Sixteenth International Conference on
Climate Change: Impacts & Responses

Purpose Driven Organizations

Éklore-Ed School Of Management, Pau, France

25-26 April 2024
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Dear Delegates,

A very warm welcome to the 16th Common Ground Research Network’s International Conference on Climate Change: Impacts & Responses. Responding to the Climate Emergency: Purpose-Driven Organizations, hosted by Èklore-ed Business School in the beautiful pre-mountain city of Pau, France.

Once again the science and realities of climate change and the whole suite of social and environmental systems our collective long-term wellbeing relies on, continues to underline the ‘emergency’ we are undoubtedly in. This year we saw consistent breaching of the 1.5 degree warming target. While experts like Katherine Hayhoe make clear this doesn’t mean the target is unachievable, it does put even greater onus on everyone, and importantly us as academics, to rise more boldly and braver to the challenge of transformation.

The basis of society’s decisions is the economy – it is society’s operating system for taking resources and transforming them in a way that optimally achieves wellbeing for society as a whole. Organizations, of all kinds including business, government and universities, make this ‘economy’ happen. They make decisions on a daily basis that take resources and transform them into actions, products and services. The routine decisions organizations, and how they can be changed so that they align with long-term wellbeing for all (sustainability) is the basis of tackling climate change and moving from unsustainability to a sustainable future.

It is in this context that the special theme of this year’s conference is ‘Purpose-Driven Organization’ which have been fast emerging as a whole system way of governing and managing an organization so that our long-term collective wellbeing (sustainability) is assured through routine decisions in a market economy – a Wellbeing Economy. In exploring this theme, we will also shine a light on why the current way of organizing the market economy is underpinning the climate and other such emergencies and why it is so hard to change.

As well as plenaries and papers on this topic we will of course showcase a wide range of papers and researchers across the full range of Common Ground Research Network themes. Please do take time to browse and delver further into, the submissions on the portal which you can find here: https://cgscholar.com/cg_event/events/C24en/accepted_proposals#

The topics covered range from “Climate Change Adaptation Policy for Women in Indigenous Communities in Bangladesh” to “How a Comic Can Raise Awareness on Saving Our Planet”. Once again, the conference is outstanding in its global representation with submissions from around the world, including scholars and practitioners from Brazil, Bangladesh, Uganda, Nigeria, Morocco, India, United States of America, Spain and the Philippines.
I will be contributing a plenary session as Purpose-Driven Organizations is my specialist area. I will be joined in the plenary sessions by Vittorio Ceruli who worked for many years at Unilever and is now undertaking a PhD in Purpose-Driven Organizations. He will be sharing both his practical insights and emerging research findings. Finally we are lucky to have Andy Brown, the Group Chief Sustainability Officer for the British Water company Anglian Water who join you remotely to share the journey Anglian Water has been on to become an accountable purpose-driven organizations, helping develop and audit against the first national standard in Purpose-Driven Organizations (PAS808).

This years' conference is once again blended and we hope many of your join us from across the world to participate as fully as you are able. As you may remember, we are extremely lucky that Common Ground Research Networks has always been leading in the online research collaboration space to make this experience truly rewarding regardless of how you intend to join.

As last year, when thinking about how to respond appropriately to the Climate and Ecological Emergency through your professional and personal live, we hope that you find inspiration in this years’ conference. We hope, through this conference, that you lead, learn, grow and develop the leadership skills you seek to play your part in Governing the Climate Emergency. Please do take time to explore the various aspects of this year’s online forum and remember you can browse more than 20 interdisciplinary Research Networks of CGRN.

All the best,

Victoria Hurth
Climate Change: Impacts & Responses Research Network Chair
Founded in 2009, the **Climate Change: Impacts & Responses Research Network** is brought together by a common concern for the science of, and social responses to, climate change. We seek to build an epistemic community where we can make linkages across disciplinary, geographic, and cultural boundaries. As a Research Network, we are defined by our scope and concerns and motivated to build strategies for action framed by our shared themes and tensions.

### The Nature of Evidence

The conscious and unconscious actions of one creature – homo sapiens– have come to profoundly influence the course of Earth’s natural history, not just in local ecosystems but on a planetary scale. This has been the case since humans began a process of populating the whole Earth about one hundred thousand years ago. Ecosystems were revolutionized by the sustained yield harvesting technologies of hunters and gathers, then the farming and animal husbandry technologies of self-sufficient peasantries. Nevertheless, the most recent epoch ushered in by the industrial revolution and marked by market-directed agriculture, the widespread clearing and harvesting of forests, and the use of fossil fuels has had undeniably course altering impact on the Earth’s climate. Greenhouse gases are heating the Earth. Ice that was permanent until recently is rapidly melting. Sea levels are rising. Extreme weather events are occurring with higher frequency. The effects feel differently, and regions are affected by these changes in different ways. Evidence is inevitably wrapped up in ecological, social, and economic systems. In the current persistent challenge of universalizing evidence-based approaches, the struggle is often a proxy for a broader conversation about the vested power of those who have benefited from this epoch-defining economic model. If we are to stem the tide of change – indisputably revealed in the evidence – and look to benefit from the opportunities associated with new models for development, we must supplement the evidence with longer views of building resilient societies and economies.

### Ecosystemic Impacts

Today we live in the shadow of already occurring and potentially disastrous impacts on ecosystems, species, and genetic diversity. For instance: the special effects of glacial melt on mountain and riverine biodiversity; sea-level rise on coastal and mangrove systems; the effect of sea temperatures on coral reefs; increased rainfall variability in monsoon regions. These are just a few examples. The specific regional impacts on biomes and the vulnerabilities of different ecosystems across the globe need to be assessed in their specificity. There are parallels between some areas, while there are subtle and complex dissimilarities between the changes that are occurring in different parts of the world. These include floods, drought, forest fires, hurricanes, and other sporadic events that could devastate endemic species and threaten microhabitats. Some ecosystems could be highly vulnerable and will not be able to respond even to short-term impacts such as natural disasters. In the presence of climate change, these short-term events could be even more cataclysmic. The challenge in front of us is to consider solutions that can operate at micro and macro levels.
Human Impacts

Humans are agents in climate change. Humans are affected by climate change: shifting shorelines, declining agricultural productivity, crisis of food supply, availability of water, the health of populations, and extreme weather events. These impacts will be felt differentially in developed and developing worlds. Marginalized populations of people may not only have their lives and livelihoods affected, but also be affected by declines in species abundance and diversity of ecosystems upon which they are dependent at a landscape level. In heterogeneous landscapes with a mix of wilderness islands within a changing agricultural environment, urbanization, and industrial spread could well increase pressures on protected area networks as the effects of climatic changes increase. Agricultural communities, especially traditional farmers and pastoralists, may be forced to shift into what is now within the protected area networks in developing countries. In considering human impacts we must consider unique contexts, both for effects and responses. How are certain communities bearing the burden of climate change? In what ways are attributing responsibility and to whom for the current reality? How do we measure responses on in the context of local, national, and global human life?

Framing Responses

On the experience of the past one hundred thousand years, humans are clearly capable of adaptive responses. Our species has the capacity or can develop the capacity to nurture nature though a period of transition, for instance by creating corridors to assist species adaptation and inventing new agricultures which alleviate and mitigate the effects of climate change. Humans are also capable of precautionary action, reducing greenhouse gases for instance as part of a broader strategy of sustainable development. We may even be able to master technologies which balance and stabilize climate change. The key, however, will be the extent to which our species can take a proactive role, be that technological or acts of social and political will that produce changed patterns of land and energy use. Like no other creature in natural history, and like no other time in this creature’s history, this is moment when the future of the planet is in our hands. The consciousness which made us a unique species perhaps a hundred thousand years ago, for the first time today puts us in a position of unprecedented responsibility for the course of natural history. Climate change is a key intellectual and practical challenge for today’s science, economics, politics, sociology, and ethics.
The Nature of Evidence

Why the persistent challenge of universalizing evidence based approaches?

Living Tensions
- Equilibria and Disequilibria – change processes and countervailing tendencies
- Communicating Measurement – processes, methodologies, and technologies
- The Fundamentals – ice cap reduction, glacial melt, sea level change.
- Lived Realities – floods, drought, forest fires, hurricanes, and other events
- Data Politics – the use of climate informatics
- Visons of Progress – contesting underlying economic motivations and offering alternatives
- Paleoclimatology – the earth’s climate in short and long views
- Regional Variations, Global Change – negotiating and understanding difference
- Biomes and Biozones – considering eco-framings of space
- Environmental Policies – institutional response to eco-systemic realities
- Anthropogenic Factors – understanding and attributing human causes
- Debating Scenarios – slow, rapid, abrupt, or episodic
- The Future of Everyday Life – weather events, natural disasters, and ecological surprises
- Considering Capacity Building – individual, institutional, and systemic
- Communities and Nations – established politics of framing responsibility
- Human Systems – transport, energy, communication
- Public and Private Interest – engaging business stakeholders
- Intrenching Inequality – climate change in the developing world
- Adaptation and Resilience – private, public, and individual change makers
- Alternative and Renewable Energy Sources – technologies, policies, and strategies
- Measures of Responsibility – navigating climate ethics
- Regulatory Solutions – taxes, offsets, standards, and trading
- Climate Finance – valuing nature and action Motivating Solidarity – global movements, local framings

Assessing Impacts in Diverse Ecosystems

What are the impacts of climate change on natural environments in particular and universal views?

Living Tensions
- Paleoclimatology – the earth’s climate in short and long views
- Regional Variations, Global Change – negotiating and understanding difference
- Biomes and Biozones – considering eco-framings of space
- Environmental Policies – institutional response to eco-systemic realities
- Anthropogenic Factors – understanding and attributing human causes
- Debating Scenarios – slow, rapid, abrupt, or episodic
Themes & Tensions

Human Impacts and Responsibility
How have we been agents of climate change, what does a politics of responsibility reveal?

Living Tensions
- The Future of Everyday Life – weather events, natural disasters, and ecological surprises
- Considering Capacity Building – individual, institutional, and systemic
- Communities and Nations – established politics of framing responsibility
- Human Systems – transport, energy, communication
- Public and Private Interest – engaging business stakeholders
- Intrenching Inequality - climate change in the developing world

Technical, Political, and Social Responses
How do scientists, technologies, policy makers, and community members respond to climate change?

Living Tensions
- Adaptation and Resilience – private, public, and individual change makers
- Alternative and Renewable Energy Sources – technologies, policies, and strategies
- Measures of Responsibility – navigating climate ethics
- Regulatory Solutions – taxes, offsets, standards, and trading
- Climate Finance – valuing nature and action
- Motivating Solidarity – global movements, local framings
Dr Victoria Hurth is Senior Associate at the University of Cambridge’s Institute for Sustainability Leadership and Visiting Fellow of Cambridge Judge Business School. She describes herself as a ‘pracademic’, taking a pragmatic interdisciplinary approach to the drivers and solutions of organisational responses to climate change and sustainability. She has a Master’s in Environment and Development from the University of Kwa-Zulu Natal and completed her PhD (Exeter) on the role of marketing as a driver of sustainable/unsustainable consumption. Her research and practice now focuses on purpose-driven organisations and the implications for culture, governance and strategy. She has been a British Council ‘Climate Change Ambassador’ and a climate change advisor for a UK MP. She is currently a member of the UN Task force for developing methodology for SDG indicator 12.6.1. and the Convenor of ISO37000 – the first global standard on Governance of Organisations.
The Climate Change: Impacts & Responses Research Network is grateful for the foundational contributions, ongoing support, and continued service of our Advisory Board.

- Alison Anderson, University of Plymouth, Plymouth, UK
- Stuard Capstick, Cardiff University, UK
- Gowtam Raj Chintaram, Earth-Mauritius, Mauritius
- Amar Galla, International Institute for the Inclusive Museum, India
- Candice Howarth, University of Surrey, UK
- David Humphreys, The Open University, UK
- Victoria Hurth, University of Cambridge, UK
- Mordechai Shechter, University of Haifa, Haifa, Israel
- Zhihua Zhang, Beijing Normal University, Beijing, China
Sixteenth International Conference
On Climate Change: Impacts & Responses
Founded in 2009, the **International Conference on Climate Change: Impacts & Responses** is brought together by a common concern for the science of, and social responses to, climate change.

