eurac research

SOS4CC – Social Sciences 4 Climate Change: From Knowledge to Action.

Book of Abstracts

Bolzano/Bozen, 4-5 September 2025

Content

1 Introduction

Climate change stands as a defining challenge of our era, compromising ecological transformation but also demanding profound societal change. As we navigate urgent issues, such as climate change mitigation and adaptation, addressing socio-economic and class inequalities, fostering solidarity across diverse identities, and creating inclusive, decolonial and recognitional practice spaces, we emphasize the critical contributions of social sciences in facilitating these transformations. Science is responsible not only for generating reliable knowledge but also for driving socio-ecological transformation.

This conference held in Eurac from the 4th-5th of September 2025 highlighted the essential role of the social sciences in deepening our understanding of climate impacts, challenges, and opportunities, as well as in shaping effective responses. With an emphasis on the socio-cultural aspects of climate change, the conference examined how EU, national, and local governments, civil society organizations, social movements, the financial and business sectors, and citizens engaged in addressing the climate crisis. The conference addressed issues of climate governance, transformation practices, social inequalities, climate justice, gender and other intersectional dynamics, community resilience, climate change adaptation, and risk mitigation.

It also examined how scientific research intersects with real-world applications to foster innovative, context-specific, and culturally grounded solutions for climate resilience. Through interdisciplinary and transdisciplinary approaches, the conference aimed to deepen understanding of how actionable knowledge can be co-created with diverse stakeholders beyond academia. This approach highlighted the need to combine perspectives from multiple disciplines and to collaborate with non-academic sectors to meet complex climate challenges effectively.

The conference aimed to advance knowledge and practice across four interconnected themes:
- **Climate Governance**: Explore governance and regulatory frameworks, alongside just transition principles, to strengthen research-policy linkages for effective climate action and socio-ecological transformation.
- **Transformation Practices**: Examine approaches for overcoming unsustainable systems and fostering socio-ecological change.
- **Climate Justice, Gender, and Intersectionality:** Analyze the disproportionate impacts of climate change on marginalized groups, promoting intersectional perspectives, community solidarity, and inclusive strategies for climate justice.
- **Adaptation and Risk Mitigation:** Understand behavioural drivers, barriers, and lock-ins in climate adaptation, and identifying community-led initiatives that support just transformation and enhance resilience.

A total of 69 researchers from 18 countries participated in the conference. This document contains the titles and abstracts of the contributions presented, limited to those for which the authors granted publication consent.

This document is structured into the following chapters: Chapter 2 illustrates the programme. Chapter 3 summarizes the main contributions provided by the Keynote speakers. Chapter 4 presents the abstracts related to the Conference Theme "Climate Governance". Chapter 5 presents the abstracts related to the Conference Theme "Transformative Practices". Chapter 6 presents the abstracts related to the Conference Theme "Climate justice, gender and intersectionality". Chapter 7 presents the abstracts related to the Conference Theme "Adaptation and risk mitigation". Chapter 8 presents the posters' abstracts. Chapter 9 presents the events held during the conference. The report closes with key messages collected for each conference theme in Chapter 10.

Researchers from eight countries convened in Bolzano/Bozen for the "SOS4CC conference: From Knowledge to Action" to present and discuss social science research on climate change.

The conference was organized with the support of Eurac Research and the Center for Climate Change and Transformation (CCT). The Center's commitment in promoting social science research and fostering interdisciplinary exchange among Eurac institutes working on climate change has been essential in making this event possible. This strong collaboration across institutes enabled us to lunch the first conference dedicated specifically to climate change research from a social science perspective. It represents an important starting point for expanding our network, strengthening cooperation among colleagues, and connecting with social scientists around the world who share our mission and passion.

2 Program

Day 1 – 4th September 2025

8:30 – 9:00	**Registration**
9:00 – 9:30	**Opening Remarks** Elisa Ravazzoli and Fabio Carnelli, *Eurac Research*
9:30 – 10:30	**Keynote Speech:** Sustainability transformation: critical perspectives in times of discord Giuseppe Feola, *Copernicus Institute of Sustainable Development, Utrecht University*
10:30 – 11:00	*Coffee Break*
11:00 – 11:15	**Icebreker Activity** Adriana Recalde Martínez, *Eurac Research*
11:15 – 13:00	**Parallel Sessions on Conference Themes**
	CLIMATE GOVERNANCE • Building trust and climate resilience: participatory urban adaptation pathways in Rome AGORA. *Ellena M., Acierno A., Reder A., Zanchini E., Mercogliano P.* • Municipal involvement in local energy transition: exploring collaborative dynamics in the development of renewable energy communities in Italy. *Sestrem J.* • Citizen engagement and just adaptation to flood risk in Amsterdam: A Q-Methodology study of Amsterdam Weerproof. *Castrezzati M.* • Patterns for climate citizen assemblies strengthening their emancipatory and transformative agency. *Krois K., Menéndez-Blanco M., Narduzzo A., Palmieri T., Salzer A.*
	TRANSFORMATIVE PRACTICES • Strengthening transdisciplinary collaborations for climate-resilient social-ecological transformations: preliminary results from a formative assessment on current transdisciplinary projects. *Dalla Torre C., Maino F., Pedoth L., Pörnbacher M., Ravazzoli E., Recalde Martínez A., Romagnoli F.* • Building resilient cities: insights from community engagement in the adaptation AGORA project. *Gerger Swartling Å., Ellena M., Moreno L., Verones A., Englund M., Bielsa J.* • Mountain tourism fresco: a serious game approach to sustainable transitions in mountain tourism. *Minguez I., Loloum T.* • Climate change and cultural heritage: (im)possible dialogue? *Bravaglieri S., Bergamo M., De la Torre A., Ferro G., Magnini L., Paiano J., Paladini M., Peratello P., Viezzoli D., Zucchelli M.*
	ADAPTATION AND RISK MITIGATION STRATEGIES • A conceptual and methodological framework for assessing climate risk and co-designing adaptive cultural tourism at local destinations. *Baldassarre B., De Luca C.* • A transdisciplinary approach for co-designing and implementing climate change adaptation measures: insights from the tourism and forestry sectors in the Puster Valley, South Tyrol. *Pörnbacher M., Carnelli F., Pedoth L.* • IndicaMi: Approaches and Indicators for Climate Resilience Planning. *Alinovi C., Lavecchia C.* • Literature-Based Insights on Short-Term Warnings, Long-Term Adaptation, and Integrative Approaches. Awareness, Preparedness, Action: A Conceptual Lens for Integrated Risk Communication. *Graf J., Renner R.*

Day 1 – 4th September 2025

13:00 – 14:30	*Lunch Break*
14:30 – 15:30	**Keynote Speech:** Exploring the intersectional impacts of the climate crisis: from theory to practice Beatriz Felipe Pérez, *CICrA Justicia Ambiental and Centro de Estudios de Derecho Ambiental de Tarragona (CEDAT)*
15:30 – 17:30	**Parallel Sessions on Conference Themes**
	CLIMATE GOVERNANCE • Instantiated dimensions of trust in climate change policy expertise: findings from deliberative mini publics in the Republic of Ireland. *Mooney S., Brereton F., Fletcher-Barnes E., Hewlett K.* • A participatory MCDA-based decision support tool for sustainable flood risk governance: the Lombardy case study and beyond. *Gallazzi A.* • Mission participation? Exploring the role of citizens in Horizon Europe's sustainability missions. *Loewen B., Crowther A., Foulds C., Gaffuri G., Heidenreich S., Rohse M.*
	CLIMATE JUSTICE, GENDER & INTERSECTIONALITY • Intersectional strategies for climate justice activism by indigenous youth: from vulnerability to agency. *Budabin A.* • Assessing transformative climate justice in NDC 3.0. *Abbas S.M.J.* • Beyond climate displacement: new insights on climate adaptation through the progressive recognition of the right to climate immobility. *Recalde A.* • (Un)equal impacts: exploring everyday experiences of climate change through intersectionality in Catalonia. Intersectional climate change adaptation. *Coll Planell M.* • Intersectional climate change adaptation. *Recalde A., Pedoth L., Tomaselli A.*
	ADAPTATION AND RISK MITIGATION STRATEGIES • Navigating the climate-health nexus: a systems approach to adaptive resilience and risk mitigation. *Andreeva M., Goncalves P.* • Heatwave adaptation practices to cope with health risk: insights from an exploratory study in a social housing complex in Bolzano, South Tyrol. *Carnelli F., Ravazzoli E.* • A frame that holds (recycled) water: The effect of different messages on attitudes towards recycled water. *Buratto S., Çinar Ç.* • Citizen risk perception and participation as catalysts for transformational urban climate adaptation. *Ellena M., Biddau F., Breil M., Pirani A.*
17:30 – 18:00	**Refreshing Activity** Adriana Recalde Martínez, *Eurac Research*
18:00 – 19:30	**Photographic Exhibition & Book Presentation:** Tropic Ice – dialogue between places affected by climate change Barbara Drombrowski in discussion with Beatriz Felipe Pérez
19:30 – 21:00	*Light Dinner*

Day 2 – 5th September 2025

9:00 – 10:00	**Keynote Speech:** Fragile places: rethinking habitability in a rapidly changing climate Christian Kuhlicke, *Helmholtz Centre for Environmental Research*
10:00 – 10:30	**Poster Session Pitch**
10:30 – 11:30	**Poster Session** *& Coffee Break*

- The Constitutional Challenge of Climate Change: A Legal Analysis of Mobility Restrictions in the Balearic Islands. *Calafell Galiana M.*
- An interdisciplinary and participatory pathway to local climate adaptation. The RAST methodology in Adaptation AGORA as a replicable best practice. *Acierno A., Mercogliano P., Reder A., Ellena M., Fasolino N.G.*
- An Integrative Framework for Health Impacts of Climate Adaptation to Extreme Heat and Floods. *Andreeva M., Goncalves P.*
- Flood After Flood: Mapping Social Norm Evolution in Climate-Vulnerable Communities. *Petitta M., Andrighetto G.*
- "All in the same boat": A literature review on serious games for flood risk preparedness and DRR. *Raffo R.*
- Building climate resilience from farmers' behaviour: A tailored pathway from the Mekong Delta, Vietnam. *Ricart S., Lam Dang T., Castelletti A.*
- Cultural Heritage as a Catalyst for community Resilience: Insights from Val Resia's Response to Natural Hazards. *Mioni C., Romagnoli F., Fontanella Pisa P., Lavarello Schettini, R.*
- Mountain tourism stakeholders facing the climate challenges, in the French Pyrenees. *Salim E., Marzorati S., David B., Varnajot A., Ramseyer R., Fragnière E.*

11:30 – 13:00	**Parallel Sessions on Conference Themes**

CLIMATE GOVERNANCE

- Evaluating the EU Horizon framework programme's contribution to Green Deal and green transition – Focus on Clusters 5 and 6, including Partnerships and Missions. *Waldmüller J.*
- Critical minerals for the energy transition: have we even started? HexaWorld: bridging AI and marine policy through explainability. *Lobach S.*
- HexaWorld: bridging AI and marine policy through explainability. *Lombardi G.*

TRANSFORMATIVE PRACTICES

- For more just post-coal future: engaging local communities in post-mining landscape restoration through participatory mapping methods. *Frantal B., Brisudova L.*
- Pathways to institutional decarbonisation through advocacy and activism: a case study of grassroot mobilisation within the University of Trento. *Accettola A., Calcaterra M., Castiglione A., Checchi A., Chiodo A., Eperon A., Maines E., Pedrotti D., Rapisarda A., Tassi L.*
- Waste delinking: a pathway to Degrowth? *Karimzadeh S.*
- Co-constructing a photovoltaic strategy for two Swiss UNESCO cities: social sciences and local energy transition. *Hunter N., Perret N.L., Perret L.E.*

ADAPTATION AND RISK MITIGATION STRATEGIES

- Understanding the broad spectrum of social impacts: insights from the 2022 Marche region flood event. *Rrokaj S., Bubeck P., Thieken A., Molinari D.*
- Understanding how sense of place shapes community resilience to floods: a multi-context study of community response and adaptation. *Han S.*

Day 2 – 5th September 2025

	• Calling for action: enhancing local adaptation readiness for climate risk management in Austria. *Polderman A., Kehl A., Mayer A., Keiler M.*
13:00 – 13:30	**Concluding Remarks** Elisa Ravazzoli, Fabio Carnelli, Cristina Dalla Torre, Lydia Pedoth, Alexandra Tomaselli, Luca Cetara, Mariachiara Alberton, Federica Cittadino, Francesca Rosignoli, Felix Windegger and Christoph Kircher | *Eurac Research*
13:30 – 15:00	*Closing Lunch*
15:00	**Excursion:** FLUX river interventions and explorations with Lungomare *Lungomare Association*

3 Abstracts of the Keynotes Speakers

The conference hosted three keynote speakers **Giuseppe Feola, Beatriz Felipe Pérez**, and **Christian Kuhlicke**, whose profiles are described below.

Beatriz Felipe Pérez
Beatriz Felipe Pérez works at the research cooperative CICrA Justicia Ambiental in Barcelona. She specializes in the legal and multidisciplinary analysis of climate-induced mobilities. With a master's in environmental law and a PhD in Law (from Univesitat Rovira i Virgili), she connects climate science, global justice, and law. Her work explores the intersection of climate change, environmental degradation and human mobility from different perspectives.

