

International Conference on:  
**Integrated Responses to the Intensification of Extreme Climate and  
 Weather Events in Developing Economies**

22-24 May 2024,  
 STIAS, Stellenbosch, South Africa

*Announcement, call for contributions and registration details.*

<b>Sponsors and organisers</b>			
 <p>Centre for Science &amp; Technology of the Non-Aligned &amp; other Developing Countries</p>	 <p>Alliance for Collaboration on Climate &amp; Earth Systems Science</p>	 <p>Scientific Committee on Problems in the Environment</p>	 <p>School for Climate Studies, University of Stellenbosch</p>
<b>Partners</b>			
 <p>University of Pretoria</p>	 <p>University of Limpopo</p>	 <p>University of Cape Town</p>	 <p>University of the Witwatersrand</p>
 <p>Future Earth (Africa)</p>	 <p>Department of Science &amp; Innovation</p>	 <p>Department of Science &amp; Innovation</p>	 <p>Extreme Climate Events Research Alliance</p>
 <p>Council for Scientific &amp; Industrial Research</p>	 <p>The South African Weather Service</p>	 <p>South African Environmental Observation Network</p>	 <p>NRF ESSRP APECX Project</p>

## **Introduction**

2023 is the warmest year on record globally experienced by human civilization, with record temperatures recorded over many parts of the land surface, and in ocean surface waters. This is a trend which, as noted by the IPCC AR6 report published in 2023, has resulted in extreme climate events (ECEs) intensifying in terms of frequency, magnitude and impact. Some significant and unprecedented extreme weather events and their consequences have recently made news headlines, including floods in Pakistan, in Nigeria, Libya and in South Africa, heat waves in India, wildfires in Europe and the USA, along with many other associated disasters worldwide. Increasing trends in the range of climate and weather variability such as seasonal maxima and minima, and onset and duration of seasons and seasonal phenomena need to be assessed for attribution as a signal of climate change. Nevertheless, ECEs are at the frontline of the experience of climate, occurring at the time and spatial scales that directly affect the lives and livelihoods of people.

For this reason, the reality of ECEs as the means of impact of climate change, are becoming a focal point of climate change adaptation, and are driving a need for policies, strategies and tactics for their management. Developing countries, whose citizens, infrastructure, and social and governance systems are relatively more vulnerable to these effects, are suffering greater and more long-lasting impacts of extreme weather events.

It is critical that this this form of impact of climate change receive urgent attention, as these events are almost certain to have lasting and multifaceted impacts on societies, both as individual events and as compounded disasters. Technically it is important to be able to predict the likelihood of extreme climate events (such as extreme rainfall or failures, high wind conditions, heat waves) that can lead to such disasters (such as droughts, floods, fires and health impacts and storm surges), at shorter and longer time scales. From a policy perspective, it is important to develop and implement systems designed to learn from, to cope with, and ultimately to plan proactively to reduce the impacts of these disasters at the appropriate time and space scales. From the perspective of loss and damage, it is vital that the evidence of the social and economic impact of ECEs is collected in order to facilitate public and private sectors and civil society investments for enhancing adaptation to this kind of climate risk, and to estimate compensatory funding. Collective national action, is urgently required to understand, predict, respond, and recover from ECEs, particularly in less developed and emerging economies.

## **The Conference**

Hence, SCOPE, NAM S&T, ACCESS, and Stellenbosch University, along with other partners, have agreed to host this international conference in Cape Town to initiate collaboration on developing appropriate systems to deal with and respond to externe climate events.

## **The purpose of the Conference**

The main aim of the conference is to share knowledge and experience in anticipating and adapting to the risks that ECEs pose, and to identify common policy approaches and actionable implementation plans for predicting, preparing for, responding to, and recovering from extreme climate events. At this meeting we will consider all aspects of:

- Research on the climate dynamics and associated natural disasters resulting from ECEs.
- Science of prediction for early warning of ECEs and likely impact.
- Categorization associated time and space scales of various ECEs.
- Governance and adaptive management strategies to anticipate the impacts of ECEs.
- Real-time management of ECEs and their impacts.
- Policy and practice to recover from ECEs.
- Case studies of the above.