### Past Events
- 2009 - Bharati Vidyapeeth Institute of Environment Education and Research, Pune, India
- 2010 - University of Queensland, Brisbane, Australia
- 2011 - Rio De Janeiro, Brazil
- 2012 - University of Washington, Seattle, USA
- 2013 - Labourdonnais Waterfront Hotel, Port-Louis, Mauritius
- 2014 - University of Iceland, Reykjavik, Iceland
- 2015 - UBC Robson Square, Vancouver, Canada
- 2016 - NU University of Science (HUS), Vietnam National University (VNU), Hanoi, Vietnam
- 2017 - Anglia Ruskin University, Cambridge, UK
- 2018 - University of California at Berkeley, Berkeley, USA
- 2019 - Pryzbyla Center, The Catholic University of America, Washington, D.C., USA
- 2020 - Ca’ Foscari University of Venice, Venice, Italy (Virtual)
- 2021 - UBC Robson Square, Canada (Virtual)
- 2022 - UBC Robson Square, Canada (Virtual)
- 2023 - UBC Robson Square, Canada
The **Climate Change: Impacts & Responses Research Network** is thankful for the contributions and support of the following organizations:

- **International Institute for the Inclusive Museum**
- **The Catholic University of America**
- **éklo re**
- **Ca' Foscari University of Venice**
Responding to a Climate Emergency: Purpose Driven Organizations for a Sustainable Future

In the past decade, mirroring our collective understanding of the climate and ecological emergency, there has been a surge of interest among practitioners and academics in purpose-driven organizations as a way to align organizations with a sustainable future and a ‘Wellbeing Economy.’ An initial period of intense but uncoordinated debate and action around the topic was characterized by a fragmentation of ideas about what ‘purpose’ was, how it relates to sustainability and existing organizational concepts, and how the transformation from business-as-usual towards purpose-driven practice could be achieved. This was helpful and necessary but also led to confusion and ‘purpose-washing’ (i.e., the continuation of unsustainable practices masked by claims of good intentions). As the debate and ideas mature, there are some signs that we have reached an inflection point through which the notion of purpose-driven practice is consolidated, opening up the potential for a new era of action and accountability. A central marker of this phase is the publication of a British Standard in Purpose-Driven Organisations last year (PAS808:2022).

The Special Focus of the Sixteenth International Conference on Climate Change shines an interdisciplinary light on the role and nature of purpose-driven organizations. It explores its relevance for organizations addressing climate change and related sustainability challenges.

Understanding Purpose

How and why has the concept of purpose in organisations, and business particularly, gained so much attention in recent years? How far does purpose start to unite different types of organisational forms (commercial, social enterprise, charities, public sector?). How much of a paradigm shift from ‘business-as-usual’ does a ‘purpose’ logic demand, for different types of organisations and for how we think about the wider economy? How and why are purpose-driven organisations aligned to helping organisations achieve long-term wellbeing for all (sustainability) and simultaneously financial viability for the firm itself – where are the financial/ sustainability win-wins and where are the trade-offs?

Implementing Purpose

How can organisations that are committed to becoming more purpose-driven implement this transformation effectively, and what needs to change about organisational culture to support this? How can different sectors and types of organisations play a significant role in building a more sustainable economy through organisational purpose. What role do businesses and their stakeholders play in leveraging the purpose ecosystem to respond to climate change and other more immediate challenges that are prevalent in our uncertain times (e.g. COVID-19 and the war in Ukraine)? More broadly, how far do surrounding culture systems (laws, regulation, behaviours, habits, narratives etc.), support or constrain the development of purpose-driven organisations and the ‘Wellbeing Economy’ that they underpin. What specific regulations, laws and standards are necessary to be assessed and revised to enable and not restrict purposeful business? What are the governance implications of becoming a purpose-driven organisation – at the country, company and community level?
Special Focus

There are wider implications too for business schools, in terms of how they are managed and approach teaching, given that it is accepted that higher education institutions need to discover how they can generate environmental and societal impacts beyond educating students and producing research. Given this, and based on the concepts of purpose and organisational purpose, we will discuss the movement towards a purpose-driven business school, in which leadership, faculty and students work together to move from being best in the world to being best for the world. What new approaches are needed to address the power of purpose-driven in educational institutions, more specifically in universities and business schools?

Measuring and Investing in Purpose

How can purpose-driven companies measure social and environmental impact? What should organizations do to shift from why to how and move beyond this to lead a purposeful businesses movement? How should strategic planning transform to ensure achievement of business ethics and ESG standards towards sustainability and how can purpose help with this? How might accountability and standards in purpose support capital flows from away from a primary focus on high-financial income investments towards high impact investments? How could leadership style change from one optimised for business-as-usual to one that can optimise purpose driven outcome?

We welcome delegates and contributors from academia, grassroots organisations, government, the business community and beyond. Change is needed in all parts of the system and through collaboration between many different actors, and so we invite reflections and insights from researchers, practitioners and activists around the world.

To reflect our own recognition of the need to do things differently, the 2024 conference will encourage and enable virtual participation to minimise physical impact of the conference.
Vittorio Cerulli
Founder and Managing Director, Purpose House, Germany

Vittorio Cerulli’s work lies at the intersection of business innovation and social change. Vittorio is the founder and director of Purpose House, a collective of sustainability, research and strategy experts who help companies define and activate their sustainable purpose. Noteworthy projects under Vittorio’s guidance include the creation of multi-stakeholder purpose strategies and the establishment of routes to market for purpose-led innovations. Alongside Purpose House, Vittorio has served as Challenge Director at Business Fights Poverty, a business-led collaboration network focused on social impact, where he gave companies access to new insights and practical guidance on purpose by publishing intelligence from relevant peers, practitioners, and investors. Before his role at Purpose House, Vittorio led global insights and innovation teams at Unilever. Within this role, he spearheaded a task force responsible for defining levers and solutions to support the development of sustainable purposes for Unilever’s food brands across various countries, including Thailand, Mexico, and the UK. In addition to his professional endeavours, Vittorio has been awarded with the KSG scholarship from the Karl Schlecht Foundation. This prestigious scholarship enables him to conduct academic research in the Department of Corporate Sustainability Management at the University of Nuremberg and the WCGE think tank. Vittorio’s research focuses on the transformation of corporate purpose in response to both external and internal influences.
Andrew Brown
Group Chief Sustainability Officer, Anglian Water Services Limited, United Kingdom

As Group Chief Sustainability Officer Andy Brown works with the Anglian Water’s board to oversee the delivery of their purpose, “to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop”. He has worked for over 10 years embedding sustainability & purpose throughout the business, overseeing the development of their six capitals framework and the Purpose Scorecard. He is the sponsor of their Sustainability Centre of Excellence and is working with their Group companies develop their sustainability frameworks. Having worked in sustainability for the past 20 years he has led in the areas of natural environment, climate change adaptation and now sustainability & purpose. He has worked with BSI to develop PAS 808 Purpose Driven Organisations and now chairs BSI National Group on this subject. He is currently a member of BITC’s Place Taskforce and a member of the Regional Leadership Board. He is an external advisor and Chair of Tarmac’s Sustainability Panel. In 2021 & 22 he was also appointed as a Visting Fellow of Practice for the Government Outcomes Lab based at the Blavatnik School of Government in the University of Oxford focusing on place-based regeneration and responsible business.

Victoria Hurth
Senior Associate, Institute for Sustainability Leadership, University of Cambridge, United Kingdom

Dr. Victoria Hurth works globally at the intersect of academia and hands-on business to help companies transition to be drivers of long-term wellbeing for all (sustainability). Among other achievements she co-led the 5-year development of the first global ISO standard in Governance of Organizations (ISO 37000:2021), was Technical Author for the first national standard in Purpose-Driven Organisations (PAS 808:2022) and advised the UN on the methodology for SDG 12.6.1 (sustainability reporting). As a Fellow of University of Cambridge’s Institute for Sustainability Leadership (CISL) Victoria is engaged in a range of executive and academic leadership programmes. Victoria heads the Sustainability Impact Advisory committee for UnaTerra Venture Capital, a member of SACE’s (Italy’s national export underwriter) Impact Advisory Committee, a regular UNCTAD review panel member for ISAR Honors and was a member of WBCSD’s working group on Governance. Victoria is currently a Non-Executive Director of the organic standards company Soil Association Certification Ltd. She has over 20 years’ experience in business transformation having previously worked for 3M and Accenture and developing theory as a full time Associate Professor of Sustainable Business and Marketing.
Each year a small number of Emerging Scholar Awards are given to outstanding early-career scholars or graduate students. Here are our 2024 Emerging Scholar Award Winners.

Claudia Ribeiro Pereira Nunes  
Universidad Complutense de Madrid, Spain

Olufemi Adetunji  
University of Lincoln, United Kingdom

Philip Egbule  
University of Delta, Agbor, Delta State, Nigeria

Fatema Jahan Sharna  
District and Sessions Judge Court, Kishoreganj, Bangladesh

Md Abdul Awal Khan  
Independent University, Bangladesh

Adebisi Benjamin Tëmîdayọ  
Institute of Anatomy, Cell Biology, Brain and Neurodegeneration, Nigeria
Emerging Scholars

Birtukan Getahun
Wolaita Sodo University, Ethiopia

Tugba Altin
University of Calgary, Canada

Daniel Felipe Marin Vanegas
Universidad Nacional de Colombia, Colombia

Angel Kennedy
Simon Fraser University, Canada

Judy Wu
Simon Fraser University, Canada

Wilma De Los Santos
Mindoro State University, Philippines

Tianze Pang
University of Prince Edward Island, Canada
Presentations, Presenters, Participants
Adaptation Strategies to Improve the Resiliency and Sustainability of Agricultural Systems in the Face of Climate Change and Market Fluctuation

Rim Alamin, Ph.D. Candidate, Agribusiness, CIHEAM-IAM Montpellier, France

In this paper a choice of adaptation strategies in the face of climate change and the uncertainty of the market is reviewed in our case study Ballbeck El-Hermel “Lebanon”. First, we identify, through ongoing projects, available statistics and highly targeted field surveys, the main agricultural actors in each territory and to characterize the diversity of agricultural households. Then we offer a discussion for the co-construction of adaptation strategies. This choice is made collectively with the actors of the territory through several workshops. The strategies combine three types of criteria: agronomic and environmental, socio-economic, and organizational by proposing and testing the creation of new collective production strategies. An extensive database was created from the surveys, then corrected and cleaned to create a new, reliable, and up-to-date database for the study area. The study is based on three dominant system in the region: 1. The vegetable system 2. The Arboriculture system 3. The Mixed system (arboriculture and cereals). Eight detailed strategies have been put in place, now we must choose an adequate methodological framework to evaluate these strategies. To meet this requirement, the AHP method was chosen as a suitable solution. AHP, as an approach to multicriteria analysis, lends itself perfectly to the multidimensional nature of the criteria involved. This transition to the use of AHP paves the way for a more in-depth and nuanced evaluation of these strategies.
Computing Research for the Climate Crisis

Elizabeth Bradley, Professor, Department of Computer Science, University of Colorado Boulder, Colorado, United States
Claire Monteleoni, Professor, Computer Science, University of Colorado Boulder, United States

Computing research can play a role in mitigation, adaptation, and resilience in response to the existential threat of climate change. This goes far beyond the well-known predictive power of climate models. Computing researchers can develop and deploy smart sensor networks for monitoring drought, wildfire, and other salient variables and processes. AI can be used to develop new materials for renewables, or new crop variants that accommodate climate change. Computer algorithms can plan smart crop-rotation strategies that adapt to changing conditions, or optimize the spatial distribution of a crop along a wet-dry gradient to make production robust in the face of precipitation variations. Similar algorithms can predict how essential systems, like supply chains and electric grids, will react to extreme events—and use that information to plan a response (e.g., rolling blackouts to protect a power grid). Crafted properly, these algorithms can produce a full accounting of the hidden and downstream costs, including those to individuals, as well as to society, the environment, and the economy. This is a direct contribution to equity and climate justice. Bringing this type of expertise into the global, interdisciplinary climate-change community could be transformative. Purpose-driven organizations like the Computing Research Association (cra.org/ccc) can serve as effective points of contact for this effort. Of course, computing itself contributes to the climate emergency. The data/compute centers that support the Cloud, for example, now have a larger carbon footprint than the entire airline industry. Accordingly, there is a strong need for computing research to mitigate its own impact.

