress on adaptation: insights from the IPCC AR6 and UNEP's Adaptation Gap Report

How do we know whether we are adapting to climate change, and how can we assess global progress on adaptation in a meaningful way? While adaptation takes place in particular contexts, it is important to understand whether the world is collectively moving towards better adapted societies, not least because of transboundary climate risks. This question also carries high policy relevance in the context of the Global Goal on Adaptation and its recently adopted framework for which a two-year indicator work programme has been agreed. So how can progress be assessed in a way that is not reductionist and that balances the trade-off between diverse local contexts and synthesising information at a global level? My talk will draw on the experiences of UNEP's Adaptation Gap Report which has been assessing global progress on adaptation under a unified structure since 2020. In the lead author team, we have resisted pressure from UNEP HQ to organise the report around simple indicators. Instead, we have defined core dimensions of adaptation progress (planning, finance, implementation, effectiveness) and are analysing available data sources with global or Global South coverage and adding new data annually as it becomes available. These experiences have also informed the Cross-Chapter Box PROGRESS in the AR6 WGII which confirms that a "combination of different approaches will provide a more comprehensive picture of global adaptation progress than is currently available from individual approaches". I'll therefore present a framework for assessing global adaptation progress using multiple approaches and information sources based on the experiences of the Adaptation Gap Report and of my research of national adaptation M&E systems. I'll talk about the potential and limits of such a global approach and what can be learned for assessing adaptation across scales. Advancing this work can inform the second Global Stocktake under the Paris Agreement.

Sara Meerow (Arizona State University)

Complementary plan evaluation methods for assessing equitable adaptation planning for heat and flooding

Cities around the world must urgently and equitably plan for climate risks. This requires an integrated planning approach that coordinates strategies across networks of plans, defined as the various planning documents communities develop to guide future development and public policies and programs, and which consequently shape risk patterns. Because hazard exposure differs across communities and certain populations disproportionately suffer from climate impacts, equity should be central to planning.

This research addresses the question: What can different emerging plan evaluation approaches, defined as methods of analyzing plan content, reveal about how networks of plans address climate change adaptation in diverse cities across the United States and how can applying these methods improve urban adaptation governance? I focus specifically on extreme heat and flooding, the deadliest and costliest climate hazards in the US, respectively. I find that combining different plan evaluation methods such as plan quality, policy scorecards, and plan cross-referencing networks provides a more comprehensive understanding of how plans address climate hazards and identifies opportunities for more equitable adaptation governance. I also draw on interviews and workshops conducted with officials in the diverse US cities where these methods have been applied to reflect on how the results were or were not used in practice, with implications for future adaptation research and practice.

Johannes Dittmann (University of Bonn)

The relativity of project failure: visions, controversies and side-effects of adaptation to climate change

This study explores the relationship between the vision, controversies and side-effects of adaptation to climate change. In recent years, adaptation to climate change has emerged as a dominant paradigm in environmental politics and is widely seen as an inevitable development programme. However, the implementation of adaptation projects is a multi-layered and controversial process that is more complex than its official discourse suggests. These development projects are characterised by a number of challenges that prevent many of the goals of adaptation to climate change from being achieved. Disruptions in the mediation of visions, measures and indicators of success make many adaptation projects to appear delayed, unmaterialized or even failed. This study focuses on allegedly failed adaptation to climate change and argues, that even if adaptation schemes do not achieve their vision, this does not mean that they fail completely or remain without effect. They unfold a performative efficacy that can lead to significant side-effects, such as the procurement of international funds, political support or the expansion of control over space. The paper emphasises the relativity of project failure and pays special attention to how success is measured, defined and socially constructed among the various actors involved in mediating adaptation to climate change. It draws on multi-sited ethnographic research on conservation and adaptation projects in Namibia. The author followed practices of planning, mediating, implementing and evaluating project success by doing participant observation within the Namibian Ministry of Environment.

Session #2.4

Title	Understanding just adaptation
Date	May 15th
Time	14.00 – 15.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>William Lewis (Basque Centre for Climate Change) <i>What are urban adaptation imaginaries and how can they be used as a methodology for just adaptation?</i></p> <p>Rachel Harrington-Abrams (King's College London) <i>From adaptation to loss and damage: shifting norms for multilevel governance of climate-related planned relocation</i></p> <p>René Rott (Climate Analytics) <i>Extending the Shared Socioeconomic Pathways to assess future vulnerability of small developing island states</i></p> <p>Maria Rusca (University of Manchester) <i>Power-sensitive climate storylines to foster just adaptation futures</i></p>
Chair person	David Schlosberg

William Lewis (Basque Centre for Climate Change)

What are urban adaptation imaginaries and how can they be used as a methodology for just adaptation?

For urban areas, adaptation success has many meanings and is highly context-dependent. As a result, the vision and framing of what future climate action and its outcome could look like has important implications for how we study and understand successful adaptation. Climate imaginaries go beyond technical, quantitative framings of climate action, and can arguably offer an opportunity to reconceptualise how adaptation is thought about, implemented, and experienced. A number of disciplines and schools of thought are contributing to understandings of imaginaries and how they can be applied to urban adaptation framing in policy making and practice to consider factors such as equity, justice, and maladaptation. However, these bodies of literature

use different languages and frameworks, and there is a need to critically understand and connect them to provide the community with a shared understanding of how, where, when, and for whom the concept of imaginaries can be useful to combine multiple sources of knowledge. In this study, through a critical literature review and an analytical framework to categorise findings, we identify the different schools of thought and terminologies used to describe urban adaptation imaginaries and understand how they connect, and have been framed in the current literature. By demystifying the present ambiguity surrounding the application of imaginaries, our study enables researchers and local actors to concentrate on leveraging urban adaptation imaginaries as a method to improve the social legitimacy of future climate action and enable just transformative adaptation.

Rachel Harrington-Abrams (King's College London)

From adaptation to loss and damage: shifting norms for multilevel governance of climate-related planned relocation

As the scale of climate-related impacts and the urgency of the need to adapt have grown, so have the frameworks and institutions supporting adaptation within international climate governance. Research on adaptation governance is often focused on how these processes have evolved separately, within national and multilateral spaces. However, further study is needed of how the interaction between these spheres of governance ultimately affects policy decisions on adaptation at the national level. Planned relocations in the context of climate change involve processes that inherently confront the threshold of adaptation limits. Studying the use of these policies can therefore elucidate how the boundaries of adaptation policy are evolving under these new frameworks for environmental governance. Through interviews with government stakeholders, international actors, and experts, and document analysis, this paper examines the evolution in policy framing of planned relocation in national adaptation planning, alongside normative shifts in the discourse on planned relocation in multilateral spaces. To address unprecedented impacts of climate change, many national governments are increasingly seeking technical and financial support for adaptation planning and implementation from within this evolving international system. Preliminary results reveal that as planned relocation is increasingly being reframed at the international level from a form of adaptation to a loss and damage response, national norms and discourses around planned relocation have also changed. Ultimately, this reframing has impacted the perceived legitimacy of the use of planned relocation, as well as the types of external resources that governments are able to access. Through analysing these policy shifts, this paper provides broader lessons on

how national governance of adaptation is shaped by engagement with the multilateral climate regime.

René Rott (Climate Analytics)

Extending the Shared Socioeconomic Pathways to assess future vulnerability of small developing island states

In this paper, we present estimates of socioeconomic vulnerability for Small Developing Island States (SIDS) along three major scenarios developed as part of the Shared Socioeconomic Pathways (SSPs) over the period 2020-2100. Multidimensional vulnerability indices play a crucial role in determining future risk in the context of climate change. However, these indices such as the ND Gain Vulnerability Index of Notre Dame University, the INFORM Index of the Joint Research Centre of the European Commission, or the World Risk Index mainly examine past and present vulnerability and do not address possible futures of climate and socioeconomic development. A composite Global Vulnerability Index (GVI) (Huisman et al. (2023) based on seven major socio-economic dimensions including indicators of educational attainment and demographics, explores future vulnerability along the Shared Socioeconomic Pathways (SSPs) from 2020 - 2100, representing different global development trajectories. While the results show projected values for 181 countries and three SSP scenarios, a data gap in underlying indicators causes missing values for a number of SIDS. Recognizing this lack of data, our study aims to bridge these gaps by using a combination of quantitative and qualitative methods. This mixed-methods approach involves the collection of socioeconomic data through stakeholder engagement with national and subnational level stakeholders in the SIDS. We expand the available data for indicators of wealth (GDP), education, and population to improve GVI estimates of socioeconomic vulnerability for SIDS. Thereby, we aim to contribute to a better understanding on how the underlying indicators of socioeconomic vulnerability are contributing to future risk of one of the regions of the world most affected by climate change.

Maria Rusca (University of Manchester)

Power-sensitive climate storylines to foster just adaptation futures

Managing climate change-related risks will require robust and actionable insights into future climates. Physical climate storylines are increasingly adopted by the Intergovernmental Panel on Climate Change (IPCC) to strengthen the usability of climate information. Yet, these storylines (like many other future-oriented approaches) firmly remain within the domain of the natural sciences and rarely incorporate social science perspectives. Thus, they overlook how power, social contexts, and economic

visions will shape unjust distribution of adaptive capacity and differential vulnerability to future climate extremes. A justice-centred approach to climate storylines involves recognising the intersectional dimensions of inequality that generate differential vulnerability and adaptive capacities at multiple scales, and the powers of those with vested interests in maintaining the status-quo. By taking urban adaptation as a case-in-point, we illustrate an alternative methodology that aims to enhance physical climate storyline approaches. This interdisciplinary approach bridges retrospective political ecology analyses of climate adaptation with future projections and hydrological data by creatively repurposing scenario-based approaches and system dynamics models. In this way, we unlock new research methods and reconfigure knowledge within political ecology, climatology, and hydrology. On the one hand, we repoliticise scenario and model-based approaches and move beyond socially blind and politically naïve explanations of future climates. On the other hand, we lay the foundation for a future-oriented political ecology that is more attuned to the materiality of climate change.

Session #3.1

Title	Manifestations of adaptation limits
Date	May 15th
Time	16.00 – 17.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Isabel Hagen (University of Zurich) <i>Limits of adaptation to climate-related risks in the Peruvian Andes: a case study in the Upper Río Santa and Salkantay catchments</i></p> <p>Yoshimi Fukumura (University of Tsukuba) <i>Examining the limits to adaptation in Japan's ice tradition: insights from Ostrom's principles for governing commons</i></p> <p>Reinhard Mechler (International Institute for Applied Systems Analysis) <i>Understanding soft and hard adaptation limits: from theory to evidence</i></p>
Chair person	Daniel Puig

Isabel Hagen (University of Zurich)

Limits of adaptation to climate-related risks in the Peruvian Andes: a case study in the Upper Río Santa and Salkantay catchments

The population in the Peruvian Andes is impacted by compound climate-related risks. Climate change adaptation can bring risks to an acceptable level. However, due to an increased magnitude and frequency of risks, combined with locally specific factors, certain limits to adaptation are reached, leading to impacts on the physical survival, basic needs and wellbeing of the population. It is therefore crucial to identify and better understand limits to adaptation. In this study we studied current limits to adaptation in the Upper Río Santa and Salkantay catchments in the Peruvian Andes. We used a conceptual framework developed by Juhola et al. (2024) and identified adaptation limits through investigating the current status and interaction of climate hazards, ecosystem functions, governance system and basic needs and wellbeing of actors in the two regions. The data was collected through 50 semi-structured interviews with residents

and practitioners, conducted in May-July 2022. A content analysis was performed using Atlas.ti. The overarching theme for limits to adaptation in the two regions is a lack of capacities, among residents and among practitioners. In more detail, limits stem from issues in the governance system (political instability, corruption, institutional barriers), social and cultural limits (inequalities, conflicts, lack of inclusion), economic and technical limits (lack of funds, inaccessibility), and bio-physical limits (acidification of water sources, deglaciation, risk-prone terrain, increased temperatures and pests). Compound risks (e.g. a flood event closely followed by the Covid-19 pandemic as experienced in Salkantay) increase limits to adaptation and have the potential to completely overwhelm infrastructure and public service systems. In conclusion, this study makes a contribution by identifying and analyzing limits of adaptation concretely on the ground, an important gap in this research field. We also provide insight into what our findings mean for adaptation action and future research on limits to adaptation.

Yoshimi Fukumura (University of Tsukuba)

Examining the limits to adaptation in Japan's ice tradition: insights from Ostrom's principles for governing commons

This study investigates limits to climate change adaptation of Japan's winter cultural heritage, specifically the ice ridges of Lake Suwa, called *omiwatari* or Holy Crossing. Using Ostrom's eight principles for governing commons, which include establishing clear boundaries and nested community-based resource management, the research examines the community's perspectives on the tradition. Despite its significance in local identity and ascribed reverence as the footsteps of their deity, *omiwatari* occurrences have declined significantly, as evidenced by the shrine's five-century archival records. While the recent national climate report recognized this decline, relevant research remains limited. Interviews and observations examined the perspectives of three key actors: parishioners, local media, and Suwa residents. Parishioners have shifted their perception of the *omiwatari* from the ritual on the ice to the responsibility of maintaining the tradition through record keeping. By adhering to all the principles, they have successfully integrated this task into the shrine's annual practices. Similarly, local media have shifted the news value of the *omiwatari* by highlighting the practices of parishioners. However, maintaining this value was challenging due to the voluntary nature of the media community and the lack of rules for participation. While residents expressed a profound attachment to the *omiwatari*, they reluctantly accepted the loss of ice due to climate change, perceiving it as a geographical phenomenon beyond their control. No specific community existed among them to safeguard the tradition. The results suggest that while parishioners could safeguard the tradition without ice, the loss of ice may reduce the incentive for other

actors to pass on the omiwatari because of the absence of robust communities. The incomplete nested communities may be a limit to the adaptation of the omiwatari because without shared values and commitment, the effectiveness of adaptation efforts may be undermined, as the tradition relies on collective action and community cohesion.

Reinhard Mechler (International Institute for Applied Systems Analysis)

Understanding soft and hard adaptation limits: from theory to evidence

With the climate emergency proceeding, potential limits to adaptation are moving to the spotlight. About ten years after a definition has been put forward, evidence is still scarce, particularly for social systems, and the hard-soft limits distinction continues to be debated. The presentation expands on the limits definition and its usefulness and, in particular, discusses the role of thresholds in physical and social systems as well as their mutability. Evidence for hard and soft limits is presented building on recent global synthesis of adaptation limits in social (human health) and bio-physical systems (tropical coral reefs) exposed to heat stress. We suggest the identification of adaptation limits indeed has relevance for adaptation practice and policy, yet is contingent on the specific characteristics of systems examined, for which we provide examples. We end with outlining a methodological framework to guide dynamic limits assessment in socio-ecological systems.

Session #3.2

Title	Political economies of inclusiveness
Date	May 15th
Time	16.00 – 17.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Dennis Fila (University of Freiburg) <i>Participation and power in climate change adaptation: examining the reflexive capacity of five small and medium-sized municipalities in Germany</i></p> <p>Edwige Marty (Norwegian University of Life Sciences) <i>Adapting to changing water access in the pastoral drylands: combining qualitative and participatory methods to understand the socio-politics of differentiated lived experiences in southern Kenya</i></p> <p>Suchiradipta Bhattacharjee (International Water Management Institute) <i>How collective is collective action? A study of two Indian policies promoting community-led groundwater management</i></p>
Chair person	Gina Ziervogel

Dennis Fila (University of Freiburg)

Participation and power in climate change adaptation: examining the reflexive capacity of five small and medium-sized municipalities in Germany

Addressing the need for inclusive policymaking in climate change adaptation, our research focuses on the development and implications of reflexive capacity in processes of five German municipalities. We understand reflexive capacity as the degree to which policymakers and planners can incorporate diverse perspectives and knowledges in adaptation from a range of relevant stakeholders and actively challenge their own assumptions and biases. This approach is grounded in a triad of theories: governmentality, communicative planning, and sociological institutionalism. Each of these theories informs our understanding of reflexive capacity, providing a multifaceted

approach to how decision-makers engage with, and are influenced by, local social and political dynamics. Using this lens, we explore the ways in which resource-constrained, smaller municipalities in Germany navigate complex adaptation challenges within a transdisciplinary process. Drawing on qualitative data collected between 2021 and 2023 through participatory action research, focus groups, in-depth interviews, and document analysis, we analyse the factors that shape the reflexive capacity of municipalities, including the role of local leadership, civic engagement, and institutions. Our findings suggest that while resource-constrained municipalities face a range of challenges in building stocks of capacity, there are substantial opportunities for enhancing adaptive capacity through more collaborative, and flexible governance structures by building on reflexive capacity.