We invite delegates to contribute to this meeting and provide their input on these topics, consider case studies of implementation to learn lessons on the successes and failures of specific events, and workshop ideas on how we can ensure that ongoing collaboration can establish a global task-team of experts which can be deployed for the management of ECEs anywhere that they may occur.

In addition to a statement of outcomes prepared after the Conference, the keynote lectures and papers presented at the Conference will be published in a Special Issue of the peer reviewed journal: *Environmental Development*.

### **Thematic Structure of the Conference**

(subject to modification)

<b>Session</b>	<b>Descriptor</b>	<b>Format</b>
21 <sup>st</sup> May evening	Opening Ceremony	Welcome cocktails.
22 <sup>nd</sup> May 2024: Climate Science.	The science of extreme events (e.g. climate drivers, seasonality, dynamics and trends of key parameters, future scenarios.)	Keynote speaker(s). Delegate presentations. Roundtables and panel / plenary discussions.
23 <sup>rd</sup> May 2024: Observations and EWSs.	Climate and vulnerability observations, mapping, data flow and management, early warning systems.	
23 <sup>rd</sup> May 2024: Risk and Vulnerability to ECEs.	Approaches to assessing risk and vulnerability (e.g. climate risk, social, economic, geographical vulnerability, community engagement assessment and planning.)	
24 <sup>th</sup> May 2024: Response, recovery, and policy.	Disaster management, recovery and related policy finance needs.	
24 <sup>th</sup> May 2024: The Way Forward	Plenary discussion on existing and required coordination of national and international resources for managing ECEs.	
		A statement will be produced from this event covering the above outcome and recommendations.

### **Meeting information:**

- The meeting will take place at the Stellenbosch Institute for Advanced Study (<https://stias.ac.za/>) facility at the University of Stellenbosch just outside Cape Town. The meeting will take place on the 22<sup>nd</sup>-24<sup>th</sup> of May, 2024
- There will be no registration fee charged to participants who have been approved for participation from the applications received. A maximum of 80 in-person delegates will be accepted for participation.
- Travel and accommodation will not be funded by the event organizers save for those delegates travelling in association with the NAM S&TCenter or SCOPE.

### **Application process:**

- In order to apply for registration for this meeting, please fill in this form (<https://forms.gle/8pPdwUCm2W1hcNM17>). The deadline for Applications will be **31<sup>st</sup> March 2024**. After this date delegates will be informed of the outcome and/or invited to register to attend the event.

### **Content abstracts:**

- All delegates are invited to apply to present their work on ECEs related to the topics given above. The scientific committee will assess the abstracts submitted by the applicants and invite successful candidates to make presentations as part of the event programme.

Abstract format (**Deadline 31<sup>st</sup> March 2024**):

Front Specifications: Calibri 11pt.

I. Title: Provide a concise and informative title that clearly reflects the content of the abstract.

II. Authors: List all authors with their full names and affiliations. Clearly indicate the presenting author and contact information:

III. Keywords: Provide a list of keywords (3-5) that best describe the content of the abstract.

V. Abstract Body (Word Limit: 300):

Introduction: Briefly introduce the background and context of the research.

Methods: Describe the research methods or experimental design used.

Results: Present the main findings or outcomes of the study.

Conclusions: Summarize the key conclusions drawn from the research.

VII: Please submit the abstracts to Dr Neville Sweijd ([nsweijd@access.ac.za](mailto:nsweijd@access.ac.za)) with the subject line "ECE Abstract"

### **Publication of proceedings**

The presentations of work at this meeting will be published as a special issue and series of papers in the journal Environmental Development. Authors are required to submit completed manuscripts at the start of the meeting on the 22<sup>nd</sup> May 2024. The guest editors of this special issue will guide these submissions through a standard peer review process. Information on a guide to authors is provided here: <https://www.sciencedirect.com/journal/environmental-development/publish/guide-for-authors>.