Sustainability of School Plants Amidst the Changing Climate

Rowell Castro, Associate Professor, Elementary Education, College of Education, Bulacan State University, Bulacan, Philippines

The province of Bulacan in Central Luzon has numerous learning institutions from preschool, elementary, high school, college to post-graduate that are close by the rivers, basins, estuaries, and coastal areas. It affirms that school plants are present and existing in every learning institution to cater the needs of the students, teaching and non-teaching personnel. This study shares how school leaders and managers protect and sustain their respective school plant from typhoons, high tides, flash floods, and soil erosion where learning structures and amenities were built. Observation, face-to-face interview, case study, and focus group discussion were used to obtain comprehensive results. Since, the effect of the changing climate in the area is inevitable, school heads and managers were enhanced and intensified school laboratories, classroom instruction, covered walks, parking spaces, recreational spaces, and transport services so that when the sea level rises all school stakeholders are safe and protected.
A Trend or a Fad?: An Outlook on the Future of Corporate Purpose

Vittorio Cerulli, Founder and Managing Director, Purpose House, Ltd, United Kingdom
Manon Filler, Scholar, University of Erlangen-Nuremberg, Germany

This paper explores the future of the disruptive notion of corporate purpose, shifting the firm’s main reason of being from profit to a broader societal focus. Using the framework introduced by George et al. (2023), the study scrutinizes three areas of purpose-driven practices: framing, formalizing, and realizing. Through a future temporal lens, the research investigates how corporate purpose may be integrated by companies across all three areas. Moreover, it examines the concern of decoupling, and analyses, from a neo-institutional perspective, how institutions influence purpose-driven practices. Employing a forward-looking Delphi approach with contributions from 96 international experts, the study assesses nine future scenarios featuring practices across the areas of corporate purpose in the year 2035. Results show that scenarios in the area of framing are the most likely to occur. Yet, purpose-driven practices in the area of realizing exhibit the highest expected impact. Best practices emerge as the most influential institutional force across all scenarios. However, uncertainties arise regarding the future role of regulation, creating the most disagreement among experts. This study expands the literature by examining how corporate purpose may evolve and unfold its disruptive potential in the future. Thus, addressing a gap in the current management literature, which has primarily focused on defining the purpose concept.
Entity-level Greenhouse Gas Inventory: A Road to Emission Reduction and Climate Change Mitigation in the Municipality of Victoria, Oriental Mindoro

Wilma B. Cledera- De Los Santos, Assistant Professor, Environmental Science Department, Mindoro State University, Philippines

The increase in temperature due to the enhanced greenhouse effect has been the dominant cause of observed global warming and climate change. Anthropogenic greenhouse gas (GHG) emissions are the culprit of said global warming, (IPCC. 2014). Estimating the GHG emission is the first step towards mitigating greenhouse gas emissions and attaining carbon neutrality in the country. Section 14 of the Philippine Climate Change Act (PCCA) requires the LGUs to formulate, plan and implement a Local Climate Change Action Plan (LCCAP). GHG inventory is an essential component of this plan. As a response to the PCCA, a quantification of an entity-level GHG emission at the local government unit (LGU) of Victoria has been conducted. The study utilized the prescribed Philippine Climate Change Commission methodology on GHG inventory for LGUs. The LGU has a total GHG emission of 700.19 t CO2e, with 2022 as the base year. The total direct emission from mobile and stationary combustion is 429.92 CO2e while their solid waste emission is 149.73 CO2e. On the other hand, the total indirect emission from purchased electricity is 120.54 CO2e. Results show that the largest emission of the municipality came from mobile and stationary combustion accounting for 61.4% of the total emission. The result will serve as the baseline data of the LGU in the annual quantification through which they could comprehend and compare. This supports better planning for mitigation options that the LGUs can implement. Specific mitigation measures are recommended.

Social Economy Organizations in France that Decided to Become Purpose-Driven

Victor Combes, eKlore School of Management, France

This communication focuses on French social economy (SE) organizations that decided to become purpose-driven by adopting the French quality of "société à mission". Indeed, the movement of SE in France aims at becoming recognized as a model adapted to the current and future stakes. However it includes some very different types of organizations : mutual societies, associations, cooperatives, foundations and, since 2014 (Law hamon), some commercial companies that respect the principles of SE. Thanks to a partnership established with the French Observatory of société à mission, we've had access to those organizations from SE that became Sociétés à Mission. This communication tries to give an answer to the following question : which SE organizations are adopting this quality and how are they using it? The first results will be exposed and discussed.
Daily Trends of Extreme Precipitation over the State of Rio de Janeiro, Brazil (1971-2020)

Luci Hidalgo Nunes, Visiting Researcher, Geography, Visiting Researcher (FAPERJ scholarship) at Universidade do Estado do Rio de Janeiro (UERJ), Rio de Janeiro, Brazil

Rio de Janeiro, a tropical and densely populated state in Southeastern Brazil, has been recording severe impacts associated with heavy rain such as flooding, erosion, storm surges and landslides. Since this scenario might get worse if rainfall becomes more concentrated, the study evaluated recent trends of daily rainfall in the region. The database consisted of 42 stations for a homogeneous period of 50 years (October 1970–September 2020, P0), pointing out geographical differences and changes in two subperiods compared between them: P1 (Oct.1971 – Sep. 1995) and P2 (Oct. 1996 – Sep 2020). The Concentration Index (Martin-Vide, 2024), which identifies the participation of the most exceptional occurrences in the series was used to determine the degree of regularity of the rainfall distribution. Further analyses at annual level provided complementary information on the distribution of rainfall. Results show that over the 50 years there was no substantial change in annual rainfall totals, but there has been a general trend in the concentration of rainfall, i.e. very high volumes on a single day, as well as annual maxima that tend to be higher in recent years. Given the recent history of catastrophic events in the state of Rio de Janeiro, the results are a relevant element for natural disaster management.

Impact of Urban Morphology on Microclimate Parameters in a City

Megha Jain, Professor, Civil Engineering, SISTec, Madhya Pradesh, India

Urban microclimates play a pivotal role in shaping outdoor thermal comfort and influencing building energy consumption. This microclimate is shaped by an array of factors, encompassing urban morphology and typology, vegetation cover, ground elevation, water bodies, street geometry (H/W ratio), building density, traffic density, and surface characteristics. This research investigates how the morphology of the city and the presence of water bodies impact the microclimate of Bhopal, a city located in central India. To assess the influence of urban morphology on the microclimate, this study relies on field measurements, encompassing data on ambient air temperature, humidity levels, and wind speed. These meteorological parameters were systematically recorded at nine distinct sites within Bhopal. Among these sites, three are situated within the older, historical part of the city, four are located in the newer urban developments, and two are positioned in the suburban areas. Notably, each of these site categories exhibits variations in building height-to-street width (H/W) ratios, ground cover, and proximity to nearby lakes or water bodies. In urbanized regions, the most significant disparities in air temperatures were predominantly observed during the daytime, with peak differences reaching up to 6 degrees Celsius on clear days. Within the urban zones, humidity levels remained relatively consistent, typically ranging between 25% to 30%, and exhibiting minimal diurnal fluctuations. This study also identifies several other contributing factors that influenced local temperatures, which are further elaborated upon in the ensuing sections of this research.
**Protector or Polluter?: Environmental Impacts of Remittances**

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As remittances are largely viewed as potential factor of financial development and economic growth, their role in polluting the environment cannot be denied. In this paper, we investigate the environmental effect of migrant remittance in the global south. By using panel data of 37 countries in the southern hemisphere from 1980 to 2014, results show that remittances worsen the environment. We, therefore, support the remittances-led emission hypothesis. Interestingly, we found that the inflows of remittances do not affect CO2 emissions directly, but indirectly through household consumption, private investment, urbanization and importations. Our results deeply suggest that policymakers in the South should (1) consider remittances as a policy instrument to design strategies related to sustainable and responsible investing, and (2) channel remittances into green consumptions and investments.

**Beyond Carbon: Navigating the Path to Biodiversity Credits for Climate Action and Ecosystem Conservation**

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This paper explores the evolution of climate finance, particularly the transition from conventional carbon credits to a broader framework encompassing biodiversity credits. By integrating biodiversity considerations into the financial landscape, this paper elucidates the potential for a more holistic and effective approach to mitigating climate change and promoting ecosystem conservation. The paper begins by providing a comprehensive overview of the current state of climate finance, highlighting the successes and shortcomings of existing carbon credit systems. It then delves into the rationale behind expanding the scope to include biodiversity, recognizing the interconnectedness between climate change and the loss of biodiversity. The incorporation of biodiversity credits into climate finance is posited as a multifaceted solution that not only addresses carbon emissions but also promotes the conservation and restoration of ecosystems. Moreover, the paper explores the intersection of blockchain technology and artificial intelligence (AI) in the context of biodiversity conservation through the innovative concept of biodiversity credits. These credits serve as a financial instrument, attracting support for projects aimed at safeguarding ecosystems, with a particular focus on the Amazon rainforest. Blockchain and AI integration ensures transparency and traceability in the issuance and tracking of biodiversity tokens, opening up the market to individual consumers. The decentralized nature of blockchain mitigates risks of manipulation, while AI contributes to real-time monitoring, verification, and predictive analytics, enhancing the overall accountability of the token issuance process.
Artificial Islands and Sustainability Considerations Against Climate Change: Evaluation of Solutions from Engineering, Environmental and Economic Perspectives

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The purpose of the current project is to assess the long-term sustainability of the artificial islands in UAE against the climate change impact. The project combines two separate fields of research, which are as follows: Economy/Tourism and Engineering/Geology. Experts from two different departments in SUAD will contribute to the assessment of investing in artificial islands construction for touristic purpose and other operational use, with taking into consideration the climate change impact. The way forward of the impact assessment can be built on the following four factors:

- **Economic/Operational (EO)** to qualitatively identify the economic consequences of climate change, both temporary and permanent, as well as the complexities of touristic and other types of investment within the context of the artificial island construction.
- **Physical and Environmental** which takes into consideration the assessment of the two main interference factors from climate change on the marine environment, which are the sea level rise and the excess in carbon dioxide concentrations in seawater. The multidisciplinary analysis enables a “360-degree” identification of impact factors for the artificial island investment in UAE, being one of the leader developers in the world of this technology. In addition, conclude recommendations matrix based on the climate change challenging factors.

Arterial Road Bypass and the Changing Climate

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Areas in Bulacan like Guiguinto, Plaridel, Pulilan, Baliuag, San Rafael, and San Ildefonso belong to the low-lying areas that suffer flooding during typhoon and rainy season. The paper aims to increase awareness of the arterial road project funded by the Japan International Cooperation Agency (JICA) that diverged the low-lying old road to the new elevated road to alleviate serious traffic condition along Maharlika highway and to avoid flooded villages and municipalities during typhoon and rainy season. Mixed method research was used to attain the complete result of the study through observation, face to face interviews, and focus group discussion. The result shows that the new elevated arterial road bypass has positive and negative impacts to motorists and residents nearby.
Advancing Greenhouse Gas Emissions Analysis: A Comprehensive Application for Streamlined Optimization within Oil and Gas Operations

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Amidst the pressing global climate challenges, the oil and gas industry faces an imperative need for innovative solutions prioritizing environmental responsibility and operational efficiency. The GHG emissions analysis tool is a web application enabled by steady-state multiphase flow simulator where a wide range of parameters, such as differential pressure, efficiency, flowline length, flowline inner diameter, and drag reducing agent (DRA) concentrations can be accommodated by this solution, designed matrix of scenarios simultaneously. This analysis tool proved its ability to fine-tune setups through testing and iterative simulations, producing noticeable emissions reductions and considering that, two thorough case studies strengthened our understanding of the tool’s capabilities. The first case study examined the effects of targeted DRA injection at the surface level. Results indicated that using precise DRA injection techniques could increase operational throughput while potentially reducing emissions by 10%. The subsequent case study focused on gas lift optimization, including surface and subsurface dynamics. The analysis revealed that optimized gas lift techniques can reduce pressure requirements by up to 15%, resulting in considerable operational efficiency savings and an additional 23% decrease in emissions through better field planning and engineering design. The implications of case studies’ results extend this application beyond its immediate technological developments. The outcomes of our study offer a comprehensive guide for oil and gas industries battling with the interconnected challenges of sustainability and economic feasibility. Beyond facilitating the industry’s transition towards sustainable energy, the methodologies and strategies presented here underscore the industry’s capacity to spearhead the battle against climate change.
Land-based socio-economic forces have shaped American communities primarily along racial lines, separating whites from BIPOC while relegating resources and opportunities to white communities and forcing BIPOC to seek refuge and economic opportunities in urban regions. These communities often also face oppression in the forms of police violence, legal injustice, mass incarceration, employment and educational bias, disenfranchisement, housing and food insecurity, and associated health disparities, and voter suppression. In American storytelling, BIPOC people are predominantly portrayed via slanderous and demoralizing character representations and story devices, mainly relegated to revulsion-inducing urban settings, which blame the decrepit living conditions of the marginalized on their moral failures rather than on racist social, political, and economic policy. This paper shares the current stories of intentional farming community members who are working to shift land and food-sharing standards in New York State. Through social networks, cooperative modeling can be used to communicate with climate-impacted and displaced communities about avenues to belonging, climate-conscious change, and wellness in new and impacted geographies. It is becoming increasingly clear that climate change is a result of inadequately regulated capitalist land exploitation. This paper discusses the refuge-making work of a new intentional farming community in Ithaca, NY, that is led by individuals from communities most impacted by capitalist land and labor theft. They are creating a set of new built environments that draw on the economic and social arrangements of pre-capitalist community agrarians as well as develop new food and land-sharing exemplars that combine both beneficial capitalist and anticapitalist ideals.
The Power of Climate Crisis on the Purpose-Driven Organizations for a Sustainable Future

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The purpose-driven approach offers more than just a novel way of doing business. It provides a blueprint for building a more inclusive, equitable system. This purpose-driven approach comes with challenges. But these challenges also present opportunities. Purpose-driven organizations can pioneer new models by finding innovative ways to overcome these obstacles. Doing so proves it’s possible to marry profits with purpose and business success with societal progress. It is aligning the interests of various stakeholders, helping climate crisis and ensuring sustainability initiatives for the future. In this context, the research question is: How do organizations pursue their purpose successfully for a Sustainable Future and help the climate crisis? The methodology is the case study—the research analysis of five case studies. Four companies (IBM, Timberland, Alaska Airlines, CVS Pharmacy) and one non-profit organization (United Way Worldwide) purpose-drivers are responding to a climate crisis with their purpose-driven organizations. As an outcome and findings, organizations can play a crucial role by putting purpose at the core of their strategies.