Edwige Marty (Norwegian University of Life Sciences)

Adapting to changing water access in the pastoral drylands: combining qualitative and participatory methods to understand the socio-politics of differentiated lived experiences in southern Kenya

Accessing water across the year is critical to sustain pastoral livelihoods. In addition to the increased diversification of livelihood activities which reshapes water use across the Kenyan pastoral commons, climate change also engenders higher rainfall variability which impacts seasonal water availability. Policies tend to emphasize techno-managerial adaptation solutions, for instance highlighting the need for new water technologies. However, these interventions are often removed from pastoralists' lived experiences, including the plural values and knowledges that guide everyday practices. This paper draws on an empirical PhD research conducted in Kajiado County in southern Kenya where pastoral livelihoods are fast changing following reduced mobility, increased land fragmentation and climatic risks, as well as new investments in the drylands. Building on analytical insights from feminist and emotional political ecology and the critical adaptation scholarships, I set out to analyze everyday practices associated with different water sources across the changing communal landscape. Individual and group interviews, in addition to participatory visual methods – photovoice – were conducted in five stages over several months between 2020 and 2022. This methodological approach and in particular, the photovoice activity, was instrumental in yielding rich insights on the intersectional power relations and knowledges that underpin everyday water practices and shape adaptation processes. The findings are presented through several vignettes and pictures, making visible the ways that the water practices that are associated with different water points are negotiated within specific and dynamic socio-environmental and spatial relations. This research also highlights the importance of understanding the everyday institutions, values and knowledges that

are mobilized in a context of high precarity and societal transformations. Engaging with the plural values, knowledges and emotions that shape everyday practices is essential to deepen our understanding of what constitutes just adaptation at the local level, but these aspects often remain overlooked within adaptation efforts.

Suchiradipta Bhattacharjee (International Water Management Institute)

How collective is collective action? A study of two Indian policies promoting community-led groundwater management

Adaptation to climate change is inherently political and inevitably local. However, little empirical evidence exists on how the origin of collective action for adaptation in the global south, their sociocultural contexts, governance structures, engagement, and long-term viability influence collective adaptation in high-risk settings. Our study addresses this knowledge gap where policies initiate collective action. We study two policies – Atal Bhujal Yojana (ABhY) and Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) – to understand how power differences influence collective action in some of the most water-stressed regions of Rajasthan and Madhya Pradesh, India. We used the Political and Institutional Landscape Analysis (PILA) Framework to design the study. It is a methodological approach aimed at analysing policy life cycles, understanding policy outcomes, and discerning the drivers of policy flux. Focus group discussions were held with community members in all 22 Gram Panchayats (local administrative units) randomly selected in the two states. Semi-structured personal interviews were conducted with 125 key stakeholders at national and sub-national levels, including civil society organizations. Stakeholder consultations were carried out in both states to further validate our findings. Both policies focus on groundwater management with differing levels of community involvement. They supported decentralized decision-making and collective adaptation. However, power structures within the prescribed governance mechanism, spanning local to national levels, posed challenges to the core idea of community ownership. Contrary to the government-mandated inclusion efforts, elite capture of the decision-making process was evident. Social norms hindered the active participation of women and minorities in local institutions, often restricting their involvement in decision-making processes. High reliance on trainings for a government-mandated community mobilization effort necessitates better identification of local leadership and long-term financial and human resource investment to guarantee the success of collective adaptation.

Session #3.3

Title	Stakeholder engagement and just adaptation
Date	May 15th
Time	16.00 – 17.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Benedetta Oberti (Eurac Research) <i>Enhancing community resilience: exploring community-based approaches for disaster-risk reduction</i></p> <p>Mari Hanssen Korsbrekke (Western Norway Research Institute) <i>Creating flexible participation methodologies for local climate change adaptation</i></p> <p>Sam Pickard (Barcelona Supercomputing Center) <i>Best practices to tailor adaptation citizen engagement initiatives to specific objectives</i></p>
Chair person	Marta Olazabal

Benedetta Oberti (Eurac Research)

Enhancing community resilience: exploring community-based approaches for disaster-risk reduction

In 2022, 387 natural disasters globally claimed 30,704 lives and caused economic losses totalling EUR 52.3 billion. These figures are expected to escalate with increasing climate-related extremes due to temperature rises. Disaster risk can be mitigated by designing measures that enhance disaster preparedness, prevention, response, and recovery practices. However, traditional top-down approaches, initiated at higher levels of governance and imposed upon communities, often overlook the perspectives of those directly affected. To address this, integrating bottom-up community-based approaches (CBAs) with top-down measures is essential for effective disaster risk management. While CBAs to disaster risk reduction (DRR) have been widely researched, there remains a lack of clarity regarding the elements necessary to categorize an approach as such, and the most effective tools for incorporating a community into the policy cycle of DRR measures. This study aims to examine the key

elements that define a CBA; furthermore, it aims to explore the optimal tools for engaging with a community in DRR. A literature review was conducted by employing Web of Science as research engines. Seventy-four papers were deemed relevant and underwent in-depth analysis. A deductive content analysis was employed, utilizing pre-defined categories to examine the content of the papers. The literature analysis uncovered numerous ways in which a community can participate in the DRR strategy policy process. However, the analysis also identified certain elements that are consistently present in every CB approach. Regarding effective tools for community inclusion in DRR, a diverse range was found, with no single tool standing out as universally superior; the choice depends on the specific context. By regrouping recurring elements of CBAs into 4 dimensions (Drivers, Local Context, Community agency, and Participatory process), this study introduces a conceptual framework, serving as an archetype for each real-world CBAs and aiding policymakers, researchers, and practitioners in their implementation.

Mari Hanssen Korsbrekke (Western Norway Research Institute)

Creating flexible participation methodologies for local climate change adaptation

The need for participatory approaches in climate change adaptation are well documented, but it is also well known that such approaches might be challenging to conduct and might still produce undesired outcomes. In this paper we present results from projects where we developed flexible entry points for participation in adaptation processes for citizens in three Norwegian municipalities and in two participatory projects in Poland, employing a combination of citizen science methods and climate modelling with workshop methodologies and participatory planning activities. We engaged citizens in collecting weather data with Netatmo weather stations, in the use of an app called “Citizen Sensing” where disruptive local weather events can be registered, and in workshops with users and municipal planners to discuss the co-production process and products, implementation of new hydroponic urban food systems and exploration of adaptation solutions in neighborhoods in Warsaw. The projects sought to offer flexible methods for participation, facilitating collaborative and iterative processes involving multiple stakeholders, including researchers, policymakers, practitioners, and local communities, in the design and implementation of adaptation strategies. These processes aimed to integrate diverse perspectives, knowledge, and experiences to enhance the effectiveness and sustainability of adaptation actions. We identified a suit of barriers and drivers for the participatory methodologies implementation that emerged during the interventions in the participating municipalities and citizens. Lastly, we will discuss the need for developing more caring methods for engagement, and highlight the importance of building trust

and dialogue in the intersection of uncertainty and participatory action for co-production of knowledge. The paper will center itself around a discussion on how to navigate adaptation as boundary organizations and reflect on why flexible methods and encouragement of more caring practices when developing methodologies are important in climate change adaptation.

Sam Pickard (Barcelona Supercomputing Center)

Best practices to tailor adaptation citizen engagement initiatives to specific objectives

Citizen engagement has been mandated in adaptation planning and action across Europe and, as a result, a plethora of initiatives (CEIs), consultancies and academic papers have emerged. However, although citizen engagement in decision making has come a long way since Sherry Arnsteirn proposed the now (in)famous ladder of participation in the 1960s, the current wave of efforts risks failing to learn from experiences in previous waves of engagement practice and scholarship (in fields such as urban design, disaster risk reduction or environmental governance). Notably, despite the headline attention CEIs receive, evaluations of what works where, when and how remain rare, and little progress has been made on pinning down the boundary between generalisable good practice and the importance of tailoring to local contexts. Reviewing the literature and project details on the many knowledge-sharing platforms that exist, we contend that it remains unusual for project organisers/implementers to trace causal links between defined objectives and practices carried out in the process of engagement. With a few exceptions, definitions of methodologies, methods and practices also remain fuzzy, hampering the transferability of learnings even when contexts are similar. To start to close this gap, we present our conceptualisation of citizen engagement in adaptation activities, and explain the dimensions we use to interpret “good” outcomes. From the participation in two workshops of the diverse group of academic and practitioner experts involved in the AGORA project (<https://adaptationagora.eu/>), we elaborate a first attempt at documenting (in)effective engagement practices for achieving certain aims (better collaboration, more justice etc.) when engaging citizens and other stakeholders and present emerging findings from in-depth expert surveys and interviews.

Session #3.4

Title	Outside-the-box adaptation planning
Date	May 15th
Time	16.00 – 17.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Hannah Della Bosca (University of Sydney) <i>Multispecies geographies: an experimental approach to concepts and practices of climate adaptation</i></p> <p>Arlene Crampsie (University College Dublin) <i>Lessons from the past: can Irish historic drought adaptation methods support mitigation and resilience strategies?</i></p> <p>Scott Bremer (University of Bergen) <i>Coordinating seasons in Bergen arboretum</i></p>
Chair person	Jon Barnett

Hannah Della Bosca (University of Sydney)

Multispecies geographies: an experimental approach to concepts and practices of climate adaptation

There is an urgent opportunity to learn from the lives of our more-than-human kin, and to consider pathways that can translate more-than-human influence into actionable, sustainable, and effective climate policy change. This paper presents preliminary research that centers ants as alternative earth protagonists within global adaptation analysis. Ants are social animals whose adaptive capacities have enabled significant behavioural and cultural diversity, and who coexist with humans in every part of the world except the polar extremes. Drawing on understandings of ants in scientific, artistic, and business practices, this research explores the political implications and applications of multispecies knowledge, and the value of experimental social science methodologies within the climate adaptation policy sphere.

Arlene Crampsie (University College Dublin)

Lessons from the past: can Irish historic drought adaptation methods support mitigation and resilience strategies?

Drought is an often-overlooked climate hazard in Ireland, but as Spring 2020 and Summer 2018 have shown, droughts do occur, often with serious consequences for water supplies, agriculture, flora, and fauna. Multi-year periods with limited rainfall are historically common and it is likely that the frequency and/or severity of droughts in Ireland will increase in coming decades. Little is known, however, about the human impacts of Irish droughts and what, if any, are the societal responses to these events. Our IRC Coalesce funded Irish Droughts project brought together an interdisciplinary team of researchers to examine the severity, geographical extent and impacts of Irish droughts from the Middle Ages to the present using a range of sources from climate records to tree ring data and archival sources. This paper draws together qualitative findings from our systematic review of two digitised archival sources – the Irish Newspaper Archives and the Irish National Folklore Collection – to examine the evolution of drought adaptation practices across Ireland from 1735 to 2019. In doing so this paper will critically examine these practices to assess their applicability for future drought impact mitigation in Ireland. It will also consider the potential for the different types of knowledges in these sources to be harnessed both to engage policy level stakeholders in discussions around just adaptation strategies and mobilise community support for drought mitigation measures.

Scott Bremer (University of Bergen)

Coordinating seasons in Bergen arboretum

This paper uncovers the seasonal rhythms that pattern work and life in the organization of Bergen arboretum, and shows the temporal work required to coordinate across the disparate and changing senses of seasonality embodied by human and more-than-human communities. It follows critical ethnographic research conducted over 2021 and 2022, inviting workers in the gardens to reflect on and revise the seasonal patterns temporally mediating their relation to the environment, and how these patterns come to clash and fall apart with global environmental changes. This is important because temporal competency – the skill to notice and (re-)synchronise action to temporalities – is a key environmental knowledge or capacity enabling (human and non-human) individuals and groups to act ‘on time’ and avoid temporal mismatches. Adaptation to environmental change is linked to the capacity for timely action. The research turned up a vast array of ways for knowing and acting seasonally; there is no over-arching framework for understanding seasonality within that small organisation. The seasonal

patterns ordering time ranged from the formal institutionalized calendar of the university to the flowerings of species, the maintenance cycles of machinery, the cultural calendar of the city of Bergen, or the rhythms of invasive species for example. We saw how practitioners fit together seasonal frameworks in deciding when to act, and the ways certain senses of seasons became more, or less, visible depending on the task. The research culminated with a workshop to distil a cultural calendar of temporal reference points around which seasonal work at the gardens is coordinated. Participants designed a contemporary version of a traditional Norwegian 'primstav' or plank calendar, milled from a fallen Japanese Cypress tree in the garden, on which they marked 24 temporal markers, ranging from phenological symbols to tools and practices or public holidays.

Session #4.1

Title	Mobility and adaptation limits
Date	May 16th
Time	09.00 – 10.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Saeed A. Khan (Philipps University Marburg) <i>Migration as adaptation to climate change and extreme natural events in the Eastern Hindu Kush, Northern Pakistan</i></p> <p>Ann-Christine Link (Philipps-University Marburg) <i>The tail end of migration: assessing the climate resilience of migrant households in Ethiopia</i></p> <p>Fiona Miller (Macquarie University) <i>Human geographies of climate-related displacement: how soon is now?</i></p> <p>Liam Saddington (University of Cambridge) <i>Beyond ‘technical limits to hard protection’: land reclamation, mobility and adaptation in Tuvalu</i></p>
Chair person	Jon Barnett

Saeed A. Khan (Philipps University Marburg)

Migration as adaptation to climate change and extreme natural events in the Eastern Hindu Kush, Northern Pakistan

Mountain communities of the eastern Hindu Kush are vulnerable to the adverse impacts of climate change. Environmental change, natural hazards, socioeconomic, political, and cultural factors influence human mobility and immobility. Previous research in the Eastern Hindu Kush shows that (im)mobilities are influenced by the impact of climate change and extreme events on the livelihoods of mountain communities. In response, migration is undertaken as one of the adaptation strategies to generate income for households and address the economic distress. The adaptive aspect of migration is emphasized in the climate migration debate, but the maladaptiveness of migration is an

understudied phenomenon. Therefore, this study aims to address this gap by assessing the effectiveness of migration as an adaptation strategy using a mixed methods approach comprising a household survey, semi-structured interviews, and focus groups in sampled villages of the Lotkuh Valley of Lower Chitral, northern Pakistan. The initial results suggest that over half of the surveyed households (n=388) increased their income and diversified their livelihood sources through migration. Similarly, access to education and health services for the household also improved for the migrant households. However, the remittances invested in agriculture and risk reduction measures are low. In addition to this, the out-migration of male members has negatively affected women and elderly people by increasing their workload. A significant portion of migrant households indicated that they faced food insecurity due to out-migration. Moreover, it would be interesting to explore the conditions under which migration is adaptive for some households and maladaptive for others. Overall, this research intends to provide the latest empirical account of the adaptiveness and maladaptiveness of human migration and its implications for mountain communities in the Lotkuh Valley, Pakistan.

Ann-Christine Link (Philipps-University Marburg)

The tail end of migration: assessing the climate resilience of migrant households in Ethiopia

Climate change can, directly and indirectly, shape human (im)mobility. While most research on migration in the context of climate change focuses on climate as a migration driver in origin areas, there is a gap in knowledge on the role of migration for climate resilience or adaptation in destination areas. This paper studies differences in resilience (resistance and recovery) to climatic shocks between migrant and non-migrant households in Ethiopia, a country that is highly exposed and vulnerable to climate change. We use longitudinal data from the Living Standards Measurement Study (LSMS) conducted by the World Bank to construct a comprehensive Well-Being Index, which is used to analyze the impacts of climatic shocks and identify households that are more or less able to resist and recover from shocks. We use fixed effect panel regression approaches to model the impacts of climatic shocks on well-being over time for migrant and non-migrant households. Further explorative mediation analyses yield insights into mechanisms explaining differences between households. We find that migrant households have an overall lower climate resistance as they experience double as high well-being impacts when exposed to climatic shocks compared to non-migrant households. Mediation analyses suggest that these differential climatic impacts are mainly driven by characteristics of migrant-origin regions, including poverty. Migrant households originating from less prosperous regions still face disadvantages even if

they now reside in more prosperous regions. This contrasts the experience of non-migrant households whose resilience benefits from increased prosperity in their region of residence. While migrant households show a lower resistance to climate shocks, they recover faster from climatic shocks. This research is highly relevant to policy as it improves the understanding of underlying factors shaping differential adaptation capacities to climate change impacts and supports targeted interventions to increase the resilience and adaptation of affected households.

