

Climate Crossroads Summit

Agenda – July 16-17, 2024

Session Descriptions

Tuesday, July 16, 2024

SESSION 1: 9:30-10:45 AM

Artificial Intelligence and Climate Change - Auditorium

As artificial intelligence (AI) continues to evolve, it may become a powerful tool to help address climate change worldwide, as well as an increasing source of greenhouse gas emissions. This session will explore methods for leveraging AI to provide climate-relevant information to decision makers, describe how stakeholders are planning for potential increases in energy demand due to AI, and lay out approaches for addressing ethical considerations and potential risks.

SESSION 2: 11:00 AM-12:15 PM

Nature-Based Solutions - Auditorium

Nature-based solutions such as restoring wetlands, conserving forests, and using cover crops provide benefits for both people and nature. In the context of climate change, they can sequester carbon dioxide and avoid greenhouse gas emissions, while also helping communities become more resilient to climate impacts through benefits such as flood protection, reduced urban heat islands, and improved water quality. Implementing these solutions, however, comes with challenges, as they require suitable landscapes, local participation, financing, permitting, and perhaps most crucially, a basis of scientific evidence that the specific solution can achieve the desired outcome. Join us for a conversation about barriers and opportunities related to nature-based solutions.

Financial Markets, Public & Private Investment Decisions, and the Energy Transition – Room 120

This breakout session will explore the interactions between financial markets, public and private investment ecosystems, and efforts to decarbonize the U.S. economy. To successfully attain a net-zero emissions economy, creating and maintaining a healthy and robust investment ecosystem for clean energy technologies will be of critical importance to the private sector, the federal government, and the broader public.

Climate Knowledge Production: Building Trust through Community Engagement – Room 125

Engaging communities in the process of producing knowledge is essential for effective climate research and action, and requires a shift away from traditionally extractive approaches. The diversity of Earth systems and climate impacts requires regional perspectives and local knowledge. Yet, there are a number of challenges in building effective networks to support community engagement in climate science, climate policy, and climate action. This breakout session will explore some best practices for including regional knowledge and building trust for more effective collaboration and community engagement in climate science.

Social Acceptance of Mining for the Energy Transition – Members’ Room

A significant amount of critical minerals will be needed for the energy transition. However, communities near potential mining operations often have concerns about the potential impacts of mining, given the negative environmental legacy of many historical mining operations. Building a “social license to operate” has now become a common phrase within industry, but many mining projects still stall or are cancelled due to lack of social acceptance. How might we ethically source the minerals needed for the energy transition?

SESSION 3: 1:30-2:45 PM

The Future of Transboundary Water Management - Auditorium

Watersheds and aquifers are rarely neatly contained within the human-drawn political boundaries that define the governing limits of countries and regions. Changes to upstream water use, groundwater recharge areas, or pollution can significantly affect water resources outside a country’s borders. Climate change adds an additional dimension to this already complex challenge, as its impact on hydrologic cycles is changing how water is distributed across the globe. This session will unpack current governance issues and explore mechanisms for the collaborative, transboundary water resource management that will be required to ensure adequate water for human health, recreation, industry, and ecosystems as the climate continues to change.

Climate-Resilient Communities Pathway Session 1: Progress Update – Room 120

The Climate-Resilient Communities Pathway team will share progress to date and outline plans for the future development of the pathway. Invited respondents will discuss how the pathway connects to existing and evolving efforts to enhance equitable community climate-resilience and adaptation, followed by an open discussion of the pathway among all participants.

Centering Human Health and Equity in the Climate Crisis – Room 125

This session focuses on the National Academy of Medicine’s Grand Challenge on Climate Change, Human Health, and Equity. Launched in 2021, this Grand Challenge is the most ambitious NAM program to date. This session will focus on the work of the five programmatic pillars, each of which is looking to equitably partner with and lead the health sector in its transition away from its 8.5% of the nation’s carbon emissions. Attendees will learn the scope of each program, be brought up to speed on the work to date, and learn how they can be involved in the program moving forward.

Nature’s Role in Adapting to the Future – Members’ Room

Nature provides many ecosystem goods and services that support human life and society on a daily basis, from food production and water filtration to air purification and temperature modulation, among others. We take many of these services for granted, but their worth comes into sharp focus when faced with increased flooding, sea level rise, heat waves, wildfires and other climate change impacts. This session will explore the value proposition for maintaining robust ecosystems to help society adapt to the consequences of climate change. It will include an opening presentation followed by a group discussion, with moderation by National Academies staff.

SESSION 4: 3:30-4:45 PM

Health of the Planet and Its People – Auditorium

Human health is interconnected with the health of the Earth’s living and non-living systems. Incorporating multiple ways of knowing and expanding our perspective to the effects of climate change on the entire system, rather than on individual sectors or regions, is essential to understanding how different climate actions may affect humans and the environment in intentional and unintentional ways. This session will explore how adopting a planetary health framing and approach to climate challenges supports more robust solutions that can improve the health and well-being of all life on the planet.

Adaptive Management for Transboundary Water Resources – Room 120

This breakout session will focus on the hurdles and opportunities in implementing the solutions needed for effective transboundary water management. The session will explore the role of science and science diplomacy in collaborative, effective systems management, with an emphasis on the economics and adaptive governance of water, water scarcity, and national security.