Impact of Climate Change on Mexico’s Agri-food Systems: The Importance of Acting Now to Protect Our Food Security

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Climate change (CC) is severely affecting Mexico’s Agri-food Systems, putting the food security and livelihoods of millions of people at risk. To address this situation, urgent mitigation measures need to be implemented, such as promoting sustainable agricultural practices, strengthening irrigation infrastructure, diversifying crops, and reducing food waste. CC is already causing changes in crop patterns and geographical distribution of species, which can have a negative impact on food security in the long term, as pests and diseases in crops are expected to increase, further affecting food production and quality. Therefore, it is important to strengthen the adaptive capacity of these systems through investments in research and innovation, food transport and storage infrastructure, and to promote a more conscious and sustainable food culture in Mexican society. CC is also causing loss of arable land due to soil erosion and salinization, reducing its availability for food production and affecting its ability to sustain healthy crops. If immediate action is not taken to mitigate the effects of CC on Mexico’s agri-food systems, we will face all these problems coupled with rising prices and reduced availability of food, with health and nutrition problems in the population. Urgent action is needed to protect the food security and livelihoods of millions of people in Mexico.
Active Cooperation of States: A Key to Addressing Environmental Crises

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Among other provisions, Principle 25 of the Rio Declaration (1992) stipulates peace as an essential prerequisite to sustainable development. To achieve it, therefore, I propose an eco-sensitive sustainable development law approach—one which envisions common guidance of the international community under which states agree to surrender part of their sovereignty. First, I argue, that states shall adopt global environmental pacts that incorporate sustainable development and equitable allocation of costs as the fundamental objective. Premised on the equitable provisions, this treaty may earn popular ratification worldwide soon. Second, I propose that states party to the accord shall reflect their commitments through domestic legislation and ensure execution as a top national priority. In this regard, the policies espoused globally to tackle COVID-19 may be of particular interest to follow as they led states to transcend domestic problems in favour of the global pandemic. Third, I contend that states ought to take practical steps to implement treaty provisions and transmit their compliance to the body constituted under the covenant(s). This novel approach helps achieve sustainability, and once secured, it will contribute to alleviating interstate conflicts.

The Hydro-wind-solar Energy Reactions to Geopolitical Stress: The Role of Global Environmental Governance

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The main purpose of this study is threefold. Firstly, it conducts an event study methodology to assess the responses of renewable (hydro, solar and wind) energy sectors to geopolitical risks. Secondly, a multifractal fluctuation analysis is used to test the efficiency of these industries in stressful times. It accounts for irregularities that may be embedded in the renewable energy industries’ behaviors. Thirdly, a wavelet coherence is employed to investigate the role played by global environmental governance (GEG) in crisis periods and under different time-horizons. Our findings reveal that rising geopolitical risks has led to an increase in the systematic risk for the three renewable energy sectors. In addition, significant changes in the properties of hydro, wind and solar are observed at various scales of time, highlighting their multifractal behaviors. Solar and wind energies become less efficient in the downward periods. Medium-to-high comovements across the GEG each renewable energy (with the exception of wind) as the warmer colors dominate all significant regions. The implication is that the pricing and returns generating process existing in hydro and solar power are heavily driven by global environmental governance. The inefficiency of solar power in crisis periods despite its strong connection with the GEG may be attributed to the fact that the environmental policies and the associated actions can generate significant uncertainties, leading to a new source of risk that can affect investment decisions and the performance of renewable industries.
Wildfires and Healthcare: Mitigation and Adaptation of Delivery Systems in the Anthropocene

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Wildfires have the ability to negatively impact the health of our communities and place significant strain on healthcare systems. In this work, we discuss the adverse effects of wildfire smoke on multiple organ systems, with many of these impacts remaining incompletely understood and warranting further investigation. Additionally, we discuss how the appearance of megafires, like those seen in Lahaina and Paradise, can largely be attributed to the historical management of wildfires with excessive fire suppression and an increasingly hot and dry climate. In order to protect public health and create resilient healthcare infrastructure, it is imperative health systems take an active role in the management and prevention of wildfires. Therefore, the final section of this work is focused on discussing the unique set of challenges wildfires present for healthcare systems and proposing climate adaptation and mitigation strategies for healthcare delivery.
Climate change and its associated impacts such as extreme heat, flooding and rising sea level, pose immense threat to cultural heritage including artefacts, built heritage, archaeological sites and cultural landscapes. The changes and variabilities of climate are driven by human activities such as burning of fossil fuels, deforestation and other lifestyle choices such as excessive consumption of electricity and food waste. In the context of cultural heritage, retrofitting historic buildings contribute significantly to global greenhouse gas emission. The study, therefore, examines the impacts of climate risks affecting protection of values and attributes of cultural heritage in Lagos (Nigeria), a key socio-economic city in Africa with high vulnerability to climate change impact. A city-wide vulnerability assessment was conducted to understand the key climate drivers affecting the cultural heritage located around the city. Eighteen key stakeholders were interviewed to understand perceptions of the values and interventions implemented to address the impacts of climate change. The findings reveal while awareness about climate change is increasing, skill capacity about assessing climate vulnerability is weak. Members of local communities are, also, excluded in planning and implementation of climate policy resulting into dwindling sense of ownership of deteriorating heritage sites. The study, further, demonstrates that combination of top-down and bottom-up approaches, stimulated by non-government organisations, professional bodies and community groups could improve protection of cultural heritage, implementation of climate-friendly interventions and mitigation of loss of heritage across communities.
Sinking River Islands and Sea Level Rise in the Indian Sunderbans in the Age of Anthropocene: Drowning Ghoramara Island and Fragmented Sagar Island

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The sacred landscape of River Ganga and its eponymous journey from the Himalayas into the Bay of Bengal narrates a poignant tale of climate change. The Sunderbans archipelago is sinking at an alarming rate due to tidal activity and sea level rise as per multitude of scientific literature and field reports. This paper connects the fate of two river islands located in the estuary of Hooghly with sacred River Ganga in contemporary India, and discusses how macro-micro fluvial levels inter-connect and epitomize the derangement and devastation that India will experience not merely socio-ecologically, but also in the symbolic-cultural realm. The first section of the paper focuses on the sacred waterscape of River Ganga and its centrality to affirming identity of Indian Hindus and its strategic place in the Indian nationalist imagination in the contemporary. The second section takes us to Sunderbans delta and to the southern islands (relatively less studied) and to the drowning island-top of Ghoramar from where residents are being internally displaced. The third section of the paper interconnects the socio-cultural and symbolic association of these islands with each other and with sacred River Ganga. Case studies and relevant secondary literature were used to frame the argument. The socio-ecological impact of islands sinking with sea level rise for India’s sacred geography and for affected locals is discussed in the paper to understand criticality of checking global warming and countering sea-level rise.
Evapotranspiration is important in agricultural water management especially in water scarce regions. The current research assesses the performance of the water management model WEAP for projection of potential evapotranspiration in Karkhe Basin, southwest of Iran. The model was run using projections of two climate model under SSP2-4.5 and SSP5-8.5 climate change scenarios. The required observed meteorological data of selected synoptic stations located in the study basin were collected from Iran Meteorological Stations and used to estimate evapotranspiration using FAO-Penman Monteith equation. These obtained values were used as an evaluation measure of WEAP model performance in estimation of ET. Projected values of potential evapotranspiration using KIOST-ESM and MPI-ESM1-2-LR from CMIP6 project under SSP2-4.5 and SSP5-8.5 scenarios for future period of 2020 to 2100 were retrieved from ESGF climate database and the bias was corrected using delta method. Then these projected values of ET were compared with FAO-PM equation estimations using future period climate data under both climate change scenarios. The corresponding values of RMSE for two models of KIOST-ESM and MPI-ESM1-2-LR under SSP2-4.5 SSP5-8.5 scenarios were 0.5, 0.63, 1.09, 1.05 respectively which shows higher accuracy of KIOST-ESM model. Among the study stations best performance in ET projection under both scenarios using KIOST-ESM was observed in Khoramabad with RMSE 0.44. for the MPI-ESM1-2-LR model under both scenarios, the highest agreement between projections and estimated values using PM equation was observed in Asadabad station with RMSE values of 0.52 and 0.45 for two scenarios, respectively.
Impact of Urban Heat Island on Toronto’s Climate and Energy Consumption: Historical Analysis and Future Projections

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Urban energy systems, crucial for the functioning of cities, can either propel or impede the vitality and future prospects of urban areas. The heterogeneous landscape of cities plays a significant role in driving climate change, with various energy sources like natural gas, coal, biomass, and nuclear power contributing to global climate shifts. Conversely, the urban heat island (UHI) effect, a local climate change phenomenon in cities, can exert considerable stress on local energy systems. Given the intricate nature of climate change-driven energy demand in urban areas, this study aims to investigate the effects of UHI and climate change on energy demand in Toronto, compared to surrounding rural regions in Southern Ontario, Canada. Climate change indices related to temperature, including Heating Degree Days (HDD), Cooling Degree Days (CDD), and Hot Days (HD), are analyzed using data from 1961-1990, serving as a baseline for forecasting future changes in these indices and their impact on energy demand in Toronto. The occurrence of UHI days (>4°C) is examined alongside energy demand in Toronto, compared to nearby rural areas, during the historical period. The analysis reveals a strong correlation between energy demand in Toronto and CDD and Monthly Daytime UHI, while rural energy demand is primarily driven by winter heating (HDD). Projections until 2100 under various Representative Concentration Pathway (RCP) scenarios indicate an increase in energy demand in Toronto, with a potential decrease in rural regions. The study also discusses mitigation prospects and strategies, emphasizing the significant influence of mitigation measures on urban energy demands.

Climate Change and Glacier Melt in California

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This research explores the critical issue of glacier melt and its serious effects on our planet. It examines the causes behind glacier melting, such as global warming and human activities like burning fossil fuels. This study emphasizes the serious consequences of glacier melt, including rising sea levels, disrupted weather patterns, and threats to ecosystems and communities in California. It highlights the urgency of addressing this issue through collective action, advocating for measures to reduce our carbon footprint and promote longevity. Ultimately, it emphasizes the importance of understanding and minimizing glacier melt to protect the future of our environment.
Climate Change and Variability and Their Effects on Water Quantity in the Mount Kenya Water Tower

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Mount Kenya is critical in the hydrological system of Kenya being the origin of two main rivers; Tana and Ewaso Ng‘iro but is being threatened by climate change (CC) that is decreasing rainfall amounts and, coupled with environmental change, is altering the river flow regimes. The purpose of this research was to analyse rainfall and temperature changes due to CC and their effects on water quantity in Mount Kenya’s water tower. GPCC rainfall and ERA5 temperature data were used for historical climate analysis. CORDEX data were used for climate projections. Three climate periods were considered: 1991-2020 (baseline), 2021-2050 (near-future) and 2051-2070 (distant-future). Man-Kendall trend tests, Gaussian PDF, among other statistics were used to analyse climate and hydrological data. Land Use/Cover (LULC) changes were analysed using Landsat images in ArcGIS software. Regression and correlation analyses were used to establish the relationships between climate, LULC and Streamflow, while the WEAP model was used to simulate the impacts of climate and LULC changes on water quantity. The results provide clear evidence of climate change in terms of increasing temperature trends and decreasing rainfall and streamflow trends, reflecting a decline in water quantity. Forest cover and glaciers have also declined. This may lead to water and food insecurity, and loss of livelihoods in the two river basins. The research outcomes enhance understanding of the adverse impacts of CC on water and contribute evidence-based information that can be used for sustainable water management, decision-making, and adaptation under CC for the Mount Kenya region and beyond.
Monsoonal Heatwave Variability Under Climate Change Scenarios Over Malaysian Peninsular Region: Heatwave and Climate Change

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The aberrantly hot weather in the tropic over an extended period has increased the intensity and frequency of heatwave events. The potential risks from tropical heat waves due to intensifying future climate change are eminent and alarming, and therefore it is necessary to effectively assess the exposure risks to the general population and the magnitude of impacts under future climate change scenarios. By using the diagnostic output from Weather Research and Forecasting (WRF) model, climate change scenarios were developed, and the risk exposure of heatwave was analysed for the mid-century (2050) and end-century (2100) for the Malaysian Peninsula. Heat Index (HI) and heatwave risk exposure were calculated under RCP 4.5 and RCP 8.5 climate change scenarios, and potential hotspot areas of high-risk heatwave exposure were identified. Under RCP 4.5, the projected HI was in the range of 22 °C to 29 °C (2050) and 22 °C to 30 °C (2100), with further enhancements of 22 °C to 31 °C (2050) and 24 °C to 36 °C (2100) under RCP8.5. In both climatic scenarios, the region’s HI would change by 1.1°C to 1.9°C in the mid-century and -0.4°C to 5.1°C at the end of the century. In both climate scenarios, heatwave occurrences were projected to occur more commonly during the summer monsoon (July) than during the winter monsoon (January). Our analysis also finds that the region’s coastal and most urbanised areas are hotspots for greater heatwave indexes under climate change scenarios.
Cascading Multi-Risks for Urban Green Infrastructure: An Analysis Methodology