Fiona Miller (Macquarie University)

Human geographies of climate-related displacement: how soon is now?

During the devastating floods in Eastern Australia in 2022, when thousands of people were dramatically displaced from their homes, time seemingly began to fold in on itself such that the distant projected future of climate change displacement was acknowledged to already be upon us. Climate futures are now. They came too soon. The human geographies of climate-related displacement dramatically reveal the limits of adaptation and whilst climate-related displacement exhibits many of the properties of slow violence, with those affected experiencing loss of connections to land, community and familiar ways of life, somehow this violence has sped up in recent years. Displacement due to floods, whether temporary in the form of evacuation, prolonged in the form of delayed recovery or permanent in the form of planned resettlement, has harmful implications for people's relations with place, community and livelihoods, further limiting people's capacity to adapt. Planning authorities, in rich and poor countries alike, have proven ill-equipped in terms of capacity and resources to appropriately anticipate and respond to the social, ecological and economic challenges of displacement. Drawing on community based research on flood related displacement in Australia and Southeast Asia this paper delves into the uneven consequences of displacement in terms of the loss of vital connections that sustain people's lives, and suggests some ways in which such losses can be avoided.

Liam Saddington (University of Cambridge)

Beyond 'technical limits to hard protection': land reclamation, mobility and adaptation in Tuvalu

According to the IPCC, technical limits to hard protection may be reached in atoll states under a high-emission scenario. What happens next? Within this paper, considering the case of the Pacific small island state of Tuvalu, this paper considers how atoll states are constructed as being on the frontline of the climate crisis – and spaces in which adaptation limits may first be met. Drawing on fieldwork conducted in Tuvalu, this paper

explores the geographies of adaptation concerning Tuvalu's future. Firstly, it will consider the role of land reclamation in creating opportunities for Tuvalu to move beyond these 'technical limits'. Secondly, it will examine the complex relationship between climate mobility and adaptation. Discussion will focus on the 2023 Australia-Tuvalu Falepili Union Treaty, which has been promoted as the first international agreement on climate mobility as well as providing funding for land reclamation to increase the island of Funafuti, Tuvalu's capital, land surface by 6%. This paper argues that this arrangement can be understood through a geography of hope which resists narratives of 'sinking' which foreclose alternate adaptation futures.

Session #4.2

Title	Methodologies for just adaptation
Date	May 16th
Time	09.00 – 10.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Rohit Joseph (Indian Institute of Technology, Bombay) <i>Decoding justice in regional adaptation: a political ecology analysis of urban flooding in Alleppey, Kerala, India</i></p> <p>Blane Harvey (McGill University) <i>Stories from the frontlines: advancing epistemic justice through citizen-led climate podcasting</i></p> <p>Thaisa Comelli (University College London) <i>How do normative scenarios contribute to justice in adaptation?</i></p> <p>Elizabeth Carlino (Texas A&M University) <i>Adapting to uncertainty: a critical approach to understanding the impacts of climate adaptation policy on the human right to water</i></p> <p>Marian Stuiver (Wageningen University) <i>Socio-ecological justice: principles and guidelines for urban design practices</i></p>
Chair person	Joshua Long

Rohit Joseph (Indian Institute of Technology, Bombay)

Decoding justice in regional adaptation: a political ecology analysis of urban flooding in Alleppey, Kerala, India

As the global repercussions of climate change persist, the focus on adaptation has intensified in development discussions. While global adaptation politics is crucial, it's equally important to examine the politics and justice at the regional level. A question arises concerning the absence of regional interventions that prioritise justice over mere simplistic resource deployment. Urban political ecology studies emphasise that the

development and persistence of urban environments are inherently political-ecological processes influenced by social structures, creating unequal spaces within cities. Disasters, such as urban flooding induced by extreme climatic events, reveal regional inequalities through diverse impacts. Studies have effectively highlighted inherent urban inequalities, emphasising the need to recognise uneven exposure as a historical creation, not solely a natural occurrence. In this context, adaptation interventions must prioritise justice for the victims. This study delves into the case of Alleppey, Kerala, India, an old coastal town. Flooding in Alleppey manifests as diseases and sanitation challenges resulting from the confluence of floods, poor sanitation, and drinking water issues. The paper explores the development history of Alleppey town, examining the forces that have shaped it and the distribution of benefits and externalities. Additionally, it scrutinises contemporary development interventions that potentially mitigate the adversities of urban flooding. This six-month study employed a mixed-methodology approach, combining quantitative and qualitative data through fieldwork, transect walks, flood mapping, and interactions. Focus group discussions, interviews, and a survey highlight urban flood consequences and disparities, complemented by analysing municipal budgets for insights into adaptation interventions. The study posits that Alleppey's uneven flood distribution and subsequent marginalisation is an outcome of three decades of development influenced by powerful interest groups. Despite significant social transformations, marginalisation persists. The paper underscores a lack of justice in distributing adaptation measures, revealing disparities in sanitation, drainage, and drinking water services under contemporary governance.

Blane Harvey (McGill University)

Stories from the frontlines: advancing epistemic justice through citizen-led climate podcasting

Climate action has long been hampered by inequalities in knowledge production that leave much climate research and research communication in the hands of an elite few, largely based in the global North. This leads to gaps in our understandings of how climate disruption is being experienced, and of the local strategies used in response to that disruption. It also means that many communities who are most impacted by climate change lack access to locally contextualized information and alliances. This paper explores the potential of grassroots podcasting as a more equitable means of documenting, sense-making and knowledge sharing for communities at the frontlines of the climate crisis. It shares the experience of “the Storytelling Initiative” an action learning initiative that has facilitated the co-creation of podcasts by seven groups engaged in struggles over climate and environmental injustice. While there is a growing body of evidence about the power of storytelling in catalyzing action on climate and

sustainability, the use of podcasting as a form of participatory research and action learning remains limited. We report on results from this initiative at two levels: The first is a more localized analysis of stories of change from diverse sites of struggle over climate and environmental injustices. By looking within and across these stories we bring contextual evidence to our understandings of how collective climate action and social change are fundamentally intertwined. Secondly, building on the conference theme of “Methodologies for Just Adaptation” our participatory meta-analysis will offer insights on the potential of podcasting and action learning approaches for breaking down the hierarchies of knowledge systems in climate and sustainability and amplifying the voices of local change agents. These findings can offer insight on how we pursue equitable and inclusive knowledge production around climate impacts, responses and adaptation, and support community mobilization efforts.

Thaisa Comelli (University College London)

How do normative scenarios contribute to justice in adaptation?

Adaptation entails adjustments to behaviours and systems in light of current or expected events associated with climate change. These adjustments are part of ongoing development struggles for power. This paper explores ways in which future visioning and normative scenario methodologies could enable discussions and outputs focused on the justice trade-offs that future thinking entails; that is, who wins and loses (and how), and what are the difficult decisions to be made when approaches focus on long-term futures. Future visioning allows for alternative development states to be described (often as scenarios), and can help uncover incremental steps for transformative outcomes. This helps to move past impasses of transformative adaptation experienced by policy actors. Our contribution is framed around the UKRI GCRF hub Tomorrow’s Cities. Over five years, the project developed and tested an interdisciplinary approach to participatory and future-oriented risk reduction through urban planning in nine cities. The methodology combines exploring imaginaries of good future cities with multiple stakeholders and using future trends and projections to explore the consequences associated with those futures. Using the cases of Istanbul (Turkey) and Dar es Salaam (Tanzania) as empirical entry points, we outline how justice pillars (procedural, recognition and redistributive justice) could be re-thought in light of the longer timeframes imposed by adaptation thinking and planning.

Elizabeth Carlino (Texas A&M University)

Adapting to uncertainty: a critical approach to understanding the impacts of climate adaptation policy on the human right to water

Climate change is having significant impacts on water resources around the world. As drought events become more frequent and more intense, states are faced with the challenge of creating policies which support water resource management in the context of uncertainty. As new strategies and policies for dealing with the impacts of climate change come to the forefront, questions about how these policies affect the human right to water also emerge. Since policy is quicker to implement than passing new or revamping existing laws, the provisions set forth in policy are forced to operate within rigid legal frameworks which are often not amenable to dealing with impacts and shocks related to climate change. While the relationship between policy and law has been examined, understandings of how climate adaptation policies affect access to and use of water resources during periods of scarcity are limited. Using a critical legal analytic approach, this study first details the contours of the relationship between climate adaptation and the human right to water as it is currently framed in the literature and then uses both doctrinal legal methods and interpretive policy analysis to describe the case of water rights in South Africa amidst efforts to adapt to climate change impacts. This work demonstrates how a constellation of practices and discourses related to climate adaptation can be used to reframe the human right to water. Finally, this analysis offers an agenda for undertaking more critical approaches in analyzing climate policy and water law in tandem to one another.

Marian Stuiver (Wageningen University)

Socio-ecological justice: principles and guidelines for urban design practices

Attaining justice and surmounting intersectionality challenges stand as crucial milestones in the climate adaptation of urban areas. Yet, prevailing efforts have predominantly concentrated on securing well-being and resilience for human populations, often overlooking the significance of non-human entities' welfare. With an increasing recognition of the interconnectedness between cultural and natural environments within urban settings, it is now imperative to integrate both social and ecological justice into urban design practices geared towards climate adaptation. This article introduces a framework for socio-ecological justice in urban design, offering a fresh perspective on inclusive urban planning that accounts for the well-being of the diverse spectrum of both human and non-human inhabitants. Guided by the central research question, "How can we harmonize the values of all beings in urban design practices for climate adaptation?", the researchers embraced a research-through-

design methodology, employing a range of techniques including case studies, interviews, and workshops. Drawing insights from these methodologies, the researchers devised a novel urban design framework that addresses intersectionality challenges while championing both social and ecological justice. This framework identifies four fundamental values: empathy, placement, access, and identity, providing a comprehensive approach to tackle issues of social justice (ensuring equity and inclusion for all urban residents) and ecological justice (defining the role and presence of nature within the city). To operationalize the framework into actionable strategies, the four values were translated into personas, each accompanied by actionable principles, leadership roles, and practical tools. Embracing this approach in future urban design projects could collectively shape cities that nurture socio-ecological justice as they adapt to the challenges of climate change.

Session #4.3

Title	Adaptation in urban areas
Date	May 16th
Time	09.00 – 10.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Sean Goodwin (Basque Centre for Climate Change) <i>Beyond hazards: a relational paradigm shift in urban climate adaptation through nature-based solutions</i></p> <p>Marta Olazabal (Basque Centre for Climate Change) <i>Indicators and metrics to evaluate urban adaptation: a systematic review</i></p> <p>Eric Chu (University of California, Davis) <i>Institutional designs for procedural justice and inclusion in urban climate change adaptation</i></p> <p>Cecilia Alda-Vidal (Basque Centre for Climate Change) <i>What is in for everyday adaptation? A review of schools of thought, documented practices and potential for driving transformative adaptation</i></p>
Chair person	Håvard Haarstad

Sean Goodwin (Basque Centre for Climate Change)

Beyond hazards: a relational paradigm shift in urban climate adaptation through nature-based solutions

The rise of nature-based solutions (NbS) marks a pivotal shift in the understanding of urban climate change adaptation. Cities are no longer considered sterile human systems separate from nature, and urban adaptation is no longer limited to “grey” approaches. Despite this shift, limited empirical exploration exists on how the application of NbS in cities influences the definition and tracking of adaptation progress. In response, this study bridges the gap by conducting a thematic analysis of empirical data from semi-structured interviews with practitioners responsible for the

design and implementation of NbS across the Global North and South. Our findings indicate that the definition of urban climate change adaptation within the context of NbS transcends mere protection against climate hazards. It extends to the cultivation of deeper relationships among people and with nature. Embracing this relational approach requires engagement with knowledge pluralism and recognition of the intricate interconnectivity between human and natural systems in urban environments. We propose a re-imagining of prevailing adaptation definitions, incorporating concepts of relationality and interconnectivity. This alternative definition emerged from semi-structured interview data aimed at revealing individual and shared imaginaries of urban adaptation collected from a diversity of local actors designing and implementing NbS across the Global North and Global South (n = 15). Our approach sheds light on how adaptation goals and the selection of information to track progress can be informed by pluralistic forms of knowledge that align with local imaginaries, priorities, and needs. Integrating relationality and interconnectivity into the definition of adaptation further holds potential to unlock pathways for jointly addressing challenges linked to climate change, including urban biodiversity conservation and environmental justice. This research advocates for a holistic approach to adaptation that not only shields cities from climate hazards but also fosters resilient, interconnected communities in harmony with nature.

Marta Olazabal (Basque Centre for Climate Change)

Indicators and metrics to evaluate urban adaptation: a systematic review

Assessing the effectiveness of climate adaptation action is the focus of intense debates across scientific and policy arenas. Measurement is essential for effective adaptation management and operation, and indicators and metrics (I&M) are claimed to have a pivotal role. Surprisingly, there are, however, no systematic efforts so far to understand the progress of science in the provisioning of I&M. To shed light on these timely discussions, we here analyse 137 scientific publications and 901 I&M (including indices) proposed in the literature to measure adaptation to climate change with a particular focus on urban areas. The challenges we have faced speak about a field that is complex to track and understand as a result of a lack of common terminology, standardisation and reference guidelines. This complexity has originated diverse, context-specific and sometimes competing approaches to developing I&M. Based on our evidence, we raise the critique that current I&M proposals are highly technical, not sufficiently grounded on real needs and have little potential to support effective urban climate change adaptation. Our concern is now how to advance the adaptation evaluation research, policy and practice field in this messy space.

Eric Chu (University of California, Davis)

Institutional designs for procedural justice and inclusion in urban climate change adaptation

As cities increasingly recognize the need for more social equity and justice-focused climate adaptation actions, much emphasis has been placed on efforts to redress unequal exposure to climate impacts, structural socioeconomic vulnerabilities, as well as the maldistribution of risk burdens. Although these engagements with distributive equity concerns in the context of climate change are paramount, corresponding analyses of the processes that underpin them – including various institutional arrangements, decision-making procedures, and the actors, ideas, and power structures that drive procedural inequity – remain comparatively abstract. There is broad consensus that more inclusive and representative processes are needed in climate adaptation planning; however, it is not clear how cities can (or should) redesign rules, institutions, and decision-making processes to lay the groundwork for operationalizing (re)distributive outcomes. Developing just climate policy is further compounded by the difficulty in measuring equity in climate adaptation planning. To help inform cities' efforts in this area, this paper evaluates different planning procedures and institutional arrangements found across 25 U.S. cities that aim to facilitate more inclusive planning and decision-making in the context of climate adaptation. Although arrangements depend on the place, specific climate impact, and political context of each city, institutional designs broadly fall into four categories: cross-sectoral partnerships, strategic collaborations, grassroots-driven engagements, and expansive co-governance arrangements. Each institutional design leads to different inclusion outcomes with differing extent and depth of focus on tackling structural inequities. Our results empiricize the different ways cities can pursue more inclusive climate adaptation planning, and highlight the opportunity space for cities to advance and implement broader procedural equity goals.