Giuseppe Feola
Giuseppe Feola is Associate Professor at the Copernicus Institute of Sustainable Development, Utrecht University, Netherlands. His research investigates the social-, cultural- and political-ecological (i) conditions, (ii) mechanisms, and (iii) consequences of sustainability transformations. He is primarily interested in grassroots and community-led transformations towards social and economic models that, not depending on perpetual economic growth, aim to sustain human wellbeing and the ecological basis of life. His research has a geographical focus on Europe and Latin America (especially Colombia), and a thematic focus on agri-food systems and climate change.

Christian Kuhlicke
Christian Kuhlicke leads the Department of Urban and Environmental Sociology at the Helmholtz Centre for Environmental Research (UFZ) in Leipzig, Germany and is Professor of Environmental Risks and Sustainability at the University of Potsdam. With his background in human geography his research focuses adaptive behavior, community resilience and social vulnerability. He is engaged in various transdisciplinary activities, including supporting communities in rebuilding better after the 2021 flood event in Western Germany and co-developing drought risk management strategies with policymakers.

In the next paragraphs, there is a short description of their interventions during the conference.

Sustainability transformation: critical perspectives in times of discord

Giuseppe Feola, Copernicus Institute of Sustainable Development, Utrecht University, E-mail: g.feola@uu.nl

Over the past few decades, the social sciences have established their presence in global environmental change and sustainability studies. They have been shown to be crucial in unpacking the social conditions and processes that drive ongoing social-ecological damage and injustice, as well as in identifying the processes and conditions necessary for sustainability transformation. Many different notions of transformation have been proposed and coexist in literature as well as public discourse. Despite, or perhaps thanks to, such conceptual fluidity, sustainability transformation has become an established and popular term featuring research programmes, global assessments, policy proposals, and social movements and non-governmental organisations alike. However, such conceptual fluidity has facilitated the appropriation of the term 'transformation' to justify the status quo, attempting to align responses to climate change with the imperatives of capitalist accumulation.

On the other hand, many critical social scientists across the Global North and South have argued that ushering in a just and environmentally sustainable future requires challenging and transforming the modern capitalist societies and their cultural, social, and political foundations. A sustainability transformation entails questioning capitalist modernity and its entanglements with colonialism, racism and patriarchy, as reflected not only in the political economy, but also, among other aspects, in the ideas of progress as unending growth, individualism, commodification of human and non-human life, and extractivist and exploitative logics.

What are some of the emerging research directions matching the call for critical approaches to sustainability transformation?

First, inner transformation encompasses changing consciousness, mindsets, values, worldviews, beliefs, and spirituality. Inner transformation focuses on changing capitalist-modern subjectivities (e.g., the consumer), as well as extractive and exploitative attitudes, individualism, and separation from other human and non-human species. Inner transformation may involve unlearning, an intentional process that involves individuals and/or organisations abandoning, discarding, or stopping to use established mindsets, practices, and beliefs. As part of their transformation efforts at the local level, social movements, faith communities, and community-led initiatives (such as ecovillages and transition towns) have developed methodologies such as workshop designs, group conversation setups, or physical exercises, which are informed by various intellectual traditions, including mindfulness, Buddhism, and critical pedagogies. These involve creating spaces that are safe yet encourage reflection and the elaboration of discomfort. It is a promising direction of future research to further understand how these approaches work and how they connect inner and societal change.

A second research direction is that of deliberate destabilisation. This involves processes by which specific socio-technical arrangements, technologies, practices, and institutions that support unsustainability are deliberately ended. Transformation discourses and notions have overly emphasised the emergence of novelty, while underplaying the need to actively deconstruct and disarticulate existing socioecological configurations. The phase-out of coal, meat taxes, a fossil fuel non-proliferation treaty, and defunding campaigns are all examples of interventions aimed at destabilising system configurations that lead to unsustainable outcomes, rather than supporting alternative ones. To focus on the emergence of novelty is problematic because it restricts the options and trajectories of change, and it is often ineffective. For example, the increase of energy provision from renewable sources is ineffective if it adds to, rather than replacing, energy produced from fossil fuels – and this is exactly what is occurring in the energy system. It is crucial to advance research on the effectiveness of destabilisation policies,

also in connection with diverse policy mixes, the politics of destabilisation, and the role of incumbent actors, as well as the normative evaluation (e.g., justice) of its outcomes.

A third research direction concerns alternative economies: grassroots and community-led collective actions that attempt to create alternative systems of provision through experimentation with radically regenerative practices, convivial technologies, horizontal organisation, deep democracy, and social inclusion. Their goals include social justice, ecological sustainability, autonomy, dignity, and sovereignty. They are seen as alternatives to capitalism, demonstrating that non-capitalist ways of organising economies and social collectives do exist and function. Very many questions remain open. For example, what is the transformative potential of alternative economies? Which new logic (e.g., care, sufficiency) and institutional arrangements (commons, social enterprises), new discourses and imaginaries are developed in alternative economies?

Finally, sustainability transformation research must address societal discord. Policy efforts face constant conflict and resistance, driven by both material interests and differing beliefs. Instead of seeking full agreement, we should accept discord as the norm and recognise that both cooperation and friction shape the process of change. Thus, transformation may involve continuously finding "partial political settlements": negotiated but uncomfortable compromises to realise a minimal degree of productive cooperation among key actors who influence a policy outcome in a situation that otherwise risks intractable conflict and failed transformation. Partial political settlements represent something that actors can live with rather than something they necessarily fully embrace, thereby downplaying the provision of definitive solutions. This approach seeks to internalise discomfort rather than avoiding it, which can help to shift political conditions and make new actions possible. Yet, further research is needed to address the following open issues: to what extent, and under what conditions, do partial political settlements have transformative effects? How do they interact, spill over, and cumulate? How do partial political settlements interact with other forms of action (e.g., protests, lobbying, participation, goal setting) both within and beyond formal political processes?

Exploring the intersectional impacts of the climate crisis: from theory to practice

Beatriz Felipe Pérez, Co-founding partner and researcher of CICrA Justicia Ambiental and Centro de Estudios de Derecho Ambiental de Tarragona (CEDAT), E-mail: beatriz.felipeperez@gmail.com

We are living in turbulent times marked by a deepening and multidimensional crisis. Humanity has already surpassed seven of the nine planetary boundaries (PIK, 2025), and Earth Overshoot Day arrives earlier each year. This crisis affects all dimensions of human life. In this context, adopting intersectional perspectives is essential to fully grasp the scope of this "political-civilizational crisis", which is profoundly shaped by the climate emergency (Ruiz-Giménez Arrieta and Giménez González, 2025). When Kimberlé Crenshaw (1989) coined the term *intersectionality* over thirty years ago, it served as a critique of both feminist theory and anti-racist politics, by revealing the specific and intersecting forms of oppression and exclusion experienced by Black women. Intersectionality allows us to understand how different systems of privilege and oppression overlap, producing distinct forms of inequality that also shape environmental issues and the impacts of climate change. In this sense, in its 2022 report, the Intergovernmental Panel on Climate Change (IPCC) recognized that vulnerability to climate change is a dynamic and multidimensional phenomenon shaped by the historical intersections of inequality and by contemporary political, economic, and cultural processes of marginalization. In other words, after many years of analysis, the IPCC emphasized that present-day vulnerabilities carry historical legacies and that economic factors constitute only one dimension of marginalization and vulnerability (IPCC, 2022). It is no coincidence that countries most at risk from climate change are also part of the so-called Global South. While geography plays a role, historical and contemporary geopolitical relations are equally significant. The IPCC (2022) explicitly recognized that the intersection of gender with race, class, ethnicity, sexuality, indigenous identity, age, disability, income, migrant status, and geographic location often exacerbates vulnerability to climate impacts by deepening inequality and reinforcing injustice. The IPCC thus took an important step in emphasizing that poverty is a common factor in climate vulnerability; however, when it overlaps with other historically marginalized identities, the risk of suffering from extreme weather events increases substantially. This is precisely where the concept of climate justice becomes essential.

Climate justice pursues two main goals: first, to center the needs of the most marginalized groups in climate action; and second, to dismantle the structures of marginalization, exploitation, and oppression that affect them. Climate justice and intersectionality share theoretical roots in radical thought. Intersectionality runs through feminist theory and as noted earlier, originates in Black feminist critiques of white feminism and the civil rights movement. While climate justice initially gained attention among political philosophers within the field of climate ethics, it has also been advanced by more radical scholarship informed by postcolonial theory, neo-Marxism, and ecofeminism. It is therefore not surprising that intersectionality and climate justice share a resolute focus on marginalized populations and the power relations that produce their marginality. In other words, both are grounded in a commitment to human emancipation and to end the oppression of marginalized groups (Mikulewicz et al, 2023). As critical schools of theory and practice, intersectionality and climate justice have much in common—and, indeed, they need each other. Building on these connections, it becomes clear that their principles cannot remain purely theoretical: they demand concrete action that not only acknowledges overlapping forms of inequality but actively integrates them into the design and implementation of climate responses.

In practice, this involves developing projects and initiatives that center marginalized voices, ensure meaningful participation, promote equitable distribution of benefits and burdens, and recognize diverse cultural identities and lived experiences. The following two examples illustrate how we have sought to translate these principles into action, highlighting both the opportunities and challenges of applying an intersectional approach to climate justice, specifically in the context of climate-related (im)mobilities.

Both research projects—*Environmental migrations in the Gran Chaco Americano*[1] and *Emigra: Energia Migrant pel Clima*[2]—employed an intersectional climate justice approach to analyze how environmental change interacts with social inequalities. In the Gran Chaco, the study revealed how climate stressors exacerbate pre-existing vulnerabilities among Indigenous and "criollo" communities, with Indigenous women facing multiple and intersecting forms of marginalization related to gender, ethnicity, class, and age, which heighten their exposure to environmental risks and care burdens. Similarly, the project with African migrants in Barcelona explored how environmental degradation and climate impacts in migrants' countries of origin intersect with social, political, and economic factors shaping migration trajectories. By combining participatory and inclusive methodologies, both initiatives underscored that understanding environmental (im)mobilities requires addressing the overlapping dimensions of inequality that determine who moves, who stays, and who bears the costs of environmental change.

In the light of the above, to move from knowledge to action in integrating intersectionality and climate justice, it is essential to ensure inclusive and meaningful participation of women, Indigenous peoples, youth, persons with disabilities, migrants, and other marginalized groups in climate decision-making, while avoiding tokenism and guaranteeing safe, accessible spaces. Policies must be based on disaggregated and contextual data—by gender, age, ethnicity, class, migration status, and disability—to understand differentiated climate impacts. Intersectional approaches should guide every policy stage, incorporating participatory methodologies that value local knowledge. Benefits and burdens of mitigation and adaptation must be distributed equitably, avoiding further harm to vulnerable communities. Strengthening local capacities through training and recognition of community leadership, particularly among women and Indigenous groups, is key. Accountability and justice mechanisms should provide accessible channels for reporting inequalities and ensuring redress. Research must avoid academic extractivism by fostering transparent, collaborative, and community-beneficial processes, while cross-cutting alliances between governments, civil society, academia, and the private sector should center the voices of those most affected by climate change.

In conclusion, an intersectional perspective is essential in climate change work for two main reasons. First, it enables us to identify the overlapping inequalities that converge within individuals and societies, amplifying vulnerability to climate impacts—a factor that must be considered in all adaptation and mitigation efforts. Second, it ensures that these measures actively account for the specific needs of those most affected by multiple vulnerability factors, allowing solutions to be tailored to their real-life situations. In other words, to effectively combat climate change, we must recognize that its impacts are not experienced equally, and generalized solutions may be insufficient or ineffective.

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Mikulewicz, Michael, Caretta, Martina Angela, Sultana, Farhana, Crawford, Neil (2023). Intersectionality & Climate Justice: A call for synergy in climate change scholarship. *Environmental Politics*, 32(7), pp. 1275-1286.

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[1] Please, see: https://redeschaco.org/migraciones-ambientales-en-el-gran-chaco-americano/
[2] Please, see: https://www.cicra.coop/project/emigra-energia-migrante/ and
https://www.cicra.coop/2023/12/13/nuevo-informe-una-aproximacio-al-paper-de-la-crisi-climatica-lacaparament-pesquer-i-lextractivisme-en-la-expulsio-de-persones-dorigen-africa-que-habiten-barcelona/

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Ruiz-Giménez Arrieta, Itziar, Giménez González, Rebeca (2025). Ecofeminismos ante el (des)orden global: herramientas para pensar y habitar un presente en disputa. *Papeles de relaciones ecosociales y cambio global,* 170, pp. 37-49.

Fragile places: rethinking habitability in a rapidly changing climate

Christian Kuhlicke, Helmholtz Centre for Environmental Research– UFZ, Leipzig, Germany and University of Potsdam, Institute for Environmental Sciences and Geography, Potsdam, Germany, E-mail: Christian.Kuhlicke@ufz.de

Abstract
Climate change is profoundly reshaping assumptions about where and how people can sustainably live. Around the world, communities are grappling with cascading environmental disruptions that challenge established patterns of settlement, mobility, and belonging. Recent floods in the Horn of Africa, existential risks confronting small island nations, and unprecedented climatic extremes across Europe exemplify the emergence of what can be termed fragile places: places in which populations are increasingly exposed to human-made climate hazards yet lack effective means to adapt to, cope with, or redistribute risk. These contexts are characterised not only by material vulnerabilities and constrained adaptive capacities, but also by deep emotional, cultural, and political attachments to place. Such tensions often drive repeated attempts at in-situ adaptation that may inadvertently entrench vulnerability and lead to maladaptation over time. Reflecting on these dynamics invites a critical rethinking of how habitability itself is conceptualised in climate-exposed regions, including those of the Alpine space.