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More frequent and intense drought and heat events imply increasing multi-risks for urban green infrastructure (UGI) and their ecosystem services (ES). Given the significance of UGI towards urban resilience and climate adaptation, analyzing these cascading multi-risks is needed for evaluating the situation and taking adequate action in planning and managing UGI. Therefore, this research operationalizes the Drought and Heat Risk Assessment (DHR) Framework through a set of indicators, and determines the risk for selected ES. Urban parks, creeks and ponds are examined with their high ES potential and vulnerability of certain ES to droughts and heat such as the regulation of air quality and temperature, and providing an experiential interaction with nature. First, a multi-layer approach is applied to translate elements and processes of the biophysical risk system composed of the hazards, exposure, and cascading vulnerabilities into an information system. This information system is represented by layers of descriptors, attributes and indicators. Subsequently, a lane-based approach interrelates indicators based on their common attributes and highlights the key indicators. Using the attributes of the drought and heat hazards, the vulnerability indicators are linked with the hazards to derive risk indicators. The derived risk indicators enable calculating the risks cascading from the UGI biophysical entities towards the ES. An example is provided of the drought and heat risks for the ES of an urban park in Plauen, Germany with its spatiotemporal dimensions. The risk analysis determines the risks and hotspots for decision makers to evaluate, and if necessary, implement risk-reduction alternatives.
Urban Sustainability Index: Benchmarking Environmental Performance at the City-level Worldwide

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We propose a new city-level index of environmental performance, Urban Sustainability Index. This is a composite multi-layer index covering the dimensions of urban environmental asset quality, efficient resource use, and climate risks and socioeconomic benefits. The index has been calculated annually across years 2015-2021 for more than 11 thousand localities in 164 countries. In order to achieve the worldwide coverage and ensure verifiability and transparency of the results, we rely on publicly open satellite imagery and geospatial datasets. To ensure a consistent treatment of cities despite national variations in defining a city, we utilise a concept of Urban Centre as proposed by a consortium of international organisations and adopted by the UN Statistical Commission. The index offers a new tool for impact investors, policy makers, civil society organisations, and academia to (i) identify challenges faced by cities in a comparative fashion, (ii) target and expand new investments in sustainable urban development, and (iii) monitor changes in cities’ performance over time. We believe the Urban Sustainability Index can be further expanded to capture novel socioeconomic dimensions in the future, and can have wide-ranging utility for urban planning, biodiversity designs, and providing snapshots of systemic change or market effects.
The Attitude Intention Gap to Green Energy Adoption: An Extended Behavioural Reasoning Perspective

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Though attitudes towards green energy are generally positive, it still faces low rates of adoption in several countries across the globe. The current study examines the attitude intention gap to green energy adoption in Ghana. The study employed a quantitative research approach and data were collected from 425 homeowners in Ghana. Results were analysed using the two-stage approach to structural equation modelling. The findings indicated that reasons for the purchase significantly influenced purchase intention, while reasons against purchase had no significant effect. This suggests that consumers employ cognitive shortcuts to simplify decision-making, aligning with BRT principles. The positive effect of reasons for purchase resonates with prior BRT studies, emphasizing the impact of a green product meeting consumers’ mental and psychological needs on decision-making. Regarding barriers, the study found that “reasons against” purchase, specifically cost barriers, significantly influenced purchase intention. However, risk and incompatibility barriers did not show a significant negative effect, possibly due to increasing awareness of solar panels as an alternative energy source and suitable architectural conditions in Ghana. The study highlights the importance of consumers’ positive attitudes toward solar panels in influencing their adoption intentions, reinforcing the role of attitudes as key antecedents to behavioral intentions. The findings contribute to understanding consumer decision-making in adopting green technologies, emphasizing the multifaceted influence of perceived value and barriers in the context of solar panel adoption in Ghana.
Environment Pollution, Human Health and Governments Regulations: Encouraging Government Policies to Take Necessary Actions towards Waste Management

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The vulnerability of human health is apparently linked to climate change. Invariably, a clean environment is essential for human health and wellbeing; conversely, unrestrained and uncontrolled development contributes to environmental health issues because it overexploits the natural environment and its resources. Undoubtedly, environmental health challenges have become worldwide issues and the consequences can be immediate and chronic, including water-borne infections caused by inadequate sanitation or skin cancer caused by exposure to arsenic in groundwater or excessive UV radiation (due to depletion of the stratospheric ozone layer). Furthermore, growing environmental pollution has caused major concern to population lives since the liberalization and deregulation, in tandem with rapid economic expansion. Wildfires in Australia and California, China’s worst floods, the first-ever heatwave in Antarctica with rising temperatures above 20 °C, microplastic discovered in Antarctic ice, and crop destruction by locusts swarming across parts of Africa, the Middle East, and Asia occurred in the year 2020 alone. Additionally, habitat loss is also an important environmental problem, and it is being caused by land clearance for agriculture cash crops, making agriculture the largest driver of deforestation. This research emphasizes the role of environmental quality, government policies, and human health, and it is imperative that government actions and health systems must be modified as soon as possible to address these rising concerns successfully. The goal of the work is to elucidate an overview of environmental change’s health impacts and explore how health hazards may be reduced or eliminated through effective adaptation strategies.
Ensuring Justice in Climate Legacy of Bangladesh - An Evaluation

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The adverse effects of climate change on the human rights of the marginalized population create worsen situations of climate injustice. Climate justice integrates protection of the climate vulnerable people, environmental sustainability, and effective environmental governance. The concept of climate justice or injustice due to climate change has not been popularized or largely addressed both nationally and internationally. Despite significant normative development of Bangladesh addressing climate change, establishing climate justice in the law and policy measures remains inadequate. Therefore, to address the normative gap of climate justice, a systematic human rights-based approach is essential. The paper primarily focuses on climate literature to understand the systematic development of climate justice and human rights for the protection of present and future generations in Bangladesh. This study also investigates application of international principles of environmental law to climate justice in the context of Bangladesh. Moreover, shortcomings and gaps in the existing normative framework of climate justice are also identified. Further, viable options to address climate justice and human rights debates are also highlighted.
Impact Assessment of the World Bank’s Resilience Efforts in 2022
Floods in Sindh, Pakistan: From the Lens of Home, Community, and Inclusivity

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Pakistan is among top ten countries in terms of vulnerability to the impacts of climate change. The recent floods of 2022 devastated more than 30 percent of the country and had a financial impact of more than 30 billion US dollars on the country’s already struggling economy. Since then, the World Bank has been at the forefront of recovery and reconstruction efforts in flood affected communities of Pakistan. This study assesses the impact of the resilience housing reconstruction programme of the World Bank in Sindh province of Pakistan. The research structure focuses on the themes of cost efficiency, resilient design, community ownership, accessibility, and diversity in the reconstruction process of two selected case studies within Sindh. The case studies, ABC and XYZ, are selected based on variation in landform and level of flood devastation. The comparative analysis ensures to diversify the depth and generalizability of the research. The study concludes in recommendations as well as lessons learnt and highlights best practices tested through post occupancy evaluation. These in turn can provide guidance and inform future flood reconstruction programmes in areas with a similar geographic and environmental profile.
Climate change poses significant challenges to public health, primarily due to the rise in extreme temperatures and heatwaves, with Spain being one of the most affected countries. Compounding this, multiple studies demonstrate that the distribution of the urban temperature gradient is linked to social inequalities, with the most severe effects of this climatic scenario predominantly affecting especially vulnerable populations. In order to reduce the population’s exposure to extreme temperatures, it is imperative to develop effective adaptation strategies in urban environments, considering population vulnerability and the differential impacts of climate change on various social groups. Therefore, it is necessary, as a preliminary step, to identify, characterize, and categorize those urban areas most susceptible to the climatic risk of extreme heat. This study focuses on Seville, proposing a multifactorial approach to identify, at a district level, areas and socio-economic groups especially vulnerable to extreme heat. The methodology integrates geospatial, microclimatic, socio-economic, and demographic analyses, employing R-Studio as a statistical tool for the treatment and analysis of spatiotemporal data. Factors such as age, income, inequality, and unemployment, which increase health risks and exposure time to extreme temperatures, are considered. Additionally, the spatiotemporal distribution of microclimate during heatwaves, influenced by the Urban Heat Island (UHI), is analysed. The results of this research provide an understanding of the spatial distribution of vulnerability to extreme temperatures in the studied city and offer a solid foundation for prioritising and guiding future heat adaptation and mitigation strategies.
Global Environmental Cooperation and How Nationalism Hinders It

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Environmental issues are inherently global in nature – not only do pollutants in air and water ultimately affect all life on Earth but the current warming of the planet cannot possibly be restricted to any single region. And while individual nation states understandably desire autonomy for their citizens and within their own borders, the global issues we collectively seek to address requires a cooperation that such autonomy often obstructs. Even well-intentioned nations, who gather at global summits and pledge their commitment to the environment at large, often return home to conditions which prevent the very cooperation they just pledged. And of course, those who feel they will not benefit from such agreements, or who did not contribute to the problem in the first place, have even less reason to change their ways. Attempts to unify the nations of Earth and make such cooperation more likely have been increasing for over a century now – first with The League of Nations and presently through The United Nations – but even on a global scale, we all recognize the difficulties involved in uniting a population that is now over eight billion strong. Feeding, clothing, and housing this still growing number is challenging enough, but reconciling the political, economic, and religious differences makes genuine cooperation even more difficult. Since the one thing that unites us all is the sustenance this planet has always provided, the purpose of this paper is to show how environmental issues themselves can overcome our most entrenched nationalistic differences.
Environmental Factors Influencing Suicide - Itaporã Indigenous Reserve (Dourados, Brazil): A Comparative Analysis of Climate-related Health Determinants and Health Endpoints

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Environmental pressure could be linked with the dramatically increased number of suicides in the Guarani ethnical groups living in the suburban areas of Dourados where recurring nutritional and mental disorders were found in the at-risk population. Although periodic population surveys have been carried out in Brazil since the 1970s, no specific tracking has been recorded of those indicators that affect indigenous populations other than a few limited regional studies. In any event, the increase of adverse health indicators associated with environmental stress as diarrhea or pneumonia, the emergence of nutritional disorders and the high prevalence of suicide rates have been identified as common trends by independent studies. The purpose of this analysis is to evaluate the impact of environmental factors, traffic-related pollution and relevant health determinants in populations living in a suburban and nearby urban environment such as the Guarani-Kaiowá community of Dourados-Mato Grosso do Sul- Brazil. A qualitative document analysis based on the synthesis of existing literature has been complemented with the critical review of relevant outcomes of health surveys on health determinants. The opening of highway MS-156, Mato Grosso do Sul, Brazil has further worsened the health status and chronic health problems of the indigenous population of Itaporã reserve, which this road has split in two. The traffic-related air & noise pollution exacerbates the existing health problems impacting the health status of the Guarani-Kaiowá community, including mental health. A progressive increase in suicide cases has been observed. This is a global trend affecting indigenous communities worldwide.
How Climate Change and Insurgency Induced Population Displacements in Nigeria: A Critical Study of the Condition and Management Challenges in Displaced Person’s Camps

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Many Nigerians have become internally displaced due to herdsmen attacks, natural disasters, rural banditry and cattle rustling, climate change and identity conflicts, among other factors. However, the activities of Boko Haram (an insurgent group that targets security formations and government establishments in Nigeria) and climate change will be used as a case study. Given the complexities and increasing number of Internally Displaced Persons (IDPs) in Nigeria, especially in the Northern states, the government in collaboration with other stakeholders has stepped up efforts to cushion the effects of displacements and forced migration in the nation. Unfortunately, not much has been achieved due to some emerging issues in the management of IDP camps. In light of the above assertion, this research work is interested in investigating the links between the causes and nature of population displacements, the socio-economic implications on the affected states, as well as the complex conditions in the IDP camps and its management challenges. This paper employs analytic methods to explore some of the displacement issues as related to the present study. To achieve those objectives, secondary materials from relevant existing literature, pictures and news reports are used to draw up conclusions. The paper not only contributes significantly to the literature concerning population displacements and forced migration in Nigeria but also stimulates important policies (including socio-economic, security and legal policies) as responses toward addressing identified issues and challenges.
Climate Change Adaptation Policy for Women in Indigenous Communities in Bangladesh: A Critical Assessment of Law and Policy Pertaining Human Environmental Rights

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The linkages between human and environmental rights have become issues of vigorous debate and become particularly relevant as to issues of migration and gender equality present emergent challenges in the face of climate change. The forced migration of the Rohingyas people into Bangladesh following persecution in Myanmar illustrates pressures put upon migrants and the indigenous communities in the areas to which they move. These pressures are especially acute for women, raising important considerations about gender equality. This research critically assesses the adequacy and effectiveness of the legal framework in protecting women in indigenous communities in Bangladesh against the human rights impacts of climate change. The research examines the challenges faced particularly by indigenous women in trying to ensure climate change adaptation measures to protect the environments they live in, the challenges of being displaced by climate change impacts, and in receiving other displaced indigenous community members into their own communities. This is in the context of many indigenous communities adopting a matriarchal model of governance. It explores human and environmental rights to critique the Bangladesh domestic legal and policy framework for the protection of women in indigenous communities of Bangladesh in the facet of climate change impacts.