Cecilia Alda-Vidal (Basque Centre for Climate Change)

What is in for everyday adaptation? A review of schools of thought, documented practices and potential for driving transformative adaptation

In recent years there has been an increased interest in everyday adaptation, understood as the daily practices and decisions made by individuals to adjust to the perceived or anticipated effects of climate change. These everyday practices are gradually adopted as they go about their day-to-day lives and happen beyond formal adaptation plans and strategies. The concept is not new, everyday adaptations have been documented in the

academic literature for a long time now under different terminologies and from different disciplinary perspectives. The majority of these studies have remained descriptive and focused on the micro-scale and there have been limited attempts to theorize urban adaptation from the everyday. In this paper, we first explore the genealogy of the concept to clarify what the contributions of different schools of thought have been to the understanding of everyday urban adaptations. Second, through a systematic review of empirical studies conducted in cities, we propose a taxonomy of everyday urban adaptations. Drawing on this taxonomy we begin conceptualizing the different rationales underpinning everyday adaptation practices and exploring the potential pathways these practices may open for transformative adaptation and more just urban futures.

Session #4.4

Title	Metrics and practice for transformative adaptation
Date	May 16th
Time	09.00 – 10.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Carlo Aall (Vestlandsforskning and Noradapt) <i>Nordic institutional ambition to avoid mal-transformation</i></p> <p>Elisabeth Gilmore (Carleton University) <i>One size fits all? Unpacking transformational adaptation for policy and practice</i></p> <p>Stefan Hochrainer-Stigler (International Institute for Applied Systems Analysis) <i>Managing systemic risk through transformative change</i></p> <p>Lisa de Kley (La Trobe University) <i>Embedding environmental justice into adaptation practice for transformation</i></p> <p>Teresa Deubelli-Hwang (International Institute for Applied Systems Analysis) <i>Navigating disaster risk management and climate change adaptation towards transformative resilience-building: a roadmap</i></p>
Chair person	Lisa Schipper

Carlo Aall (Vestlandsforskning and Noradapt)

Nordic institutional ambition to avoid mal-transformation

Based on the experiences from the internationally early efforts in the Nordic countries of institutionalizing environmental policy during the 1970s, we argue that the time is overdue for a similar ambition in climate policy, i.e. to elevate climate concerns - and particularly the area of climate change adaptation - higher up in the institutional hierarchy. The last two assessment reports of the IPCC – number five and six - have underlined the need for transformation in both the adaptation and mitigation part of

climate policy to avoid disastrous outcomes for social and natural systems alike. However, if we transform one policy field, while just tinkering at the margins at the other, the likelihood of mal-transformation increases, creating winners and losers to an unnecessary extent and reducing the effect due to negative interaction between the two categories of climate measures. Thus, we argue there is an urgent need for what we deem as synergistic climate policy to achieve the level of societal transformation needed to tackle the climate change crisis. The traditionally strong sectoral focus of governance institutions involved in developing and implementing climate policies act as an almost insurmountable barrier preventing this new form of synergistic climate policy from arising.

Elisabeth Gilmore (Carleton University)

One size fits all? Unpacking transformational adaptation for policy and practice

Since the AR6 WGII report, requests continue to come from countries to explain what transformational adaptation is and how this translates to practice. For example, the recent text on the Global Goal on Adaptation from COP28 specifically calls for more information on what transformational adaptation entails. Recognizing that existing adaptation practices are insufficient for many existing levels of climate-related hazards, there is an urgency to transformative practices that more meaningfully meet the existing and projected risks. To address the knowledge gaps, we bridge the theory and practice of transformational adaptation, describe a new way of thinking, and draw on practical examples of what could be transformative for the planning and implementation of adaptation. Many theoretical frameworks and definitions exist for transformational adaptation which generally emphasize the importance of broader societal transformations as critical to alleviating persistent vulnerabilities. Grounding transformational adaptation in practice has proved more challenging with most examples focusing on process indicators, such as use of participatory approaches and gender equity, rather outcomes. Here, we argue that part because the need for attention to process and power in transformations is well documented while desirable outcomes are highly contextual. We recommend and develop a practical approach that refocuses on internal and self-determined measures of transformations for projects, co-defined by the recipients and other relevant stakeholders, to guide project goals rather than external - “one size fits all” - indicators.

Stefan Hochrainer-Stigler (International Institute for Applied Systems Analysis)

Managing systemic risk through transformative change

Increasing interconnectedness, along with the effects of climate change and other global risk drivers, have led to mounting systemic risks in the complex systems that characterise our world. Systemic risks, with their cascading impacts and long-term sustainability concerns, necessitate transformational approaches to manage their effects across system scales and dimensions. To date, however, an “operationalisation gap” impedes translating between propositions for transformational change and policy options for addressing systemic risk. We propose combining systemic-risk analyses with localised approaches, prominently including knowledge co-development, to achieve a more comprehensive understanding of complex systems. This combined approach can support stakeholders in designing transformational risk-management and adaptation interventions that balance individual and higher-order interactions, incorporate diverse viewpoints, and thus manage systemic risks and leverage transformational potential more effectively. It is suggested that a risk-layering approach can help to differentiate, prioritize, and orchestrate these options for incremental and transformational changes.

Lisa de Kleyn (La Trobe University)

Embedding environmental justice into adaptation practice for transformation

Climate change adaptation aims to reduce climate-related harms but how can adaptation governance be transformative and embed just human-nature relations within adaptation practice? To address this question, this paper researches the interaction between adaptation and environmental justice. In particular, we consider how environmental justice principles, aims, and approaches can strengthen adaptation governance for transformation. As part of a larger project on environmental justice in policy and planning, we conducted qualitative research with adaptation professionals in Australia to understand how environmental justice aligns with their work, and enablers and barriers to embedding environmental justice in practice. Data was collected through two workshops in 2023 with 33 adaptation professionals from government, non-government organisations, and private companies, follow-up conversations, and analysis of adaptation policies, strategies, and plans. Importantly, there is tension in engaging environmental justice in this context whereby activists work for structural change, and both identify institutions as a site of injustice and work to influence institutions for justice, and we bring this tension into our research. The analysis found that while adaptation professionals perceive alignments between environmental justice and their work, the term “environmental justice” is rarely used.

For example, their work involves attention to the intersection between place-based impacts and marginalisation and vulnerability, spatially uneven risks, distributive justice in programs, communities and power, service monopolies, and networked social and environmental systems. However, the research demonstrates extensive discursive and organisational barriers in embedding environmental justice in adaptation and indicates that environmental justice asks challenging questions of institutions. We conclude that environmental justice challenges adaptation to more explicitly focus on the fundamentals of functioning socio-ecological systems, which are reliant on just relations and community-led change. Environmental justice represents an important frame in the struggle for more critical, and transformational climate change adaptation.

Teresa Deubelli-Hwang (International Institute for Applied Systems Analysis)

Navigating disaster risk management and climate change adaptation towards transformative resilience-building: a roadmap

The imperative nature of tackling climate change, compounded by persisting cycles of vulnerability and social injustice, underscores the critical need for a fundamental shift in how disaster risk management (DRM) and climate change adaptation (CCA) approach resilience-building. This paper presents transformative resilience-building (TRB) as a novel conceptual approach for operationalizing transformative change towards CCA and DRM interventions that deliver on the pressing need for more effectively addressing spiralling climate change. Through a narrative review of literature on transformative DRM and CCA, the paper identifies seven dimensions of TRB - social, participatory, justice, development, temporal, spatial, and systemic. Drawing on these seven dimensions, the paper then introduces a roadmap featuring twenty-one guiding questions that decision-makers and change agents may use to navigate the complexities of shifting DRM and CCA initiatives towards TRB trajectories amid uncertainties and entrenched practices.

Session #5.1

Title	Place attachment and more-than-human entanglements
Date	May 16th
Time	11.00 – 12.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Giovanna Gini (University of Oxford) <i>Mobile kinship: exploring more-than-human entanglements in the context of climate-related planned relocation</i></p> <p>Annah Piggott-McKellar (Queensland University of Technology) <i>Life after climate-related planned relocation: a review of wellbeing outcomes and what shapes them</i></p> <p>Siri Veland (NORCE Norwegian Research Center) <i>Care and vulnerability in climatic and environmental crises: the role of cultural caring practices in Western and Northern Norway</i></p> <p>Rico Kongsager (University College Copenhagen) <i>Climate adaptation-place trajectories in rural communities</i></p> <p>Prativa Sapkota (University of Melbourne) <i>Understanding adaptation of newly emerging communities through situated resilience and transformative learning</i></p>
Chair person	Scott Bremer

Giovanna Gini (University of Oxford)

Mobile kinship: exploring more-than-human entanglements in the context of climate-related planned relocation

This paper examines the impact of climate change on the mobilities of Brazil's Enseada da Baleia community, particularly their relationship with fish, specifically manjuba (sardines). Facing relocation due to drastic geographical alterations on Cardoso Island, the study, grounded in eight months of ethnographic research and utilising frameworks from mobility studies and relational ontologies, emphasises the community's

entanglement with fish in overcoming climate change challenges and remaking their world. The article introduces the 'Mobile Kinship' concept to explore human-nonhuman relationships in determining mobility patterns after climate impact. As such, this work advocates for integrating a relational perspective into the climate mobility framework, focusing on understanding, and addressing the climate-induced mobilities of non-Western communities.

Annah Piggott-McKellar (Queensland University of Technology)

Life after climate-related planned relocation: a review of wellbeing outcomes and what shapes them

The planned relocation of communities away from climate related exposure is increasingly being considered and implemented globally as climate impacts are realised, particularly in low lying communities facing flooding, erosion, and inundation. While emerging case studies exist, there is little understanding of how planned relocation impacts upon affected populations wellbeing. To contribute to this gap, we identify 16 cases of planned relocation in response to flood events and coastal change from the literature. A qualitative content analysis was undertaken to identify wellbeing outcomes across five wellbeing dimensions of material, social, place, self, and health. We find that planned relocation can contribute both positively and negatively to wellbeing and identify factors that shape these wellbeing outcomes. As more communities and governments face the complex reality of climate-related relocation, it is critical that this process not only reduces climate-related exposure, but can support long-term wellbeing particularly for marginalised populations.

Siri Veland (NORCE Norwegian Research Center)

Care and vulnerability in climatic and environmental crises: the role of cultural caring practices in Western and Northern Norway

The severing of caring practices among people and with other species and nature exacerbates climate-related risks. In Norwegian outfields, traditional skjøtsel (caring) practices - such as low intensity burning, grazing, and harvesting - have been severely eroded over the past 50 years. In confluence with regrowth and urban sprawl, increasingly intense and severe weather patterns of drought and flooding present novel fire and flood risks. In this paper, we consider how climate services from cultural heritage practices can maintain and improve ecosystem diversity, food security, and climate adaptation and mitigation. Climate services from cultural heritage practices can be considered as complementary to nature-based solutions, based in an ethic of conserving nature by living with it, rather than isolating or mimicking it. Cultural

landscapes that have been shaped over millennia of more-than-human interactions re-center human caring practices as ethical actions partaking in ecosystem form and function, rather than as holding a privileged and other-than-natural anthropocentric position. The current and previous extent of coastal heathlands that once connected European Atlantic coasts from Norway and UK to Portugal are also connected through the caring practices that co-created these critically endangered ecosystems. We also consider similar caring practices rooted in cultural heritage practices that are being reintroduced in other parts of the world to reduce climate-related risks. Reintroducing such practices will require cross-scalar measures that transcend the governance levels and policies that have explicitly and surreptitiously contributed to the loss of ecosystems and the human caring practices that co-created them. Drawing on conversations with local and regional government, conservation organizations, and small business owners in Western Norway, this paper outlines a collaborative research agenda that can identify social innovations, and their barriers and enablers, required to reintroduce caring practices in more-than-human communities to reduce climate-related risks.

Rico Kongsager (University College Copenhagen)

Climate adaptation-place trajectories in rural communities

Sustainable, happy and healthy rural communities are a policy priority across scales of government. Climate change adaptations interventions are often proposed as methods to protect and therefore maintain places and communities, however evidence repeatedly demonstrates that the socio-political nature of adaptation processes results in uneven methods of engagement and operationalisation with differentiated benefits and impacts across communities. Here we examine what adaptation interventions means for long term trajectories of places, and in particular how adaptations promote particular place meanings and functions. This study reviews multi-country examples of climate adaptations in rural communities across the Nordic region including adaptation to avalanches, flooding, storms and sea level rise. Drawing on political ecology and social-psychology we consider the evolution of sense of place over time and the impacts of adaptation interventions materially and socially on place trajectories. In particular we consider the evolution of landownership, and we identify particular place meanings that are either unintentionally or intentionally promoted by adaptation interventions including processes of rural thriving, place marginalisation and place commodification. We show that adaptations can accelerate or privilege particular conceptions of place and as a result reinforce or redistribute vulnerabilities. We identify here the potential trade-offs of adaptation interventions over time, and in particular we

focus on how people's relationship with local places can be supported, altered or marginalised by climate change adaptations.

Prativa Sapkota (University of Melbourne)

Understanding adaptation of newly emerging communities through situated resilience and transformative learning

Current policies in Australia draw on place-based approach, recognising that relation to place has myriad of implications in how people adapt and recover in the context of bushfire and other disaster. What is not well understood is how less familiarity to landscape affects adaptation of newly emerging communities, which we explore through following research questions. how do immigrant communities navigate and negotiate the process of adaptation in complex socio-cultural dynamics, and how does this interact with their capacity to respond to impacts of environmental change? We conducted ten interviews and five focus group discussions with people, recently migrated to Victoria Australia, including people with refugee backgrounds. People were asked to share their stories of migration, adapting to new environmental and socio-cultural landscapes, including what hinders/facilitates their adaptation. We found that disadvantages faced by immigrant communities are unique and different, but these communities are not necessarily vulnerable as generally portrayed in current policies. We present the findings through the concept of situated resilience, which we refer to as capacity to navigate their adaptation, which is embedded in the specific time-place-socio-cultural context. This implies that resilient in one context may not necessarily be resilient in different context. This was helpful to confront the idea of resilience as inherent characteristics of any individuals/communities. We also found that transformative learning is a crucial aspect of adaptation, which is often hampered through limited opportunities. In conclusion, the adaptation of immigrant communities is complex and multifaceted, hence generalising adaptation with singular narratives would diminish such complexities. This is particularly important in the context where there are diverse ways people navigate their adaptation in new system of governance and socio-cultural context. We also highlight that government's support is critical in facilitating transformative learning through which people can tailor their abilities to navigate complex processes of adaptation.

Session #5.2

Title	Co-creating just adaptation
Date	May 16th
Time	11.00 – 12.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Ambika Markanday (Basque Centre for Climate Change) <i>Co-creating tomorrow: how participatory design of games can help address uncertainties underpinning adaptation decision making</i></p> <p>Lena Grobusch (Ludwig-Maximilians-Universität München) <i>Utilizing a social contracts lens to understand responsibility distributions for climate change adaptation: lessons from other disciplines</i></p> <p>Camilla Audia (University of Warwick) <i>Responsible co-production of knowledge: lessons from the PATHWAYS project</i></p> <p>Sam Pickard (Barcelona Supercomputing Center) <i>Social science tools for climate scientists: exploring, developing, and evaluating novel, co-produced climate services in Barcelona</i></p>
Chair person	Christopher Lyon

Ambika Markanday (Basque Centre for Climate Change)

Co-creating tomorrow: how participatory design of games can help address uncertainties underpinning adaptation decision making

The topic of uncertainty has been a major concern for policy making on climate change adaptation. The intrinsic complexity of climate change, limitations in data and models, regional variations, challenges in communicating uncertainties, and the long-term and multifaceted nature of the issue are some of the reasons why properly integrating uncertainties in adaptation decision making has posed such a challenge. While various uncertainty frameworks and methodological approaches have been developed,

researchers are still exploring best practices. A promising approach is the use of games (e.g. behavioural simulations, lab or field experiments, role-play exercises) for testing and understanding how uncertainties may affect the behaviours of individuals, groups or systems under various decision scenarios and conditions. However, careful design of such games, including the participation of key actors throughout the development process, is necessary in order to consider and integrate uncertainties into decision processes as holistically as possible. Based on a case study of the Mijares (Spain) - a region facing various intense climate pressures such as water scarcity, heat waves, and forest fires - we show that by making the design and development process of a behavioural simulation as participatory as possible, we can adequately consider uncertainties for adaptation decision-making in the region, by: i) incorporating diverse perspectives; ii) better understanding local context; iii) increasing acceptance and ownership of decisions; iv) improving decision quality; v) improving adaptive capacity and reducing risks of maladaptation; vi) enhancing communication between key actors and groups, and; vii) creating just and dynamic responses to change.