This keynote develops a social-science-oriented working definition of fragile places and habitability, emphasising the physical, social, cultural, political, and institutional dimensions that shape lived experiences of risk. While acknowledging biophysical limits, the presentation highlights the often-overlooked social and cultural conditions that render certain places more or less inhabitable. Against this backdrop, the talk interrogates the dominant perspective that has shaped research on climate change adaptation, social vulnerability, and resilience. Building on large-scale, systemic literature reviews in these fields, it revisits the behavioural turn within adaptation science and analyses its core assumptions—most notably its methodological individualism, lack of theoretical integration, and a proliferation of constructs that frequently measure disparate phenomena under similar labels. This dominant perspective, grounded largely in case-study approaches and behaviour-change paradigms, has generated important insights yet remains limited in its capacity to address the complex socio-ecological entanglements that characterise fragile places.

In response, the keynote outlines pathways for rethinking habitability that broaden the scope of social science research on climate change. It foregrounds themes that sit at the periphery of mainstream adaptation scholarship but are increasingly central to understanding lived experiences in fragile environments: maladaptation and the limits of adaptation; place attachment and place-based identities; mobility, immobility, and forms of "captivity" shaped by socioeconomic and political constraints; and questions of environmental justice, including distributional, procedural, and representational dimensions. These perspectives provide a more nuanced lens on how communities negotiate transitions between habitability and uninhabitability and how these processes are unevenly governed.
Finally, the keynote proposes new research pathways that connect scientific inquiry with societal and policy debates. It introduces the idea of transitional geographies of (un)inhabitability, marked by iterative cycles of staying, adapting, and (not) moving; highlights the need to embed justice considerations more centrally in adaptation planning; and argues for the value of socio-spatial imaginaries (i.e. through storytelling, cultural analysis, and temporal perspectives) in reframing what counts as a liveable space. By situating fragile places at the centre of adaptation research, the talk reflects on the role of (social) scientists in co-producing knowledge that supports fairer, more context-sensitive approaches to securing habitability in a rapidly changing climate.

4 Conference Theme: Climate Governance

Curated by: **Mariachiara Alberton, Federica Cittadino & Francesca Rosignoli,** Eurac Research

This Conference Theme aimed to investigate the following aspects:

- Examine policies and multilevel governance frameworks that enable or hinder effective climate action in terms of effective mitigation and adaptation.
- Highlight Just Transition Principles with discussions' focus on how to ensure that transitions are inclusive and beneficial for all communities.
- Strengthen Research-Policy Interfaces: Identify ways to improve collaboration between researchers and policymakers to enhance the effectiveness of climate action initiatives at local, national, and global levels.
- Explore effective policies and advocacy strategies that can address social inequalities in climate change responses, ensuring that the voices of affected communities are included in decision-making processes.
- What the State and local governments and particularly the political system is and should be doing? What to expect from economic actors, societal organizations, social movements, and Non-Governmental Organizations, as well as citizens in this regard?
- Analyze various regulatory frameworks aimed at mitigating climate change impacts, including carbon taxes, emissions trading systems, and environmental standards.
- Explore the intersection of scientific research and practical applications in developing innovative solutions for climate resilience that are context-specific and culturally relevant.

In the following paragraphs it is possible to find the list of the abstracts presented for this Conference Theme.

List of Abstracts presented in the Sessions

Building trust and climate resilience: Participatory urban adaptation pathways in Rome

Marta Ellena, Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC Foundation), Milano, Italy, marta.ellena@cmcc.it
Arianna Acierno, Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Lecce, Italy
Alfredo Reder, Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Caserta, Italy
Edoardo Zanchini, Climate Office, Municipality of Rome, Rome, Italy
Paola Mercogliano, Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici, Caserta, Italy

This research explores how structured stakeholder engagement can inform and strengthen urban climate adaptation planning, focusing on Rome, one of the most climate-vulnerable cities in Southern Europe. As part of the EU-funded Adaptation AGORA project, we applied a multi-step participatory methodology: an inception workshop to identify vulnerabilities and capacity gaps; four thematic focus groups (health, youth, multicultural communities, workers) to deepen understanding of lived experiences; and a final co-creation workshop to align community insights with policymaking. Methods included Nominal Group Technique, Think-Pair-Share, and co-assessment, with findings analysed through qualitative content analysis. Participants consistently called for soft adaptation measures such as inclusive climate education, better communication, flexible work environments, and equitable access to mobility and resources. They also expressed a preference for hybrid, practical engagement formats

that foster trust and continuity. The final workshop enabled shared prioritization with institutional stakeholders, highlighting actionable, citizen-informed strategies. The study adopts an interdisciplinary approach combining urban climate science, governance, public health, and communication, and exemplifies transdisciplinary collaboration among researchers, authorities, and communities. Findings underscore the need for early and continuous engagement in adaptation planning, in line with the EU Mission on Adaptation, and offer a transferable model for developing socially responsive, transparent, and legitimate climate policies in other urban contexts.

Municipal involvement in local energy transition: exploring collaborative dynamics in the development of renewable energy communities in Italy

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Renewable Energy Communities (RECs) are increasingly recognized as important tools to support the energy transition while delivering social and economic benefits to local communities. In Italy, several municipalities are actively promoting the establishment of RECs, bringing together a diverse range of stakeholders, including private sector actors, non-governmental organizations and citizens. However, the collaboration among heterogeneous actors is rarely straightforward, as they often bring different goals, capacities, and institutional logics. As a result, the collaborative process becomes a key arena where conflicts are negotiated, shared understanding is built, and collective strategies are developed. While the existing literature has largely considered formal business and organizational forms, limited attention has been given to the collaborative processes that the creation of a REC entails, especially in the pre-constitutive phase, that is, when governance practices are still informal and often undocumented. This research addresses this gap by adopting a process-oriented approach to explore how municipalities govern these collaborative efforts and how they are shaped by local contextual and situational factors. It employs comparative qualitative case study design, grounded in semi-structured interviews with key stakeholders and content analysis of project documentation. Hence, this study aims to contribute to the literature on public governance by providing empirical insights into formal and informal collaborative dynamics in public-led RECs, as well as actionable knowledge on collaborative planning and implementation of RECs.

Citizen engagement and just adaptation to flood risk in Amsterdam: a Q-Methodology study of Amsterdam Weerproof

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Citizen engagement in climate adaptation is gaining traction, with cities increasingly resorting to co-production of adaptation. This approach involves individual citizens and the private sector implementing flood-proof measures on their premises to enhance soil permeability. Consequently, adaptation becomes a shared responsibility among urban actors. While co-producing adaptation can address the limitations of top-down planning by incorporating local knowledge, shifting responsibility for flood security to citizens raises significant climate justice concerns. If flood security depends on citizen action, how can policymakers ensure equal protection and prevent green enclaves or green gentrification? The role of co-produced adaptation in climate (in)justice requires further scrutiny, particularly regarding how the different actors involved—governments, businesses, and residents—frame climate justice and responsibility for adaptation. This research employs Q-Methodology to map the discourses around justice and responsibility among stakeholders involved in Amsterdam Weerproof, a participatory adaptation initiative addressing pluvial flood risk in Amsterdam. The study explores priorities and narratives among public and private stakeholders responsible for adaptation. Three diverging discourses emerge: a) private-led, market-driven adaptation; b) community-led, justice-driven adaptation; and c) individual-led, participation-driven adaptation. The analysis highlights that stakeholders involved in

Amsterdam Weerproof see the world in radically different ways when it comes to a) the role of the state in adaptation and b) the justice implications of co-production. The study also reveals areas of consensus, such as the value of greening and a shared sense of urgency, that can be used as entry points to navigate conflict.

Patterns for climate citizen assemblies strengthening their emancipatory and transformative agency

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Citizens' assemblies (CAs) are a format of participatory democracy that brings together diverse individuals to learn, deliberate, and make joint decisions. An important yet often overlooked aspect of CAs is their potential to catalyse societal transformations, also beyond policy outcomes. In this paper, we focus on the transformative potentials of Climate CAs (CCAs) by presenting a tool to support their design and implementation. Inspired by the work of C. Alexander (1977), we are elaborating a pattern language as an analytical and operational instrument. Patterns are a designerly format for sharing complex knowledge in an accessible and actionable way. Our specific focus on social-ecological transformation is reflected in the emphasis on climate justice, inclusion, intersectional diversity and collective empowerment. With this focus, we seek to strengthen the emancipatory and strategic power of CCAs. The pattern language can be used by initiators, facilitators, and participants alike. Our pattern language illustrates how transformative momentum can be generated through CCAs by describing how the emergence of power-with can be fostered, while critical concepts, such as climate justice and transition, are taken into account. Methodologically, we build on a two-year analytical, dialogical, and reflective process grounded on secondary (e.g., reports, academic scientific literature) and empirical data (e.g., participant observation, surveys, interviews, first-person experiences). For the creation of the patterns, we use instruments and processes of eco- social design.

Instantiated dimensions of trust in climate change policy expertise: findings from deliverative mini publics in the Republic of Ireland

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The appreciable role of national electorates and "bottom-up" actions towards reducing GHG emissions has prompted increased focus towards deliberative governance as a means of policy development for climate change mitigation. As the multisectoral intricacies of decarbonisation necessitate frequent elicitation of expert knowledge, lay-expert interactions and ascriptions of stakeholder legitimacy/trustworthiness constitute a significant feature in deliberative policymaking settings. However, trust attribution and its influence on policy preferences in a qualitative, deliberative setting is currently underexplored. Accordingly, the current study presents findings from a series of Deliberative Mini Publics (DMPs) examining urban transport policy proposals to curb GHG emissions in the Republic of Ireland. DMPs explored lay conceptions of expertise and expert trustworthiness utilising a comprehensive (novel) taxonomy of constituent attributes, with participants requested to assign attributions to three expert-delivered policy presentations: broadsheet journalist, academic, non-profit

representative. Thematic analysis identified a consistent participant preference for reliability, reflexivity, empirical evidence and presentation of substantive case studies as signifiers of information legitimacy. The journalist-led presentation (elucidating the '15-minute city' concept) emerged as the most favoured policy intervention and was deemed to best embody core (cited) traits of interpersonal trustworthiness. Study findings indicate that appraisals of expertise and trustworthiness exert a considerable influence on policy acceptance/preferences. Proclivities towards traditional news channels, relative antipathy towards the nonprofit sector and recurring generational/locational discrepancies in opinions/values notably suggest that attributions are strongly context- and channel-specific. As such, expert affiliation and socio-spatial public viewpoints may warrant research focus in future deliberative governance initiatives prioritising climate change mitigation and trust- building.

A participatory MCDA-based decision support tool for sustainable flood risk governance: the Lombardy case study and beyond

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The increasing frequency and severity of flood events globally call for adaptive, inclusive and sustainable risk mitigation strategies. In Italy, structural measures remain central, yet current prioritization procedures often lack transparency and fail to account for environmental and social sustainability. This research, conducted within a PhD programme in partnership with the Lombardy Region, addresses these gaps by developing a structured, transparent, and participatory Decision Support System (DSS) based on Multi-Criteria Decision Analysis (MCDA) for prioritizing public investments in structural flood protection. The MCDA framework integrates technical, economic, environmental and social criteria, capturing impacts typically neglected by conventional approaches such as Cost-Benefit Analysis, thereby promoting more resilient, equitable, and sustainable measures such as Nature-Based Solutions. A distinctive feature is the direct involvement of the Lombardy Region, the project's institutional partner and key stakeholder, in the co-development of the tool, ensuring contextual relevance and alignment with regional priorities. The DSS is designed to be extended to other relevant stakeholders involved in flood risk governance, including River Basin Authorities, Municipalities, as well as citizens and affected economic actors. The methodology will be further tested and refined through the upcoming DROP project (funded by Cariplo Foundation), which will broaden stakeholder engagement and support the co-design of socially inclusive flood risk policies. This participatory approach strengthens decision legitimacy, supports inter- and intra-generational equity, and offers a replicable model for well-informed investment decisions in line with EU climate adaptation and risk reduction objectives.

Mission participation? Exploring the role of citizens in Horizon Europe's sustainability missions

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The mission-oriented approach to research and innovation, promoted as a means of stimulating creativity and mobilising resources to tackle grand societal challenges, has been adopted into the EU's Ninth Framework Programme for 2021 to 2027, Horizon Europe. As a frontrunning example of mission-oriented innovation policy (MOIP) put into practice, the Horizon Europe Missions were created in 2021

to achieve tangible results by 2030, in a format committed to engaging citizens in their activities and processes. Three years into their implementation, this study investigates the role of citizen participation in four Horizon Europe Missions related to sustainability: 100 Climate- neutral and smart cities by 2030'; 'Adaptation to climate change'; 'Restore our ocean and waters'; and 'A soil deal for Europe'. 42 focus groups were conducted within the EU-funded SSH CENTRE project, involving 160 citizens from 25 different nationalities, seeking participant input on the EU's work within the missions, possible priorities and actions for their local governments, and how they thought citizens should be engaged in the missions. The analysis leads to five sets of recommendations for strengthening citizen perspectives in the EU Missions, targeted at EU policymakers and practitioners. These are further discussed in terms of the theoretical intentions for citizen participation in MOIP and implications for the legitimacy of EU missions as a central organizing instrument to direct research and innovation towards societal challenges, as the mission-oriented approach is taken from theory to policy practice.