The Impact of Natural Disaster on Education in Brazil

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Classified as the result of an extreme or intense phenomenon in the social system, natural disasters can affect human life in several dimensions. At macroeconomic levels, compromises economic growth, infrastructure, and employment levels. In the microeconomics sphere, it affects access to basic services, such as human capital formation, earnings, and health or nutrition. This research analyzes the impact of natural disasters on the students’ test scores in Portuguese and Mathematics, dropout rates, and grade promotion in Brazil using Fixed Effects models. A municipal panel data set was created from 2009 to 2019 using data from the Integrated Disaster Information System (S2ID) of the National Secretariat for Civil Defense and the National Institute of Educational Studies and Research (INEP). The results showed that natural disasters in the Northeast region of Brazil were responsible for reductions in students’ proficiency, decrease in grade promotion, and increase in dropout rates. This study shows the negative effect of natural disasters on human capital and may serve as a tool to orient public policies to mitigate the problem, and better protect the society.
The global pandemic COVID-19 has led to an advanced exploration of the remote world, with many employees and employers wanting to continue with the work-from-home (WFH) scenario even after offices reopened. Consequently, it becomes essential to understand the impact of energy load shifts from commercial to residential buildings and the resultant opportunity for the energy-efficient design community with this new trend. Simultaneously, businesses and companies are increasingly declaring net-zero goals, adopting various green market approaches, to tread a socially and environmentally responsible path. We are proposing the creation of a new program for such companies bringing them closer to their climate action goals while also benefitting their employees. It encompasses an opportunity for employers to incentivize energy efficiency upgrades of their employees’ homes, in a manner that proves to be financially feasible for both the primary stakeholders, i.e., companies and employees. We began the research by analyzing utility load shifts due to employees shifting to a WFH setup. Then, we collected information for residential green building retrofit techniques, identifying the most cost-effective and impactful ways to create healthier WFH environments while reducing GHG emissions. Further, we evaluated the viability of the new proposed program relative to the widely used existing decarbonization strategies. Next, we theoretically tested the implementation of the program through a case study. The report culminates with different suggestions to standardize the roadmap of such a voluntary energy-efficiency program and a discussion about its practical implementation to enable a win-win response of COVID-19 to climate change.
Climate Awareness and Business Solutions: Evidence from Northern California’s Climate-impacted Region, Sonoma County

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As corporations are committing to adopt sustainability principles, we are witnessing more and more businesses coming up with novel solutions to address the climate emergency we are facing. Though a welcome trend, when businesses address climate change issues oblivious of community’s perspectives on how the socio-economic realities of the region interact with their notion of climate action, the intended impact of business sustainability solutions may not attain its fullest potential. This study explores the gaps in this domain of climate action by exploring how climate awareness of a region can be translated to climate action through community-informed systems change solutions that businesses can act on and advocate for. We use a mixed-methods research design and investigate this topic with evidence from Northern California’s climate-impacted region, Sonoma County. Our findings contribute to strengthening the knowledge base in business sustainability by integrating the richness of diverse communities’ perspectives to the discourse of what can (and cannot) contribute to meaningful climate action.

How a Comic Can Raise Awareness on Saving Our Planet: Teslaman Fights Dirty (Pollution, Global Warming, etc.)

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How can a superhero graphic novel make the public aware of the dangers that our planet faces? This superhero, along with his partners (Pachamama (aka Mother Earth), and Windmill Giant) fight the villains Paul Looter, Smogman, Poison, and Stinky who put money above saving our planet. The comic deals with the effects of Global Warming, pollution, pesticides and the effects of fossil fuels on our environment and the world. Teslaman comes from a planet that was destroyed because it did not foresee the effects that climate change and lethal disasters would have on their planet. The superhero is a fan of Nikola Tesla.
Climate Change Adaptation and Rights of Nature in Colombia: Case Study of Atrato River, Amazon Rainforest and Suriki State

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There is a failure of the governments to address the impacts of climate change. Therefore, it is urgent to develop an adaptive capacity for the present and future effects of climate change caused by anthropogenic factors. There is a fertile ground for adaptation strategies based on climate litigation and measures of responsibility. Litigants can enhance their access to justice mechanisms looking for effective remedies related to human rights and the environment. Colombia is one of the most mega biodiverse countries in the world and it has a constitutional duty to protect the environment. Colombian national courts have developed a tendency in their judicial decisions to declare a legal personality of nature and its elements to shape remedies to develop adaptation climate measures to conserve ecosystems and their biodiversity to increase their resilience and adaptive capacity. The recognition of the legal personhood and rights of nature in Colombia has produced an advance in environmental policies and human rights. The cases of the Atrato River and the Amazon Rainforest are a clear example of how climate justice contributes to the implementation of adaptation measures based on the conservation of ecosystems. Nevertheless, other modalities of environmental protection are emerging through the implementation of the figures of protected areas, which do not involve a judicial decision but rather are driven by private initiatives. The implementation of protected areas is a highly effective measure to conserve nature, since it increases resilience, strengthens adaptive capacity, and reduces vulnerability to the impacts of climate change.
Climate Concern and Eco-anxiety in BC Youth: Findings from the 2023 Youth Development Instrument

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Eco-anxiety describes heightened anxiety levels related to the threat of global environmental disaster. As the climate emergency grows in urgency, eco-anxiety could precipitate new psychological conditions and worsen existing mental illnesses. This is of particular concern among youth, who are likely to experience repeated stressors related to the climate crisis. This developmental period is also characterized by peak onset of mental health disorders. This study's objectives were to assess levels of climate concern and eco-anxiety among BC students. Items measuring climate concern and eco-anxiety were included on the Youth Development Instrument, a population-level well-being survey of Grade 11 students in BC. Survey participants included 14,596 students. Many students were worried about climate change (72.2%) and 74.1% thought the threat should be taken more seriously. A smaller proportion reported experiences of eco-anxiety, with 45.0% feeling nervous, anxious, or on edge due to the environment in the past two weeks of the YDI survey. A large number of BC youth are experiencing climate change- and environment-related mental health effects. Developing resources to help youth cope with increasing climate change and environmental stressors is a pressing priority as the climate and environmental emergencies grow in urgency.
Atmospheric Circulation Patterns Controlling Wetness and Dryness Across Lake Urmia Basin in Iran: Historical Drought Dynamics

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Iran’s Lake Urmia (LU), once the second-largest permanent saltwater lake on Earth, desiccated by 88% in 1972-2014. Drought has played a key role in such area shrinkage of LU by reducing its inflow by 44% during 1996-2003. This dryness reflects regional precipitation deficit naturally controlled by large-scale atmospheric circulations (ACPs) like the North Atlantic Oscillation (NAO). Hence, identifying those influential ACPs for meteorological drought dynamics throughout the LU Basin crucially helps develop effective adaptation and mitigation strategies to prevent further shriveling. Using the Standardized Precipitation Index (SPI), this study evaluated the spatio-temporal variability in wetness and dryness characteristics (in terms of intensity, frequency, and duration) across the LU Basin during 1981-2015. The SPI values were calculated in 12 (annual) and 3 (seasonal) time steps (SPI-12 and -3, respectively). The relationships between such SPI values and well-known large-scale ACPs were also investigated. Based on SPI-12 values, annual dryness was mostly severe, seen in 1997-2001, with higher intensity and frequency in the south part of the LU Basin. Such dryness variability was mainly associated with the annual East Atlantic/West Russia (EA/WR) pattern. On the seasonal scale, springtime (March-May) SPI-3 values showed the highest drying trends, and most frequent drought events, mainly at the extreme level, lasting for 1-2 consecutive years, all particularly in response to variations in the Scandinavian (SCA) pattern. Such findings lay the foundation for sustainable water resources management throughout the LU Basin, acting towards achieving the 2030 United Nations Agenda for Sustainable Development on local, regional, and global scales.

Demonstration of the Degree-Hours Method to the HadCET Dataset to Present an Alternative Approach for Communicating about Climate Status

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Communication about climate status often refers to the statistic of a global temperature rise of 1.1°C. The use and presentation of this specific value is proposed as being difficult to interpret by the public and politicians due to numeric anxiety and effect size categorisation. An alternative communication approach using the degree-hours method is developed in this paper. The degree-hours method has previously been used to produce estimates of cold-season heating requirements in various cities around the world. In this paper, the degree-hours method is applied to the HadCET data set from 1841 to 2020 to show a 9000 degree-hour increase in the England climate status and to provide a new statistic for thermal change communication.
Measuring Psychological Responses to Climate Change: Minding the Limits of Concepts and Methods, the Example of Psychological Coping and Defense

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Climate psychology research investigates the intersection of the transformations in technological and behavioural practices, and of social, political, and economic systems required to mitigate and to adapt to global warming. It also attends to the assessment and treatment of mental health impacts related to experience of climate change. As such, climate psychology research has interdisciplinary relevance, objectives, and implications. The variation in research aims and methods mobilized to study this interdisciplinarity poses challenges to the integration and communication of results. Attempts to universalize the evidence base have often led to the prioritization of positivist methodologies. However, there are limits to what can be quantified, and limitations to what quantification alone can reveal. Other approaches may permit the exploration of concepts, correlations, and dynamics essential to the formulation of innovative research questions, designs, experimentation, and productive communication across disciplines. This paper argues for a universalization of the climate psychology evidence base through the application of methodological interdisciplinarity to research efforts by prioritizing conceptual clarity and precision in research design, measurement, and communication rather than attempting to standardize methodology. This permits an accurate appraisal of findings within epistemological and methodological paradigms, and the situation of climate change as a whole. Using the example of recent empirical findings about effects of psychological defenses on individuals thinking about their mitigation and adaptation behaviours, this paper demonstrates how the rigorous contextualization of research questions, methods and results permits the generation and interpretation of data within a universal but methodologically heterogeneous evidence base.
Are We Transforming to Face Droughts and Extreme Precipitations in a Changing Climate? Atacama and Aconcagua Valley, Chile

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Climate change is one of the greatest challenges human society is facing. The patterns of climate-related hazards, such as extreme precipitation events and droughts, are changing, and they are expected to continue increasing in frequency and magnitude. The society future is uncertain, and for complex problems, such as climate change, incremental responses, while useful, have not been nor will they suffice. Therefore, incremental responses must be complemented by transformational ones as deeper changes in society are required. This study informs transformation theory and practice, by unfolding the current transformational responses to drought and extreme precipitation impacts in Chile, to be useful for thinking in a transformed future. The overarching research method is case study, in Atacama for extreme precipitation events and in Aconcagua Valley for extreme droughts in Chile. A multi-method approach is used, including literature and document review, observation, and interviews (51 interviews conducted during 2022 and 2023). Results show a greater amount of incremental adaptation practices, with only a few transformational ones. Some examples are collective initiatives that have emerged from the grassroots as a response to climate change and environmental degradation impacts in a context of structural inequity present in Chilean society. Some other transformational practices are focused on changing the normative related for example to rural water organizations. Studying the transformational approach through a critical lens reveals its potential to be a useful approach in specific contexts, to escalate this to other contexts, and in turn this study informs practice and policy.
In this paper, I show the impact of study abroad when it exposes students to sustainable living options. I created the Freiburg Study Abroad program in 2011 and have been the on-site Director ever since. My goal with this program has been to provide students with the experience of living in a city that has been a model of sustainable urban design for decades. Students experience everyday life in the “Green City” of Freiburg, Germany as they learn German at the Goethe Institute, take public transportation, walk or ride bikes, walk to the local grocery store, separate and recycle trash in their rooms, live without air conditioning in the summer, and so on. Simply this manner of living has had a profound impact on our US American students, because it is vastly different from the automobile-centered life they are used to. We also participate in tours of local sustainable living communities in Freiburg (Rieselfeld and Vauban), so students can see different successful models of sustainable urban design. As a final project, students research and pitch an idea to the local power company for a Sustainable Urban Design project that is sensible and beneficial for Freiburg and worthwhile for investors and the company. By doing this, students are able to show that they not only understand various sustainable urban design technologies, but also how they can benefit a city and its citizens, making it truly sustainable. One student credited this program with her decision to pursue a career in Eco-Finance.
Boundary Organizations: A Link between Research and Society