Lena Grobusch (Ludwig-Maximilians-Universität München)

Utilizing a social contracts lens to understand responsibility distributions for climate change adaptation: lessons from other disciplines

While it is widely acknowledged that multi-stakeholder collaboration is a pre-requisite for achieving just adaptation, the question of which actors should be responsible for what when it comes to undertaking adaptation remains ambiguous. Such ambiguity can hinder effective implementation and create tensions between different actors, which is critical at a time when inclusive adaptation action urgently needs to be accelerated. Addressing the existing research gap, we argue that applying a social contracts lens presents itself as a valuable approach for analysing and understanding how roles and responsibilities for adaptation are distributed between different state and non-state actors. As such, this research conducts a systematic literature review of normative and empirical studies to take stock of how social contract theory can be utilized to assess the distribution of roles and responsibilities between different adaptation actors. Given that the literature on social contracts for adaptation remains slim, the review not only draws upon literature from within the adaptation field but also from outside of it, to find out what the adaptation field can learn from other disciplines. The aim of the review is to identify key elements which are subsequently used to construct an analytical framework which is applicable across different contexts. The utility of the framework is then illustrated based on empirical evidence from three case study cities: Manila (the Philippines), Hanoi (Vietnam), and Bangkok (Thailand). All in all, this research illustrates the valuable contribution that a social contracts approach can make towards better

understanding who is responsible for doing what in adaptation. Future research will focus on refining the framework through a participatory validation process with local stakeholders in the case studies cities as well as with international adaptation practitioners.

Camilla Audia (University of Warwick)

Responsible co-production of knowledge: lessons from the PATHWAYS project

The practice of co-production of knowledge in research generates complex epistemic, ethical and professional challenges for professional researchers and societal partners. These challenges are key in conceptualising long-term adaptation and sustainable practices. Some issues stem from contrasting positionalities, expectations, norms and incentives on either side, which often remain tacit. For instance, a structure of well-established binaries – expert/non-expert, professional/voluntary, funded/unfunded, researcher/consultant – underpin researcher-partner interactions in co-production practices, through diverse forms of engagement. If the practice of co-production is to enable learning by both researchers and partners, and to achieve its promise of better research and greater impacts, these challenges need to be made explicit and negotiated. Drawing on experiences of the PATHWAYS project, which investigated health inequities in several global cities, this paper analyses power dynamics and asymmetries in the ‘co-production relationship’ and suggests ways of acknowledging them in practice. We argue that the aim of ‘responsible co-production’ should be to convene a non-hierarchical dialogue between researchers and partners with the explicit aim of generating commonly recognised outcomes, considering resource constraints and cultural settings. We discuss researchers and societal actors’ roles within the project and more broadly, as interactions that explicitly acknowledge, and engage with, power relations and hierarchies. The paper discusses three illustrative cases of co-production of knowledge from PATHWAYS: vehicle emissions controls enforcement in Accra; a schools-based waste awareness project in Dhaka; and urban planning, flooding and health in Tamale, Ghana.

Sam Pickard (Barcelona Supercomputing Center)

Social science tools for climate scientists: exploring, developing, and evaluating novel, co-produced climate services in Barcelona

The Impetus4Change project (<https://impetus4change.eu/>; I4C) is developing near-term high-resolution climate information for urban climate services in four demonstrator cities (Barcelona, Bergen, Paris, Prague). These climate services are co-produced, bridging, via both inter- and transdisciplinary efforts, scientific and

practitioner disciplines to enable more climate resilient societies. We present attempts to include diverse voices ranging from academic climate scientists to urban policy makers and NGOs in the co-production process, and our experiences operationalising social science concepts across the I4C community of researchers and demonstrator cities. We highlight how co-production negotiations have been shaped by external factors like different interpretations of key terms, incongruous workflows and mandates, and varied capacities between stakeholder groups. Within the project, we reflect on attempts to support co-production efforts led by physical scientists with established local networks on the one hand, versus social-scientist-led efforts to develop trusted relationships from scratch on the other. We document four tools/practices designed to facilitate uptake of social science practices and the challenges of implementing them in real-world projects: 1) purposeful and structured stakeholder mapping and user selection; 2) co-exploring and co-designing climate service mock-ups in transdisciplinary hackathon-like events; 3) iteratively developing a catalogue of services to transparently link climate science capabilities with real-world demands; and 4) co-creating a climate service co-evaluation framework and tailoring it to local contexts. We conclude by describing how, despite being part of the same project and following the same overall framework, the co-production processes in each demonstrator have progressed in different ways, paying particular attention to the prior strength of the network, the degree to which the issue of concern was defined, and the mutual support between different scientific and practitioner disciplines.

Session #5.3

Title	Power, politics and conflict
Date	May 16th
Time	11.00 – 12.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Douwe van Schie (University of Bonn) <i>Adaptation dynamics: rolling waves of change in adaptation-intensive regions</i></p> <p>Kyungmee Kim (Uppsala University) <i>Unpacking vulnerability to climate change in post-coup Myanmar: a political economy analysis</i></p> <p>Jon Barnett (The University of Melbourne) <i>The political economy of vulnerability to climate change in the Marshall Islands</i></p> <p>Siri Eriksen (Norwegian University of Life Sciences) <i>Intersectional power dynamics and weaponised territorialisation of resource rights in climate change adaptation in Laikipia, Kenya</i></p> <p>Jessica Weir (Western Sydney University and Australian National University) <i>Climate adaptation grit: surfacing and responding to what Indigenous leaders are saying</i></p>
Chair person	Karen O'Brien

Douwe van Schie (University of Bonn)

Adaptation dynamics: rolling waves of change in adaptation-intensive regions

People living in climate hazard-prone regions have become regular, repeated targets of adaptation projects. In this presentation, I consider the question: what are the lived experiences of adaptation-intensity? Building on critical insights regarding adaptation projects' shortcomings from the literature, we used our combined experience researching climate change and adaptation in southwest Bangladesh to identify and

describe “adaptation dynamics”: the rolling waves of change that occur in this adaptation-intensive region. I explain how adaptation projects that aim to introduce freshwater access, agricultural techniques, flood protection and financial stability ultimately produce social, economic and environmental disruptions. Individually and cumulatively, they create uncertainty and instability for local people that are only exacerbated when projects overlap and conflict. With an understanding of adaptation dynamics, I highlight how the short, uncoordinated timelines of adaptation projects can be modified to minimise disruptions and increase project effectiveness. Future work on adaptation dynamics will be crucial to assess the impacts of projects in adaptation-intensive regions and how adaptation processes can be improved to effectively reduce vulnerability to climate-related hazards.

Kyungmee Kim (Uppsala University)

Unpacking vulnerability to climate change in post-coup Myanmar: a political economy analysis

Among the countries most exposed to climate hazards, many also suffer from armed conflict. Reducing the vulnerability to climate change in countries affected by violent conflict and fragility is a significant concern. This paper explores climate change vulnerability in post-coup Myanmar, utilizing political economy approaches that focus on the interplay of interest, violence, and agency. Ongoing armed conflict endows certain elites with opportunities to benefit from the extractive conflict economy, while violence has a gendered impact on people’s freedom and access to resources. It alters relationships and spatial and human connectivity within the country and beyond, and understanding these changes provides insight into people’s climate vulnerability. The analysis is grounded with the idea that climate change vulnerability is intersectional, relational, and connected through material, capital, and human mobility further shaped by violence. The paper briefly discusses people’s coping mechanisms in the face of worsening climate vulnerability and more recent developments in external assistance for climate adaptation. This paper contributes to the critical understanding of climate vulnerability in conflict-affected settings, aiming not only to enhance the potential for good adaptation practices but also to reduce the risk of adaptation efforts entrenching conflict dynamics.

Jon Barnett (The University of Melbourne)

The political economy of vulnerability to climate change in the Marshall Islands

It is commonly assumed that the extreme vulnerability of atoll peoples to climate change stems from the high exposure and sensitivity of their islands to sea-level rise.

Yet the vulnerability of peoples to climate change within and between islands is highly variable, partly due to variations in island geomorphology, but mostly due to large variations in the capacity to adapt. In this paper we situate the results from a mixed-method study engaging with 1362 people living across 15 islands in the Republic of the Marshall Islands in the context of a history of military colonisation and coloniality. These data show that local people across the Marshall Islands are significantly impacted by drought and sea-level rise yet are determined to adapt to remain living in their islands. However, few of the technologies and practices that could enable adaptation are accessible due to poverty and extremely limited connectivity between islands. These barriers to adaptation are persistent in large part because of the political and economic dependencies arising from the Compact of Free Association that the Marshall Islands has with the United States. The data also shows that vulnerability varies between islands, with people living on Bikini, Enewetak, and Kili experiencing acute challenges arising from the legacies of 67 nuclear weapons tests conducted by the United States Government between 1946 and 1958. Vulnerability varies within islands too, with women in particular experiencing additional burdens arising from gendered division of labour and power within many islands. In the Marshall Islands fair and efficient adaptation is possible, but it will be difficult without a just redistribution of power between the Marshall Islands and the United States.

Siri Eriksen (Norwegian University of Life Sciences)

Intersectional power dynamics and weaponised territorialisation of resource rights in climate change adaptation in Laikipia, Kenya

There are increasing fears that climate change may lead to or exacerbate conflicts, yet the climate-conflict linkages often remain oversimplified. As the critical adaptation scholarship highlights, how conflicts, violence and cooperation emerge in relation to climate change needs to be understood with regards to changes in environmental governance and authority relations, including those associated with adaptation processes. This paper draws on empirical research in Laikipia County, Kenya, where conflicts have become increasingly violent and often coincide with drought events. We use the analytical lenses of authority and subjectivity to investigate relations between different groups in decision-making over grazing, water, and forest resources. Qualitative interviews and group discussions were conducted with local resource users around the Mukogodo forest – including pastoralists, farmers, and forest dwellers – in addition to key informant interviews held with governmental and non-governmental organisations. By conducting four rounds of interviews between 2018 and 2024, we are able to follow the situation over several years and track how an increasingly weaponised territorialisation of resource rights is entangled with politics, notably around national

elections. Asking questions about contestations over subjectivities and recognition of authority helps identify the socio-political processes and intersectional power relations that contribute to transforming conflict dynamics in the face of environmental changes. We show that individuals and communities find themselves differently positioned both materially and symbolically within a context of historical injustices, changing land laws, new climate policies, and significant political pressures linked to electoral dynamics and devolution, in addition to facing increasing climatic risks. Understanding the (re)production of intersectional subjectivities is key to comprehending the complexities of conflicts-climate change dynamics. We further argue that recognising multiple resource rights and authority relations, and the role of violence in these relations, forms a critical starting point for any policy efforts aimed at climate justice.

Jessica Weir (Western Sydney University and Australian National University)

Climate adaptation grit: surfacing and responding to what Indigenous leaders are saying

Learning across Indigenous and non-Indigenous difference generates analytical grit and material adaptation possibilities for nation-state institutions and policies, universities and professional societies, and their expression in global bodies. Fundamentally, Indigenous leaders argue that nature is a cultural and ethical domain, within which our laws, knowledge and ourselves arise and are sustained. This is very different to separating nature and culture for analysis and understanding, as iconically represented by the natural and social sciences. Whilst the imperative of embracing complexity by bringing nature and society together has a substantive scholarly presence, the grit offered by Indigenous expertise is not often surfaced. Matters of difference and discrimination constrain its translation. Instead, it is glossed as discretionary – expected/hoped to fit within the ‘mainstream’, or celebrated/ignored as a cultural deviation. As a geographer, I a) bring Indigenous studies into dialogue with Science and Technology Studies and the critical Environmental Humanities to understand this persistent miscommunication, whilst b) undertaking qualitative case studies with people who dig into and sort through it. My presentation centres on a group of Indigenous and non-Indigenous public servants, including natural scientists, who are experimenting with centring Indigenous leadership in the highly regulated context of public servants lighting fires on public nature reserves in Canberra, Australia. In different ways, they articulate not discretionary differences, but paradigm shifting logics. I follow this with sharing how these logics address vulnerabilities that have undermined action in the ‘mainstream’. My focus for adaptation change is to encourage scholarly professions to take reflexivity further. I do so with the understanding that expert authority and public sector regulation iteratively form and inform each other, to

determine what is legitimate and resourced. I contribute as a white non-Indigenous scholar, and my scholarship is both charged and constrained by this positionality.

Session #5.4

Title	Perspectives on fairness, justice and democracy
Date	May 16th
Time	11.00 – 12.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>David Schlosberg (Sydney Environment Institute and Helsinki Collegium for Advanced Studies)</p> <p><i>Barriers to environmental justice and implications for just adaptation</i></p> <p>Joshua Long (Southwestern University)</p> <p><i>Adaptation and the emergent climate hegemony: avoiding adaptation as partition</i></p> <p>Anne Leitch (Griffith University, NCCARF)</p> <p><i>Missing links: a decade of discourse of coastal adaptation and charts declining democracy</i></p> <p>Ariane Bray (University of Otago)</p> <p><i>Reframing climate adaptation policy through justice, fairness, and equity in Aotearoa New Zealand</i></p> <p>Victoria Maguire-Rajpaul (Anglia Ruskin University)</p> <p><i>The expectation of un(der)paid adaptation labour</i></p>
Chair person	Gina Ziervogel

David Schlosberg (Sydney Environment Institute and Helsinki Collegium for Advanced Studies)

Barriers to environmental justice and implications for just adaptation

This paper examines the range of barriers to achieving environmental justice (EJ) identified by activists and scholars and applies them to thinking about adaptation processes that take justice seriously. It starts with findings from an international study that used Q methodology to empirically examine the discourses emerging and circulating about barriers to EJ globally and what lessons such EJ discourses offer to

scholarship, practice, and policy. Our data reveals a broad consensus among scholars and practitioners about the forms of elite power that create injustice, capturing different sites of EJ struggles and revealing distinct dimensions of environmental injustice. These include 1) forms of structural marginalisation and exclusion; 2) institutional obstacles, particularly weak legal and political institutions; 3) exclusionary policy processes which silence community and social justice concerns; and 4) discriminatory bureaucratic cultures. Together, these identified barriers point to the multi-layered and compounding way that environmental injustice is embedded and perpetuated by various forms and manifestations of discriminatory power. Given that such barriers to practical efforts for environmental justice are structured and institutionalised, and compounding in distinct sites, we then examine the implications for adaptation research and the design of just adaptation processes. Here, the point is that a critical social science needs to not only call for just adaptation broadly, but also use its unique skills to unpack and redress these specific barriers to EJ implementation. We argue that just adaptation must engage not only inequitable risk and climate exposure, but also substantive issues of difference, engagement, and inclusion in adaptation policy development and decision-making. This relates to how we do research as much as what we research, and that the approach we took to Q methodology, we argue, is one illustration of such a direction.

Joshua Long (Southwestern University)

Adaptation and the emergent climate hegemony: avoiding adaptation as partition

While scientists and policymakers remain committed to strategies for greenhouse gas reduction and climate stabilization, an increasing number of experts from the development industry, private institutions, and government agencies are signaling a shift toward adaptation focused on investment, security, and resilience. Beyond mainstream perspectives on climate adaptation, many actors are positioning themselves as emergent or enduring leaders in a climate-changed world—one where the volatility of climate-induced shocks and stressors creates a polarized society of climate adaptability and vulnerability. As a result, an emergent climate hegemony is quickly taking up space in policymaking and statecraft. While nominally discussing the importance of equity and justice, the emergent climate hegemony is focused on promoting systems and strategies that reinforce existing systems, as well as their own economic and geopolitical position. This paper applies theories of ‘climate apartheid’ (Long, forthcoming; Tuana 2019; Rice et al. 2022) to discuss how just and equitable climate adaptation is at risk of ongoing misappropriation by actors who wish to use adaptation policy to secure their own interests. Ultimately, this paper suggests that the only way to ensure a more equitable climate future is to radically pivot from mainstream

solutions toward more inclusive, intersectional, and post-colonial perspectives on climate action.