Evaluating the EU Horizon framework programme's contribution to Green Deal and green transition – Focus on Clusters 5 and 6, including Partnerships and Missions.

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Conducted on behalf of the European Commission during 2023-2024, this contribution builds on participation (Waldmüller 2024) in the ex-post evaluation of EU Framework Programmes Horizon 2020 and the interim evaluation of Horizon Europe, focusing on the Green Transition and long-term impact. This study (AIT et al. 2024) covered the European Framework Programmes in the impact area Green Transition, i.e. all related activities in Horizon 2020 (2014-2020) and the first phase of Horizon Europe (2021-2023), in particular Cluster 5 (Climate, Energy, and Mobility) and Cluster 6 (Food, Bioeconomy, Natural Resources, Agriculture & Environment), sitting in Pillar II, using a mix of various data collection and unique data analysis tools such as bibliometrics, case studies, survey, benchmarking, etc. Overall, the Framework Programme aims to provide the foundational technological requirements, and social innovations, for shaping the transformation towards a green European society, paving the way for the required behavioural change through integrating all stakeholders. Crucially, Horizon Europe (and the upcoming Framework Programme 10) has still to deliver on addressing complex societal aspects – e.g. competing interests, addressing established assumptions and power structures, integration of diverse values and types of knowledge, social change conducive to the Green Transition, and further advancing a needs-based approaches of the Green Transition – to enhance its relevance.

Critical minerals for the energy transition: have we even started?

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The energy transition, promoted as a key strategy to reduce CO_2 emissions, is itself heavily dependent on the extraction of so-called "critical" minerals. These include not only rare earths but also bulk commodities such as aluminium, copper, and graphite. This contribution examines the supply chains of these three materials, revealing how the industrial processes needed to rapidly scale up their production are becoming increasingly CO_2-intensive. While these materials often end up in "green" luxury products consumed in the Global North, their extraction deepens marginalization and dispossession in communities across the Global South. By tracing shifts in these supply chains, this study critically assesses whether an energy transition is truly underway, whether it is reducing emissions, and who bears its costs.

HexaWorld: bridging AI and marine policy through explainability

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Reliable marine biodiversity monitoring is essential to support climate adaptation, spatial planning, and the management of marine protected areas. However, high operational costs and limited coverage often hinder large-scale data collection. Artificial Intelligence (AI), particularly through autonomous underwater vehicles (AUVs), offers promising solutions to optimize these efforts. Yet, their integration into real-world decision-making remains limited, as it is often difficult to access the reasoning behind the strategies learned by AI systems. This makes it challenging for non-technical stakeholders to fully engage with and trust these tools, limiting their contribution to transparent and inclusive governance. We present HexaWorld, a simulation framework designed to develop explainable reinforcement learning (RL) strategies for marine biodiversity monitoring. A key feature is the definition of the reward function, which links agent behavior to ecological and operational objectives, such as maximizing biodiversity discovery, avoiding redundant paths, and ensuring safe return to base, making the learned strategies interpretable and actionable. HexaWorld supports both square and hexagonal grid environments and has been tested on three simulated marine habitats: temperate, tropical, and deep-sea ecosystems. We evaluated agent performance based on biodiversity coverage and exploration efficiency. Results show that hexagonal grids improve exploration in complex, obstacle-rich environments, particularly in deep habitats where navigation is more demanding. By providing a flexible and explainable simulation tool, HexaWorld helps develop AI-based strategies that are understandable and ready to inform evidence-based, interactive decision-making in marine conservation and climate governance.

5 Conference Theme: Transformative Practices

Curated by: **Cristina Dalla Torre, Elisa Ravazzoli, Felix Windegger** & **Christoph Kircher**, Eurac Research

This Conference Theme aimed to investigate the following aspects:

- structural conditions and socio-material arrangements that perpetuate unsustainable practices.
- how social innovations reconfigure social practices to foster socio-ecological transformations.
- how climate change knowledge and societal norms, political frameworks, and technological solutions are co-produced in scientific practices.
- how cultural meanings and norms inform sustainable and/or unsustainable practices.
- the contribution of practice theories in understanding social change.

In the following paragraphs it is possible to find the list of the abstracts presented for this Conference Theme.

List of Abstracts presented in the Sessions

Strengthening transdisciplinary collaborations for climate- resilient social-ecological transformations: preliminary results from a formative assessment on current transdisciplinary projects

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Addressing climate change and advancing social-ecological transformation requires inclusive and reflexive research approaches rooted in real-world complexity. Transdisciplinary collaborations (TDCs), which bring together academic and non-academic actors to co-produce actionable knowledge, have become central to these efforts. Yet, many TDCs face persistent challenges—including power imbalances, conflicting interests, and difficulties integrating diverse knowledge systems—which limit their transformative potential. This contribution presents insights from a formative assessment of ongoing and recent TDCs focused on climate change adaptation and social-ecological transformation. Drawing on case studies from research, consultancy projects, and network initiatives, we identify key barriers to the effectiveness and equity of these collaborations. An assessment framework was developed based on relevant literature and applied through peer-to-peer exchanges, self-reflections among researchers, and interviews with a range of TDC participants. We share preliminary findings alongside draft recommendations aimed at supporting academic actors in designing, implementing, and evaluating TDCs more effectively. These adaptive strategies address engagement practices and structural conditions that shape collaborative dynamics. Our findings emphasize the critical role of the social sciences in fostering context-specific, culturally relevant, and justice-oriented climate responses. Rethinking the obstacles in TDCs—including how knowledge is produced and validated—can help chart more inclusive and resilient pathways forward. We also invite discussion on the feasibility of developing shared transdisciplinary guidelines at the organizational level, and whether current academic evaluation

standards hinder the transformative promise of TDCs. This reflection highlights tensions between top-down structures and bottom-up initiatives that seek meaningful change in research practice.

Building resilient cities: insights from community engagement in the adaptation AGORA project

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Community engagement is vital for translating climate knowledge into effective adaptation actions. However, decision-makers often face challenges in promoting meaningful participation due to power imbalances, lack of incentives, and ineffective approaches. Overcoming these obstacles is important for creating equitable strategies that strengthen long-term urban resilience. The EU project Adaptation AGORA has developed innovative transdisciplinary methods for effective community engagement and knowledge-to-action in adaptation across four European regions: Rome (Italy), Aragón (Spain), Malmö (Sweden), and Dresden (Germany). These pilots offer insights into community engagement in effective urban adaptation. The Rome pilot united stakeholders to enhance urban resilience. The Aragón pilot empowered stakeholders to co- develop climate-resilient strategies addressing desertification and urban heat. The Malmö pilot engaged residents, gathering insights that influenced Malmö's heatwave management strategy. The Dresden pilot showcases lessons from stakeholder engagement in climate adaptation, illustrating collaboration for innovative solutions. Our research indicates that inclusive, context-specific community engagement fosters essential outcomes—like agenda-setting, trust-building, and broad participation—for climate-resilient cities. It emphasizes the need for tailored strategies, encouraging urban planners to use flexible, participatory methods and policymakers to bolster institutional support for long-term, locally informed adaptation.

Mountain tourism fresco: a serious game approach to sustainable transitions in mountain tourism

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Mountain regions face growing socio-environmental challenges due to climate change, requiring transformative shifts in tourism governance. Our research introduces the Mountain Tourism Fresco, a serious game designed to foster dialogue and collective learning on sustainable tourism transitions. Inspired by Fresque du Climat (Climate Fresk), this tool engages stakeholders in co-constructing a shared understanding of tourism's environmental impact exploring pathways for sustainable mountain development. Using transdisciplinary applied-research methodology, we conducted workshops across Swiss alpine regions with policymakers, local businesses, and residents. Participants engaged in scenario-based exercises addressing climate adaptation, mitigation, and governance strategies. Through qualitative analysis of discussions and feedback, we assess how experiential learning enhances awareness, systems thinking, and willingness to adopt sufficiency-oriented tourism models. Preliminary results indicate that game-based approaches could improve stakeholder engagement and foster behavioral shifts and commitment to low-carbon tourism. The study contributes to knowledge co-

production by integrating scientific insights with local expertise, aligning with the conference's themes of climate governance, transformative practices, and just transition. Our findings highlight the potential of serious games to inform policy design and participatory governance in tourism planning. We invite discussion on adapting this framework to other socio-ecological contexts to accelerate sustainability transitions in mountain regions.

Climate change and cultural heritage: (im)possible dialogue?

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Cultural heritage elements are 'on the front line' in the battle for the future of the planet, being under anthropic impact and often in the most fragile places, along coasts and rivers, in lagoons, in mountain valleys. They are perfect case studies for testing possible innovative solutions. In fact, it is culture as a whole that is 'on the front line', since climate change can only be tackled through cultural change. The aim of the panel is to question the current Italian cultural heritage code as well as cultural management, in order to bring into dialogue a heritage community composed of all stakeholders, including local communities, and to find a stronger link between practice and norm. How to facilitate the rediscussion of the concept of heritage to enhance climate and social justice? The interactive session, organised as interdisciplinary dialogue and participatory model to promote a more sustainable and equitable future of heritage, will follow the collaborative methodology already tested in the event NextGen Heritage (https://www.nextgenheritage.it/), as part of the CHANGES-CREST project. The session will be structured as an interactive workshop around some main questions extended to people actively involved in cultural heritage - cultural operators and managers, researchers and students, professionals, decision- and policy-makers, volunteers, activists, and components of the communities - who we call Heritage practitioners, in order to envision the new 'heritage communities' and collect good practices in a concrete proposal for regulatory change.

For more just post-coal future: engaging local communities in post-mining landscape restoration through participatory mapping methods

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Post-mining landscape restoration is a global challenge which involves many dilemmas, often arouses land use conflicts and can reproduce environmental injustices. Considering the needs and preferences of local communities is essential regarding the principles of "just transition" with its four aspects, including procedural, distributive, recognition and restorative justice. Although the energy transition policies are expected to adhere to principles of environmental justice, there remains a significant gap in both practice and research concerning the public engagement in post-mining land use planning.Using a case study of a closing large open-cast lignite mine in the Czech Republic, this study demonstrates the efficacy of combining participatory mapping approach with statistical and spatial analysis to engage local stakeholders in research. It also highlights the importance of integrating community perspectives

and interests in the process of landscape assessment and planning of post-mining regeneration. Our case study reveals the rich and diverse memories and experiences associated with the post-mining landscape, along with ideas for its future, which often starkly contrast with the plans and narratives proposed by the energy companies, regional politicians and central government officials. The adoption of approaches and methods like those presented in this study can enable planners of post-mining regeneration to better understand the sense of place and needs of local communities. This, in turn, can foster place-making on post-mining sites and help prevent potential land use conflicts.

Pathways to institutional decarbonisation through advocacy and activism: a case study of grassroot mobilisation within the University of Trento

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We developed and tested a climate action education intervention aiming to motivate Italian university students to take climate action, by increasing key psychological correlates of pro-environmental behavior. For six weeks we exposed participants to in-person interactive lessons and activities that were developed from existing psychological theories and interventions. The goal was to increase pro-climate behavior by leveraging 12 psychological correlates such as beliefs, attitudes and emotions. Before and after the intervention participants completed surveys measuring the psychological correlates, and also reported individual and collective pro-climate behaviors via daily diaries. The study included a control group. The results revealed that 10 of the 12 psychological correlates successfully increased, and 6 remained high after a three-month period. After an unexpected initial increase in collective action due to motivation bias, engagement remained high in the participants attending our intervention (especially behaviors related to educating others and climate advocacy). The behavioral change was predicted by the increase in seven psychological factors: 1. Collective Efficacy, 2. Faith in Institutional Pressure, 3. Bottom-up Theory of Change, 4. Emotional Engagement, 5. Self Efficacy, 6. Perceived Behavioral Control, and 7. Environmentalist Self Identity. This intervention is an example of how psychologically informed climate education can activate the public to engage in civic behaviors to contrast the climate crisis.

Waste delinking: a pathway to degrowh?

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The global North-South waste trade perpetuates colonial patterns, systematically transforming territories in the Global South into sacrificial zones for the Global North's material excesses, symbolic residues, and toxic bypro4ducts. While this asymmetry causes acute environmental, health, and social harms in the South, its consequences ultimately imperil the planetary system as a whole. This study develops the concept of waste delinking, expanding from dependency theory's original notion of delinking toward a vision of ecological sovereignty. Waste delinking calls for a radical severance from global waste trade infrastructures, obligating affluent nations to internalize the full environmental and social costs of their consumption. Contrary to critiques that frame delinking as isolationist or regressive, this intervention offers a pathway to fulfilling global sustainability goals. By advancing the conceptual framework of waste delinking, the study positions degrowth not as a moral ideal but as a material necessity: without externalizing waste, the North must fundamentally reorganize its modes of production and consumption. Waste delinking thus emerges as a catalyst for systemic transformation grounded in non- colonial relations, localization, and ecological justice.