Decarbonization of Road Transport in Africa: Science, Technology, Innovations and Policy – Room 125

Africa's transport emissions are projected to increase rapidly over the next two decades spurred by rapid urbanization, economic growth, and rising motorization rates in Africa, and thus offers a unique opportunity to explore reduction strategies. The session will focus on understanding the opportunities and challenges in decarbonizing road transport in Africa. It aims to disseminate key findings and recommendations from a recent expert working group report on decarbonization of transport in Africa, published by the InterAcademy Partnership, and the Network of African Science Academies.

Catalyzing Change: Cross-Sector Strategies for AI in Climate Response – Members' Room

This dynamic breakout session will delve into pragmatic approaches to addressing various aspects of climate change through Artificial Intelligence and cross-sector collaboration. Join us for a candid discussion on identifying and overcoming the barriers hindering effective use of AI to combat the climate crisis. Together, we'll explore how diverse perspectives and capabilities from industry, academia, civil society, and government agencies can synergize to drive actionable solutions and enable large-scale and climate conscious deployment of AI.

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SESSION 5: 9:30-10:45 AM

Higher Education Transformative Climate Action - Auditorium

The higher education sector has played and can continue to play a critical role in advancing climate action. Among many potential modes of action colleges and universities can pursue, these anchor institutions can take steps to address their own climate impacts and engage their local communities in building resilience. This session will bring together stakeholders from across the sector to share effective approaches and to describe mechanisms that could help spur additional action across the range of institutions of higher education.

SESSION 6: 11:00 AM-12:15 PM

Inequality and Climate Change – Auditorium

The impacts of increasing economic inequality and political polarization present significant challenges to societal order and prosperity. Policies and investments in a range of climate solutions can support economic development and mitigate the harmful effects of climate change on both humans and the environment, but they can also exacerbate social and economic disparities if not properly implemented. Addressing the climate crisis requires collaboration, cooperation, and trust at all levels, from local to global. This session will discuss the driving forces behind inequality and polarization, and how climate solutions can be advanced in this context.

Future Directions for the Climate Crossroads Decarbonization Pathway – Room 120

This session focuses on recent activities and impacts evaluation undertaken by the team working on accelerating decarbonization in the United States. The majority of this session will be a discussion with participants about our plans and aspirations for future decarbonization activities, including the organization of a long-running forum to track progress on deep

decarbonization. We will have interactive exercises and hear from participants on the topics they see as most critical for decarbonization over the next 5-10 years.

Designing Postsecondary Programs, Pathways, and Learning Experiences to Prepare the Future Blue and Green Workforce – Members' Room

This breakout session will explore how we can create educational opportunities that will engage learners in developing understanding of and skills to participate in the blue and green workforce. It will provide information about the ways that people learn, the skills they need, and promising approaches for helping them understand climate change and prepare to contribute to a quickly shifting workforce.

SESSION 7: 1:30-2:45 PM

Transportation Infrastructure – Auditorium

Climate change is already creating new and exacerbating existing hazards, such as sea level rise and extreme weather, for transportation infrastructure. To account for these changing conditions, existing infrastructure and the planning, designs, and standards of new infrastructure projects need to be updated to improve resilience and minimize the risk of failure. Updating and building new transportation infrastructure, however, needs substantial time and financial investments while risking negative lock-in and being inadequate for worse climate change impacts than anticipated. This session will explore how engineers and planners are assessing the climate vulnerability of transportation infrastructure and how to support resilient systems in the face of climate change.

The Need of science for Consistency in the International and National Climate Policy Processes – Room 120

As the last UN Environment Programme gap report highlighted, there is no correspondence between efforts needed to reach Paris Agreement climate goals and the current Nationally Determined Contributions, which could lead to a further increase in emissions by 2030 rather than to the required drastic decrease. This is partly due to the science-based dialogue gap between the global and national scale leading to difficulties in translating global pathways into national policies. The International Institute for Applied Systems Analysis together with the World Bank reflect on their decades long experience working at both scales, highlight past successes and failures, to finally point to the way forward.

Climate-Resilient Communities Pathway Session 2: Working Session on Future Directions – Members' Room

Participants will work in small groups to identify pressing questions and pressing needs that the Climate-Resilient Communities pathway should address, activities that would address those questions and needs, and potential partners and collaborators for developing and implementing a plan of action for the pathway. Attendance at Climate-Resilient Communities Pathway Session 1 is not required for participation in Session.

Extreme Event Game: Using Interactive Role-Playing to Build Community Disaster Resilience – Lecture Room

Extreme Event is an award-winning in-person role-playing game that gives participants a taste of what it takes to build community resilience in the face of disaster. Players work together to make decisions and solve problems during an engaging, fast-paced disaster simulation. Extreme Event was developed by the National Academy of Sciences' Marian Koshland Science Museum (now LabX) in collaboration with the Resilient America Roundtable.

SESSION 8: 3:00-4:15 PM

Climate Science in the Courts – Auditorium

As the severity of the climate crisis increases, society is looking to the courts in the United States and internationally for climate remedies. Judges rely on robust scientific literature and expertise to, for example, properly attribute impacts to

climate change and assess the technical realities of the climate policies when making critical rulings. This scientific knowledge is needed in climate-related lawsuits that give both industry and individuals a path to challenge climate policies while at the same time offers the opportunity for individuals and organizations to try to break the status quo by holding governments and corporations accountable for their inaction. This session will explore the challenges and opportunities around the use of scientific evidence in climate-related litigation in the courts and the implications, both positive and negative, of the courts adjudicating disputes over legal responsibility for climate change.