Anne Leitch (Griffith University, NCCARF)

Missing links: a decade of discourse of coastal adaptation and charts declining democracy

This paper charts more than a decade of media coverage of coastal policy in one state jurisdiction in Australia across local and state print media outlets. During this period, coastal policy shifted from being about policies to guide management of a coastline to about managing a coastline for a changing climate. Significant is that this period also tracked the demise of local media, specifically print newspapers at the community scale. This led to the loss of an important channel in which local issues are debated by communities, and so has implications for democracy. It is well established that decline in journalistic capacity affects the democratic health of a community. Specifically, this research analyses media discourse of coastal policies in NSW over a decade from 2009 to 2022 through state and local newspapers and includes articles, editorials, and letters to the editor. During this period, major coastal erosion events occurred, and ten towns became official hotspots for coastal erosion and therefore also hotspots for debate over potential and palatable options for local and state government responses. This period also included changes in State government policy on sea level rise: sea level rise benchmarks were introduced in 2009 and abandoned in 2012, with local government instead permitted to determine their own projections. Important themes that were debated, particularly at the local scale, are community perceptions of sea level rise and potential responses, social construction of risk, and sense of place and identity: there are small signs of decolonisation of the coast. While there are many studies of media coverage of climate change, this is a rare consideration of the role of the media in discourse of coastal climate change and related policies at different scales.

Ariane Bray (University of Otago)

Reframing climate adaptation policy through justice, fairness, and equity in Aotearoa New Zealand

Not all climate adaptation is just adaptation. As nascent scholarship emphasises, adaptation can create new and reinforce preexisting injustices. Aotearoa New Zealand's central government is actively developing institutional tools for adaptation. While certain legislation requires the consideration of justice issues including the distribution of effects across society, Indigenous Māori, and between generations, decision-makers lack consistent guidance to foster just adaptation. This paper responds by developing

and testing a framework for just adaptation policy in the Aotearoa context, developed through the synthesis of findings from our literature review exploring concepts of justice in adaptation. While prevailing scholarship focuses on distributive, procedural, and recognitional justice, recent developments emphasise further dimensions including restorative and transformative approaches. Guided by intersectional feminist, decolonial, and poststructuralist research foundations, we underscore an intersectional approach, recognising the entanglement of just adaptation in broader pursuits of justice through social, political, and economic systems. Findings informed a set of indicators for distributive equity, fair processes, recognition, and transformation within Aotearoa's adaptation context. These indicators were used to guide a discourse analysis of the central government's institutional tools for adaptation, using data collected from a document analysis of relevant policy and legislation and semi-structured interviews with key decision-makers. Our analysis identifies a dominant framing of just adaptation as distributive and procedural equity, with insufficient attention to recognition, restoration, and transformation. We argue that just adaptation policy is constrained by expectations of political neutrality, censoring language associated with root causes of inequity and disruption to colonial and neoliberal-capitalist systems. Further, a predominant focus on equitable compensation for private property affected by managed retreat restricts consideration of other justice issues and subverts adaptation's society-wide transformative potential. The gaps revealed between the indicators and the policy reviewed demonstrate the framework's efficacy by providing points of intervention to advance effective and just adaptation solutions.

Victoria Maguire-Rajpaul (Anglia Ruskin University)

The expectation of un(der)paid adaptation labour

Paulo Freire identified how well-adapted people suit the oppressors' needs. Contemporary climate adaptation is fraught with myriad power imbalances, encompassing tangible resource disparities and narratives that perpetuate procedural inequities over who governs whom. Rather than transforming the system at large, the adaptation burden is distributively inequitable by shifting responsibility onto resource-poor individuals, who may be conditioned to accept and internalise adaptation imperatives. While such inequities and intersectional injustices underlying climate adaptation causes and effects are increasingly recognised, what is novel is conceiving adaptation burdens as labour, as additional work. Well-adapted people are rarely paid for their additional adaptation work. What is more, marginalised people already suffering multiple stressors are expected to undertake adaptive efforts without remuneration or adequate support. Thus conceiving adaptation as adaptation labour reflects broader power dynamics and inequities that exploit the labour and resilience of

vulnerable populations to suit the oppressors' needs. Within mainstream discourse and policy, adaptation is not treated as labour. Well-adapted individuals' contributions to adaptation strategies are frequently disregarded, thereby potentially exacerbating cycles of injustice and intersectional vulnerabilities. This presentation analyses structural factors that perpetuate the expectation of un(der)paid adaptation labour, including: historical legacies of colonialism, ongoing coloniality, racialised capitalism, and Edward Said's concept of imaginative geography. When exploring potential pathways for recognising, valuing, and compensating adaptation labour performed by resource-poor, marginalised actors, I advocate for community-driven approaches to adaptation, as well as for active listening, prioritising dignified livelihoods, equity, and climate justice.

Session #6.1

Title	Equity, fairness and justice
Date	May 16th
Time	13.30 – 15.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Himabindu Killi (University of Glasgow and Leuphana University of Lüneburg)</p> <p><i>Unraveling power dynamics and justice imperatives in India's climate change adaptation strategies</i></p> <p>Jan Petzold (Ludwig-Maximilians-Universität München) and Sasha Kosanic (Liverpool John Moores University)</p> <p><i>Inclusive flood risk reduction for people with disabilities in Mumbai – a climate justice perspective</i></p> <p>Asun Lera St. Clair (DNV & Barcelona SuperComputing Center)</p> <p><i>A framework to support the equitable standardisation of climate services</i></p> <p>Johannes Herbeck (University of Bremen)</p> <p><i>Fixing the coast? Adaptation through multifunctional diking and practices of territorialization in Semarang, Central Java</i></p>
Chair person	Lily Lindegaard

Himabindu Killi (University of Glasgow and Leuphana University of Lüneburg)

Unraveling power dynamics and justice imperatives in India's climate change adaptation strategies

This study scrutinizes the intricate nexus between power dynamics and justice imperatives within India's climate change adaptation strategies. By examining the political economies guiding these policies, the research dissects the influential forces at play across international, central, state, and local levels of governance. Using a case study approach, the paper unveils how economic growth priorities, institutional inefficiencies, and conflicting foreign policy goals contribute to India's adaptation gap. It

reveals that India's economic growth paradigm takes precedence in climate change discussions, entwining adaptation solutions with the imperative of economic advancement due to energy insecurities, dwindling resources, and the burgeoning needs of its population. Furthermore, the research highlights the centralized nature of India's domestic climate policies, hindering the integration of local knowledge into institutional frameworks. This top-down approach limits the effectiveness of underfunded local governance units, marginalizes vulnerable communities, and widens the adaptation gap. Additionally, the study underscores India's use of climate change as a foreign policy tool to advance strategic interests on the global stage. This strategic focus favors technology-driven, capital-intensive actions, neglecting softer adaptation methods that engage local communities. These intertwined factors exacerbate India's adaptation gap, undermining its capacity to effectively address climate change challenges. The findings emphasize the critical need to reshape policies, considering justice elements and recalibrating power dynamics for more inclusive and sustainable adaptation strategies. Addressing these dynamics is crucial for fostering equity and resilience in the face of complex climate change realities.

Jan Petzold (Ludwig-Maximilians-Universität München) and Sasha Kosanic (Liverpool John Moores University)

Inclusive flood risk reduction for people with disabilities in Mumbai – a climate justice perspective

Coastal megacities of the Global South are hotspots of social vulnerability and are under increasing pressure from climate hazards. While researchers and decision-makers have recognised the necessity to adapt and the general concerns of vulnerable populations, there is still a lack of progress in tackling fundamental climate justice and intersectionality concerns. Concretely, the adaptation needs and perspectives of people with disabilities are often neglected in local adaptation research and planning. This gap poses a fundamental climate justice problem since people with disabilities are a large group among the marginalised populations and disproportionately affected by climate-related hazards. Our paper focuses on flood hotspots in Mumbai, a social vulnerability and inequity hotspot faced by fast urbanisation and increasing climate hazards. Through a mixed methods approach, combining content analysis of policy documents, household survey data and expert interviews, we identify distributional, recognitional, and procedural dimensions of climate justice from the perspective of people with disabilities. Our research contributes to a context-sensitive understanding of the diverse urban challenges for inclusive and just adaptation, diverse roles and capacities, and the leverage points that may allow a systemic shift for disabled and marginalised populations out of the vulnerability trap.

Asun Lera St. Clair (DNV & Barcelona SuperComputing Center)

A framework to support the equitable standardisation of climate services

Timely, salient and accessible climate services (the provision of climate information and knowledge for use in decision-making), are necessary for adaptation. However, there is evidence of unequal quality of many climate services which is related to financing, capacity, or ignorance of climate risks. Nevertheless, standards and quality assurance mechanisms have the potential to mitigate some of the issues related to quality management and control. This paper presents the first Framework for the equitable standardisation of climate services, which provides a path for developing standards and quality management and assurance. The framework emerges from Climateurope2, a consortium of 32 partners including WMO, Copernicus, and standard setting and assurance experts in addition to an interdisciplinary group of scholars. This framework is based on a broad understanding of standards and standardisation processes across different fields – standardisation being quite new to climate services – and an understanding of climate services as complex and intersecting combinations of data, products, processes, knowledge systems and stakeholders, including their social and human dimensions. The framework also takes equity as an instrumental and intrinsic value to be protected and promoted throughout processes and outcomes related to standardisation, standards, and quality. To do so, the framework consists of a decision tree, which provides a guide of key steps to address for standardisation, a distinction between different components of climate services to guide standardisation across more or less mature components of the complexity of climate services, and a glossary of a key terms necessary to navigate the decision tree.

Johannes Herbeck (University of Bremen)

Fixing the coast? Adaptation through multifunctional diking and practices of territorialization in Semarang, Central Java

In response to projections of sea level changes in the coming decades, coastal areas worldwide are undergoing transformative adaptation projects. Recent years have seen the emergence of innovative and experimental practices in coastal protection. Some of them are novel ideas around protective infrastructures, such as the concept of multifunctional diking. Focusing on a specific multifunctional diking project, namely the Semarang-Demak toll road in rapidly subsiding Northern Java, we delve into the genesis of this coastal transformation project. During repeated visits at the site we have led qualitative interviews with the engineering team that overlooks the dike, with city planners and municipal representatives in Semarang, with researchers involved in the

strategic and detailed planning of coastal adaptation, as well as with NGOs and inhabitants of affected coastal communities. We therefore also explore the dike's integration into broader, long-term planning processes and interventions within the city and show that the development of the adaptation strategy is closely tied to the histories of city-wide planning practices influenced by international consultants and external expertise. Our results demonstrate that the dike can be regarded as a municipal endeavor to fortify territorial claims amid the swiftly changing coastline, coupled with the envisioning of ambitious futures for the city's economic development. Finally, our results show the unequal nature of the politics of urban climate adaptation and the resistance against it. We can show from our data that the city's territorial claims embedded in the diking project sharply contrast with ongoing, individualized forms of territorial claims and territory-making by coastal communities. These communities are grappling with the submergence of once-productive agricultural lands, settlement areas, and coastal ecosystems and are now facing further dispossessions through the diking project. We show their efforts to re-stake their claims to the now submerged lands ought to be utilized for the diking project by looking at forms of collective participatory place-making that could be exemplary for re-shaping similar diking projects and the larger urban climate adaptation in Indonesia.

Session #6.2

Title	Adaptive capacities
Date	May 16th
Time	13.30 – 15.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Christoph Gocht (University of Tübingen) <i>Institutional approaches to flood risk management in Vietnam and Germany: a comparison</i></p> <p>Jérôme Etsong (University of Coimbra) <i>Beira the day after: the adaptation mix</i></p> <p>Sarah Dickin (Uppsala University) <i>Measuring and connecting women’s empowerment and adaptative capacity in the water, sanitation and hygiene sector</i></p> <p>Annika Schubert (Ludwig-Maximilians-Universität München) <i>Unravelling the “capacity-action-gap”: the case of private flood risk adaptation measures</i></p>
Chair person	Matthias Garschagen

Christoph Gocht (University of Tübingen)

Institutional approaches to flood risk management in Vietnam and Germany: a comparison

Flooding is a regularly recurring event and causes major damage worldwide every year. Due to urbanization and the associated sealing of land, more and more retention areas are being lost, which further increases flooding in urban areas. However, economic development continues to be given higher priority than flood protection. Severe flood events in the recent past in Vietnam and Germany show that current strategies are reaching their limits and new approaches are needed. Based on a GIS analysis, this study derives and compares the legal bases and strategies of both countries, which represents a new scientific approach. The results show that both countries still have some hurdles to overcome on the way to integrated flood risk management and can

learn a lot from each other. For example, Vietnam can make use of some aspects of the legal framework in Germany. In addition to addressing flood risk through the creation of comprehensive flood hazard and risk maps and the preservation of natural retention areas, the dismantling of "top-down" mechanisms through the early involvement of the population in planning is also a high priority for the country. In another direction, however, Germany can also take up some aspects of the Vietnamese principles. For example, in addition to a much closer link between disaster control and meteorological services and the participation of the population or the consideration of traditional experiences in the creation of flood hazard maps, raising awareness and creating a positive risk perception among the population can also represent an important extension of their own strategy. Furthermore, both countries should pay particular attention to the protection of their ecosystems. The work presented here shows that both countries face similar challenges and would benefit from a joint development towards sustainable flood risk management despite the different climatic and political conditions.

Jérôme Etsong (University of Coimbra)

Beira the day after: the adaptation mix

Over the past twenty years, Mozambique has faced numerous extreme weather events, of which one of the most devastating was Cyclone Idai which occurred in the city of Beira in 2019. Their frantic pace and cadence for many decades constitute a major threat, an environmental challenge, a political and security risk whose conjunction could modify the physical and geopolitical landscape and exaggerate existing vulnerabilities. This fear of seeing a proliferation of crisis scenarios raises questions about the methods and choices of policies adaptation put in place by leaders in African metropolises to fight against the succession of dramatic episodes caused by climate change. Based on extensive literature on adaptation practices in urban cities and an observation of ancestral practices of local populations, this case study on the city of Beira analyzes the combination of adaptation policies and their results since the disasters of 2019.

Sarah Dickin (Uppsala University)

Measuring and connecting women's empowerment and adaptive capacity in the water, sanitation and hygiene sector

Water was included for the first time in the COP27 declaration marking a milestone in recognizing these connections in the climate community. In parallel, there is growing interest in the water, sanitation and hygiene (WASH) sector in approaches for providing

safe WASH for communities affected by climate change. In this research-practitioner partnership a novel adaptive capacity index was developed for application in WASH contexts based on well-established domains of adaptive capacity (flexibility, assets, agency, ability to act collectively, and responding to change). We adapted these domains to a WASH context, such as the flexibility to use a variety of household water sources. A case study was carried out in Satkhira District, Bangladesh, in communities where Simavi, a WASH NGO, has been implementing a programme focused on increasing coverage of WASH services with an inclusive approach designed to leave no one behind. We collected household survey data from 303 women respondents and 157 men respondents in programme areas in Jhaudanga Union and in nearby non-programme areas in Sreeula Union. The survey contained modules on adaptive capacity, as well as an established measure for women's empowerment in the WASH sector, information about levels of WASH services, and information about climate events that had damaged WASH services. We found varied levels of adaptive capacity among residents related to WASH, and we investigated this further by examining the relationships between women's empowerment and adaptive capacity, identifying important relationships related to decision-making, control over resources, and being able to act collectively, between these two constructs. These findings provide evidence for the importance of activities to promote women's empowerment and gender equality, as part of gender transformative adaptation practice. Finally, we will discuss the balance between reductivity challenges with metrics and the critical information for WASH practitioners to overcome the 'knowing-doing' gap.