### **Contact Details**

Dr Neville Sweijd, [nsweijd@access.ac.za](mailto:nsweijd@access.ac.za), telephone: +27829689660.

## **Host organization Information:**

### **NAM S&T CENTRE**

The Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre; [www.namstct.org](http://www.namstct.org)) is an Inter-Governmental Organisation with a Membership of 47 countries spread over Asia, Africa, Middle East and Latin America. The Centre was set-up in 1989 in New Delhi, based on decisions taken during various NAM Summits and mandated to undertake a variety of programmes, including organization of workshops, symposiums and training courses and implementation of collaborative projects. It also offers short-term Research Fellowships to scientists from developing countries in association with the Centres of Excellence in various countries. The Centre also brings out technical books, monographs and other scientific publications in different S&T subjects of interest to developing countries. The Centre's activities provide opportunity for scientist-to-scientist contact and interactions; familiarizing participants on the latest developments and techniques in the subject areas; identification of the requirements of training and expert assistance; locating technologies for transfer between the Members and other developing countries, and dissemination of S&T information etc. In addition, the Centre encourages Academic-R&D-Industry interactions in the developing countries through its "NAM S&T-Industry Network".

### **SCIENTIFIC COMMITTEE ON PROBLEMS OF THE ENVIRONMENT - SCOPE**

SCOPE is an international multidisciplinary non-profit non-governmental organization based in the Netherlands. The objective of the SCOPE is to serve as a source of advice with respect to emerging, ecological and environmental issues, seeking to advance knowledge of the influence of humans on the environment, as well as the effects of these environmental changes upon mankind, its health and its well-being. In order to reach that goal the activities of SCOPE include advance and facilitate studies of fundamental environmental processes, develop collaborative programmes among Scientific Unions, National Members and Scientific Committees and other appropriate organizations including those concerned with the social sciences and the biological aspects of the medical sciences, and promote education in, and understanding of, environmental issues. SCOPE is an affiliated member of the International Science Council (ISC).

### **THE UNIVERSITY OF STELLENBOSCH SCHOOL FOR CLIMATE STUDIES**

The School for Climate Studies is a world-class academic faculty of Stellenbosch University, conducting interdisciplinary and transdisciplinary climate-related research in and for Africa. The school engages in the following activities: Research and development - Developing and implementing an Africa-relevant research programme that responds to existing and emerging issues in climate change impacts, adaptation and mitigation responses, thus supporting human climate resilience. Consolidating and integrating current disciplinary and transdisciplinary thinking on climate, conduct and coordinate primary research, publish and make accessible research results, and create or support the required platforms for data-intensive research and innovation; collaboration and capacity building - facilitating, strengthening and expanding climate related multi- and inter-disciplinary collaborations at SU, and establishing new strategic partnerships and collaborations in regionally and internationally; developing new academic capacity, career paths and infrastructure for climate studies, creating opportunities for students to gain work experience in leading national and international public and private entities engaged in fundamental and applied climate studies; facilitating and developing curricula, sharing climate training and learning expertise across multiple faculties at SU through undergraduate and postgraduate modules, and coordinating internal and external climate training through workshops, short courses, training events, and congresses; commercialisation and social impact by offering consultancy services and climate expertise to SU divisions and partners, as well as to industry and other private and public organisations.

### **ALLIANCE FOR COLLABORATION ON CLIMATE AND EARTH SYSTEMS SCIENCE – ACCESS**

The Alliance for Collaboration on Climate and Earth Systems Science, or ACCESS programme, is an instrument of the Global Change Programme of the South African Department of Science and Technology and the National Research Foundation. It is hosted by the Council for Scientific and Industrial Research. The main purpose of the programme is to provide a platform for multi-institutional and trans-disciplinary research on the drivers, mechanisms of manifestation, impacts and applications and responses to the dynamics of earth systems, as they affect the natural world, ecosystem services and human society. ACCESS is also a training programme for emerging researchers and students who are interested in the future of our planet and society. ACCESS is the caretaker host of the Extreme Climate Events Research Alliance (ECERA) which is being developed to help guide research in this area.