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Boundary organizations are structures that act as an interface between the researcher and actors from the society to co-create scientific responses to face the socio-environmental issues raised by the territories’ actors. In light of climate change, Ouranos, CCCA and Futurs ACT are working together with an objective of mobilising and accompanying a science-society project around the science of anticipation. Having observed the existing gap between the research world and society, it has become much more evident that there is a lack of linkages between researchers and society. Current socio-environmental challenges, which are shared by science, society and boundary organizations, could be faced by co-constructed projects and by mobilizing research tools. This dynamic at the interface between society and science is increasingly important as shown through the rise of participatory research projects. Hence, for 3 years now, the collaboration between Ouranos, FA, and CCCA has permitted the emergence of common questions. We focus on them through international webinars and participation in two international symposia. For example, as a part of the «European Climate Change Adaptation» in Dublin, we facilitated an exchange between boundaries organizations. Also, during the “Adaptation Future” symposium in Montreal, a large number of boundary organizations met around their mobilization’s strategies for anticipating climate change. By undoubtedly continuing the use of this same approach, we want to promote ostensibly our inclusive approach to science-society co-construction, which we reasonably believe is essential to address the anticipation of environmental and social challenges by strengthening the link between research and the society.
Climate change litigation is skyrocketing across the globe and becoming a tool to hold governments accountable for the climate crisis, as a great number of cases challenge authorities’ responses to the problem. These claims have been filed in different spheres, including local and federal courts, quasi-judicial bodies, or other adjudicatory bodies, and some cases have already reached the highest federal court in certain countries. This paper analyses these highest courts’ decisions on claims against governments to identify the role of Supreme Courts in addressing climate change and shaping the future of policies and regulations. I argue that, being the last resort for those seeking justice, Supreme Courts have performed a fundamental role in aligning national objectives with international commitments, such as the Paris Agreement. Due to the novelty of the cases, judges have based their decisions on principles from various areas of law, as exemplified by the human rights approach adopted by the Dutch Court. The remedies have also been innovative, including ordering the creation of a new climate law (Nepal). Furthermore, as climate change is a global phenomenon, we are witnessing a cross-border exchange between courts worldwide. Despite progress in climate litigation, I argue that there are some important obstacles. One of them is the risk of courts assuming the role of political decision-makers, an issue taken into consideration in the recent decision of the Spanish Supreme Court. Another challenge is ensuring compliance with court decisions, which is evidenced by the difficulty of the Colombian case of Future Generations.
Creating a Healthy, Resilient Community in Kituntu, Uganda: Intended to Eliminate Daily Trips for Water and Firewood the Project Now Reduces Food Insecurity and Agricultural Regeneration

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This project involves a person was born in Kituntu and wanted to rebuild her home there as an example of low carbon construction that would improve construction techniques in the community. As a child her chores included two 5 km walks each day for fresh water and a search for firewood that left little time for education and managing a healthy life. Construction of a seismically reinforced mud wall starts with hundreds of mud balls set in layers of wet mud that are capped off with site manufactured terra cotta roof panels. The drying wax used to waterproof the roof also covers a pressed earth floor as a substitute for concrete. Water Whiskers inside the homes transform humidity in the air and provide some degree of cooling powered by VEGAN PV panels. The center improves local crop production, grows African spices, and teaches about how to cook with them while developing healthy eating habits. Sistema Biobolsa units convert agricultural waste into Biogas for cooking and to power gas driven chillers for heating, cooling, electricity, and water production. The shipping containers used to create the Lake from a Box are climate controlled to simulate regions in Africa where crops are failing to see what needs to be done to regenerate crops suffering from climate change.

Prospective Involvement of Indigenous Communities in Carbon Farming within the Framework of Malaysia’s Net Zero Ambition

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Malaysia enjoys several natural advantages that position it favourably to attain net-zero emissions. Among these advantages is its abundant carbon sinks, primarily the natural forests that play a pivotal role by sequestering approximately three-quarters of the country’s total carbon dioxide emissions. Nevertheless, several challenges impede the effective protection of forests in Malaysia. This paper provides an evaluation of the current state of forest protection in Malaysia, focusing on major obstacles hindering effective conservation. It examines regulatory gaps pertaining to forest protection and addresses regulatory issues related to land use change, as well as the protection of indigenous people’s land rights. The discussion advocates for the strengthening of legislation governing the conversion of forest for alternative land use, with a promotion of carbon credit production as a sustainable alternative that preserves forest integrity. It is argued that these measures could contribute to Malaysia’s goals of conserving and protecting forest cover. Recognizing the intricacies of Malaysia’s demographic and political landscape, the study emphasizes the need for legal reforms concerning forest-dependent communities, as well as their active involvement in carbon activities, to adequately safeguard the livelihoods and rights of these communities and further advance forest protection.
Climate Change Adaptation Strategies in the Hakaluki Haor of Bangladesh: The Role of Social Capital

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The climate change risks pose a significant threat to the haor area in the Sylhet region of Bangladesh. This qualitative study identifies climate change adaptation strategies employed by the Hakaluki haor people and establishes a link between social capital and climate change adaptation. Defining the components of social capital is crucial to comprehending its role in climate change adaptation. The social capital theory explains the benefits of having relationships. Within a social group, people can gain knowledge, financial risk sharing, and support during tough times. It is also valuable to network outside of one’s immediate group to create trust-based relationships. Building connections can lead to excellent outcomes for individuals and society. The study reveals that the haor people have adapted to climate-related risks by using their indigenous knowledge, constructing submersible embankments, and utilizing bamboo fences or brick walls to protect their homes from floods and erosion. Through in-depth interviews with 30 residents and consulting secondary data sources, the study finds that bonding social capital plays a critical role in all aspects of climate change adaptation while bridging and linking social capital are equally important in specific situations. The results of this study can be utilized to develop new adaptation strategies and understand how other wetlands in Bangladesh can cope with the effects of climate change. Overall, the study provides valuable insights into the role of social capital in climate change adaptation in the haor area of Bangladesh.
Leveraging the U.S. Agriculture Land-Grant University Extension System for Climate Science Outreach Education: The Case of Program for Local Adaptation to Climate Effects

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The U.S. Land-Grant University Cooperative Extension Service (CES) funded jointly by the U.S. Federal Government in cooperation with each U.S. State and each state’s county governments began in 1914 and focused on outreach education for agricultural production. University CES programs have adapted to address other disciplines including climate change. This is a necessity given the need for individual and community responses to climate change, but also a challenge given the political polarization of the subject, which can be a concern as CES systems require funding support from state and county governments decided by elected officials. The political polarization also creates a challenge for the approach and delivery of outreach education. An outreach education program focusing on coastal climate resilience called P.L.A.C.E. (Program for Local Adaptation to Climate Effects) is hosted by the Mississippi State University CES. This program works to increase access to relevant research, enhance application of research, stimulate dialogue around vulnerabilities, and provide resources to facilitate resilience and mitigation actions. The scholarly aspect of P.L.A.C.E. is the method of approach and delivery of the often politically polarized subject of climate change with the objective of maximizing understanding and acceptance resulting in responses with impacts. All Extension faculty have academic home departments within an agricultural or natural resource college. The extension faculty member that leads the P.L.A.C.E. program has an academic home in the School of Human Sciences to better support and develop novel methods of teaching and information delivery to increase acceptance and reduce refusal to accept.
The Implementation of Subterranean Barriers with Mine Pre-drainage to Reduce Coal Mine Methane Emissions from Open-cut and Underground Metallurgical Coal Mines

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There is an opportunity to dramatically reduce methane emissions from Australian, open pit, metallurgical coal (MC) mines. Currently, MC is critical to the production of steel products and is essential to meet international urbanisation and energy system transformation goals. Initial research in the application of subterranean barriers in coal mining was focused on reducing whole-of-life coal mine methane (CMM) emissions (Johnson Jr, 2014) but lacked economic viability after carbon pricing was eliminated in Australia. The basis of induced barriers is similar to naturally occurring barriers (i.e., igneous intrusions or dikes) that have shown effective subterranean reservoir baffling. Barriers have also been applied in the environmental and civil engineering industries, to contain contaminants or manage or restrict subterranean flow, respectively. In this case, subterranean barriers are being implemented in conjunction with mine pre-drainage to reduce methane emissions from an open pit, MC mine. In addition, barriers can be used in underground mining operations to improve mine pre-drainage, improving safety and meet reduced methane emissions. Our paper describes the design, execution, and evaluation workflows and the relative importance of variables required for a barrier implementation in subterranean applications for open-cut and underground mining applications. We will detail the results of ongoing planning and modelling to implement and assess a barrier application for reducing gas migration from unminded in-seam or underground mine sections into open-cut MC mining operations. Barrier implementation in conjunction with the beneficial use of gas provides a workable framework to reduce MC mine emissions toward necessary reductions by 2030.
As the impacts of climate change are presently and alarmingly obvious, eco-activism through design visualizes concepts and incites change. Armed with the powerful tools of visual communication, urgent responsibility rests on the shoulders of designers to prioritize critical messages through clear and inspiring messages for the public. Design can serve as the conduit between science and society, abstraction and clarity, and singular work and collaborative systemic effort. My teaching, research and practice over the past 17 years has explored various communication design strategies—humanistic appeals to reconnect oneself with nature, disturbing statistics meant to instigate response, logical calls to action, aesthetic presentation of biophilia, visualization through concrete poetry, community mapping in partnership with an ecological organization, making through green processes and foraged materials, etc. The body of work varies in method, message, and material—yet maintains the commonality of environmental principles and goals of resilience. Design thinking and creative problem solving can and should aid humankind’s response to the climate crisis. Presenting this arc of environmentally focused creative research aspires to demonstrate benefits and impact, while instigating future cross disciplinary collaboration and cooperation. As an eco-activist designer, I hope to contribute to (and sway) the ongoing dialog of environmental urgency that is often met with inaction.
Do Adaptation Interventions Reduce Vulnerability and Disaster Risk and Strengthen Socio-ecological Resilience?: Lessons from Coastal Odisha, India

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Adaptation measures stand as powerful instruments in the battle against the adverse effects of climate change. Understanding the status of adaptation efforts in developing nations like India, with a specific focus on disaster-prone regions such as Odisha, holds paramount importance. This study delves into how adaptation initiatives contribute to mitigating vulnerability and reducing disaster risks while bolstering socio-ecological resilience. Leveraging insights from the Sustainable Livelihood Framework, Sendai framework, and Millennium Ecosystem Assessment, we scrutinize adaptation strategies. Employing the frameworks outlined by Smit and Pilifosova (2003) and Tompkins (2012), we compile an adaptation inventory, drawing from various published and unpublished sources, including peer-reviewed literature, grey literature, and documents from International Non-Governmental Organizations (INGOs) and state-level Non-Governmental Organizations (NGOs). The inventory meticulously documents the purpose, providers, beneficiaries, timing, functions/effects, and overall outcomes of adaptation measures in Odisha. While not exhaustive, this inventory sheds light on how these measures mitigate disaster risks and enhance socio-ecological resilience. Notably, it underscores the role of adaptation interventions by the state, INGOs, and NGOs in driving development, reducing disaster risks, and fortifying citizens’ resilience to climate change impacts. Moreover, it presents a blueprint for scaling up successful adaptation interventions from local to regional or national levels, exemplified by the experiences in Coastal Odisha, which can be replicated across broader geographical scales. This comprehensive review serves as a valuable resource for understanding and advancing adaptation efforts in similar contexts worldwide.
Effective Communication of Coastal Flood Warnings: Challenges and Recommendations

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With the increasing risk of coastal flooding on coastal communities due to climate change, coastal flood warnings (CFWs) are expected to play a critical role in the protection of people and property. However, as destructive coastal flooding hazards have still caused considerable damage in recent years, the effectiveness of coastal flooding warnings can be questioned with their objectives of disaster risk reduction. Here, we deliver a review investigation on the current CFWs in the USA and Canada based on their setup and dissemination, and case study of two representative coastal flooding events. Through this review, we have found that the collaboration of multi-level administration on CFW mechanisms has the potential to strengthen towards higher efficacy. We also found that CFWs from the media often lacked consideration on public acceptance and practicability in their reports, which may have affected the performance of CFW from its original intention. Meanwhile, the technological limitations and uncertain public acceptance may also discount the CFW effectiveness from their expression. Accordingly, media should consider more on the understandability of CFW-related reports. Moreover, emergency information channels should be set in both traditional media and social media, for an accessible use for residents with different customs. Lastly, starting from the normalized prevention of coastal flood disaster, a consensus of crisis awareness should be built, with which the social defensive line towards coastal flooding can be combinedly established for future environmental challenges.
Advancing Climate Action through Standards

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Yuna Song, Sector Specialist - Infrastructure and Climate Change, Standardization Services Branch, Standards Council of Canada, Ontario, Canada

Standards and guidelines can be powerful resources for professionals, practitioners, and governments in designing and implementing sustainable and climate-resilient solutions. By standardizing best practices, National Standards of Canada can streamline and harmonize the field of climate resilience while playing an integral role in improving the overall health and safety of Canadians, and of their environment. The Standards Council of Canada (SCC) is leading the development of climate-resilient standards that can be implemented to adapt communities to climate change and extreme natural events. The Standard to Support Resilience of Infrastructure Program (SSRIP) has been working since 2016 to advance, through standardization, the resilience of Canadian infrastructure. This is achieved through collaboration with communities, standards development organizations, and experts from across the country to support the development of standards that consider climate change impacts in infrastructure planning, design, construction, operation, and maintenance. This paper provides an overview of SSRIP and its work to boost the resilience of Canadian infrastructure through the revision of existing standards with climate resilience in mind. Flood protection, asset strengthening, and nature-based solutions are key focus areas for the program.