Co-constructing a photovoltaic strategy for two Swiss UNESCO cities: social sciences and local energy transition

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The climate crisis and the growing demand for sustainable energy pose unique challenges for European cities with protected heritage sites. In La Chaux-de-Fonds and Le Locle — two Swiss UNESCO-status cities renowned for watch-making — residents sought to power their homes and businesses using photovoltaic systems. However, strict building regulations that prioritised the cities' heritage status left little room for manoeuvre, necessitating a strategy to bridge architectural conservation and climate action. Over 18 months, a team from multiple disciplines and non-academic sectors, including all levels of government, specialists in heritage, urban planning, architecture, solar engineering, geomatics, history, and civil society worked together. The team conducted a structured, collaborative process in three phases: understanding the heritage context; conducting geomatic analyses of zones based on sensitivity and visibility using the LESO-QSV method; and defining an adapted strategy. Participatory workshops helped to identify local-level social and technical obstacles and opportunities. Drawing on historical investigations, meeting records, field journals and planning outputs, this research examines how the social sciences facilitated the development of the strategy, through participatory governance, resolving value conflicts, the development of shared narratives and the promotion of local ownership of decisions. Securing public acceptance of the final strategy required transdisciplinary dialogue, institutional alignment and local sensitivity, underscoring the importance of applying appropriate practice in local transformative processes for innovation. This case highlights that technical solutions alone are insufficient without a socially-grounded process of negotiation and shared responsibility. To end, this reproducible approach provides a roadmap for energy transitions in other heritage- sensitive urban areas.

6 Conference Theme: Climate Justice, Gender & Intersectionality

Curated by **Alexandra Tomaselli** & **Lydia Pedoth**, Eurac Research

This Conference Theme aimed to investigate the following aspects:

- Analyze how climate change disproportionately affects marginalized individuals or groups and how it exacerbates existing social inequalities, with a focus on gender, other gender identities, afro-descendants, indigenous peoples, other minorities, lower socioeconomic classes, elderly people and others that experience higher rates of health risks and environmental hazards.
- Evaluate the intersection of climate justice and gender justice, racial justice, and other justice movements addressing if and how they ally, and their actions.
- Address intersectionality and climate justice by looking at how the intersection of race, class, gender, and other social factors shall be considered into climate justice discourses.
- Examine how local framings of climate issues can inspire global and local movements for climate justice, fostering solidarity across diverse identities and statuses.
- Highlight successful case studies and community-led initiatives that demonstrate how marginalized groups are adapting to climate impacts and advocating for their rights.
- Share insights from community-based adaptation practices that empower vulnerable individuals, groups or peoples to build resilience against climate impacts while addressing social inequalities.

In the following paragraphs it is possible to find the list of the abstracts presented for this Conference Theme.

List of Abstracts presented in the Sessions

Intersectional strategies for climate justice activism by indigenous youth: from vulnerability to agency

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This paper focuses on the mobilization around climate change by indigenous youth. The dimension of youth as a new social actor has been increasingly important for climate justice claims (Morgan et al 2023, Thew et al 2020). Indigenous youth exert a special positionality in the environmental movement (Grosse & Mark 2020, MacKay et al 2020) although they often face intersectional exclusion (Grosse and Mark 2020, Morgan et al 2023). The main question is how indigenous youth are making claims as part of a negotiation of climate justice in transnational spaces and with what effect? How does the concept of intersectionality enable indigenous youth to underscore their unique vulnerabilities while also positioning themselves to center their claims and expand mobilization? Linking studies on indigenous youth activism and environmental movements, this paper explores the ways in which indigenous youth engage in climate justice activism are using the lens of intersectionality in their mobilization efforts not only to frame their claims but also advance efforts for inclusion and coalition building. This research uses the lenses of structural intersectionality and political intersectionality, following Crenshaw (1991), to conduct a frame analysis of materials from key movement organizations for indigenous youth mobilization. This research will produce insights into the nature of participation of the new social actor of indigenous youth in climate justice activism as well as how this participation can influence movement strategies.

Assessing transformative climate justice in NDC 3.0

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Nationally Determined Contributions (NDCs) are national climate action plans required under the Paris Agreement, detailing countries' commitments to mitigation and adaptation. With the process entering its third iteration, countries are expected to publish their respective 'NDC 3.0' in 2025. There is growing emphasis on embedding climate justice into these plans. However, it remains unclear whether the pledges in NDCs will lead to transformative climate justice or remain largely symbolic. This study evaluates how thoroughly these recently submitted NDCs integrate climate justice across four dimensions: recognitional, procedural, distributive, and restorative, identifying which commitments move beyond aspirational statements toward implementation. Drawing from climate justice literature, we develop and apply an assessment framework to these new NDCs, classifying each justice- related commitment by its depth and examining legal, financial, and institutional backing. Justice elements are grouped into thematic clusters, later compared to assessing integration across countries. Findings revealed that while most NDCs mention equity or vulnerable groups, few introduce binding structures, sustained financing, or multi- sectoral governance necessary for transformative climate justice. Commitments often remain siloed, with only a few NDCs exhibiting transformative traits, such as enforceable transition plans, participatory governance, or legally anchored compensation schemes. By bridging theory with empirical policy review, this study highlights the gap between tokenistic alignment with justice principles and practical implementation in climate policy. The approach offers a replicable methodology for analyzing NDCs through a justice lens; with the aim to help policymakers, researchers, and civil society assess whether climate justice is structurally embedded and not merely stated.

Beyond climate displacement: new insights on climate adaptation through the progressive recognition of the right to climate immobility

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This research examines climate change as a driver of both displacement and immobility, emphasizing how gendered power structures shape the ability to move - or remain - under worsening environmental conditions. While much attention is paid to climate- induced displacement, this study brings forward climate immobility, a phenomenon that affects those who are unable or unwilling to leave their homes despite increasing climate risks. In Nepal, male outmigration due to economic and climate stressors has left women as the primary agents of adaptation. In rural communities like Sangrumba in eastern Nepal, women manage increasingly fragile agricultural systems and household responsibilities under rising climate pressures. Yet, their immobility is frequently constrained, shaped by patriarchal norms, insecure land rights, and limited access to credit and decision-making spaces. By foregrounding local, gendered adaptation practices, this research challenges technocratic views of adaptation as a neutral or universally accessible process. Instead, it argues that climate adaptation, when stripped of social context, can reinforce structural inequalities and render invisible the labor and knowledge of those most affected. Understanding who adapts, how, and under what constraints is essential to designing just and inclusive climate strategies. Advancing the right to adapt in place with dignity, especially for women and marginalized communities, is not just a matter of climate resilience, but one of climate justice and human rights, where the law can and must play a fundamental role.

(Un)equal impacts: exploring everyday experiences of climate change through intersectionality in Catalonia

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Climate change exacerbates existing social inequalities, affecting individuals differently depending on their intersecting social positions such as gender, class, race, and age (Kaijser & Kronsell, 2014; Thompson-Hall et al., 2016). Using an intersectional framework, this study explores the lived experiences of climate change impacts in everyday life moving beyond single-axis analyses (Nyantakyi-Frimpong, 2019). This research uses the Climate Relief Maps method, a digital innovation based on the Relief Maps model (Rodó-Zárate, 2014), to collect, analyze, and visualize the everyday experiences of 87 individuals in Catalonia, Spain, across various daily spaces. This approach reveals how climate change is not experienced uniformly based on the social position each individual or group occupies, as well as the specific place where the impacts are experienced, such as the home or social media. Findings demonstrate that socially and geographically diverse participants face climate impacts in differentiated ways, emphasizing the need for justice-oriented and context-sensitive climate responses. By making visible the unequal effects of the climate crisis, our research highlights the critical role of social sciences, especially through critical geographies and intersectionality, in supporting just approaches to climate change.

Intersectional climate change adaptation

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Conventional climate research often overlooks how social factors such as gender, ethnicity, race, age, disability, and socioeconomic status interact and create unique vulnerabilities. An intersectional approach examines these social factors and how they contribute to complex inequalities and vulnerabilities. This paper presents research from the ASCEND project, which examines climate justice from an intersectional perspective, combining concepts like vulnerability, resilience, and socio-ecological transformation through an interdisciplinary qualitative literature review and an intersectional analysis of n=35 case studies. Our paper suggests that intersectionality serves both as a theoretical lens and a practical approach to addressing intersecting vulnerabilities. Of the 35 case studies analysed, 16 are grounded primarily in theory, while 19 combine theoretical insights with practical application. Despite the growing importance of intersectionality in environmental policies, there is limited evidence of its explicit inclusion in adaptation plans. Institutional and political structures often lack the resources, capacity and commitment to conduct meaningful intersectional analysis. Nonetheless, the case studies show a gradual shift toward more dynamic, context-sensitive understandings of intersectionality. Finally, we call for practical tools such as frameworks, guidelines, and metrics to help operationalize intersectional approaches in climate change adaptation. Our work highlights the importance of resources, institutional support, and community participation. Ultimately, strengthening neighbourhood and other informal networks, as well as learning from marginalized groups, is essential for developing effective and inclusive climate change adaptation strategies.

7 Conference Theme: Adaptation and risk mitigation strategies

Curated by: **Fabio Carnelli, Luca Cetara** & **Lydia Pedoth**, Eurac Research

This Conference Theme aimed to address the following aspects:

- Investigate the role of risk perception and adaptive behaviours in climate change adaptation and mitigation governance: how social sciences are advancing research and can improve an effective adaptation and mitigation strategies and actions?
- Analyse the triggers and drivers of human behaviours that foster climate change adaptation and mitigation. Why are these adaptation and mitigation measures not being implemented? What are the main lock-ins, and how can social sciences help untangle them?
- Investigate the role of climate finance in supporting adaptation and mitigation efforts, focusing on how investments can be directed toward valuing natural ecosystems and enhancing community resilience.

In the following paragraphs it is possible to find the list of the abstracts presented for this Conference Theme.

List of Abstracts presented in the Sessions

A conceptual and methodological framework for assessing climate risk and co-designing adaptive cultural tourism at local destinations

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Over the last 20 years, the tourism-climate change nexus has emerged as a policy and research issue, highlighting the urgency for local destinations to implement effective, place-specific, and risk-informed adaptation pathways, rather than short-term, unsustainable and individual adjustments to climate variability and alterations in tourism demand-supply patterns. This research proposes a conceptual and methodological framework aimed to perform a spatially explicit multi-hazard risk assessment for cultural tourism destinations and co-design tailored adaptive solutions to be implemented, by combining data-based and community-based approaches. The case study application in the Fiastra Valley, an inner area in the Province of Macerata (Marche, Italy) has demonstrated the crucial role of spatial planning in this process: it can support an effective, future-oriented climate adaptation for cultural tourism, acting as an information-based instrument for coordinating different activities and transformation patterns over the territory, as well as a mechanism for the implementation of adaptive measures on the ground. Participatory workshops have been developed, strengthening the value of engaging stakeholders in mutual learning and co-creation of knowledge and suggesting broader reflections on actors to involve and planning tools to implement for an effective cultural tourism adaptation pathway. By redefining spaces and modes of relations among stakeholders, transdisciplinary research represents a powerful way for tackling complex challenges, where spatial planning can bring together multiple fields – climate adaptation, risk management, tourism planning. Such models of place-

based understanding can better boost transitions to sustainability, by bridging science–policy–society divide.

A transdisciplinary approach for co-designing and implementing climate change adaptation measures: insights from the tourism and forestry sectors in the Puster Valley, South Tyrol

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The global impacts of climate change, particularly in mountainous regions like South Tyrol, highlight the urgent need for adaptation. This area is already experiencing above-average warming and more frequent and intense extreme events. Consequently, in addition to mitigation strategies, it is necessary to plan and implement climate change adaptation measures, particularly through the enhancement of the local adaptive capacity of the highly exposed Alpine regions. This refers to the ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. In our contribution, we present the application of a transdisciplinary approach to two sectors within the INTERREG Alpine Space project ADAPTNOW, which aimed at co-designing and implementing targeted, robust and action-oriented adaptation measures in the fields of tourism and forestry in the pilot region Pustertal. We highlight the need to conduct an analysis of stakeholders, responsibilities and governance processes in the respective region, a subsequent assessment of the climatic and socio-economic status quo as a starting point for further actions, and the joint planning of measures to address identified, regionally relevant climate risks. Particular emphasis is paid to challenges, barriers, success factors and solutions for the co- development and co-implementation of effective adaptation measures. These aspects will be discussed in the light of the two case studies which were co-designed in different ways according to the sectorial needs, governance structures, and varying adaptive capacities.

IndicaMI and the local implementation of climate adaptation policies in the Milan Metropolitan Area

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Climate change compels local administrations to develop effective adaptation and mitigation strategies, supported by accessible, shared monitoring tools capable of measuring the actual impact of policies on the territory. In this context, the IndicaMI project aims to define an operational methodology for assessing local climate actions, providing concrete support to municipalities in managing adaptation policies. The methodology is structured around five strategic objectives along with a transversal "zero objective" focused on climate adaptation governance. The use of existing, easily updatable, and accessible indicators reduces the technical burden on local authorities while ensuring the monitoring system remains effective and continuous. The selected indicators are organized into quantitative dashboards, enabling the assessment and comparison of policy developments in key sectors such as public health, energy efficiency, hydraulic risk management, and sustainable land use.