Annika Schubert (Ludwig-Maximilians-Universität München)

Unravelling the “capacity-action-gap”: the case of private flood risk adaptation measures

According to the Paris Agreement, strengthening adaptive capacity is one of the core objectives of the global goal on adaptation. However, the adaptive capacity literature is diverse and fragmented, lacking standardised definitions and metrics. In addition, the relationship between adaptive capacity and actual adaptation action is far from clear. Rather than simply assuming that high adaptive capacity will lead to adaptation action, we argue that we need to understand better which capacity domains translate into adaptation behaviour – and why. Drawing on survey data collected from 1,574 households in Southern Germany, we use regression models to examine the relationship between various adaptive capacity indicators and the implementation of private pluvial flood risk adaptation measures. Our findings indicate a capacity-action-gap with regards to generic adaptive capacity indicators typically highlighted in the scientific literature and in policy documents, e.g. education or income. Rather, adaptive

responses are driven by specific socio-cognitive capacities such as a high risk perception, previous experience, a strong social network and a perceived ability and responsibility to act. Our findings suggest that adaptive capacity indicators currently used in policy guidance might be misleading. A more nuanced understanding of adaptive capacity is hence needed in the future and additional indicators need to be developed, tested and implemented.

Session #6.3

Title	Actors in adaptation
Date	May 16th
Time	13.30 – 15.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Anne Busck (University of Copenhagen) <i>Potentials and challenges of coordination and collaboration in multilevel governance - the case of Denmark, with perspectives to Tanzania</i></p> <p>Todd Denham (La Trobe University) <i>Who are adaptation practitioners?</i></p> <p>Deepal Doshi (Ludwig-Maximilians-Universität München) <i>Ruptures in perceived solution spaces for adaptation to flood risk: actor-specific insights from Mumbai and general lessons</i></p> <p>Haorui Wu (Dalhousie University) <i>Bottom-up adaptive social protection: a cross-national case study of grassroots efforts in emergency response and post-disaster reconstruction and recovery</i></p>
Chair person	Rico Kongsager

Anne Busck (University of Copenhagen)

Potentials and challenges of coordination and collaboration in multilevel governance - the case of Denmark, with perspectives to Tanzania

Drawing on the concepts of multilevel governance, network governance, and social capital, this presentation discusses potentials and challenges of coordination and collaboration amongst actors at different levels of governance and between public and private actors. The empirical basis has a focus on Denmark, in which the municipalities are central actors concerning adaptation to climate changes. However, most often the municipalities do not have the capacity or authority to initiate and implement adaptation on their own. They are reliant on other actors – public and private, and at

different levels of governance. This has implications for the projects implemented. Insights from a combination of a national survey and case studies in two municipalities are presented. The insights are put into perspective, by comparing briefly to a Global South context – namely Tanzania. Comparing the two contexts shows important differences concerning the types of actors involved in decision-making, and their roles, capacities and collaboration concerning adaptation.

Todd Denham (La Trobe University)

Who are adaptation practitioners?

Practitioners are widely seen as important contributors and sources of knowledge in climate change adaptation, indicating their propensity to shape and direct action. However, definitions of who are climate change adaptation practitioners tend to be circular, that adaptation practitioners are those that work on adaptation. This raises two important questions: first, who is practicing adaptation? and second, what does the distributions and attributes of adaptation practitioners mean for just adaptation? This presentation draws on an analysis of job ads that included reference to climate change adaptation collected in Australia in the first half of 2022. This undergirds analysis of the emerging adaptation workforce, supported by interviews with hiring managers and other representatives from organisations that advertised positions with adaptation responsibilities. It includes the professional, organisational, and geographical dispositions of the people who practice adaptation, which has not been widely researched. As climate change adaptation emerges within work, who is considered a practitioner and is still open, and far from benign as the practitioners and positions of adaptation influence society's responses to the climate crisis.

Deepal Doshi (Ludwig-Maximilians-Universität München)

Ruptures in perceived solution spaces for adaptation to flood risk: actor-specific insights from Mumbai and general lessons

Adaptation to the increasing impacts of climate change will require societies to design portfolios of risk management solutions by selecting from an array of available adaptation options. A major step on the way toward a strong social contract for adaptation is understanding how different actors view different adaptation options as well as what adaptation goals they have. Here we adopt an actor-oriented multi-dimensional framework to understand how different actors evaluate their perceived adaptation solution space. The aim is to understand who identifies which adaptation options and how they are assessed as well as what are desired objectives and for whom they are targeted. We build on the feasibility and effectiveness assessments used in

IPCC's sixth assessment report and explore the framework by applying it to the solution space for flood risk in Mumbai. We draw on empirical data collected through key informant interviews with state, civil society, and academic actors. Our findings show that, overall, actors see the need for institutional changes and green infrastructure measures. In terms of the factors perceived to enable or constrain adaptation, actors agree on the pivotal role of institutional aspects as even more important than financial or technical factors. However, the assessment revealed stark disparities between state and non-state actors, in particular on the objective of efficiency, largely emphasized by state actors for physical infrastructure measures. Other contested objectives included ecosystem protection and fairness for vulnerable populations. This study makes an empirical and analytical contribution to advance feasibility and effectiveness assessments by including actor perceptions on the questions of evaluation of options, desired adaptation objectives and target actors in real world settings. Hence, the study aims to inform policy processes of the global stocktake and the design of the global goal on adaptation by emphasizing actor-specific and actor-oriented assessments of adaptation progress.

Haorui Wu (Dalhousie University)

Bottom-up adaptive social protection: a cross-national case study of grassroots efforts in emergency response and post-disaster reconstruction and recovery

Current adaptive social protection programs and policies for climate change adaptation and disaster risk reduction have been predominately designed from the organizational and/or governmental levels, applied through a top-down trajectory, and are passively accepted by affected communities. While bottom-up grassroots interventions, as an innovative social protection approach with diverse social benefits, have rarely been encouraged in adaptive social protection programs nor complimented the related adaptive social protection policies. Built on the 2021 Fraser Valley Floods, British Columbia, Canada and the 2008 Wenchuan earthquake, China, this cross-national case study qualitatively examines the broader range of social benefits of grassroots efforts in the rural communities' undertakings that support government-oriented adaptive social protection initiatives. These grassroots efforts have accomplished much more than the original adaptive social protection initiatives could have achieved. They not only swiftly coordinate the emergency evacuation process, and provide the residents with safe, comfortable, and healthy places, but also protect their traditional knowledge and skills, improve family relationships, and promote community cohesion. Thus, fundamentally supporting disaster survivors to rebuild their lives and livelihoods and strengthen their individual and collective resilience. Although the uniqueness of the community-based environment limits self-efforts, this presentation argues that the

grassroots efforts, as a community-driven strategy, encourages communities to develop their instruments, advancing current official adaptive social protection agendas. The bottom-up community-customized interventions will better serve disaster survivors to protect, promote, and transfer affected residents' livelihoods and social relations; reduce their various vulnerabilities; and ultimately enhance their resilience to achieve the global priority of climate change adaptation and disaster reduction.

Session #6.4

Title	Perspectives on (just) adaptation practice
Date	May 16th
Time	13.30 – 15.00
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Anshu Ogra (Indian Institute of Technology, Delhi) <i>Knowledge networking platforms for inclusive science: mainstreaming adaptation in India's National Disaster Management Plan</i></p> <p>Raghuveer Vyas (Climate Analytics) <i>Inclusion and finance in Eastern Africa's climate adaptation policies</i></p> <p>Synnøve Støverud Beitnes (Western Norway Research Institute) <i>Prepare for the unseen: introducing transboundary climate risks into the local agricultural discourse in Norway</i></p> <p>Ting Ma (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences) <i>Integrated forest landscape management for sustainable forestry and forest conservation in the Yarlung Tsangpo River Basin, Qinghai-Tibet Plateau, Southwest China</i></p>
Chair person	Ishfaq Hussain Malik

Anshu Ogra (Indian Institute of Technology, Delhi)

Knowledge networking platforms for inclusive science: mainstreaming adaptation in India's National Disaster Management Plan

The struggle to conceptualize climate change adaptation for the policy process has been acknowledged for a long time, especially in developing countries, where adaptation is the primary policy response to address climate change. This struggle manifests itself in terms of challenges faced in mobilizing climate action (SDG 13). Recent literature argues for the need to rethink adaptation as an issue of growing knowledge divided between the scientifically calibrated assessment of weather and the

locally situated everyday experience of it on the ground. However, addressing this knowledge divide in the policy space requires a more evolved science-society relationship than the one that has previously existed and has informed the formation of Scientific Administrative Organizations (SAO). Here SAOs refer to the scientific institutions under the government's patronage structured to cater to the needs of the government policy decision-making process. This paper introduces a framework for administering the knowledge production process in the SAOs to help better design adaptation action strategies on the ground. The framework is designed using the feminist science studies concept of situated knowledge which argues the need to situate/contextualize science. The proposed framework uses this concept in the specific case of SAOs.

Raghuveer Vyas (Climate Analytics)

Inclusion and finance in Eastern Africa's climate adaptation policies

Eastern Africa is particularly susceptible to climate change with severe droughts, floods and sea level rise among others. Adaptation policies are thus key in tackling these challenges. A policy analysis of Eastern African countries' adaptation, water and food security policies was conducted using the policy triangle approach by Walt & Gilson (1994) which considers the context, content, actors and processes during policy development as key aspects. To better understand the content aspect, a content rating framework with eight (8) rating elements on a scale of 1-4 was used. Elements rated are: rights, accessibility, inclusion, implementation plans, enforcement, budgetary allocation, information management systems and linkages to other policies. Findings show that adaptation policies are mostly inclusive with broad stakeholder participation and targeted strategies for vulnerable groups. Linkages to other policies at local, regional and international level is a major strength. Enforcement is a challenge as is finance where policy implementation is contingent on international adaptation climate finance which remains limited. Significantly, these countries also have unconditional targets for climate adaptation. These findings can inform policymakers on what needs to be addressed at implementation and for future policy updates. It is recommended that Kenya enforces its water policies to enhance water security; that Ethiopia aligns its water policies to their Climate Resilient and Green Economy Strategy (CRGE) and for Somalia to establish its water regulatory frameworks. Countries can also draw lessons from successful initiatives including Ethiopia's Green Legacy Initiative, which achieved its 20 billion trees target; Kenya's Hunger Safety Net Program (HSNP) that facilitated cash transfers and other support to drought-affected communities; and the Food Policy of Somalia, which features institutional arrangements promoting coordinated governance for adaptation. Lastly, all three countries require to advocate for

international adaptation finance and also innovate around this to support implementation of their Nationally Determined Contributions (NDCs) which are conditional on international climate finance.

Synnøve Støverud Beitnes (Western Norway Research Institute)

Prepare for the unseen: introducing transboundary climate risks into the local agricultural discourse in Norway

Challenges to national food security in global north countries are often linked to issues like self-sufficiency, rural settlement depletion, and agricultural areas going out of production – all of which are strongly influenced by agriculture policy. Recently the direct and indirect impacts of climate change, and how various climate and non-climate risks interact, have been added to this. In a case study of grass-based livestock production in Western Norway, we have investigated the indirect impact of climate change, namely transboundary climate risks (TCR), and the specific challenges related to the import of soy used in concentrate feed. Deriving from the IPCC risk conceptualization and the concept of risk ownership, we developed and tested a framework to investigate how TCRs may affect local agricultural production. The framework is developed in close dialogue with stakeholders representing farmers, farmers' unions, agricultural advisers, and local and regional public administration through four workshops and one group interview. Besides workshop outcomes, existing knowledge on agricultural development and local climate risks, and information from a nationwide risk assessment derived from international trade data, have been integrated into the framework. Previous studies show that changes in agricultural policy caused by demands for increased economic efficiency are considered more demanding than the consequences of local climate change. Changes in climate policy, e.g. increasing taxes on fossil energy, reinforce this situation. Our study shows that the indirect consequences of climate change can entail more demanding consequences than the direct ones. The study further showed that including an analysis of the indirect consequences of climate change led to more emphasis on the need for transformative changes than discussions about the consequences of local climate change, which tend to focus on technological measures.

Ting Ma (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences)

Integrated forest landscape management for sustainable forestry and forest conservation in the Yarlung Tsangpo River Basin, Qinghai-Tibet Plateau, Southwest China

Integrated forest landscape management is as a comprehensive strategy to reach multiple development outcomes including the sustainable use of forest resources, forest conservation, poverty alleviation, as well as social equity such as through the devolution of rights to forest-dependent communities. In this study, the latter element is encompassed within the sub-component ‘community forest co-management’ (CFCM). Despite many important lessons of CFCM learned, little has been heard to date directly from local community stakeholders themselves. This empirical, perceptions-based study used the extended theory of planned behavior and structural equation modeling approach to identify the driving factors of Indigenous peoples and local communities (IPLCs) CFCM behavior in China. 533 local residents in Yarlung Tsangpo Zangbo River Basin was conducted. Results show that the intention and behavior of IPLCs’ CFCM are significantly affected by factors such as CFCM mechanism, attitudes, subjective norms, past behavior, and sense of belonging. The results are in line with the findings of existing literature. Notably, CFCM mechanism is the critical influencing factor. They not only directly affect the CFCM intention and behavior of IPLCs but also exert indirect influence via attitudes, subjective norms, and past behaviors. Moreover, the sense of belonging of IPLCs has a positive intermediary effect on attitude, past behavior, CFCM intention, and CFCM behavior. Yet women and older residents tend to be more skeptical of CFCM mechanism and both demonstrate a negative effect on CFCM intention. Therefore, strengthening publicity on CFCM mechanism and enhancing IPLCs’ sense of belonging, as well as considering the interests of marginalized groups are paths forward to promote CFCM in China’s community forests. The results of this study are also referable for CFCM in other countries. Ultimately, the need to move even beyond co-management per se and to adopt a model of inclusive governance for conservation wherein joint deliberations and decision-making amongst diverse stakeholders are prioritized over simple implementation of externally developed programs and management plans.

Session #7.1

Title	Political economies of adaptation funding
Date	May 16th
Time	15.30 – 16.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Kayin Venner (Basque Centre for Climate Change) <i>Optimizing European funding programmes for equitable urban climate adaptation: insights and challenges for urban policymakers</i></p> <p>Istiakh Ahmed (Northeastern University) <i>Power dynamics and the politics of climate finance: an analysis of decision-making in the Green Climate Fund</i></p> <p>Matthias Garschagen (Ludwig-Maximilians-Universität München) <i>Does funds-based adaptation finance still not reach the most vulnerable countries?</i></p>
Chair person	Daniel Puig

Kayin Venner (Basque Centre for Climate Change)

Optimizing European funding programmes for equitable urban climate adaptation: insights and challenges for urban policymakers

The equitable allocation of funding for urban climate adaptation continues to pose a significant and urgent challenge. While in theory, this allocation should be guided by climate vulnerability assessments as a primary criterion, evidence on the ground suggests other interests are at play. To understand what factors influence urban climate adaptation funding dynamics, we draw from a comprehensive EU-wide survey involving 148 local governments and a case study in Lisbon, Portugal, involving the role of EU funding programmes and the European Investment Bank (EIB). We find three crucial factors characterising EU funding programmes: 1) limited awareness among municipalities of EU funding programmes 2) variable and stringent programme conditions, including limited budgets, and 3) uneven funding access due to varying staff capacities and lack of national coordination. We argue that this creates a competitive

dynamic with three potential policy implications: urban areas may either be a) pushed off the climate adaptation map (no or limited access to EU funding), b) compelled to engage in small-scale experimental projects (access to EU funding programmes with limited budgets), or c) propelled into debt relations with (public) financial institutions that tend to prioritise the technocratic and financial viability aspects in climate adaptation project selection, rather than their ability to reduce climate vulnerabilities. Within the context of the current EU funding arena, we question the intra- and inter-urban justice of (in)equitable climate protection within and between municipalities of various sizes. Our results can guide policymakers to find more sustainable ways to both equitably and effectively fund climate adaptation projects.

Istiakh Ahmed (Northeastern University)

Power dynamics and the politics of climate finance: an analysis of decision-making in the Green Climate Fund

Politics and power dynamics between the Global North and Global South are widely acknowledged as central issues for climate finance in the policy literature. While these dynamics play a role in climate negotiations at the Conference of Parties (COP) that determine the structure of financial mechanisms, they also influence the allocation of climate finance, shaping not only how much and where finance is allocated, but also what that finance supports. The Green Climate Fund (GCF), the largest financial source for developing countries supporting climate action under the UNFCCC, has often been criticized for being inaccessible to local institutes because of the institutional politics and complicated bureaucratic process. Despite having equal representation from developed and developing countries on the GCF board, power dynamics among board members are not equal, affecting the funding decisions of the board. We conducted a video ethnography of 15 board meetings recordings covering 181 projects and analyzed the role of different board members to identify the power dynamics in the board deliberations, what concerns they raised with funding proposals, and how their positionality influenced the decision-making process. Findings show that concerns raised by developed country board members were given much more space than developing country board members and dominated the discussions. However, politics may also lead developing country board members to limit their concerns in solidarity with other developing countries. The paper also identifies differences in the types of concerns raised for adaptation and mitigation projects and each group showed different sets of priorities in raising their concerns. These findings suggest that even institutional arrangements, such as equal representation on the board, and mandates to support mitigation and adaptation equally are insufficient to overcome the politics of climate

finance, and that power dynamics continue to play out in the decision-making process for institutions such as the GCF.