Flood That Never Subsides

Teody San Andres, President, Office of the President, Bulacan State University, Bulacan, Philippines

Several parts of the city of Malolos, towns of Hagonoy, Paombong and Calumpit in the province of Bulacan are perpetually flooded throughout the year being built on a delta environment. The province is located between the coastal areas and the base of the Sierra Madre Mountain ranges where illegal quarries and loggings occur. The flood and swamping are one of the effects of the changing climate in the area. This paper aims to elucidate major issues concerning inundation in the affected localities and the possibility to deal with it. Mixed methods research are utilized to gain a more complete and comprehensive results of the problem. Archival research, focus group discussion and face-to-face interview were also applied. The preliminary results show that there are possibilities on how to find solutions and solve the flood problems in low-lying areas that affect the socio-economic status of the people.
The Fire Pod: A Cutting-edge Solution Designed to Safeguard Houses from the Dangers of Forest Fires

Jisung Yoo, Student, Diploma, Seoul Foreign School, Seoul Teugbyeolsi [Seoul-T’ukpyolshi], South Korea
Hwang Dong Ho, CEO, Educational Research Center, BOLD LAB, Seoul Teugbyeolsi [Seoul-T’ukpyolshi], South Korea

With the establishment of the US Forest Service, and the “1900s Fires,” fire suppression became the national policy, and efforts focused on extinguishing fires as soon as they ignited (Forest History). This policy successfully reduced the immediate extent of forest fires but consequently led to a dangerous accumulation of highly flammable dead trees and brush on the forest floor. Our intervention essentially disrupted nature’s natural balance. Additionally, due to global warming and its effect in creating increased drought(s), and a longer fire season are boosting these increases in wildfire risk. The Firepod presents a potential solution to the challenge of safeguarding our infrastructure from the threat of forest fires. When a forest fire warning is received, FirePod owners can activate the device either via a mobile app or by using a button installed in their home. Upon activation, the FirePod deploys fire-resistant materials named ‘Fire Zat’ outward at an angle, achieved through an air pressure system similar to the deployment method of a webcaster (net) gun. This deployment is assisted by weighted balls attached to the end of the fire-retardant material, ensuring precise and swift coverage of the entire house with exceptional consistency. FirePod allows homeowners to immediately seek shelter in the nearest alternate haven and increase their chances of avoiding injury, instead of attempting to protect their homes from the flames. Ultimately, the assurance of this protective technology for their infrastructures will not only help infrastructure but save many lives.
Attendance List

Aidatu Abubakari, Lakeside University College, Ghana
Benjamin Adebisi, Institute of Anatomy, Cell Biology, Brain and Neurodegeneration, Nigeria
Olufemi Adetunji, University of Lincoln, United Kingdom
Rim Alamin, Ciheam-Iam Montpellier, France
Francine Angeles, Bulacan State University, Philippines
Vibha Arora, IIT Delhi, India
Aamna Azad, Qatar University, Qatar
Azliyana Azhari, Monash University, Malaysia
Sumanta Banerjee, Ravenshaw University, India
Jessica Black, Boston College, United States
Marit Bogert, Vrije Universiteit Amsterdam, Netherlands
Elizabeth Bradley, University of Colorado Boulder, United States
Andrew Brown, Anglian Water Services Limited, United Kingdom
Giselle Calosor, Bulacan State University, Philippines
Stuart Capstick, University of Cardiff, United Kingdom
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Rowell Castro, Bulacan State University, Philippines
Vittorio Cerulli, Purpose House, Ltd, United Kingdom
Cindy Chen, Sam Houston State University, United States
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Heide Crawford, University of Georgia, United States
Julia Diaz Borrego, Universidad de Sevilla, Spain
Wilma B. Cledera- De Los Santos, Mindoro State University, Philippines
Fabiana Dias, Mais Argumento Comunicacao, Le Fil Rouge Learning Lab, Brazil
Pedro Diaz Peralta, Yale University, United States
Petra Dilling, SUNY Empire State University, United States
Philip Egbule, University of Delta, Agbor, Nigeria
Rochard Eric, FutursACT / INRAE, France
Manon Filler, University of Erlangen-Nuremberg, Germany
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Loic Harriet, eKlore-ed School of Management, France
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Fernanda Haverbeck Flores, Universidad de Chile, Chile
James Henderson, Mississippi State University, United States
Meg Henderson, Mississippi State University, United States
Zachary Herrmann, University of Pennsylvania, United States
Luci Hidalgo Nunes, Visiting Researcher (FAPERJ scholarship) at Universidade do Estado do Rio de Janeiro (UERJ), Brazil
Victoria Hurth, Cambridge Institute for Sustainability Leadership, United Kingdom
Masoud Irannezhad, Australian University-Kuwait, Kuwait
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Bhakta Raj Joshi, netreshwori Engineering Consultancy, Nepal
Ana Lucia Kassouf, University of São Paulo and Partnership for Economic Policy, Brazil
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Claudia Ribeiro Pereira Nunes, Universidad Complutense de Madrid, Spain
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Teody San Andres, Bulacan State University, Philippines
Catherine Sang, University of Eldoret, Kenya
Jorge A. Santana, Sacramento Electric Vehicle Association, United States
Refk Selmi, eKlore School of Management, France
Attendance List

Justin Sentian, University of Malaysia Sabah, Malaysia
Andres Serrano, Sonoma State University, United States
Charlotte Sers, eklorew School of Management, France
Shiraz Ali Shah, Asian Development Bank, Pakistan
Muhammad Shahid, University of Liverpool, United Kingdom
Fatema Jahan Sharna, 3rd Additional District and Sessions Judge Court, Bangladesh
Raghid Shehayeb, Leibniz Institute of Ecological Urban and Regional Development, Germany
Yuna Song, Standards Council of Canada, Canada
Alexander Stepanov, European Bank for Reconstruction and Development, United Kingdom
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Violeta Velasquez, Colombian National University, Colombia
Roxanna Mhae Vidamo, Bulacan State University, Philippines
Shuran Wang, Cornell University, United States
Charlotte Wargniez, University of Oxford, United Kingdom
Jacob Wood, Indiana University School of Medicine and University of Utah School of Medicine, United States
Judy Wu, Simon Fraser University, Canada
Jisung Yoo, Seoul Foreign School, South Korea
Founded in 1984, Common Ground is committed to building new kinds of knowledge communities, innovative in their media, and forward-thinking in their messages. Heritage knowledge systems are characterized by vertical separations--of discipline, professional association, institution, and country. Common Ground Research Networks takes some of the pivotal challenges of our time and curates research networks that cut horizontally across legacy knowledge structures. Sustainability, diversity, learning, the future of humanities, the nature of interdisciplinarity, the place of the arts in society, technology's connections with knowledge--these are deeply important questions of our time that require interdisciplinary thinking, global conversations, and cross-institutional intellectual collaborations.

Common Ground Research Networks are meeting places for people, ideas, and dialogue. However, the strength of ideas does not come from finding common denominators. Rather, the power and resilience of these ideas is that they are presented and tested in a shared space where differences can meet and safely connect--differences of perspective, experience, knowledge base, methodology, geographical or cultural origins, and institutional affiliation. These are the kinds of vigorous and sympathetic academic milieus in which the most productive deliberations about the future can be held. We strive to create places of intellectual interaction and imagination that our future deserves.
The Common Ground Media Lab is the research and technology arm of Common Ground Research Networks. Common Ground Research Networks has been researching knowledge ecologies and building scholarly communication technologies since 1984.

Since 2009, we have had the fortune of being based in the University of Illinois Research Park while building our latest platform – CGScholar. This is a suite of apps based on the theoretical work of world-renowned scholars from the College of Education and Department of Computer Science at the University of Illinois Urbana-Champaign. CGScholar has been built with the support of funding from the US Department of Education, Illinois Ventures, and the Bill and Melinda Gates Foundation.

The CGScholar platform is being used today by knowledge workers as diverse as: faculty in universities to deliver e-learning experiences; innovative schools wishing to challenge the ways learning and assessment have traditionally worked; and government and non-government organizations connecting local knowledge and experience to wider policy objectives and measurable outcomes. Each of these use cases illustrates the differing of knowledge that CGScholar serves while also opening spaces for new and emerging voices in the world of scholarly communication.

We aim to synthesize these use cases to build a platform that can become a trusted marketplace for knowledge work, one that rigorously democratizes the process of knowledge-making, rewards participants, and offers a secure basis for the sustainable creation and distribution of digital knowledge artifacts.

Our premise has been that media platforms—pre-digital and now also digital—have often not been designed to structure and facilitate a rigorous, democratic, and a sustainable knowledge economy. The Common Ground Media Lab seeks to leverage our own platform – CGScholar – to explore alternatives based on extended dialogue, reflexive feedback, and formal knowledge ontologies. We are developing AI-informed measures of knowledge artifacts, knowledge actors, and digital knowledge communities. We aim to build a trusted marketplace for knowledge work, that rewards participants and sustains knowledge production.

With 27,000 published works and 200,000 users, we have come a long way since our first web app twenty years ago. But we still only see this as the beginning.

As a not-for-profit, we are fundamentally guided by mission: to support the building of better societies and informed citizenries through rigorous and inclusive social knowledge practices, offering in-person and online scholarly communication spaces.

Supporters & Partners

As they say, “it takes a village.” We are thankful for the generous support of:

Bill and Melinda Gates Foundation
IES Institute of Education Sciences
Illinois Ventures

And to our Research Network members!

www.cgnetworks.org/medialab
Climate change is one of the most pressing problems facing our world today. It is in the interests of everyone that we engage in systemic change that averts climate catastrophe. At Common Ground Research Networks, we are committed to playing our part as an agent of transformation, promoting awareness, and making every attempt to lead by example. Our Climate Change: Impacts and Responses Research Network has been a forum for sharing critical findings and engaging scientific, theoretical, and practical issues that are raised by the realities of climate change. We’ve been a part of global policy debates as official observers at COP26 in Glasgow. And we are signatories of the United Nations Sustainability Publishers Compact and the United Nations Climate Neutral Now Initiative.

Measuring
In 2022 we start the process of tracking and measuring emissions for all aspects of what we do. The aim is to build a comprehensive picture of our baselines to identify areas where emissions can be reduced and construct a long-term plan of action based on the GHG Emissions Calculation Tool and standard established by the United Nations Climate Neutral Now Initiative.

Reducing
At the same time, we are not waiting to act. Here are some of the “low hanging fruit” initiatives we are moving on immediately: all conference programs from print to electronic-only; removing single-use cups and offering reusable bottles at all our conferences; working closely with all vendors, suppliers, and distributors on how we can work together to reduce waste; offering robust online options as a pathway to minimize travel. And this is only a small sample of what we’ll be doing in the short term.

Contributing
As we work towards establishing and setting net-zero targets by 2050, as enshrined in the Paris Agreement and United Nations Climate Neutral Now Initiative, and to make further inroads in mitigating our impacts today, we are participating in the United Nations Carbon Offset program. As we see climate change as having broad social, economic, and political consequences, we are investing in the following projects.

- Fiji Nadarivatu Hydropower Project
- DelAgua Public Health Program in Eastern Africa
- Jangi Wind Farm in Gujarat

Long Term Goals
We’re committing to long-term science-based net-zero targets for our operations – and we believe we can do this much sooner than 2050. We’ll be reporting annually via The Climate Neutral Now reporting mechanism to transparently communicate how we are meeting our commitments to climate action.

www.cgnetworks.org/about/climate-pledge
Proceedings of the Sixteenth International Conference on Climate Change: Impacts & Responses, hosted by the Éklore-Ed School Of Management, Pau, France, 25-26 April 2024. The conference featured research addressing the following special focus: “Responding to a Climate Emergency: Purpose Driven Organizations for a Sustainable Future” and annual themes:

- Theme 1: The Nature of Evidence
- Theme 2: Assessing Impacts in Diverse Ecosystems Themes
- Theme 3: Human Impacts and Responsibility Theme
- Theme 4: Technical, Political, and Social Responses