The MRV system, aligned with the principles of the 2030 Agenda and tailored to the specificities of the Metropolitan City of Milan, is based on an interdisciplinary approach that integrates expertise in urban planning, environmental sciences, and policy analysis. The pilot implementation in five municipalities in

the Milan area has allowed testing and refining the model, thereby enhancing the capacity of local administrations to make informed, resilience-oriented decisions.

Literature-based insights on short-term warnings, long-term adaptation, and integrative approaches

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As climate-change-induced natural hazards intensify, effective risk communication strategies become increasingly critical to foster immediate protective actions and long-term adaptive behaviour. Building on a scoping review, which systematically mapped existing strategies across hazard types and timeframes, we introduce a literature research to better understand temporal dimensions of risk communication and their success and risk factors. Using an extended metaphor of the hare and the tortoise, we distinguish between short-term communication strategies (hare) and long-term adaptation communication (tortoise), each addressing different behavioural mechanisms and perceptions of risk. To better understand the complexity of temporal integration, we introduce the idea of a "Rocket" — a conceptual image for hybrid strategies that seek to combine urgency with long-term resilience-building. Rather than proposing a general solution, we use this framing to reflect critically on when and how such integrative approaches might be relevant and effective. The analysis identifies success and risk factors, including risk perception, adaptive behaviour, timing, and barriers to implementation. These are examined across different communication types to understand under which conditions certain risk communication strategies succeed or fail. By linking these findings to time, this contribution aims to support the design of more context-sensitive, inclusive communication strategies that integrate awareness, preparedness, and response and contribute to communities' resilience. At the conference, findings will be presented to critically reflect the opportunities and success factors of integrated risk communication strategies for climate adaptation. This contribution is intended to stimulate discussion on designing more effective adaptation pathways that bridge immediate risk management with long-term resilience building.

Navigating the climate-health nexus: a systems approach to adaptive resilience and risk mitigation

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Climate change is intensifying human health vulnerabilities, necessitating robust and integrated adaptation strategies. However, systemic feedback between adaptation interventions, health outcomes, and overall climate vulnerability remains inadequately characterized—particularly at the intersections of public health infrastructure, urban design, environmental management, and socio-economic factors. This study explores these dynamics to inform the development of more effective and resilient adaptation policies. Using a systems thinking approach, we developed a qualitative Causal Loop Diagram (CLD) through a structured synthesis of over 70 peer- reviewed literature and policy reports, identifying key variables and causal linkages and polarities. We framed the CLD using IPCC's vulnerability framework (exposure, sensitivity, and adaptive capacity). The findings highlight balancing feedback where adaptation reduces vulnerability and health burdens by protecting infrastructure and regulating healthcare demand. Reinforcing loops expose how adverse health outcomes and reliance on emission-intensive or narrowly focused solutions erode long-term resilience, echoing the "Fixes That Fail" archetype. The analysis shows that behavioural dynamics and risk perception significantly shape adaptation uptake, while governance fragmentation and institutional barriers—such as regulatory lock-

ins and limited systems thinking capacity—impede implementation. The interdisciplinary approach integrates insights from climate science, public health, urban planning, and socio-economic policy to inform adaptation strategies that address root causes of vulnerability, prevent maladaptive outcomes, and generate co-benefits across health, equity, and mitigation. CLD specifically illustrates how health-sensitive, nature-based, and infrastructure-integrated interventions can disrupt reinforcing cycles of vulnerability and support transitions toward more adaptive and resilient systems.

Heatwave adaptation practices to cope with health risk: insights from an exploratory study in a social housing complex in Bolzano, South Tyrol

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In the context of climate change, heatwaves will increase in frequency, duration, and intensity. This presents significant health risks, particularly for vulnerable groups, such as the elderly. Heatwave adaptation/mitigation strategies are effective if people implement them well; understanding the factors that influence the adoption of heat adaptation measures is key. Numerous studies show that risk perception and individuals' capacity to act both influence adaptive behaviours, either motivating or hindering them. However, in contexts like social housing, the factors shaping these responses remain insufficiently understood. By filling a gap, this study investigates how elderly residents in a social housing district in Bolzano/Bozen (Italy) perceive and cope with heatwaves. The paper uses a case study approach and a mixed-method approach to explore risk perception of residents, and the behaviours adopted during hot days to mitigate their effects. Preliminary findings show that while residents are aware of increasing heatwave risks, they often feel uncertain or helpless about protective measures. Structural solutions like insulation and air conditioning are seen as ideal but not always accessible. Importantly, social adaptation and collective care practices emerge as crucial coping mechanisms, shaped by both physical infrastructure and socioeconomic conditions. This research contributes to understanding how vulnerability, aging, and perceived risk intersect with adaptation behaviours, guiding policymakers in the design of community-based strategies.

A frame that holds (recycled) water: the effect of information framing on attitudes towards recycled water

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Water scarcity is a worldwide concern with the consequences of the climate crisis and growing global demands. Recycled water could address these concerns, but it often raises public opposition. In two studies, we investigated information frames positively influencing attitudes towards recycled water. In two studies (N = 122, N = 195), participants were randomly assigned to either a neutral frame or to one of the five (four in study 2) information framing conditions. Participants were more positive towards treating wastewater after reading information highlighting the cleanness, environmental benefits, and safety of recycled water. The neutral frame and an information text about the production process of recycled water did not affect attitudes towards recycled water. We additionally explored individual difference variables such as pathogen disgust sensitivity, environmental concern, comfort with technologies and health risk perception. Only pathogen disgust moderated the production process framing, that is, the higher the disgust sensitivity in participants, the less acceptance of recycled water they reported. Study 2 replicated the findings of study 1 in a more diverse sample, while introducing a

longitudinal assessment of the effect of reading framed information and testing its behavioural transfer in the form of a donation. The two experiments highlight the importance of content selection for public campaigns around attempts to implement water recycling and the need to further study the factors influencing public attitudes towards recycled water.

Citizen risk perception and participation as catalysts for transformational urban climate adaptation - AGORA

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Urban adaptation to climate change often remains rooted in incremental and technocratic approaches, insufficient to address the structural vulnerabilities and inequalities exacerbated by climate impacts. In contrast, transformational adaptation calls for systemic, structural, and sustained change that reorients urban development toward resilience and justice. Within this framework, citizen risk perception, sense of place, and participatory governance are not peripheral but central to reimagining urban adaptation. Risk perception is understood here as a dynamic socio-cognitive process, shaped by place-based meanings and experiences, which in turn influence collective imaginaries and priorities. Sense of place can support coping and adaptation but may also reinforce maladaptive outcomes if not critically addressed. Participation, therefore, must be more than procedural—it must become a transformative praxis. Such spaces enable negotiation of divergent knowledge systems, illuminate conflicting appraisals, redistribute power, and foster epistemic and democratic pluralism. Drawing on transdisciplinary engagement across projects and contexts, we reflect on the tensions and opportunities of embedding these dimensions into adaptation planning. By linking individual and collective meaning-making with systemic transformation, we propose a critical lens for advancing urban adaptation—reframing resilience as a dynamic driver of cultural and institutional change.

Understanding the broad spectrum of social impacts: insights from the 2022 Marche region flood event

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While the primary objective of flood risk management should be the reduction of negative consequences for people, current assessment approaches largely focus on physical damages and economic losses to infrastructure, buildings, and material goods. Impacts on individuals and communities, particularly intangible and indirect effects, are often overlooked, mainly due to limited knowledge of the associated damage mechanisms. In Italy, for example, conventional damage assessments estimate the number of residents within flooded areas, neglecting intangible losses and the experiences of those indirectly affected outside flood zones. To address this gap, we conducted a survey

across municipalities impacted by the extreme flood event in the Marche region (September 2022), collecting approximately 700 responses through social media and local newspapers. The survey elicited perceptions of both direct (e.g., injuries, property damage) and indirect (e.g., work interruptions, psychological stress, loss of trust in institutions) flood impacts. Results highlight that indirect and intangible consequences, particularly psychological stress, were perceived as significant, even among individuals not directly exposed to floodwaters. This study contributes to a more comprehensive understanding of social impacts from floods, reveals the limitations of current damage assessment methods, and supports the development of more inclusive risk management strategies. In particular, it underlines the necessity of accounting for individuals outside flooded areas and integrating intangible societal impacts to better enhance community resilience to extreme events.

Understanding how sense of place shapes community resilience to floods: a multi-context study of community response and adaptation.

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Climate change is intensifying flood risks globally, destroying not only physical infrastructure and causing human loss, but also challenging communities' deep emotional connections to place. Places are repositories of meaning and identity that influence how people respond to threats, serving as resources for recovery while potentially increasing vulnerability by keeping communities in high-risk areas. Through household research survey, I demonstrate this dual nature of place and resilience, revealing how sense of place amplifies adaptive behaviours while potentially increasing vulnerability through emotional attachment to places at risk (Han 2025). Using latent profile analysis to identify distinct risk-place attachment patterns, findings show that combining strong place attachment with high-risk perception particularly motivates costly protective measures. This paradoxical relationship highlights the complexity of place-based responses to environmental threats and necessitates nuanced approaches to flood risk management. Building on these findings, I will outline my future avenues of research that explore how place-based connections transform into collective action across diverse flood contexts. I aim to investigate mechanisms through which individual sense of place aggregates to form community-level resilience strategies and develop place-sensitive communication approaches that enhance community resilience.

Calling for action: enhancing local adaptation readiness for climate risk management in Austria.

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Adaptation readiness (Ford & King 2015) – moving from the potential to adapt to concrete adaptation actions – at the local level is crucial for effective climate risk management (CRM), particularly in the context of natural hazards, due to their spatially explicit and localised nature. Natural hazards like floods, debris flows, or landslides have geographically distinct impacts due to exposure and vulnerability dynamics and are intensified by local climate variations. In mountainous regions, where climate change manifests in diverse location-specific ways due to high geo and cultural diversity, the importance of localised adaptation becomes even more pronounced. In Austria, municipalities hold primary responsibility for civil protection and spatial planning decisions, making them key actors in managing climate risks and natural hazards. Drawing on literature review, content analysis, and findings from the

transdisciplinary CAUT!ON project (Austrian Climate Research Programme), this contribution highlights the need to tailor CRM strategies and policies from the international or national level to the regional and local contexts, where implementation occurs and tangible changes can be made. Workshops revealed that while natural hazard risks are recognised, actionable responses remain limited and are hampered by various barriers, like balancing competing local interests and aligning national and regional policies with local needs, dynamics and resources. Therefore, a comprehensive understanding of the local natural hazard risk landscape, embedded within governance structures, is essential for effective CRM and for building resilience in mountain communities.

8 Poster Session

Curated by **Fabio Carnelli**, Eurac Research

List of the abstracts presented

The Constitutional Challenge of Climate Change: A Legal Analysis of Mobility Restrictions in the Balearic Islands

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This paper addresses the legal challenges arising from measures that restrict freedom of movement to mitigate climate change, focusing on the Balearic Islands. Land transport accounts for approximately 30% of CO2 emissions, and island regions are particularly vulnerable to climate-related impacts, such as sea level rise and temperature increases. In response, the Balearic Islands have enacted Law 10/2019 on Climate Change and Energy Transition, which introduces ambitious binding obligations to phase out internal combustion vehicles, empowering authorities to limit polluting traffic. Measures include banning diesel vehicles from 2025 and combustion-engine vehicles by 2035. All island councils have enacted or proposed legislation aligned with this goal, aiming to regulate vehicle circulation and promote sustainability. This research employs a legal-dogmatic and constitutional approach, analyzing the framework, relevant case law and doctrinal sources, with an examination of the proportionality involved in limiting a fundamental right. Findings suggest that such measures, while politically and socially contested, may be constitutionally justified if legally precise and proportional. The study offers guidance for balancing fundamental rights with urgent environmental imperatives, providing a model for policy implementation in similar regions.

An interdisciplinary and participatory pathway to local climate adaptation. The RAST methodology in Adaptation AGORA as a replicable best practice

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This research presents how the Regional Adaptation Support Tool (RAST), designed in the framework of the EU Mission on Adaptation to Climate Change, can be adapted and used to drive local adaptation pathways across Europe and become a replicable methodology for engagement. Starting from the experience of the EU-funded Adaptation AGORA project, we analyzed each step of the framework as a possible phase of engagement, with a focus on participatory methods and capacity building in 4

European pilot regions. The RAST methodology is flexible and can be adjusted to different contexts and needs. We adapted it to 4 different geographical and cultural areas within the pilot regions of the project (Italy, Germany, Sweden, Spain) and produced capacity building tools to raise awareness on the role local communities can play into local adaptation, responding to knowledge gaps and needs. The project generated spillover effects in all the 4 geographies, thanks to the direct engagement of local communities and leveraging on an enlarged network of more than 35 followers. Acknowledged as a "Best Practice" of the Italian National Platform on Climate Change Adaptation, the project determined a snowball effect resulting in the replication of its methodologies and tools in other EU funded projects. With an interdisciplinary approach combining climate and social sciences, the research supports decision-makers with a roadmap for transformational change. A policy white paper collects learnt and strategic actions to upscale citizen engagement processes for a climate resilient Europe.