Matthias Garschagen (Ludwig-Maximilians-Universität München)

Does funds-based adaptation finance still not reach the most vulnerable countries?

The evolving architecture of global climate change adaptation finance is shifting towards fund mechanisms with competitive application and allocation principles. At the same time, prioritization of the most vulnerable countries is a key goal within this emerging architecture to secure adaptation justice. Yet, the rise of competitive fund-based mechanisms also brings about a set of considerable requirements for applying countries and their administrations – especially the most vulnerable countries which are often also driven by the largest development deficits. IPCC's sixth assessment report has highlighted not only the inadequacy but also the challenges in access and equitable allocation of adaptation funds. The paper analyses whether the Green Climate Fund (GCF), by far the largest climate change fund, has so far delivered on its promise to prioritize the most vulnerable countries – a core concern for ensuring climate justice. The results for the fund's first replenishment phase show that its adaptation finance creates an ambiguous picture: On the one hand, the GCF has been on track in allocating its funds largely to country groups that its statutes aim to prioritize, particularly LDCs, African countries and SIDS. At the same time, many countries with the highest climate vulnerability but weak government institutions and fragile state-bureaucracies have not been able to access funding, mostly LDCs in Africa and conflict-ridden countries. Analysing, in addition, the funding since the first replenishment shows that the GCF has been able to address these challenges to some degree but not entirely. Our analysis finds such as the GCF need to strengthen mechanisms such as simplified approval tracks so that the countries with the lowest institutional capacity and highest vulnerability, and their populations, are not being left behind in the long-run.

Session #7.2

Title	Transformations for just adaptation
Date	May 16th
Time	15.30 – 16.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Lily Lindegaard (Danish Institute for International Studies) <i>Social theories for climate transformations: critical insights on the knowledge and politics of system change</i></p> <p>Hartmut Fünfgeld (University of Freiburg) <i>(No more) Space for transformation? Transdisciplinary dynamics in municipal adaptation planning</i></p> <p>Sofía Gil-Clavel (Delft University of Technology) <i>Farmers' incremental and transformational climate change adaptation in different regions: a natural language processing comparative literature review</i></p>
Chair person	Simon Neby

Lily Lindegaard (Danish Institute for International Studies)

Social theories for climate transformations: critical insights on the knowledge and politics of system change

The necessity of large-scale system change to prevent and respond to climate change is increasingly recognized – in scholarly literature on climate response and reflected in the latest IPCC AR6. Concurrently, academic debates underscore the significance of social systems and relations for enabling transformations. This paper therefore explores three strands of social theorizing prominent in climate literature: social innovation, social resilience, and social sustainability. Specifically, it considers their origins and ontological underpinnings, the politics of their current application, and implications for socio-ecologically inclusive approaches to transformation. Through this analysis, the paper aims to provide insight into the knowledge and politics of just transformations; it offers critical insights as transformation increasingly emerges (discursively at least) as a

policy and programming aim, with potentially far-reaching consequences for socio-ecological systems around the world.

Hartmut Fünfgeld (University of Freiburg)

(No more) Space for transformation? Transdisciplinary dynamics in municipal adaptation planning

Municipal decision-makers are increasingly under political and legal pressures to engage in effective and transformative action to address climate change impacts. In Southwestern Germany, this growing urgency for adaptation is just one among several municipal pressure points that challenge available capacities; others include post-COVID-19 economic recovery, providing accommodation for refugees, and combating a wide-spread housing crisis. Municipal adaptation efforts therefore take place in an increasingly constrained context of growing responsibilities, post-pandemic fiscal austerity, and a polarizing political climate that, despite strong overall support for climate action, challenges established norms of priority-setting and decision-making. In theory, transdisciplinary approaches can be catalysts for transformative action: they can provide spaces, methods and processes for bringing diverse groups of actors in municipal adaptation planning to the table, from decision-makers and academic researchers to 'ordinary citizens'. However, transdisciplinary work operates in constrained 'real-world' settings that are prone to implicit and explicit agenda setting, power dynamics and misaligned expectations of the stakeholders involved, which can largely stifle transformative potentials. By drawing on two transdisciplinary projects on municipal adaptation planning implemented from 2020 to 2024, we examine key contextual challenges as well as design flaws and missed opportunities from a reflexive and self-critical perspective, with a view to identify residual and unharnessed opportunities more justice-sensitive and transformative adaptation through transdisciplinary work.

Sofía Gil-Clavel (Delft University of Technology)

Farmers' incremental and transformational climate change adaptation in different regions: a natural language processing comparative literature review

Climate change is expected to affect agriculture worldwide adversely. This is especially true if farmers fail to adapt, at least incrementally, early in the twenty-first century and fail to pursue transformational adaptation necessary to withstand changes later this century. Many publications discuss the underlying mechanisms of autonomous private adaptation to climate change in quantitative, qualitative, and mixed methods terms. However, the review of empirical evidence on adaptation is normally performed on

articles' quantitative data using metanalysis, ignoring much of the vast literature evidence coming from qualitative work. We address this gap by performing a comparative analysis of factors associated with farmers' climate change adaptation in both quantitative and qualitative literature using Natural Language Processing. By retrieving relevant peer review publications from Scopus, we derive a database with metadata from both quantitative and qualitative articles' findings. We then use this as an input for generalized linear models to analyze whether farmers' climate change adaptation factors differ by type of adaptation (incremental vs transformational) or across different regions of the world. Results show that access to information, access to technology, age, economic factors, farming experience, and income are more likely to be associated with transformational adaptation than with incremental adaptation. Regarding world regions, results highlight uneven access to infrastructure, with farmers in the Global North having an advantage, while farmers in the Global South requiring it the most for effective adaptation to changing climate.

Session #7.3

Title	Case studies of (in)justice in adaptation
Date	May 16th
Time	15.30 – 16.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Ishfaq Hussain Malik (University of Leeds) <i>Political ecology of climate change adaptation in the Kashmir Himalayas: a critical exploration of power dynamics and justice implications</i></p> <p>Wendy Conway-Lamb (University of Canberra) <i>What does adaptation justice mean to people affected by climate impacts? Empirical insights from local, national and international levels in Vietnam</i></p> <p>Olalekan Adekola (York St John University) <i>Factors influencing access to climate adaptation strategies in Nigeria: a social justice perspective?</i></p>
Chair person	Emily Boyd

Ishfaq Hussain Malik (University of Leeds)

Political ecology of climate change adaptation in the Kashmir Himalayas: a critical exploration of power dynamics and justice implications

Political ecology of climate change adaptation in the Kashmir Himalayas is a complex and multifaceted issue. This study examines the intersectionality of political ecology, adaptation, vulnerability, and disaster dynamics in the context of the Kashmir Himalayas. The research reveals that adaptation initiatives in the Kashmir Himalayas are influenced by power asymmetries, which often result in unequal distribution of resources and decision-making authority. Marginalised groups, such as women and Indigenous communities, face additional barriers in accessing resources and obtaining fair representation in adaptation processes. This research adopts an ethnographic approach to examine the political ecology of adaptation in the Kashmir Himalayas. Through an ethnographic approach, the study explores the lived experiences of

communities facing the challenges of climate change impacts and recurring disaster events. Through a political ecology lens, the research dissects the power differentials prevalent across diverse stakeholders involved in adaptation efforts. From local communities grappling with environmental changes to governmental bodies steering policies, the analysis uncovers the complex interplay of interests, revealing how these power dynamics influence resource allocation, policy formulation, and the overall efficacy of adaptation measures. Complementing the scrutiny of power relations, this study underscores the imperative of justice considerations within the adaptation discourse. We emphasise the need for adaptive strategies that not only acknowledge the socio-economic disparities among communities but actively work towards fostering inclusivity and resilience, particularly for marginalised groups, ensuring their voices are heard in decision-making processes. By adopting a political ecology lens, this study expands the understanding of how power operates within the context of environmental change and adaptation. We highlight the importance of justice considerations in the adaptation discourse and advocate for socially just interventions that promote equity and community resilience.

Wendy Conway-Lamb (University of Canberra)

What does adaptation justice mean to people affected by climate impacts? Empirical insights from local, national and international levels in Vietnam.

Adaptation literature engaging with justice has tended to focus narrowly on notions of distributive or procedural justice (Schlosberg et al 2017; Coggins et al 2021). Increasingly though, other dimensions of adaptation and climate justice have been explored, including recognitional, capabilities, restorative, and intergenerational justice, and several scholars highlight the need for a multi-scale approach to adaptation justice. Yet there has been limited empirical analysis of what the idea of justice means to people 'on the ground' affected by climate impacts and pursuing adaptation strategies. This paper seeks to uphold principles of recognitional and procedural justice by responding to growing calls for more empirical research into 'vernacular' climate justice (Newell et al 2021). The case study for this research is Vietnam, a lower-middle income country highly vulnerable to climate impacts and recipient of substantial international finance for adaptation. The research is based on interviews with 55 individuals involved in adaptation in Vietnam, spanning local to international levels, including farmers, civil society, government, and international development organisations. I identify six distinct discourses of adaptation invoked by different stakeholders and examine the extent to which the dimensions of justice listed above form part of each discourse. I argue that it is important to examine what purpose a justice framing serves each adaptation discourse. Inspired by Benford and Snow's (2000) core framing tasks of collective

action, I distinguish between three key roles that framings of justice may play within an adaptation discourse: justice as diagnostic tool, justice as prognostic tool, and justice as motivational tool. I conclude by reflecting on the implications for efforts to understand and reconcile plural notions of adaptation justice and to operationalise just adaptation for climate-vulnerable communities.

Olalekan Adekola (York St John University)

Factors influencing access to climate adaptation strategies in Nigeria: a social justice perspective?

Many countries across the African continent are now turning to diverse adaptation strategies to counter the impacts of climate change. Some of these strategies such as tree planting can displace local landowners and lead to outcomes that leave vulnerable groups more exposed and susceptible to social, economic and environmental challenges. In essence, the compounding character of climate adaptation strategies reinforces existing inequalities and raises important considerations around climate justice. However, the social justice aspects of climate adaptation are not well understood. This paper seeks to fill this gap. It uses a social justice framework to analyse selected case studies of climate adaptation strategies in Nigeria and consider the extent to which the processes and outcomes are socially just. This paper will rely on combination of primary data from interviews and secondary data from online texts. The central themes of the cases relate to the multifaceted nature of procedural, distributive and interactive justice. In a context where disadvantaged groups within communities contribute least to causing climate change but are likely to be most negatively affected by adaptation strategies makes it increasingly important to generate knowledge that illuminate the links between social justice and climate adaptation especially in African societies.

Session #7.4

Title	Psychological health and community wellbeing
Date	May 16th
Time	15.30 – 16.30
Room	Student Center – Room: TBD
Type	Break-out session
Speakers	<p>Susan Elliott (University of Waterloo) <i>Impacts of climate change on psychosocial health and wellbeing in Sub Saharan Africa</i></p> <p>Emily Potter (Deakin University) <i>Repairing places for adaptive futures: community-led repair work in climate-affected regions</i></p> <p>Stacey Heath (Open University) <i>Exploring the psychosocial dimensions of climate change adaptation: insights from three global contexts</i></p>
Chair person	Siri Eriksen

Susan Elliott (University of Waterloo)

Impacts of climate change on psychosocial health and wellbeing in Sub Saharan Africa

Climate change is an underlying, global cause of shocks undermining socioeconomic systems. Impacts can spur increased competition over resources, generating conflict and migration. The consequences of climate change can plausibly be expected to undermine psychosocial function and the ability to effectively adapt. Drawing on the psychology of poverty literature, and informed by feminist political ecologies of health, this presentation describes a research program founded on three pillars: first, climate change exacerbates resource scarcity (water, food) and scarcity creates psychological distress thus impacting health, wellbeing, and peaceful interactions; second, this distress affects psychosocial resilience by altering preferences (i.e., risk taking, patience, prosociality) crucial for successful climate change adaptation; and, third, targeted interventions can remove distress-related barriers to adaptation thus enhancing the ability to make carefully calculated assessments of risks, consider the long-term consequences of choices, and support effective collaboration. We focus on

three countries (Kenya, Uganda, Ghana) where decision making in the face of adaptation can be considered as choices being made under distress. This includes, for example, increased numbers of girl children being sold into marriage in drought prone areas at younger and younger ages. This violent act is exacerbated by cultural norms that dictate the need for female circumcision in advance of the sale. Baseline and follow up surveys in each study site address how resource scarcity from climate change impact health and wellbeing, and how these in turn shape psychosocial resilience and the ability to adapt. Together with local policy maker and NGO partners we then co-create interventions integrating technological solutions with low-cost, scalable psychological interventions (developed by the World Health Organization) aiming to improve climate-change adaptation. Even the best technological solutions can fail when there are psychological barriers to action.

Emily Potter (Deakin University)

Repairing places for adaptive futures: community-led repair work in climate-affected regions

Community-informed stories and practices of place-based repair are often overlooked in responses to disasters and climate change adaptation in Australian regions. A more comprehensive picture of place-based repair work is vital for understanding how communities respond to environmental disaster and develop capabilities for climate-adaptive futures. The paper will discuss the capacity of SHAPE (Social Sciences, Humanities and Arts for People and Environment) methodologies, including narrative-based and creative arts methods (such as shared reading, storytelling, workshops, photo diaries and guided conversations), to generate insights into how communities impacted by extreme weather events, as well as the slow violence of climate change, respond through localised, informal modes of repair. The paper draws on place-based work in the Mallee region of Victoria, outer-suburban Perth and the Northern Rivers region of New South Wales, and outlines a larger-scale project in progress that aims to translate methods and imaginaries of place-based repair as a resilient and climate-adaptive resource for communities, governments and organisations. We argue, narrative-based and creative methods generate new and applied understandings of repair and its role in climate affected regions, leading to improved awareness of what supports successful place-based repair, who benefits, and who is potentially overlooked.

Stacey Heath (Open University)

Exploring the psychosocial dimensions of climate change adaptation: insights from three global contexts

This presentation explores the psychosocial dimensions of climate change adaptation strategies across three diverse geographical contexts: hard engineering in Ireland, nature-based solutions in the UK, and planned relocation in Ghana. Acknowledging that responses to climate change have diverse consequences for dimensions of health and wellbeing that extend beyond economic and physical risk, this study explores the less visible psychosocial dimensions of adaptation strategies, and the consequences for population wellbeing. Drawing on social psychological theories that elucidate how communities navigate social and environmental change, we examine psychosocial determinants of health, such as identity, efficacy, and perceived safety. The aim is to understand how these psychological processes shape the wellbeing of communities affected by various climate adaptation projects. Surveys were conducted across two communities in each of the country contexts (i.e. Ghana, Ireland, UK), revealing that psychological processes of social identity, safety and efficacy are key drivers of wellbeing in the face of climate adaptation initiatives. Extending beyond a reductionist quantitative exercise, our findings highlight the need for a multi-disciplined holistic approaches to adaptation, that systematically examine the lived experiences of interventions; emphasising the broader consequences on population wellbeing beyond the immediate risk reduction goals. Moreover, we argue that adaptation is not merely a physical or environmental transition but a deeply embedded socio-psychological process. In this regard, we advocate for the integration of justice frameworks into the adaptation discourse, emphasising the importance of equity and fairness in shaping the psychosocial dimensions of adaptation. This presentation aims to make a significant contribution to the conference's honorary award for intersectionality in the context of human geographies of climate change adaptation, by showcasing the nuanced interplay between socio-psychological factors and the diverse consequences of adaptation strategies across geographical contexts.