An Integrative Framework for Health Impacts of Climate Adaptation to Extreme Heat and Floods

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Climate change adaptation to extreme weather is crucial for safeguarding public health, yet the systemic health consequences— both positive and negative—of adaptation interventions remain underexplored. This study investigates how adaptation strategies targeting extreme heat and floods shape health outcomes across multiple domains, with attention to risk perception, behavioural responses, and institutional barriers to implementation. We conducted an integrative literature review of over 70 peer-reviewed literature and reports using a structured search strategy in Web of Science and Google Scholar. Priority was given to studies reporting health-related outcomes of adaptation interventions, particularly those with retrospective data. The evidence informed the construction of a conceptual framework that maps causal pathways linking hazards, social vulnerability, and interventions to direct, indirect, and socio-economic health impacts. The framework categorizes interventions across six domains— environmental, urban, housing, behavioural, communication, and health & livelihoods—and distinguishes between hazard-reducing and impact- reducing strategies. It integrates multiple levels of action (from individual to institutional), identifies key enablers (e.g., governance, finance, and technology), and incorporates behavioural drivers and constraints. It also accounts for unintended health effects, such as air pollution, disease transmission, and inequality amplification. This integrative framework supports interdisciplinary and policy- relevant insights for advancing SDG 3 (health) and SDG 13 (climate). It enables decision-makers to identify systemic leverage points, assess trade-offs, and design adaptation and risk mitigation strategies that are equitable, health-sensitive, and resilient.

Flood After Flood: Mapping Social Norm Evolution in Climate-Vulnerable Communities

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The recurring floods in Emilia Romagna (2023-2025) highlight the critical need to understand how communities adapt their social behaviors to face climate disasters. The MINDS (Measuring Impact of

Norms in climate Disaster Scenarios) project investigates the evolution of social norms and collective action capabilities in communities experiencing repeated flooding events.

Our methodology employs the Collective Risk Social Dilemma framework in real-world settings, where participants from flood- affected communities make decisions about contributing to collective flood prevention measures. Through a within-subjects design varying collective risk probability (0.9 vs. 0.6), we examine how cooperation and norm adherence adapt to different threat levels. The study focuses on Bagnacavallo municipality, which experienced multiple severe floods, making it an ideal site for studying behavioral adaptation patterns. Key measurements include individual contribution patterns, empirical and normative expectations, personal beliefs, and social enforcement mechanisms. Based on previous research, we expect high-risk scenarios to elicit greater collective contributions and stronger cooperative norms. Of particular interest is how direct flood exposure affects behavioral changes across different demographic and ideological groups. We anticipate that cooperative norms developed under high-risk conditions will show persistence even when threats decrease, and that direct disaster experience may bridge ideological divisions regarding climate change. These findings will inform community adaptation strategies that address diverse belief systems while emphasizing shared local concerns about flood protection and community welfare.

"All in the same boat": A literature review on serious games for flood risk preparedness and DRR

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"All in the same boat" is a research project that explores the potential of serious games as educational tools to enhance flood risk awareness and preparedness among students. As climate-induced hazards become more frequent, there is increasing interest in participatory, innovative learning methods to strengthen disaster preparedness. Serious board games combine structured gameplay with educational objectives, offering experiential and engaging approaches to disaster education. This literature review synthesizes findings from Scopus, Web of Science, and Google Scholar, focusing on studies relevant to disaster education, risk communication, and game-based learning, particularly in schools, universities, and community contexts. Key themes include the use of narrative and role-play, the value of localized content, and stakeholder co-design. These elements have been shown to improve learners' risk perception, decision-making, and preparedness. Evidence suggests that serious board games, when embedded in interdisciplinary frameworks, can effectively support disaster awareness and community engagement. Their adaptability to specific cultural and environmental contexts makes them promising tools for education and outreach. However, further research is needed to assess long-term impact and to develop standardized evaluation methods. This review highlights the potential of serious board games as scalable, context-sensitive instruments in disaster education. Future studies should prioritize longitudinal evaluation to better understand their effectiveness in fostering sustained behavioral change.

Building climate resilience from farmers' behaviour: A tailored pathway from the Mekong Delta, Vietnam

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Grasping farmers' actions and driving factors influencing their capacity to adapt to climate change is crucial for enhancing forward-thinking strategies and enhancing climate resilience. This contribution

delves into farmers' behaviour regarding climate change from 409 surveys randomly collected from April to December 2024 among farmers in the Mekong Delta, recognized as one of the most climatically vulnerable regions globally. Two main questions are addressed through descriptive and inferential statistics: 1) Do farmers encounter extreme events (e.g., floods, droughts) and which impacts are most recognized? and 2) How much do farmers facilitate the implementation of adaptive strategies, and what challenges diminish their resilience? Preliminary results highlighted that farmers believe their farm is exposed to extreme events (90%), mostly experiencing warmer temperatures and increased frequency and intensity of droughts (92%), which determines less reliability in water supply (88%) and increases changes in plant growth (78%). As a response, practically all farmers try to anticipate their decisions by promoting cooperation (sharing local knowledge and best practices) and using weather or climate services, while three out of four opt for reducing or improving fertilizers use, planting different varieties or crops, and introducing soil conservation techniques. However, more than 70% of the sample points to the lack of training on adaptation strategies and the high costs associated with farm-level investments as major hindrances to adaptation. These behavioural inputs about how farmers respond to climate risks can facilitate the customization of more targeted, flexible, and co-designed adaptation pathways to enhance community resilience.

Cultural Heritage as a Catalyst for community Resilience. Insights from Val Resia's Response to Natural Hazards

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This contribution investigates the role of cultural heritage in fostering community resilience to natural hazards in Val Resia, a mountain valley within the Julian Alps Biosphere Reserve. The research aims at unveiling the role that local knowledge, sense of place and community sense of belonging play in the aftermath of natural hazards and as coping mechanism for prevention and adaptation policies. Using temporal lenses - past, present and future- participants engaged in several workshop activities based on the future search conference approach. A critical dialogue on the role of cultural heritage and collective experiences in community resilience along time was developed among stakeholders from different sectors. The activities helped participants to identify which local practices and collective experiences need to be valorised to face future climate-related hazards and increase community adaptation capacities. Findings revealed a strong connection between cultural heritage and the community's ability to cope with natural hazards, underscored by local traditions and knowledge. However, participants also noted socio-economic barriers that limit the implementation of DRM and climate change adaptation strategies. This case study contributes to a broader theoretical framework, showing how different forms of heritage can strengthen specific aspects of risk reduction and help communities better adapt to climate change challenges. The findings from the workshop will be further developed into guidelines to help stakeholders better understand how to enhance the value of cultural heritage for community resilience and integrate it into adaptation strategies.

Mountain tourism stakeholders facing the climate challenges, in the French Pyrenees

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Climate change is causing profound changes in mountain areas, with implications for tourism. The ski tourism sector has to adapt to these changes, face energy crises and the challenge of decarbonisation to meet the Paris Agreement targets. The French Pyrenees offers a relevant context for analysing the adaptation of ski tourism to environmental and energy challenges. In this context, the aim of this proposal is to explore how tourism stakeholders in the French Pyrenees perceive the climate and energy challenges and implement adaptation pathways. The research is interdisciplinary, based on management science and geography, and is based on 40 semi-structured interviews with institutional and private stakeholders from ski resorts in the Ariège and Haute Pyrenees. Preliminary findings show that most stakeholders agree that climate change is a challenge to their activities and recognise the need to adapt. However, most adaptation strategies remain reactive, and decarbonisation is often seen as a global objective. This point is reinforced by the fact that most of the carbon emissions from the ski resorts are due to the mobility of tourists. Stakeholders recognise the need to work on it but are unable to act individually due to their areas of competence. The results confirm the need to strengthen the coordination between the different stakeholders and to involve the different territorial scales (from local to national).

9 Events

Book dialogue: Barbara Dombrowski in discussion with Beatrice Felipe Pérez

Photographer Barbara Dombrowski shares the spiritual and artistic journey behind her project Tropic Ice in a dialogue with Dr. Beatriz Felipe Vargas. In this dialogue, Barbara documents five indigenous communities across continents impacted by climate change. Through their stories, she explores themes of loss, displacement, and resilience. The conversation weaves her visual narratives with academic reflections on climate (im)mobilities, extractivism, and indigenous rights. The result is a powerful exchange linking personal experience, visual storytelling, academic reflections.

Barbara Dombrowski
Barbara Dombrowski is a German photographer based in Hamburg. After studying visual communication in Dortmund and spending four years in Paris on an art scholarship, she developed a career focused on long-term documentary projects. She is a member of the German Society for Photography (DGPh). She collaborates with universities, NGOs, and institutions, and regularly teaches, lectures, and curates. Her main work, Tropic Ice – Dialogue between Places Affected by Climate Change, connects climate-impacted regions across the globe through photography and multimedia exhibitions. Her work has been awarded internationally and published, most recently in the book Tropic Ice (2024).

FLUX river interventions and explorations with Lungomare

PaFLUX is a long-term Lungomare project that explores the riverscapes of Bolzano in collaboration with artists, designers, researchers, and residents. Through workshops, conversations, walks, performances, temporary exhibitions, and artistic interventions along the urban riverfront, the project reveals the hidden potential of these landscapes and invites collective reflection on how they might be transformed. Through actions and artistic projects, FLUX encourages people to become active participants in ecological transformation. During the excursion, participants will be introduced to the FLUX-Glossary – a living collection of concepts and evolving definitions drawn from the project's actions, art interventions, and experiments. As a relational tool, the glossary encourages group discussion and opens space for diverse, engaging forms of dialogue about the present realities as well as the transformations and futures of our urban riverscapes.

Lungomare is an association based in Bozen/Bolzano, Italy that designs, curates and produces cultural projects and collaborations at the intersections of the public, virtual, printed, urban and exhibition space. Lungomare works in transdisciplinary and multiple constellations, is a discursive platform for experimenting with and producing alternative forms of artistic, cultural and activistic practice that seek to negotiate socio-political issues. It is also a place for socially engaging encounters on the outskirts of Bolzano/Bozen in the middle of the Alps.

10 Conference results

This section presents the principal results from the four conference themes: climate governance; transformative practices; gender, climate justice, and intersectionality; and adaptation and risk mitigation. It summarizes the major conclusions emerging from each thematic session, organised along three key dimensions: the contributions of the social sciences to each topic area; the past, persisting, and emerging challenges; and the promising directions for future research and action within each theme.

Core insights from climate governance sessions

Curated by: **Mariachiara Alberton, Federica Cittadino** and **Francesca Rosignoli,** Eurac Research

Key Contributions of Social Sciences
The governance sessions underscored the vital role of social sciences in understanding and shaping societal changes, especially in climate governance and sustainability. Social sciences identify societal needs, expose systemic inequalities, and trace the social roots of major challenges. They provide empirical insights into local governance, showing how engagement is influenced by political cultures and institutional factors, and help improve participatory democracy. Additionally, social sciences illuminate stakeholders' values and perceptions, emphasizing the importance of cultural and emotional factors in collective action for climate adaptation. Their analytical frameworks enhance transparency and equity in policymaking, while their diverse methodologies capture human dimensions often missed by other fields. Ultimately, social sciences enrich governance with perspectives focused on justice, inclusivity, and social complexity. Despite these contributions, governance faces persistent and emerging challenges.

Existing, Persisting, and Future Challenges
The presentations highlighted a range of existing and emerging challenges that continue to shape governance debates. One of the concerns is the persistent difficulty of ensuring effective and genuinely inclusive citizen engagement, especially for marginalized groups who remain underrepresented in participatory processes. This challenge is intertwined with the broader emergence of growing social and economic inequalities, which influences both people's ability to participate and the ways in which they experience the impacts of climate and sustainability policies.
Another concern is the need for greater transparency in governance, as opaque decision-making and unclear accountability structures undermine public trust. Addressing complex sustainability issues further demands interdisciplinary collaboration, yet institutional boundaries and differing methods often hinder such integration. Climate change itself continues to pose multifaceted challenges, requiring responses that reconcile scientific evidence, local realities, and social justice considerations. Integrating diverse knowledge systems—scientific, local, experiential, and Indigenous—into participatory processes remains difficult and demands careful facilitation and reflexivity.
Lastly, growing concerns emerge about data sharing and its misuse, complicating governance in digital contexts. At the same time, speakers highlighted the urgency of international cooperation to address global challenges that cross national borders and require coordinated, fair responses.

Promising Directions
Future research calls for more innovative and impactful approaches to democratic participation. Citizen engagement and deliberative democracy are gaining prominence, with studies exploring new methods to strengthen public involvement in climate governance and assessing how deliberative processes such as citizen assemblies influence policy outcomes. This focus is closely tied to trust and transparency, as understanding how trust is built, maintained, or lost is essential for designing accountable and legitimate governance arrangements. Addressing complex societal challenges also requires stronger

interdisciplinary collaboration. Integrating insights from political science, sociology, law, economics, and related fields can help develop governance frameworks that better reflect social realities and institutional complexities. Local governance and decentralization are emerging as promising areas, with growing attention to how municipalities lead sustainability initiatives and enable innovations such as Renewable Energy Communities. At the same time, emerging technologies introduce new governance dilemmas. Advances in artificial intelligence, blockchain, and renewable energy technologies must be integrated ethically, transparently, and in line with democratic values. Developing AI-based tools for evidence-based and interactive climate decision-making represents one such frontier. Across all these areas, social justice remains a guiding principle, requiring governance approaches that address inequities and ensure fair outcomes in climate adaptation and mitigation.Finally, strengthening international cooperation is essential, as global challenges transcend borders and demand coordinated, equitable, andmutually supportive responses.

Core insights from transformative practices sessions

Curated by **Felix Windegger, Cristina Dalla Torre**, **Christoph Kircher** and **Elisa Ravazzoli,** Eurac Research

Key Contributions of the Social Sciences
Social Sciences enable socio-ecological transformation through reflexivity, inclusion, and creativity. Transdisciplinary collaborations between research, practice, and policy are crucial for co-designing solutions that are both actionable and socially acceptable. Contributors emphasized examining power relations, researcher positionality, and the ethics of knowledge co-production, as these collaborations often involve asymmetrical dynamics and differing expectations regarding interaction and outcomes. Social sciences reveal inequalities and power asymmetries embedded in transformation processes, from waste colonialism to restorative justice, and challenge assumptions behind dominant solutions, such as the "myth of recycling" or growth-driven policies that limit alternative futures. Both research and practice should recognize systemic vulnerabilities and integrate multiple perspectives, ensuring inclusive and respectful engagement that empowers agency from a young age. Approaches capturing diversity and intersectionality are essential, highlighting how age, gender, class, and origin shape access to resources and decision-making. Creative and playful methods, including serious games, help engage stakeholders, address sensitive or polarized issues, soften rigid attitudes, stimulate imaginative thinking, foster empathy, and encourage reflection. Including marginalized voices is vital, alongside recognizing local identities as dynamic and evolving rather than fixed.

Existing, Persisting, and Future Challenges
Contributors pointed to lack of long-term funding and institutional support, which often limits transdisciplinary projects to short timeframes and sustained community engagement. Tensions between academic and local perspectives continues to challenge collaboration, while inclusivity gaps persist, particularly in reaching beyond the "already aware" or addressing high-impact groups such as top emitters. Participants reflected on how to generalize context-specific findings and assess the impacts of transformative or activist research. Additional concerns included social and institutional inertia, conflicting policy goals (e.g., between cultural heritage preservation and energy efficiency), and the persistent gap between pro-environmental intentions and behavioral change. These challenges underline the need for realistic planning, interdisciplinary integration, and reflection on participation.

Promising Directions
Intersectionality and positionality were highlighted as guiding principles for designing participatory and transdisciplinary research. Contributors called for careful attention to project processes (project design, implementation, and long-term sustainability), and for incentives to foster meaningful participation. Creative and playful engagement tools were seen as catalysts for inclusion and reflection, while cultural narratives and collective imaginaries were seen as influential in shaping broader political and economic change, including moves toward shared collective ownership and responsibility. Finally, the sessions

emphasized the transformative potential of institutional activism and the importance of conducting transdisciplinary research only where it genuinely adds value and avoids reproducing power imbalances. Overall, these insights feature the social sciences' unique contribution: producing knowledge that not only interprets transformations but actively shapes them in more inclusive, reflexive, and sustainable ways.

Core insight from climate justice, gender & intersectionality sessions

Curated by **Lydia Pedoth** and **Alexandra Tomaselli**, Eurac Research

Key Contributions of the Social Sciences
Social sciences can make key contributions to climate research by also through the lenses of climate justice, gender and intersectionality. They reveal complex vulnerabilities as well as levels of agency, for example among those who find themselves at the nexus of factors such as ethnicity and age like Indigenous youth, or for those who live in social isolation. Also, they critically assess policies aimed to promote justice thereby unveiling how they are structured and how they can be applied. Social science climate research is also crucial for addressing the root causes of persistent inequalities. At the same time, it elevates lived experiences by bringing unheard voices to the fore. Furthermore, social climate research emphasises the importance of using participatory methods not only for building trust within and among communities but also ensuring that research and interventions are grounded in real-world realities. Furthermore, by giving visibility to specific case studies—some of which are frequently overlooked, like those concerning the Marshall Islands or the impact of home and caring responsibilities—it brings to light sites of action that are often ignored, ensuring that the narrative is both comprehensive and inclusive.

Existing, Persisting, and Future Challenges
Social climate research continues to face a range of persistent and emerging challenges also in the subfields of climate justice, gender, and intersectionality. One notable issue is the limited integration of research findings into actual policy, often leaving vital insights unutilized. There is also the problem of tokenism and "justice-washing," where superficial gestures are made without genuine commitment to social justice. Barriers to meaningful participation prevent many voices from being heard, further hindering progress. Additionally, the emotional impacts experienced by participants and communities are frequently overlooked, and gaps remain between research recommendations and their implementation on the ground.

Promising Directions
Promising directions in social climate research point towards the expansion of intersectional policy frameworks, ensuring that climate adaptation strategies are both comprehensive and inclusive. Also, by equipping communities with practical intersectional tools, we can better address our complex societies. Another crucial direction is embedding justice into both legislation and budgets to guarantee fairness and equity at every level. Another significant avenue is empowering marginalised voices in governance to create pathways for truly representative and effective decision-making. Another area of focus is integrating emotional dimensions into adaptation processes, recognising the psychological impacts of climate change and fostering resilience. Finally, cross-case learning must be promoted, encouraging the sharing of insights and strategies across different contexts. This must go hand in hand with progress monitoring for refining approaches and ensuring accountability.

Core insight from adaptation and risk mitigation strategies sessions

Curated by **Fabio Carnelli**, **Lydia Pedoth** and **Luca Cetara**, Eurac Research

Key Contributions of the Social Sciences
Social sciences provide several frameworks for co-designing adaptive solutions directly with stakeholders which go beyond technical metrics to map policies and identify the real socio-political needs required for targeted and sustainable Climate Change Adaptation (CCA).
A key contribution lies in dissecting behavioral drivers, including seemingly irrational patterns and the sense of place, to understand the motivations behind climate action.
Furthermore, social research enables the assessment of intangible socio-cultural impacts over time, integrating indicator-based approaches with the specificities of local contexts. By capturing expert and stakeholder perceptions, social scientists help define priorities for targeted interventions, such as supporting vulnerable groups during heatwaves and other climate hazards. Finally, they play a critical role in identifying community readiness gaps and evaluating the effectiveness of information campaigns.

Existing, Persisting, and Future Challenges
Despite progress, challenges persist in detecting and leveraging specific intersectoral expertise for CCA. A major hurdle is engaging a wider range of stakeholders to accurately identify socio-political needs and avoid maladaptation. There is a continuous struggle to apply systems thinking to real contexts and to fully integrate behavioral and risk perception findings into climate-proof urban and spatial planning. Additionally, monitoring the practical impacts of transdisciplinary research remains difficult. Researchers also face the challenge of incorporating psychological and indirect impacts into disaster damage models. Finally, there is a need for greater reflexivity regarding the readiness of social scientists themselves in CCA research, alongside the need to better support local practitioners in managing CCA.

Promising Directions
Promising directions point toward a deeper investigation into power-related conflicts and the stronger engagement of political institutions in adaptation processes. We acknowledge a growing emphasis on validating longitudinal dimensions of risk communication, effectively bridging the phases of awareness, preparedness, and action. Acknowledging also the socio-psychological and indirect impacts of disasters is increasingly seen as vital for enhancing societal resilience. Furthermore, integrating local folklore into Disaster Risk Reduction (DRR) practices offers innovative ways to ground strategies in culture. Finally, leveraging place attachment is recognized as a key avenue not only to understand risk but to actively foster resilience, ensuring that adaptation strategies are socially rooted.

Integrated Synthesis of the SOS4CC Conference Results

The SOS4CC – Social Sciences for Climate Change conference addressed a central question: how social sciences can move from knowledge to action in responding to the climate crisis? Through four parallel thematic sessions–*Climate Governance; Transformative Practices; Climate Justice, Gender and Intersectionality;* and *Adaptation and Risk Mitigation Strategies*–participants explored complementary dimensions of socio-ecological transformation. Together, these discussions affirmed that climate change is not only an environmental or technical challenge but a deeply social process requiring transformative approaches that connect knowledge, policy, and lived experience.

Across all sessions, a clear insight emerged: social sciences are not peripheral but they are pivotal in chaping climate action. They uncover systemic inequalities, interpret cultural and emotional dimentions of risk, and expose power relations that influence adaptation and governance. Social sciences act as mediators between scientific evidence, political decision-making, and community realities, enabling also co-production of solutions that are inclusive, context-sensitive, and socially legitimate. They also bring creativity into climate action through participatory methods and innovative tools that foster trust, empathy, and engagement as serious games.

However, persistent challenges remain. These include ensuring meaningful participation beyond tokenism, especially for marginalized groups, amid widening inequalities and growing political polarization; bridging gaps between research and policy, like mismatches between scientific evidence and local realities; and overcoming institutional inertia and short-term funding cycles. Integrating diverse knowledge systems, addressing ethical concerns in digital governance, and reconciling conflicting policy goals add further complexity. Emotional and psychological dimensions of climate impacts are still underexplored, while interdisciplinary collaboration often struggles agains rigid institutional boundaries.

Looking ahead, promising directions emphasize deepening democratic participation through inclusive citizen engagement, deliberative processes, empowering marginalized voices, and trust-building; embedding justice in policy and budgets; and leveraging cultural narratives and place attachment to foster resilience, integrating emotional and psychological dimensions. Stronger interdisciplinary collaboration (including cross-case learning), ethical integration of emerging technologies (such as AI and blockchain require ethical, transparent integration, offering new decision-making tools), and attention to intersectionality and positionality will be critical in guiding participatory research, alongside careful project design and creative engagement methods.

The parallel dialogues converged on a single insight: transformation is neither linear nor technical, but dialogical and relational. It unfolds through reflexive encounters between disciplines, sectors, and communities. Moving from knowledge to action therefore entails transforming not only society but also the very practices of knowledge production. The future of climate social science lies in cultivating these spaces of co-evolution—where governance, justice, and adaptation converge to build more equitable and resilient societies.

11 Programme and Organizing Committee

The **Programme Committee** and session chairs consisted of the following researchers: Mariachiara Alberton and Federica Cittadino from the Institute for Comparative Federalism; Elisa Ravazzoli from the Institute for Regional Development and Center for Climate Change and Transformation; Cristina Dalla Torre from the Institute for Regional Development; Fabio Carnelli and Lydia Pedoth from the Center for Climate Change and Transformation; Alexandra Tomaselli and Francesca Rosignoli from the Institute for Minority Rights; Felix Windegger and Christoph Kircher from the Center for Advanced Studies; Luca Cetara from Representing Office Rome.

Elisa Ravazzoli   Fabio Carnelli   Mariachiara Alberton   Cristina Dalla Torre

Lydia Pedoth   Luca Cetara   Federica Cittadino   Alexandra Tomaselli

Francesca Rosignoli   Felix Windegger   Christoph Kircher

The **Organizing Committee** consisted of the following colleagues: in addition to Elisa Ravazzoli and Fabio Carnelli, Manuela Bernardi and Alessio Tardivo from the Center for Climate Change and Transformation and Adriana Recalde Martínez from the Center for Global Mountain Safeguard Research.

Elisa Ravazzoli   Fabio Carnelli   Manuela Bernardi   Alessio Tardivo

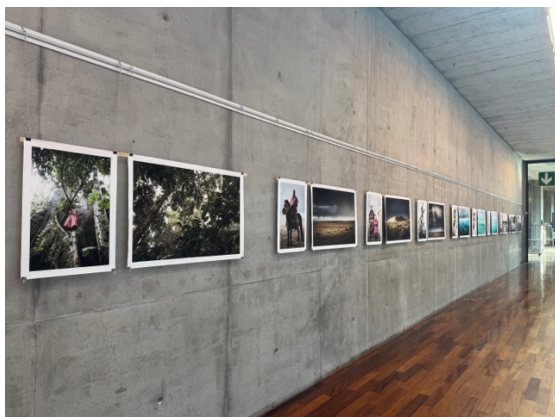Adriana Recalde Martínez

# 12 Event moments in pictures

Icebreaking activities (on the left Eurac Research/ Romina Lavarello Schettini; on the right Eurac Research/ Andrea De Giovanni)

Conference thematic sessions (Eurac Research/Andrea De Giovanni)

Photographic Exhibition and dialogue photographer between Barbara Dombrowski and Dr. Beatriz Felipe Vargas Conference thematic sessions (Eurac Research/ Romina Lavarello Schettini)
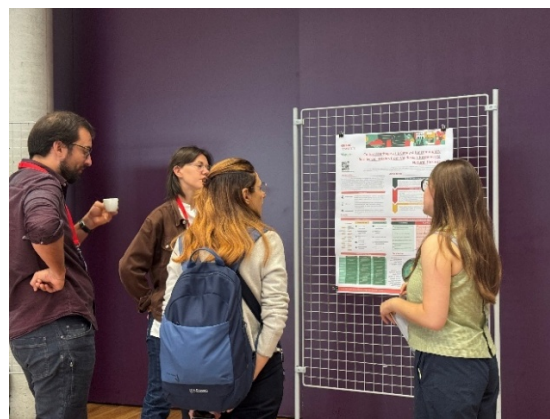
Poster sessions (Eurac Research/ Romina Lavarello Schettini)

Thanks to the organizing committee (Eurac Research/ Romina Lavarello Schettini)